

Asiatic Black Bear Conservation Action Plan

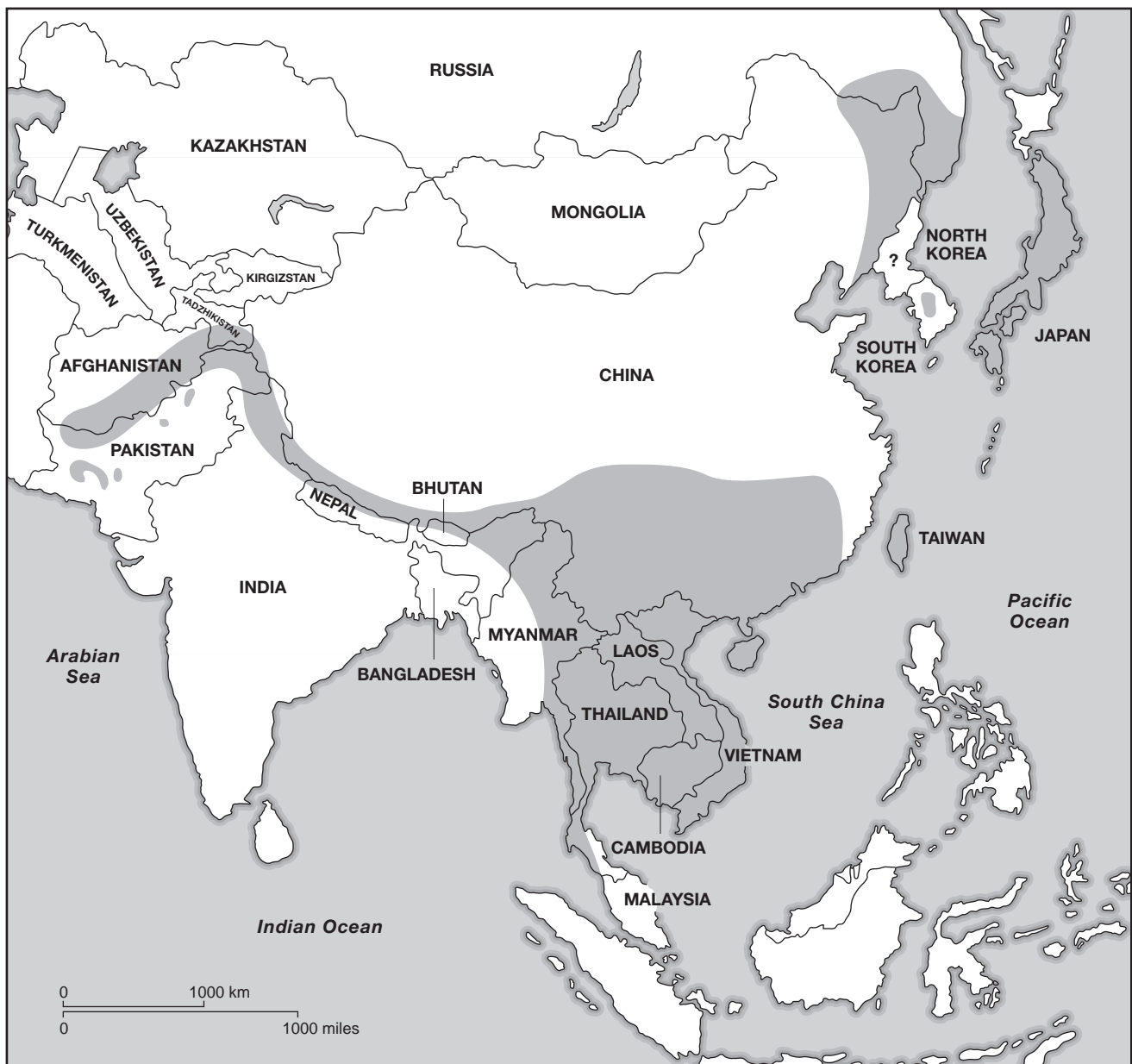
IUCN Category: Vulnerable, A1cd; Critically Endangered, B1+2abc,C2A (Iran, Pakistan)

CITES Listing: Appendix I

Scientific Names: *Ursus thibetanus*, *Ursus thibetanus ussuricus*, *Ursus thibetanus japonicus*, *Ursus thibetanus formosus*

Common Names: Asiatic black bear; Formosan black bear; Japan: *tsukinowa-guma*; Russia: *gimalayskiy medved*, *belogrudy medved*, or *cherniy medved*, Himalayan, white-chested or black bear

Figure 10.1. General distribution of the Asiatic black bear (*Ursus thibetanus*).



Introduction

The Asiatic black bear (*Ursus thibetanus*) is distributed through much of southern Asia, northeastern China, far eastern Russia and Japan (Servheen 1990), see Figure 10.1.

Status and management of the Asiatic black bear in China

Ma Yiqing and Li Xiaomin

Distribution and status

According to 1994 statistics the number of Asiatic black bears (*Ursus thibetanus*) in China is less than 20,000 individuals. They are endangered now, and urgently must be protected.

The Asiatic black bear is widely distributed in broad-leaf and theropencedrymion forests. Tropical rainforests and oak forests are its ideal habitats. In the past, there were large areas of forests and substantial numbers of black bears in northern China. Forests have disappeared quickly in this region since the Ming Dynasty (1368–1644), and especially during this century. According to historical materials, the number of bears in China has decreased yearly and its distribution range is continuously being reduced. The wild population numbers are declining in areas, even in regions of northeast and southwest China. The bear no longer exists in many provinces and

Autonomous Regions. Black bears are now extinct in the northern region.

Because of the rapid increase of human population and development, the extent of black bear habitat has gradually decreased over recent years. For example, the human population in Heilongjiang Province, a black bear stronghold (see page 123), has increased by a multiple of five in the past 30 years. Farmland area has increased 30,000km², decreasing the forest area from 480,000km² to 240,000km². Forests have become fragmented by highways and towns.

The black bear is widely distributed in China (Figure 10.2), but mainly occurs in southwest China. Most recordings are from Xizhang Autonomous Region, Sichuan, Yunnan, and Heilongjiang provinces, etc. The distribution of the black bear in China can be divided into four large regions:

1. East Mountainous regions of northeast China: extends southward from the Xiaoxinganling, Zhagguangcailing, Laoyeling, and Changbaishan mountain regions, and towards the northeast of Liaoning Province (Huairan County).
2. Southern part of the Qinling Mountains: extends from the Yushu area of Qinghai Province through southern Gansu Province to the Qinling Mountains and Daba Mountains of southern Shaanxi Province.
3. Central-southern areas: the junction of three provinces, Anhui, Zhejiang, and Jiangxi, the Wuyi mountains, the west of Hubei Province, the north of Guangdong



Figure 10.2. Distribution of the Asiatic black bear (*Ursus thibetanus*) in China.

Province and the mountainous regions of the Wuling hills (the northwest forest areas of Guangxi Province).

4. Southwestern China: Himalayan mountain forest areas of southern Tibet, the Hangdian Mountains of eastern Tibet, hilly areas around the Basin of Sichuan Province, high mountain and deep valley regions of southwestern Sichuan, forest area of Yungui Plateaus, etc.

According to the present estimates, the total population of the Asiatic black bear in China is about 15,000–20,000 individuals. Through recent survey data and comparing relevant data, the numerical distribution of the black bear in China is as follows:

1. **Northeastern China:** Heilongjiang Province, an estimated 1,000–2,000; Jilin 350–400; and Liaoning, about 50. Total number is 2,300–2,850.
2. **Southern part of Qinling mountains:** Southern Qinghai Province, about 100; southern Shaanxi Province, about 250–300. The total number is about 450–550.
3. **Central-southern area of China:** Southern Anhui Province, 30–40; western and southern Zhejiang Province, 20–30; northern Fujian Province, 50–80; northern Guangdong Province, 40–50. The population in western Hubei Province is relatively larger than other regions, and the density is 1–1.5/100km², or 350–400 individuals. In the forest region of northwestern Guangxi Province, the density is 1.5–2.0/100km², and 200–260 individuals. The total population is about 1,020–1,250 in the whole region (the integer is 1,000–1,200).
4. **Southwestern China:** Density and populations are; Tibet, 1/150–200km² and 3,500–4,500; Sichuan Province, 1/100–150km² and 5,000 – 6,000; northern Guizhou Province, 1–1.5/100km² and 360–460; Yunnan Province, 1/100km² and 2,000–3,000. The total population is about 10,860–13,960 (the integer is 11,000–14,000).

The black bear occurred on Hainan Island until recently but research on whether the black bear still survives on the island is needed.

Legal status

According to the National Protection Wildlife Law, the black bear is listed as a “protected animal”. The People’s Republic of China’s Wildlife Protection Law stipulates that anyone who catches or hunts bears without permits from the national wildlife authorities will be severely punished. If the case is serious and violates the law, the responsibility for the case must be investigated and prosecuted according to the laws. These national laws and regulations provide a reliable basis for the protection of bears, while each Province or Autonomous Region has reinforced protection, such as: “Wildlife Protection

Propaganda Month” activities, putting “Wildlife Protection Act” into effect, and carrying out these “Implemental Detailed Rules and Regulations” of each Province or Region. It is common knowledge that the black bears are protected animals.

Population and habitat threats

Habitat loss is due to over-cutting of forests and some other logging practices. Over the last 40 years, the human population has increased to over 430,000 in regions where bears are distributed, in Shaanxi, Ganshu, and Sichuan provinces. In this area, 27 forestry enterprises were built between 1950 and 1985 (excluding the lumbering units belonging to the county). The deforested area is verified at 42,256km². This reduced the habitat by 73%, from 51,103km² in the early 1950s to 13,832km² in the 1980s. By the early 1990s, the distribution area was reduced to only one-fifth of the area that existed before the 1940s.

Increasing human population, expansion of residential areas, and roadway networks in forest areas not only cause reduction and fragmentation of bear, but also degrades the environment within habitats, and food sources are destroyed and lost. These big mammals face environmental and genetic stress which occurs in isolated sub-populations.

Over-hunting has been a great threat to the population of black bears and is one of the most important reasons for their decrease. Bears are glamorous mammals, their skins,

Asiatic black bear (*Ursus thibetanus*) at a bear farm, China.



C. Serwheen

paws, gall bladders, and even young cubs have direct and large economic values. In autumn, bears harm the crops, orchards, and bee farms, so bear harvest has been maintained at a high level in China. In Heilongjiang Province, the annual harvest of bears was over 1,000 during the 1950s to 1960s, but purchased furs were reduced by 4/5, even by 9/10 yearly in the late 1970s to the early 1980s. In Dehong Dai and Jingpo Nations Autonomous Prefecture, Yunnan Province, bear resources were very abundant in past years, but according to investigations, bear resources have declined recently. For example, the Prefecture's amount of purchased bear skins was: 188 skins in 1986, 142 in 1987, 123 in 1988, 72 in 1989, 45 in 1990, and 27 in 1991. This shows that the wild bear numbers are declining every year, and the yield of furs was only 1/7 of that in 1986.

Raising bears in captivity became popular throughout China, owing especially to the successful milking of bile from gall bladders, and bear raising became an easy way to quick prosperity. Many black bears were captured from the wild.

Management

There has been a rapid development of natural reserves in China: 415 natural reserves were set up by the end of 1993 in order to protect forests and wildlife. The total area of natural reserves is about 460,000km², 4.7 % of the total area of China. There are bears in most of these reserves where they are more protected. Protection of forests and fire prevention in each forest region throughout the country provides protection to big mammals such as the black bear. Also, punishing poachers and confiscating illegal hunting tools and live animals are all active measures to protect bears.

In recent years, the Forestry Ministry of China has organized surveys on bear resources throughout the country, and the data is presently being collected and analysed. This advances protection of, and research on, bears.

The following problems occur in China: 1) Hunting young bears in some areas is not prohibited; 2) The management level of each bear farm is different; 3) The illegal border trade and smuggling of live bears and its products are serious problems; 4) As the bear is a big, dangerous beast, the lack of funds and research teams limit field studies. This leads to the lack of data on bear resources and informed scientific judgment.

Specific conservation recommendations

1. The wildlife protection law and the relevant detailed rules and regulations must be strictly enforced. It is necessary to educate people regarding such laws, and

people who illegally capture and/or kill wildlife should be punished in due time.

2. It is necessary to establish a resource data bank for black bears, monitor trends of black bear population and their habitats, and establish a research and monitoring center.
3. Rectify bear raising farms and set a unified management method. Enforce management of bear farms for better economic effectiveness. Set up artificial breeding centers in appropriate bear farms.
4. Establish natural reserves in overlapping areas of black bear distribution. Strengthen management of natural reserves. Set up black bear field research centers in natural reserves.
5. Strengthen scientific research and international cooperation. Develop research on black bear trade, habitat conservation, and captive raising and breeding.
6. Formulate a plan for black bear reintroduction in areas where black bears have become extinct, and organize and enforce the plan effectively.

Status and management of the Asiatic black bear in India

S. Sathyakumar

Status

The Asiatic black bear is threatened in India due to poaching for gall bladders (medicine) and skin (ornamental), killing bears to reduce agricultural crop depredation, large scale destruction of its habitat due to illegal logging, developmental activities (hydroelectric projects and road construction), and pressures from humans and livestock. The potential Asiatic black bear habitat in India is about 14,474km² of which only <5% is protected under the existing network of protected areas (WIINWDB 1995). There are no estimates of Asiatic black bear population numbers or densities in India.

Historic range and current distribution

The Asiatic black bear was once continuously distributed from west to east through Baluchistan, India, Nepal, China, Japan, and south into Myanmar and the Malayan peninsula. In India, it is now found in the states of Jammu and Kashmir (not Ladakh), Himachal Pradesh, Uttar Pradesh, Sikkim, Arunachal Pradesh, and in the hills of West Bengal and northeastern states (Figure 10.3).

The Greater Himalayan ranges cover 233,800km² (7.38%) of India's geographical region (Rodgers and Panwar 1988) and supports perhaps the largest population of Asiatic black bears in Asia. This population is largely confined to the western, northwestern and eastern

Himalayan ranges in India (Figure 10.3). The Asiatic black bear inhabits forested hills ranging from 1,200m to 3,300m (Prater 1980). Its range overlaps with that of the sloth bear below 1,200m and the Himalayan brown bear above 3,000m. Schaller (1977) mentioned that it is distributed in the forests of Himalaya below 3,750m. At present, the distribution of the Asiatic black bear in India is continuous. This is largely due to the fact that the black bear manages to make use of plantations, orchards, cultivated areas, scrublands, and even villages for its movement between forested areas.

A small population exists in the central Himalayan regions of India in the states of Sikkim and West Bengal (WIINWDB 1995). This species is also present in a few areas in the hills of the other northeastern states. In total, 56 Protected Areas (PAs) in India have black bear populations.

It is likely that the increasing human population and its resultant pressures will have an adverse impact on the status and distribution of the India's Asiatic black bears. The long-term conservation of this species lies in adequate protection within and outside of PAs, protection of forested areas adjacent to PAs and forest corridors, minimization of other habitat destruction, and strict controls on illegal trade of bear gall bladders and pelts.

The following is the distribution and status of Asiatic black bears in India, presented state by state with reference to the network of PAs, major valleys, Reserved Forests (RFs) and Forest Divisions (FDs). Information on black bear occurrence presented here, where no citation is given, is from personal communications with scientists familiar with the areas. Though black bears are reported to occur in RFs and FDs and in areas outside PAs, the information on their status and distribution in such areas is scanty.

Jammu and Kashmir

The best known populations of Asiatic black bears in India are in this state. The Dachigam NP, Overa WS, Overa-Aru WS, Limber-Lachipora WS, and Kistwar NP are the PAs with populations of Asiatic black bears. The species is also reported to occur in fairly good numbers in Pahalgam and Pinjore Punjab Forest Divisions (FD), Naranag-Wangat FD, Tral, and Shikargarh, Shar, and Dakrum areas in the Islamabad District.

Saberwal (1989) reported that Asiatic black bear density estimates ranged from 1.3 to 1.8 bear/km² in lower Dachigam during high fruit abundance periods. About 25 to 40 bears were estimated to use lower Dachigam between late June and October (times of high fruit abundance). Manjrekar (1989) had over 250 black bear sightings in 140 days of study in Dachigam NP. The total black bear population for Dachigam may be about 50. Schaller (1977) reported that black bears in Dachigam were abundant in 1969. According to Gruisen (pers. comm.) at least seven black bears could be sighted per day in Dachigam NP during the years 1981–82. The present status of black bears in Dachigam is not known.

In Overa WS, Price (pers. comm.), based on his observations every spring and summer from 1985 to 1991, reported that Asiatic black bear populations seem to be decreasing. More females with cubs were sighted in 1985–86, but no cubs were sighted during 1987–1990, and in 1991 there were no sightings of bears. It appears that they were breeding well in 1985–87 and may not have been breeding in 1988–91. Although the Asiatic black bear is reported to occur in Kistwar NP, its status is not known. Similarly, in other PAs and FDs, the Asiatic black bear populations are either decreasing or their present status is not known.

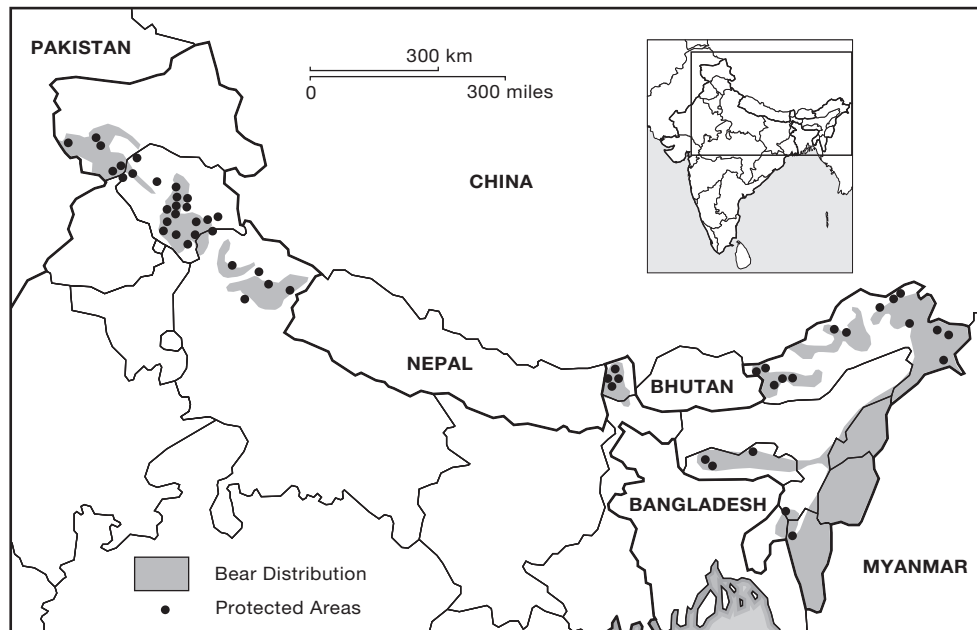


Figure 10.3. Present Asiatic black bear (*Ursus thibetanus*) distribution and protected areas in India.

Himachal Pradesh

Asiatic black bears exist in and adjacent to 21 PAs (Table 10.1) (Singh *et al.* 1990; Green 1993; WIINWDB 1995), and within some forested valleys. It is reported to be in fairly good numbers in Great Himalayan NP, Rupi Bhaba WS, Tundah WS, Kugti WS, Dharangati WS, Sangla WS, Kanawar WS, Kalatop-Khajjiar WS and Kais WS.

Black bears occur in the forested areas of Pangi (Chenab catchment) and Bharmaur valleys (Ravi catchment) in Chamba District; in the Dhaula Dhar range (Beas catchment), Bara Bangal, Chota Bangal, and Bir in Kangra District; in the Parbati Valley, Pandrabis, Bashleo Pass (Sutlej catchment), Solang, and Jagatsukh nallas in Kullu District; in the upper catchments of Bata and Giri in Solan and Simla Districts; in Sutlej and Yamuna catchments, Pandrabis, Simla ridge, Karsog, Shali, Kandyali, Hatu, and Moral Kanda areas in Simla District; and in the Ropa Valley, Kalpa, and Kaksthal areas in Kinnaur District.

Black bears are reported to be in fairly good numbers in the forested areas of the Dhaula Dhar range, Chota Bangal, Parbati Valley, Bashleo Pass, and Kalpa areas.

The species was once abundant in the Shimla Ridge and Moral Kanda areas but is now very rare. It is reported to be rare or becoming rarer in PAs such as Shikari Devi WS and Manali WS, and its status is not known in the rest of its range.

Uttar Pradesh

Asiatic black bear populations are present in and around PAs such as Nanda Devi NP and Biosphere Reserve (BR), Kedarnath WS, Valley of Flowers NP, Govind WS, Askot WS (Table 10.1); in Yamunotri and Gangotri valleys; forested areas in and around Mussorie, Chakrata, Uttar Kashi, Tehri, Bura kedar, Bageshwar, Dharamghar, Binsar, the upper catchments of Ram ganga, Ladhiya Valley, and in parts of Pithoragarh District (WIINWDB

Table 10.1. Asiatic black bear (*Ursus thibetanus*) populations and their status in Indian Protected Areas.

Name of the State and Protected Area	Area (km ²)	Past status	Recent status	Name of the State and Protected Area	Area (km ²)	Past status	Recent status
Jammu and Kashmir				West Bengal			
Dachigam NP	141	AB (1969)	UK (1995)	Buxa TR	759	UK	UK (1995)
Kistwar NP	400	UK	UK (1995)	Neora NP	88	UK	UK (1995)
Limber-Lachipora WS	106	FC (1986)	UK (1994)	Senchal WS	39	UK	UK (1995)
Overa WS and Overa-Aru WS	457	VC (1990)	NC (1991)	Singalila NP	78	UK	UK (1995)
Himachal Pradesh				Sikkim			
Bandli WS	41	UK	UK (1995)	Dzongri WS*	468	UK	UK (1995)
Chail WS	46	UK	UK (1995)	Fambong WS*	51	UK	UK (1995)
Churdar WS	56	UK	UK (1995)	Khangchendzonga NP	850	UK	UK (1995)
Daranghati WS	42	UK	FC (1994)	Pangola NP*	108	UK	UK (1995)
Gangul Siahbehi WS	109	RR (1991)	UK (1994)	Tolung WS*	230	UK	UK (1995)
Great Himalayan NP	620	UK	UK (1995)	Arunachal Pradesh			
Kais WS	14	FC (?)	FC (1994)	Dibang Valley WS and NP*	500	UK	UK (1995)
Kalatop-Khajjiar WS	69	RR (1991)	FC (1994)	Eagle's Nest WS	217	UK	UK (1995)
Kanawar WS	54	FC (?)	FC (1994)	Mehao WS	282	UK	UK (1995)
Khokhan WS	14	UK	UK (1995)	Mouling NP	483	UK	UK (1995)
Kugti WS	379	FC (1992)	FC (1993)	Namdapha NP	1,985	RR (1990)	UK (1995)
Lippa Asrang WS	31	UK	CM (1993)	Pakhui WS and NP*	862	UK	UK (1995)
Majhatal WS	92	UK	UK (1995)	Palin WS*	250	UK	UK (1995)
Manali WS	30	CM (1987)	RR (1991)	Sessa Orchid WS	100	UK	UK (1995)
Nargu WS	278	UK	UK (1995)	Tale Valley WS*	25	UK	UK (1995)
Rupi Bhaba WS	125	VC (1992)	CM (1994)	Tawang WS* and NP*	300	UK	UK (1995)
Sangla WS	650	CM (?)	VC (1994)	Walong WS* and NP*	300	UK	UK (1995)
Sechu Tuan Nala WS	103	UK	UK (1995)	Meghalaya			
Shikari Devi WS	214	UK	RR (1994)	Balphakram NP	220	UK	UK (1995)
Talra WS	26	UK	UK (1995)	Nokrek BR	-	UK	UK (1995)
Tundah WS	64	CM (1992)	VC (1993)	Nongkhylliem WS	29	UK	UK (1995)
Uttar Pradesh				Mizoram			
Askot WS	600	FC (1988)	UK (1995)	Dampa WS and NP*	580	UK	UK (1995)
Corbett NP	521	UK	RR (1993)	Tripura			
Govind WS	953	FC (1988)	NC (1992)	Rao WS	1	UK	UK (1995)
Kedarnath WS	975	FC (1981)	FC (1995)				
Nanda Devi BR	2,237	FC (1983)	FC (1993)				
Valley of Flowers NP	88	UK	FC (1995)				

WS – Wildlife Sanctuary; NP – National Park; TR – Tiger Reserve; * – Proposed PA.
RR – Rare; CM – Common; FC – Fairly Common; VC – Very Common; UK – Unknown.

1995; Sathyakumar 1993 and 1994; Rawat, Samant, Mohan and Kaul pers. comm.; Tiwari undated). This species has been reported in Corbett NP, and on the banks of the River Ganges in Chilla, Rajaji NP.

The Asiatic black bear is reported to be in fairly good numbers in and around Nanda Devi BR (Lamba 1987, Tewari undated), Kedarnath WS (Green 1985, Sathyakumar 1994), and Valley of Flowers NP. The status is not known in other areas.

West Bengal and Sikkim

According to Rodgers and Panwar (1988), the central Himalayan region is represented in northern West Bengal and Sikkim. The Asiatic black bear is reported to be present in and around four PAs in West Bengal, including Buxa TR, Singalila NP, Neora NP, Senchal WS (Table 10.1) (WIINWDB 1995), and in the forested areas of Darjeeling and the Kalimpong hills.

In Sikkim, it is present in Kanchendzonga NP, Pangola NP, Dzongiri WS, Tolung WS, Yaksom, Rathong Valley, Lepcha Reserve and in other undisturbed forested areas between 1,200 and 3,000m elevations. Of these, Dzongiri, Pangola, and Lepcha areas have black bear populations in fairly good numbers. The past and the present status of this species in these two states is not known.

Arunachal Pradesh

With over 80% of its geographical area under forest cover, Arunachal Pradesh has a continuous distribution of Asiatic black bear populations, but these populations are seriously threatened by heavy poaching pressures. The species is reported to be present in suitable undisturbed habitats throughout Arunachal Pradesh, but this northeastern state of India is yet to be scientifically explored.

Asiatic black bear populations are reported to be present in 14 PAs (WIINWDB 1995). Its presence has been confirmed in and around PAs such as Mehao WS (Katti *et al.* 1990), Dibang Valley WS, Eagle's Nest WS, Tale Valley WS, Namdapha, and in Hot Spring, Ditchu (Lohit District), Tale Valley, Anini Social FD, Mayodia Pass, and Siang areas (pers. comms. and Katti *et al.* 1990). Undoubtedly, PAs such as Pakhui WS, Sessa Orchid WS, the proposed Palin WS, and Walong WS and NP have Asiatic black bear populations due to their contiguity with PAs or forested areas in which black bears have been reported. The past and present status of the species in Arunachal Pradesh is not known.

Mizoram, Meghalaya, and Tripura

Asiatic black bear distribution extends into the states of Mizoram, Meghalaya, Tripura, Manipur, and Nagaland (Figure 10.3). There are no confirmed reports on the presence of Asiatic black bears in Manipur and Nagaland.

Asiatic black bear populations in Mizoram are present in Dampa WS (Green 1993), Murlen NP and WS, and in some undisturbed forested areas in the Mizo hills. There is no information on the past and present status of the black bear in Mizoram.

In Meghalaya, the black bear is present in and around Balphakram NP, Nokrek BR (Green 1993), and in some undisturbed forested areas in the Garo, Khasi, and Jaintia hills. It is also reported to be present in Nongkhylllem WS, Saipung RF, and Narpah RF areas. The black bear populations in this state are seriously threatened due to unabated poaching and the shortening of "jhumming" (shifting cultivation) cycles.

The hills of Tripura hold small scattered Asiatic black bear populations which are present due to the contiguity to the hills of Mizoram. It is present in Kailashahar FD, Manu, Kanchanpur FD, Longthorai RF, Deo RF, and is probably present in Rao WS. There is no information on the past and present status of Asiatic black bears in Tripura.

Captive Populations

As of June 1994, at least 123 individual Asiatic black bears were known to be in captivity in 32 zoological parks/facilities in India. Of these captive bears, 52 were males, 44 were females, 20 were young, and seven were of unknown age and sex. Data on numbers in captivity in the past, breeding success, survival, and mortality rates are not available.

Legal status

The Asiatic black bear is listed as Vulnerable in the Red Data Book (IUCN 1974); in Appendix I of CITES in India (Anon. 1992a); and in Schedule I of the Indian Wildlife (Protection) Act (Anon 1972) and its 1991 amendment. Though this species is protected in India due to the above mentioned laws, usually it has been difficult to prosecute the accused in poaching cases because of lack of *prima facie* evidences in the courts and also due to lack of Wildlife Forensic Labs to detect the originality of the confiscated animal part/product. Moreover, poaching and subsequent smuggling through international borders is rampant. As India has large stretches of its boundary with neighboring nations such as Pakistan, Tibet, China, Nepal, Bhutan, Bangladesh and Myanmar, it is difficult to police the borders which in most cases are remote, rugged mountainous terrain. The policy of issuing license for possessing 'crop protection guns' to people living in and around PAs for preventing crop raiding by wildlife has serious impact on black bear and other wildlife. In Meghalaya, shooting permits were issued in the recent past by the State administration (Appendix I) which includes the Asiatic black bear, a Schedule I species of the

Indian Wildlife (Protection) Act. The Meghalaya State Forest Dept. has initiated procedures to stop this practice.

Population threats

Black bear populations in India are largely threatened due to poaching for gall bladder and skin. While the former is believed to be of medicinal value, the latter is for trophy or ornamental purposes. The medicinal value of gall bladder is yet to be scientifically established, but tribes and local villagers strongly believe in its medicinal properties. In Arunachal Pradesh and the northeast states, indigenous people hunt black bear for its skin. Even today, every local's hut has a display of wild animal skulls and skin including black bear.

Human-bear interactions

The serious limiting factor for black bear conservation in India is human-black bear conflict. Reports of black bears killing livestock, attacking humans, and subsequent public backlash are regular, largely in the northwestern and western Himalayan region. These reports are on the increase in recent years. For instance, in Chamba District of Himachal Pradesh, the number of black bear attacks on humans have gradually increased from 10 in 1988–89 to 21 in 1991–92. For the same period, livestock killed by black bears also increased from 29 to 45 (P. Thapliyal pers. comm.) Similarly, in Chamoli District of Uttar Pradesh the number of such cases increased from one in 1990–91 to 16 in 1992–93 (Tewari undated). Reasons for the increased incidence of livestock depredation and attack of humans by black bears may be due to: a) shrinkage of black bear habitat due to extension of agricultural lands, encroachment, and habitat destruction; b) increasing human population in and around PAs and forested areas and subsequent dependence on forests for daily needs; and c) increasing awareness by local people regarding compensation paid by the Government for damages caused to humans and livestock by wildlife and hence the increase in number of cases reported.

Habitat threats

Potential Asiatic black bear habitat range in India is about 14,474km² of which only <5% is protected under the existing network of PAs in India (Rodgers and Panwar 1988; WIINWDB 1995). In Jammu and Kashmir, the major threat to black bear habitat is mainly due to the militants and their activities in the forested areas, and consequently lack of protection. In Himachal Pradesh and Uttar Pradesh, habitat destruction is largely by human dependency on forests for fuelwood, fodder, and other

forest produce such as montane bamboo. In Arunachal Pradesh, habitat loss is mainly due to illegal timber extraction, jhumming, and development activities such as construction of roads in pristine forested areas. In Sikkim, activities of the Indian Army, mountaineering institutes, and trekking clubs has led to large scale destruction of black bear habitat. Moreover, construction of a dam on Rathong river has caused serious damage to black bear habitat in the Rathong River valley (G.Tewari pers. comm.). In the northeast states, jhumming has led to serious impact on black bear habitat. In the State of Meghalaya, about 95% of the land belongs to the people and the State Government does not have any mandate to protect wildlife and their habitats.

Management

The Indian Wildlife (Protection) Act, 1972 and its amendment in 1991 help protect the Asiatic black bear. In Jammu and Kashmir State, wildlife legislation by the state affords protection to this species. India ratified the CITES in 1976 and the black bear is listed in Appendix I, which bans international trade in its products (Anon 1992). TRAFFIC-India also keeps a check on trade of this species and its products. NGOs such as WWF-India apart from their public awareness programs also play a crucial role in wildlife poaching cases as a third party prosecutor. Forest Departments have started paying compensation when livestock is killed or humans are injured or killed by black bears.

The Forest Conservation Act 1980 was designed to curb habitat loss due to deforestation. In all NPs and in the core area of WSs, all forestry operations, human use, and livestock use have been stopped. There is a shift from commercially-oriented forest management to conservation-oriented management. The National Wildlife Action Plan was launched in 1983 to establish a network of PAs, management of PAs, and habitat restoration and wildlife protection in multiple-use areas.

The number of PAs in India has risen from 131 in 1975 to 497 in 1994 and today ca. 144,791km² of area is protected and managed (WIINWBD 1995).

Conservation recommendations

1. Poaching and smuggling need to be controlled. The basic infrastructure for protection and management is yet to be improved. There is a need for more trained wildlife staff to protect and manage PAs in India. Adequate facilities, incentives, remote area allowances, equipment, and motivation are required for wildlife staff in all areas. The Indian defense forces and the border police can be of great help in this effort.

Neighboring countries such as Pakistan, Tibet, China, Nepal, Bhutan, Myanmar, and Bangladesh also need to help and cooperate in preventing poaching and subsequent smuggling of wildlife products.

2. There is a need for large PAs to maintain viable populations of black bear and other large mammals. Most of the PAs in Himachal Pradesh are small and suffer from human and biotic pressures from within and without. Identifying forested areas adjacent to PAs, and forest corridors between PAs is crucial. For instance; the panthrabis, Chota and Bara Bangal areas in Himachal Pradesh; Reserved Forest areas adjacent to Kedarnath WS and Valley of Flowers NP; and forested areas adjacent to Sangla WS in Himachal Pradesh and Govind WS in Uttar Pradesh.
3. The proposal for declaring new PAs (Rodgers and Panwar 1988) has to be executed by concerned State Forest Depts. as soon as possible.
4. Some large PAs such as Nanda Devi NP and BR, Kedarnath WS, Govind WS, and Great Himalayan NP can be brought under the proposed Snow Leopard Recovery Program (Project Snow leopard) to enable improvement in infrastructure and management.
5. All developmental activities such as dam and road construction in Sikkim and Arunachal Pradesh need to be controlled by the Government by ensuring completion of Environmental Impact Assessment studies prior to clearance of projects.
6. The short cycle of jhumming practices in northeastern states needs to be replaced with longer cycles.
7. State Forest Departments should initiate procedures to procure rights for protection of wildlife and their habitats in areas which are not under their control, as in the case of Meghalaya.
8. The policy of issuing crop protection guns needs to be scrapped and replaced by other means of protection such as use of fire crackers to scare away crop raiding bears or other wildlife. Speedier ways to pay compensation for livestock killed and humans injured must be implemented to gain general public confidence and cooperation.
9. Ecodevelopment projects to meet the needs of the human population in and around important black bear areas are necessary. Awareness programs for the Indian Army, border police personnel, and the general public are needed.
10. Status surveys for black bears must be conducted for most parts of Sikkim, West Bengal, Arunachal Pradesh and other northeastern states. Even basic information on presence/absence of black bear in different parts of India is not available.
11. Monitoring of black bear status and numbers based on direct and indirect evidence in different PAs has to be initiated. Scientific research on ecology of black bears is necessary as information on food and feeding habits,

habitat utilization, and ranging patterns are crucial for the long-term conservation and management of this species.

Acknowledgements

I express my sincere thanks to all scientists, foresters, and researchers who have provided valuable information about the status of black and brown bears by returning answered questionnaires and through discussions. I wish to thank the Chief Wildlife Wardens and officials of the State Forest Depts. of Jammu and Kashmir, Himachal Pradesh, Uttar Pradesh, West Bengal, Sikkim, and Arunachal Pradesh. At the Wildlife Institute of India, I thank Shri S.K. Mukherjee, Director, and Dr. A.J.T. Johnsingh, Head, Wildlife Biology Faculty, for their help and constant source of encouragement. Shri Sanjeeva Pandey, Dr. V.B. Mathur, my senior faculty colleagues, helped me in the completion of this report. Smt. Vidya R. Athreya, Research Fellow and Shri. G.S. Shanmugam, cartographer, helped in the preparation of the figures. Shri. J.S. Kathayat helped me in the retrieval of information from the National Wildlife Database. My special thanks are to my loving wife Archana for her help and support in the preparation of this report.

Status and management of the Asiatic black bear in Japan

Toshihiro Hazumi

Introduction

Japan consists of four major islands, and was separated from the Eurasian Continent early in the Pleistocene. Most wild animals in Japan are subspecies of continental species. The Japanese black bear (*Ursus thibetanus japonicus*) is popularly called "Tsukinowa-guma," meaning

Asiatic black bear (*Ursus thibetanus japonicus*) in Japan.



K. Maita

crescent bear in Japanese, as it usually has a white patch like a new moon on its chest.

The average weight of the Japanese black bear ranges between 60–120kg in the adult male and 40–100kg in the adult female. The average body length is 110–140cm. The size of the annual home range varies and averages 66.06km² in males (N=8) and 26.37km² in females (N=11). Total home range size for the lifetime of an adult male reaches 180km² (Hazumi unpublished). Grasses, sedges, herbs, and buds are the preferred foods in spring, and berries and nuts in summer and fall. Because of the varied vegetation types in Japan, key diet items for each local population may be different. The acorns of *Fagus* or *Quercus* are usually eaten in the pre-denning season (Nozaki *et al.* 1983). One characteristic behavior of this smaller bear species is to make seats, which resemble bird nests, with broken branches in tree tops, and with *Sasa* bamboo on steep slopes. They may rest and eat while sitting on these seats. The denning period lasts for five or six months between November and April. Black bears den in hollow trees, under large rocks, or in the ground. In areas with little snow, bears like steep ravines so as to avoid men and dogs in the hunting season.

Historic range and current distribution

In the early 1900s, black bears were widely distributed throughout the three main islands in Japan, away from human settlements. At that time, the human population was rather small and had only minor influences on the bear population. While there have been no records of black bears on Hokkaido, brown bears (*Ursus arctos yesoensis*) occur on this island (see Tsutomu, this volume).

Undeveloped bear habitats were also abundant at the turn of the century. Mountainous areas occupy 70% of the total land area of Japan, where the steep topography and heavy snow make cultivation and logging activities difficult at high altitudes. Hunting pressure on the bear population was also low at the time, owing to simple and traditional hunting methods such as the use of spears, snares with fiber ropes, and traps which crushed animals with the weight of stones.

Human disturbance in many bear habitats by forestry activities started in the 1940s. Between 1939 and 1945, during World War II, Japan needed an enormous amount of timber resources. Since the 1960s, Japan has been reconstructing its industries. At a time of high economic growth, mobilization and mechanization enabled development in mountainous areas, and new traffic accessibility allowed logging and cultivating to spread rapidly. Large-scale plantations of coniferous trees have changed bear habitats, especially in areas of low snowfall. Bears cause damage to plantations by stripping bark. Box traps have been used all year round to protect plantation

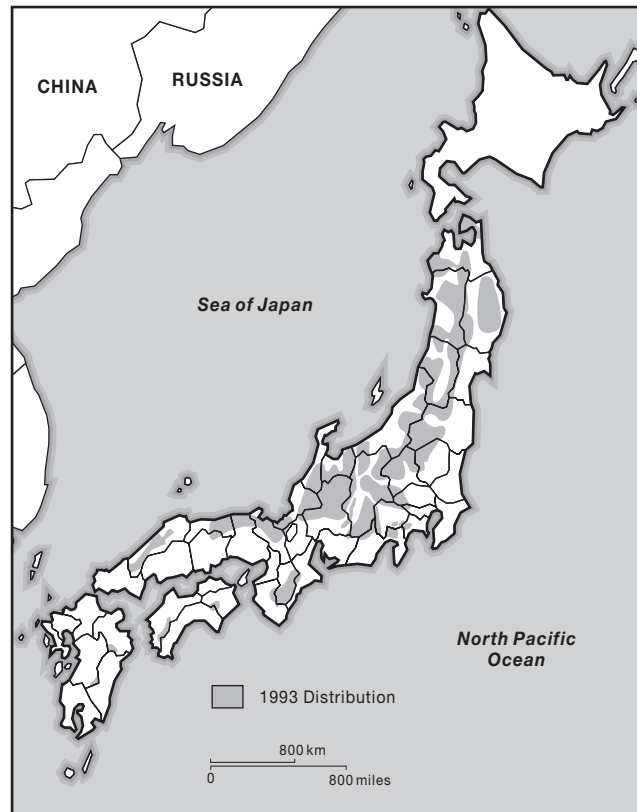


Figure 10.4. Distribution of Asiatic black bears (*Ursus thibetanus japonicus*) in Japan, 1993.

areas since 1970, reducing the population size of black bears in southwestern Japan. They are now considered endangered on Kyushu and Shikoku islands, and threatened in the Chugoku and Kii regions of Honshu island. Isolation of local bear populations and increasing nuisance kills have become serious in other areas of northeastern Japan. Figure 10.4 shows the distribution of Japanese black bears today.

Status

Steep topography and dense *Sasa* bamboo makes research on bears in their natural habitat very difficult. The six prefectures of northeastern Japan (Yamagata, Akita, Niigata, Toyama, Iwate, and Aomori Prefectures) count the number of bears in the post-denning season. In spring, much of the snow is firm enough to walk on, making searches for bears easy. The estimated population density is 0.11–0.18 bears/km² in these areas. On the other hand, direct counts are impossible due to minimal snow cover in southwestern Japan. A capture-recapture method will be experimented with on Mt. Tanzawa and Mt. Hyonosen for census purposes.

The annual statistical harvest of black bears is more than 2,000 individuals, half of which is by nuisance kill.

Based on this information, 10,000–15,000 black bears are estimated to live in Japan (Env. Agency unpubl.)

Legal status

In the Japanese Red Data Book (1991), the Environmental Agency has estimated each local population of black bears in Japan. Five populations (in Kyushu, Shikoku, West-Chugoku, East-Chugoku and Kii areas) have been listed as endangered. This list is to be reviewed every five years. Small isolated populations in Tanzawa and Shimokita areas of mainland Honshu were listed as endangered in 1995.

There is still a lack of efficient conservation measures for the bears beyond recognizing these endangered populations. Present laws and systems for wildlife conservation and management are still insufficient. With only limited legal restraint on land development projects, bear habitats continue to be degraded. The Japanese Forest Agency, which owns most public areas, and many private land owners have traditionally shown little tolerance towards the bear. Serious damage to crops and fear of human-bear confrontations prevent people from understanding the need to limit nuisance kills.

Population threats

Bear harvest is not controlled according to biological data on the species. Nuisance bear killing is practiced year-round, and the harvest numbers have been increasing. Since 1970, box traps have been used widely to capture bears that cause damage.

During the sports hunting season from 15 November to 14 February, it is estimated that the number of bears shot each year will gradually decrease (Statistical Year Book of Hunting of the Env. Agency). One reason for this is that the old traditional hunters will retire and that

younger generations are not keen on hunting. In addition, traditional techniques such as shooting bears in their dens may disappear with the retirement of elder hunters.

Although bear poaching is a well-known practice throughout Japan (Hazumi 1992), authorities have made few attempts to control the situation.

Habitat threats

The Japanese Forest Agency has expanded plantation areas throughout Japan since 1945. The total area of tree plantations has reached more than 40% of the total forest area (252,100km²) in Japan. The logging areas are penetrating the more remote forests today, destroying core areas of bear habitat.

At the same time, imports of inexpensive timber from virgin forests abroad have caused many Japanese timber forests to be abandoned without proper maintenance, since the authorities cannot afford to pay the high wages for timber workers. This economic failure of forestry has caused depopulation in many towns and villages in forest areas, and rural communities have made great efforts to reactivate local economies. However, this has led to construction works with public investment such as roads, dams, pastures for livestock, and resort facilities, causing further decrease and isolation of bear habitats.

Although several protected areas, including national parks and other forms of reserves, have been established by government laws, many types of land use practice still have priority over wildlife conservation. Unfortunately, developers and land use planners show little concern for wildlife habitat management.

Management

Today, the population of Japanese black bear is facing a crisis (Hazumi 1992). The main reasons for this crisis



Asiatic black bear (*Ursus thibetanus japonicus*) in Japan.

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are habitat destruction and uncontrolled harvesting. Diminishing habitats and fluctuations in annual food supply for this species have increased human/bear encounters. Japanese authorities considered control killing as the only feasible measure to solve this problem (Hanai 1990; Azuma and Torii 1978; Watanabe 1980). Referring to the manner of the control kill practice as an example, some wildlife experts have said there is no effective policy or law for wildlife conservation and management in Japan. There is no efficient management system, based on biological theories to secure wildlife and its habitats. Technical arguments for wildlife conservation have only just started in Japan with insufficient biological studies to support them.

The increasing number of close encounters with bears have stimulated concern triggering some initiatives for bear conservation since 1990. Symposiums and forums on bear conservation have been organized by researchers, NGOs, and the government every year. In 1991, five local bear populations were listed as endangered in the Japanese Red Data Book edited by the Environment Agency. One of the positive results of such endeavors is that since 1992, the Japanese Association of Hunters has decided to prohibit bear hunting in those five areas, and limit it for three years in another area. Although this self-control of hunters has had little actual effect (Asoshina 1994), they have become more sensitive to bear conservation.

The 1992 CITES Conference held in Kyoto, Japan, stimulated the Japanese public, increasing the awareness towards the environment and the conservation of wildlife and natural resources. However, there are still two major and urgent themes: 1) limiting bear harvest, and 2) conserving their habitats. This will require the understanding and approval of rural residents around and within bear habitats. There is still a long way to go to achieve these challenging goals.

Human-bear interactions

As mentioned previously, Japanese black bears cause significant damage to coniferous plantations by stripping bark. This is a serious problem, especially in southwestern bear habitats where plantations occupy a large percentage of the total forest area (40–60%) (Japanese Wildlife Research Center 1987). Since few effective measures have been introduced to prevent such damage caused by bears, excessive use of box traps poses a serious threat the bear population in such areas.

Black bears have caused damage to crops, apiaries, fish-farms, livestock, and have sometimes caused human casualties. Such damage and accidents with people usually occur between late summer and autumn. Physical countermeasures such as electric fences are rarely introduced. Bears have almost always been considered as pests, and have been killed by shooting, snaring, and trapping. Since

the 1980s, many more bears have been observed in and around human residential areas than before. One reason for these increasing encounters may be that the combination of logging expansion and failure of mast crops in many areas has reduced the carrying capacity of bear habitats.

Public education needs

Japan has no laws regarding the ownership of wildlife, therefore no one is responsible for wildlife management. This can be considered the main reason for the inadequate state of general wildlife conservation in Japan. This situation has been reinforced during the period of reconstruction of the Japanese economy after World War II, as economic development rather than nature conservation has been given priority.

In universities and natural history museums, basic ecological studies, especially on large mammal species including bears, have been almost totally neglected. Such lack of attention to wildlife ecology could lead to insufficient information and lack of guidelines for wildlife conservation. It can be said that pest control, not only of bears but also of other mammal species, has been the dominant concept guiding wildlife administration systems this century.

National and local governments have only recently begun to consider wildlife conservation problems. Small Japanese NGOs confront a public with only limited awareness of the country's wildlife and challenges to its conservation. Insufficient research on wildlife, little information on wildlife in education, and no public consensus on wildlife conservation creates a frustrating cycle.

Specific conservation recommendations

General wildlife policy

Basic concepts of wildlife conservation and management should be reviewed. A coherent system for wildlife management must be established by law within administrative authorities. Current conservation movements by Japanese NGOs are opportunistic and in many cases not constructive. Therefore, there is an urgent need to establish cooperation between all government sectors concerned.

Basic wildlife management systems

1. Monitoring of wildlife populations including bears should be carried out using comprehensive biological methods throughout Japan.
2. Specialists should be trained for posts in general wildlife management within administrative authorities.
3. Trained staff should be stationed in each area within the bear distribution range.
4. Adequate budgets should be allocated for general wildlife management.

Harvest control

1. The total bear harvest should be limited to a sustainable level, which may be under 5% of each population.
2. Killing females with cubs, shooting of denning bears and use of snaring should be prohibited immediately.

Depredation control

1. Crops and timber should be protected by physical methods, such as electric fences. Other countermeasures should be developed.
2. Bears causing damage should not be killed, but translocated.

Habitat management

1. The habitat size and type of each population should be evaluated. Core areas and corridors should be delineated on maps.
2. Core deciduous forests should be protected as a priority, as the most essential bear habitats.
3. Contiguous forests should be kept as corridors especially between a large/major population and other small isolated populations.

Development of biological studies

1. Courses on wildlife biology should be established in more universities. A more efficient system for wildlife management should be established, which will require many trained wildlife biologists.
2. The function of local museums as research stations should be expanded. Monitoring and research on local fauna should be one of the most important tasks of natural history museums.
3. A network of researchers should support wildlife managers for bear population monitoring.

Public education

1. The most up-to-date information on bears should be presented to rural residents. This is the most important way to remove fear of wild bears. This fear is the main reason for the increase in bears killed as pests.
2. Wildlife education should be included as an integral part of environmental education in curricula for schools and other institutions.

Status and management of the Asiatic black bear in Russia

Igor Chestin and Victor Yudin

Biology

Reproduction: The only information available on reproduction is that given by Bromley (1956). The breeding season starts a bit earlier than that of brown bears, in late May–early June. Females first give birth when they are three years old, but do not become pregnant every year. Pregnant females generally make up 14% of populations. Similar to brown bears, Asian black bears have delayed implantation. Litters usually consist of two, or more rarely of one or three cubs. Lactation lasts 1–1.5 months after leaving a den. Cubs usually spend two summers and one (rarely two) winters with the sow.

Social behavior: According to Abramov (1972), Bromley (1956, 1965), and Kucherenko (1973), Asian black bears are less mobile than brown bears. Kucherenko (1973) mentioned that if food is abundant Asian black bears can remain in an area of roughly 1–2km², and sometimes even as little as 0.5–1km². Asian black bears spend half of their life in trees (Kucherenko 1972, 1973; Khramtsov 1983). When feeding in trees, Asian black bears break branches and twigs to place under themselves. As a result, many trees have something like ‘nests’ in the tops, and this provides evidence of the presence of Asian black bears in an area.

Habitat preference: All experts (Bromley 1956, 1965; Abramov 1972; Abramov, Pikunov, and Bazylnikov 1979; Kucherenko 1972, 1973, 1985; Pikunov, Fomenko, and Kovalenok 1991; Pikunov 1991) agree that Asian black bear range coincides with the range of mixed Siberian pine/broad-leaved forests. There does not seem to be any data on encounters in other ecosystems. Table 10.2, from Pikunov (1991), considers preference of den sites.

Historic range and current distribution

Asiatic black bears occur over the limited territory of Primorye and Priamurye in the very extreme north of the

Table 10.2. Preference of den sites by geographic region and habitat type (Pikunov 1991).

Geographic region	No. of dens	% dens in <i>Tilia amurensis</i> habitat	% dens in <i>Pinus koreensis</i> habitat	% dens in <i>Populus maximow</i> habitat	Reference
Khabarovsk province	30	53	30	10	Sysoyev 1952
Eastern Sikhote-Alin	39	31	8	46	Bromley 1965
Amur-Ussuri region	80	40	25	20	Kucherenko 1974
Primorsky kray	164	40	13	33	Abramov <i>et al.</i> 1977
Western Sikhote-Alin	31	55	39	6	original data 1988

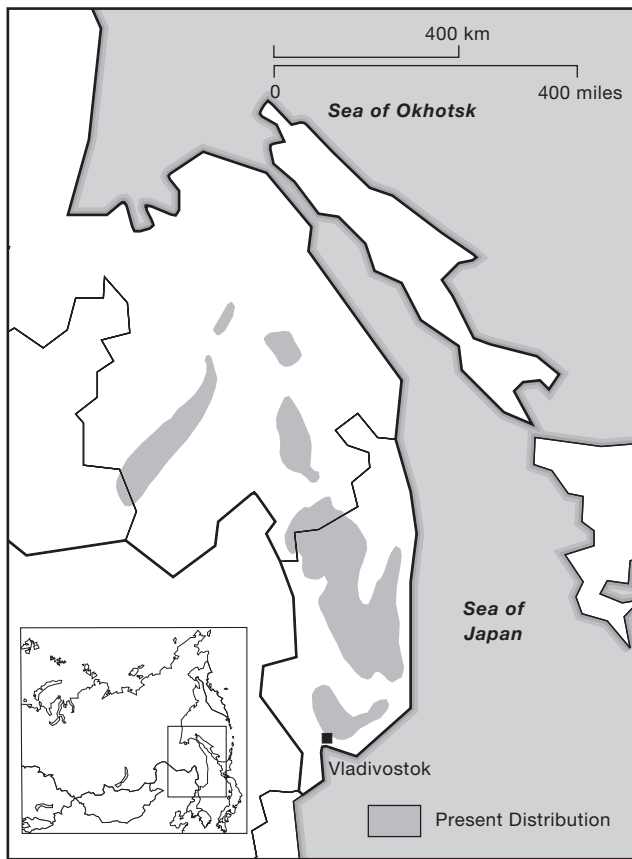


Figure 10.5. Estimated present distribution of Asiatic black bears (*Ursus thibetanus*) in Far East Russia (Yudin 1994).

species' range (see Figure 10.5). Distribution of this bear in this region is closely connected with mixed broad-leaf and Korean pine (*Pinus koreensis*) forests. The geographical distribution of the Asiatic black bear is gradually decreasing. Presumably, in the beginning of the 19th century the bear occurred throughout the mixed forests as well as the plains. By the end of the century, bear population were isolated in the Sikhote-Alin region and only single individuals were observed on the plains.

The range occupied by Asiatic black bears is stable in some areas and decreasing in others. Overall range is likely decreasing and subpopulations becoming increasingly isolated, but specific distribution data is lacking. Population densities still vary from 1.1 to 4.0 individuals per 10km², but total numbers continue to decline. In the beginning of the 19th century the number of Asiatic black bears was not less than 25,000–35,000 individuals while today 4,000–5,000 remain. By the year 2000 the Sikhote-Alin region may become completely isolated from the territory situated on the west bank of the Amur River. Presumably a section of the range on Pogranichny ridge will also disappear. Distribution may become even more limited to the mountains, especially on the eastern slopes of the Sikhote-Alin and the Sea of Japan coast.

Legal status

The Asiatic black bear is listed in the Red Data Book of the USSR (which is now obsolete) and as an infrequent species in the Red Data Book of Russia. Thus it falls under special protection and hunting is prohibited. The presence of Asian black bears in an area theoretically can be an argument in favor of creating a new reserve. However, nowadays there is strong movement to legalize hunting of this species, and this is supported by the local scientific community (Kucherenko 1985), with the notable exception of Dr. D. Pikunov (1991). Those people believe that the species in Russia is not endangered. Kucherenko (1985) mentioned that in 1970 there were 6–8,000 Asian black bears, and in 1985, 4,600–5,400. Density in the best habitats can reach 1.5–2.0/10km².

Population and habitat threats

The major threat to the population itself is greatly increased poaching. Up until 1983 when the Asiatic black bear was listed in the Red Data Book of USSR, 300–400 individuals were shot every year. Recently the hunting of the bear was forbidden, but many cases of illegal shooting occur. This is done by local people and foreigners responding to perestroika, and is fueled by the growing demand for bear parts. The whole Far East of Russia represents a huge source of bear parts for Asian markets. Many Chinese and Korean (both South and North) workers in Russia, who are supposed to be employed in the timber industry, are in fact engaged in the trade. Many Russian sailors purchase bear parts from local hunters and sell them in Japan and Southeast Asia. Unfortunately there are no estimates of the effect international trade has on populations of brown and Asian black bears.

The main habitat threat to Asian black bear populations in Russia comes from a rapidly growing timber industry. This was mentioned by Bromley (1965) and Abramov (1972) almost 30 years ago. Both the above authors, as well as Kucherenko (1973), Kostoglod (1981), and Khramtsov and Zhivotchenko (1981), reported that the cutting of trees containing cavities, which Asian black bears use for their dens, was a grave threat to the species. Facing a lack of hollow trees, Asian black bears must den on the ground or in the rocks and thus become vulnerable to predators like tigers, brown bears, and hunters. Pikunov (1991) mentioned that Siberian pine/broad-leaved forests have experienced a two-fold decrease in area during the last 70–80 years. The speed at which these forests are cut is much higher now than it was 5–10 years ago. Many joint ventures (Russian-Chinese, Russian-South Korean) are developing logging operations in Russia. The timber harvested mainly goes to Japan and Southeast Asia.

In addition the development of land for agriculture and building of settlements reduces the area of forests, and consequently the range of the Asiatic black bear. Logging roads make the most remote forest sites accessible to hunters, while logging equipment itself interferes with bears, and leads to the death of individual bears.

Management

Each oblast or kray (Russian administrative units, similar to provinces) has two governmental structures that are responsible for wildlife management. First, there are the territorial divisions of the Russian Game Department (Glavokhota). The staff of this organization provides control over game users, like professional and amateur hunters, united in game societies. Game Departments also issue hunting licenses. The other local structure is the territorial division of Ministry of Nature Protection. This division is responsible only for the control of specially protected species. Thus, since Asian black bear range in Russia covers the whole of Primorskiy kray (with Vladivostok at the center) part of Khabarovsk kray (with Khabarovsk at the center) and a small piece of Amur oblast (with Blagoveshchensk at the center), there are three territorial Game Departments and three territorial Departments of Nature Protection assigned to manage this species. However, none of them have performed even simple population censusing, not to mention other investigations.

Management of the Asiatic black bear population is accomplished by means of habitat protection and a ban on hunting. In 1991, the government enacted a law forbidding the cutting of Korean pine throughout the bear's range.

There are eight nature reserves, where hunting, tourism, and any kind of development are prohibited. Annual censusing is usually conducted. The area of these reserves is 7,880km², or approximately 2.3% of the species' range in Russia.

Human-bear interactions

There are occasional conflicts caused by black bears, like damaging beehives and preying on livestock (very rare), but damage from brown bears is much more serious and prevalent. There are no records of predation on humans by Asiatic black bears. Attacks on people are very rare and are usually provoked by the person(s) involved.

Public education needs

Japanese companies must be encouraged not to buy Russian timber. Local people and local authorities recognize the problems they will face when the forests are gone, but

economic disaster and short-term political interests force them to sell everything they can. It is necessary to inform the public more frequently in the media about current laws and measures taken to protect rare mammals.

Specific conservation recommendations

Since there is almost no information on Asian black bear numbers and biology, it seems crucially important to initiate research projects. In order to preserve habitat, it is probably worth considering establishment of compensation for non-development of areas important to local populations. Regarding the economic situation in Russia, international organizations would likely be the only source for such compensation.

Conservation of the Asiatic black bear would be enhanced if we fulfil the following requirements:

1. Expansion of the areas of the Sikhote-Alin, Komsomolsk, Rhingan, Ussuri, and "Kedrovaya Pad" reserves.
2. Stopping of any cutting in the broad-leaved and Korean pine forests.
3. Strengthening of protection and increase in penalties for illegal killing of the Asiatic black bear.

Status and management of the Formosan black bear in Taiwan

Ying Wang

Historic range and current distribution

The Formosan black bear (*Ursus thibetanus formosus*), an endemic subspecies to Taiwan, was probably distributed island-wide in historical times. According to Japanese police records of the aborigines (1937), 78 bears were sold by the aboriginal people of Atayal, Bunun, Tsou, and Paiwan in 1933. These people lived in the mountainous areas from the northernmost to the southernmost tip of Taiwan. That each of these tribes had its own distinct hunting territory implies that bears at that time were distributed from the north to the south end of the island. Kano (1940) reported during his expedition in the Tsugitaka mountains (Snow Mountain range) that bears were still common in the area and were roughly distributed between 600 and 2,700m. Chen (1956) recorded that the species was found between 100 and 2,000m in the mountains of Suao, Lotung, Hwalien, Shihtoushan (Lion Head mountain), Yushan, and Alishan. According to our surveys, bears were caught in the Coastal Mountain range in the eastern part of Taiwan 20 years ago. From those records, it is suggested that except in areas heavily populated by man, such as the western plain which had long ago been converted to agricultural land, the rest of

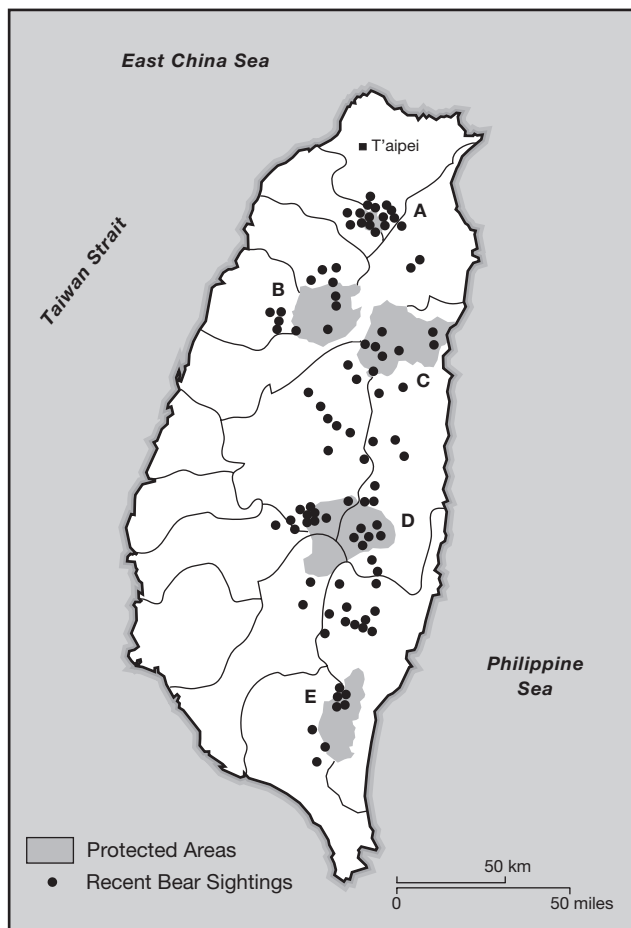


Figure 10.6. Protected areas and recent bear sightings within Formosan black bear (*Ursus thibetanus formosus*) range in Taiwan.

Protected areas A–E are: A) Chatienshan Reserve, B) Sheipa NP, C) Taroko NP, D) Yushan NP, E) Tawushan Reserve.

Taiwan could have been occupied bear habitat less than 100 years ago.

According to Wang (1990), among three mountain ranges in Taiwan excluding the Coastal Mountain range, bears were found on the slopes of the Central and Snow Mountain ranges. During recent surveys (Wang and Chen 1991; unpublished data 1991–1993, 1993–1994) bear distribution has remained basically unchanged. Combining sighting reports from these surveys with information obtained by the Forest Bureau from 1991 to 1993, we found that bears were distributed along the Central Mountain range from the Hapan area (north of Lala mountain) south to Tawu and Snow mountains in the Snow Mountain range. Several concentrated sites of bear activity were identified, particularly in the vicinity of three national parks and two reserves which included: Lala Mountain (Chatienshan Reserve), Snow Mountain area (Sheipa NP), Taroko NP, Yushan NP, Tawushan Reserve, the area between Taroko and Yushan, and the area between Yushan and Tawushan (Figure 10.6).

Status

The Formosan black bear was, according to early records, distributed in both low and high elevations island wide. However, due to habitat destruction and persistent hunting, its distribution has decreased (Lin and Lin 1983; McCullough 1974; Wang 1988, 1986; Wang *et al.* 1989; Wang and Chen 1991; Wang and Lin 1987; Wang and Wang 1990; Yen 1979). According to sighting records with known elevation ($n=135$), the range of bear sightings occurred between 200–3,600m in elevation with nearly 90% of the sightings occurring over 1,000m. In 1989, after the enactment of the Wildlife Conservation Law, this species was listed as endangered with full protection. Poaching persisted due to the bear's high commercial value on the black market. However, in 1994 a revision to the Wildlife Conservation Law that increases fines and penalties for people who commit a crime against wildlife seems to have some effect in discouraging poaching activities on bears.

Legal status

The Formosan black bear was listed as an endangered species under the Natural and Cultural Heritage Act on January 30, 1989, and was later listed as a Conserved Species Category I (similar to CITES Appendix I species) under the Wildlife Conservation law.

Population threats

People do not actively pursue the bear now. However, the Chinese treat it as a highly prized animal because of the medicinal properties of its gall bladder and the rare culinary value of its paws. Using a steel jawed traps to capture the boar is still a common practice over vast areas. Occasionally, bears may become victim to steel jawed traps set for wild boar, a very popular quarry for aborigines. Two bears were known to have been captured in steel jawed traps recently at Haituan. They were killed and probably sold on the black market. The wide use of steel traps by aborigines to capture boars creates a substantial threat the native bear population.

Habitat threats

Timber harvest used to be a major threat to habitat in bear country. In 1992, a ban of timber harvesting from the natural forest was undertaken. This came about as a result of the Forest Bureau's changing policy from focusing solely on timber harvest to multiple use of forest resources. For the next ten years, existing prime habitat for bears will

be quite safe. However, a new policy concerning the transfer of ownership of hill land from the government to private interests will potentially affect some lowland habitat, especially in the eastern part of Taiwan where some of the land is still quite undeveloped. Furthermore, highway construction will pose a great potential threat to the integrity of bear habitat. Within the next decade the government is planning to build two cross island highways from west to east, one in the central part of Taiwan and another in the southern part. Both pass through remote areas of the central mountain range that is considered prime bear habitat.

Management

The Department of Health launched a survey on the consumption of bear gall bladders in traditional Chinese medicine (Chang *et al.* 1995). A joint meeting of representatives from Chinese medicinal shops, doctors, government agents, NGOs, and scientists was held for the first time to discuss controlling and phasing out the use of bear gall bladders in the traditional market. Further meetings will be held to discuss the protection of all bears, including our native species, in the near future.

Keeping bears as pets may sometimes provide a method of circumventing restrictions on the possession of wild captive bears. Bears are under the strict control of the Wildlife Conservation Law, so no import or export of any bear species for pets is allowed subsequent to the enactment of the Law. People who own bears as pets are now required to register them with local governments. A minimum living standard for all captive animals including bears is now being produced by the government. Hopefully this will encourage some bear owners to give up their pets. According to a survey (Wang and Chen 1991), 41 Asiatic black bears (including 16 Formosan bears) were kept either in zoos for exhibition or by private individuals as pets. No breeding record has ever been documented. An end to keeping bears as pets will be accomplished either when presently captive bears die or when the government takes quick action to solve the problem.

Human-bear interactions

Very few sightings of bears raiding agricultural areas have been recorded. During the past three years, bears were sighted feeding in orchards and corn fields, but no conflicts with humans have been documented. However, in late 1993 at Walami area in Yushan NP, a bear was reported trying to get into a shelter. It stayed in the vicinity for a few months, probably attracted by garbage from human camping activities.

Public education needs

Though the sale of bear parts and meat has been ended officially, it still exists on the black market. Educating the public about the consequences of using bear parts for food or medicine is urgent. First, the reality that one can only acquire bear paws for a delicacy by killing the animal needs to be clarified. Second, the traditional use of the bear gall bladder in Chinese medicine should be stopped at best, or strictly controlled at least. People who use these products need to be informed and educated that their conduct could endanger the bear population. On the other hand, alternatives or substitutes for bear gall bladder need to be addressed and developed. The goal should be to provide good educational material to help users change their behavior.

Rearing wild animals as pets has become very popular recently. With the enactment of the Wildlife Conservation Law, pet bears will probably not be seen in the public in the years to come, yet education is the ultimate means to stop the inhumane keeping of bears as pets. Humane ways to keep pets need to be stressed as well. Furthermore, it needs to be stressed that bears living in the wild are far better off than those living in captivity.

Finally, bear threat to human life has not been a concern up to now; however, it will become more of a concern as more hikers swarm into the mountains and leave their food and trash where bears can access it. As a consequence, human-bear interactions will increase. Education on the appropriate way to behave in bear country is needed. First, workshops could be held to educate professionals such as foresters and managers of parks or protected areas about human-bear interactions. Hikers and mountain climbers, who get into the back country and have a higher chance of encountering bears, also need to be educated.

Conservation recommendations

1. Steel jawed traps used to capture wild boar need to be strictly controlled in designated areas and completely banned in bear country.
2. Control or phase out the use of bear gall bladders in the traditional market and find alternatives or substitutes for bear gall bladder in Chinese medicine.
3. Stop the use of bear paws as a traditional delicacy and end the keeping of bears as pets.
4. More research needs to be done in order to learn the basic biology of this species in the field and in captivity.
5. Highway construction and land use policies need to be modified to protect suitable bear habitat.
6. Professionals and the general public, especially hikers and mountain climbers in bear country, need to be educated to avoid unnecessary negative impacts caused by bear-human conflict that may affect the momentum of protecting the species.

Status and management of the Asiatic black bear and sun bear in Vietnam

Do Dinh Sam

Introduction

Currently, there are no individuals or groups specializing in bear research in Vietnam, but several overseas authors have done general research on Vietnamese carnivores and mammals: Brousmiche in 1887; Pavie in 1904; Menegaux in 1905–1906; Thomas in 1909–1925; Bourret in 1927–1942–1944; Delacour in 1925–1930; and Osgood in 1932. From 1945 to 1954, research projects were interrupted due to the war against the French colonialists. After 1954, research was resumed by native authors within the country such as Dao Van Tien, Vo Quy, Le Hien Hao, Le Vu Khoi, Vu Thanh Tinh, Pham Trong A'nh, Dang Huy Huynh, Cao Van Sung, Do Tuoc, and Hoang Cuong.

Biology

There are two species of bear in Vietnam: the Asiatic black bear (*Ursus thibetanus*) and sun bear (*Helarctos malayanus*). The Asiatic black bear is a large bear weighing up to 200kg. This species is black in color. The majority have two stripes of white or occasionally yellow hair in a V shape on the chest. The head is relatively large, and there often is a thick mane on the upper part of the neck. The ears have two bushy tufts of long hair. The sun bear is a smaller bear, weighing only about 80kg. The shape is different from that of *U. thibetanus*, especially the head, which is smaller, similar to that of a dog. The neck has no mane, the ears do not have tufts, and the body hair is also less thick. There are also two stripes of white (or yellow) hair on their breast making a V shape.

Both bear species in Vietnam are active all year round, and no hibernation is observed. They eat starchy seeds such as *Quercus*, *Castanopsis*, and *Gnetum*; fleshy seeds such as *Canarium*, *Livistoma*; succulent fruit like *Ficus*, *Garcinia*, *Nephelium*, *Baccaurea*, *Syzygium*, *Dracontomelum*; various types of tubers such as *Dioseorea bulbifera*; the trunk of *Arenga saccharifera*, and *Rhapislaosesis* buds. In total, bears have been known to feed on 100 plant species. They seem to like honey very much. They also feed on the carcasses of animals, eggs and young birds, frogs, insects, crabs, and snails.

Little is known about reproductive season of bears in Vietnam, in part because mothers and their young can be hunted throughout the year. Scientific literature includes no information on the length of pregnancy, but it is believed to last 6–7 months, with 2–4 offspring at each birth.

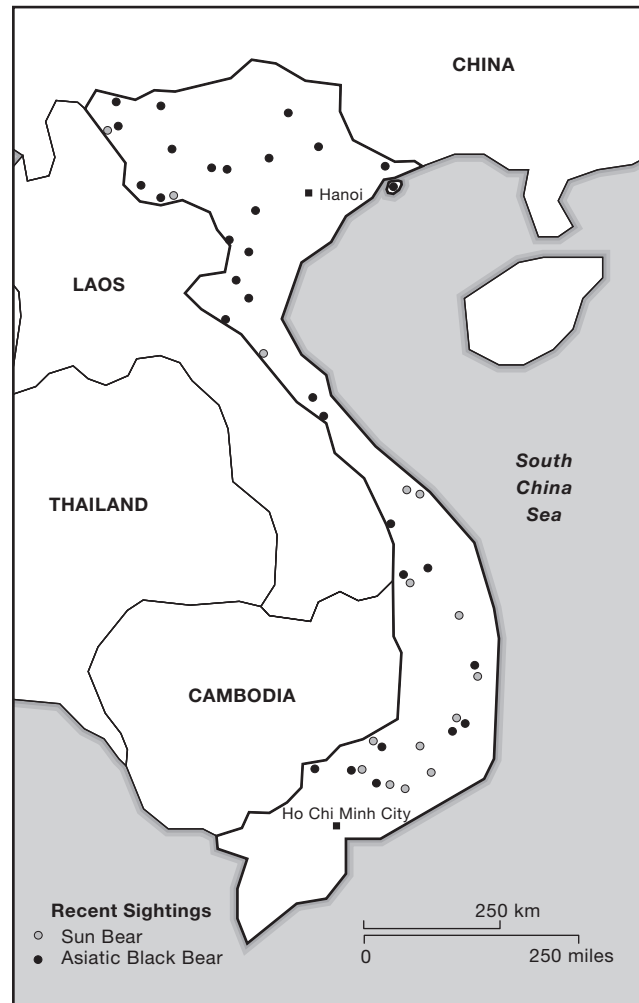


Figure 10.7. Recent Asiatic black bear (*Ursus thibetanus*) and sun bear (*Helarctos malayanus*) sightings in Vietnam.

Status and distribution

The population of Asiatic black bears is rather large: it is more common than other carnivorous mammals. They are distributed in all altitudinal ranges: mountainous regions, hill forests, limestone forests, and mangrove forests. They have been seen at certain times near the seashore and swimming from one island to another. Bears have also been seen at altitudes over 1,000m.

These bears also occur in Laos and Cambodia. The accompanying map (Figure 10.7) gives information on the distribution of the two bear species in Vietnam.

Legal status

The Government issued Decision 276/QĐ, 276/1989 with an attached regulation on management, protection and wildlife import and export. The decision includes a list of

wildlife species of which the hunting and export are prohibited, including *H. malayanus*. In the Red Book of Vietnam which was recently prepared, *U. thibetanus* and *H. malayanus* were listed as endangered.

Population and habitat threats

Due to the pressures of human population growth and unstable settlement, the forests of Vietnam have been steadily cleared. Of the 87,000km² of natural forests, about 1,000km² disappear every year. In addition, hunting pressure has increased, while awareness of wildlife, habitat needs, and the status of bears remains low. As a result, bear population numbers have declined quickly. There are places where many bears (both species) occurred in the past, such as Ba Vi mountain (now NP), Tam Dao mountain (now NR), Cat Ba Island (now NP) but now have no bears. In other provinces where there were many bears in the past such as Quang Ninh and Hoa Binh, now only a few remain. In Vinh Phu, Lang Son, and Bac Thai provinces, bears are now extinct or nearly extinct.

Asiatic black bear cub (*Ursus thibetanus*) for sale in Laos.



C. Servheen

Management

There are few reliable records of annual bear harvests in Vietnam. According to a document by Le Hien Hao in 1973, in the provinces of North Vietnam (from latitude 17° northward) 6,000 bears were captured annually. According to a Do Tuoc document in 1981, in the northwestern part of North Vietnam alone (Moc Chau, Thuan Chau, Muong Te, Mu Cang Chai, Tram Tau, and Bac Yen districts), each village in these districts (about 15 villages in a district) annually captured about 4–5 bears. In rare cases a village can capture up to 10–15 bears a year.

Presently in Vietnam, the numbers of bears captured annually are estimated to amount to several thousand, most of which are Asiatic black bears, taken mainly in central highland provinces, central Vietnam, and northwestern part of North Vietnam.

In 1963, the State of Vietnam issued the “Temporary Regulation on Wildlife Hunting” in which hunting of 16 mammal species and four bird species was prohibited, but the regulation did not include the two bear species.

Beginning with the establishment of the first Natural Reserve, Cuc Phuong, in 1964, a system of 87 Natural Reserves has now been established with the total area of over 10,000km² (compared with 87,000km² of natural forests). In the natural reserves, strict measures have been applied to prohibit wildlife hunting.

Human-bear interactions

Bears have high economic value in Vietnam. The bear’s bile is the most appreciated because it cures many diseases, effectively treats the accumulation of blood below the skin, and counters toxic effects. Bear bone glue is used as a tonic, and bear fat is also a medicine and a tonic. Finally, each bear provides a large quantity of edible meat. Because of high value of these products, people hunt bears despite their perceived fierce nature. At present, each bear is worth about 20–30 million dong (US\$1,500–2,250 equivalent).

Many people keep bears because they are easily fed and cared for, especially as cubs. They quickly become tame domestic animals, feeding on many kinds of food such as rice, maize, sweet potato, cassava, pumpkin, and ripe fruit. They also like to eat animal fat and sweet foods. Bears eat a lot and grow quickly. A rather young bear satisfactorily fed would gain 10–20kg/month.

Public education needs

Wildlife protection is a topic for lectures, posters, postage stamps, match box labels, and school children’s text books. However, the animals usually chosen for this type of

education are the large, precious, and rare mammals such as the rhinoceros (*Dicerorhinus sumatrensis*, *Rhinoceros sondaicus*), elephant (*Elephas maximus*), guar (*Bos frontalis*), kouprey (*B. sauveli*), and banteng (*B. javanicus*). Bear protection is still only given attention in the natural reserves. Little research on bears is conducted.

Specific conservation recommendations

In order to proceed with the protection of bears in Vietnam, in cooperation with the activities of the IUCN/SSC Bear Specialist Group, we would like to suggest a number of topics worthy of consideration and research in Vietnam:

1. Research on the status of black bear in Vietnam with the following specifics: a) collecting literature on bears; b) surveys throughout the country for distribution and population of bears, especially *H. malayanus*; c) evaluation of the hunting situation (numbers of bears killed for flesh and export annually); d) a survey of people keeping bears and the number of bears in captivity; e) studies of biological and ecological characteristics of each bear species, and f) predictions of population trends for the two bear species in Vietnam. **Estimated budget: US\$30,000.**
2. Public information on bear protection, including: a) writing of books, printing of posters, and organizing lectures on bear protection, and b) making a video tape of a bear's life. **Estimated budget: US\$5,000.**
3. Because the Vietnamese customarily use the products of bears (flesh, fat, bones, bile), bear farming is needed if hunting is to be limited. This needs to be organised and: a) establishing a bear farm to produce young bears supplied to the people for rearing (the initial scale of the farm is 20 female bears and five male bears); b) organizing a demonstration course for families that desire to rear bears (initial number of trainees to be 100 persons). **Estimated budget: US\$50,000.**