

Chapter 9

The Status of Malaysian Sun Bears in Malaysia

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The sun bear (*Helarctos malayanus*) (Photo 9.1) is the only bear species inhabiting the lowland tropical forest of Malaysia. Both of two subspecies recognized by Meijaard (2004) inhabit in the country: the Malayan sun bear (*H. m. malayanus*) in Malay Peninsular, and the somewhat smaller Borneo sun bear (*H. m. eurispylus*) on Borneo. Continued habitat destruction and other human-related mortality suggest a bleak future of this forest dependent species in Malaysia. Thus, sun bear conservation should be a high priority.

Status

Current distribution

To date there has been no in-depth study of sun bear distribution conducted in Malaysia. However, inventory studies and fauna surveys carried out during the past two decades have found bears in a limited number of protected areas such as national parks, forest reserves, wildlife sanctuaries, and conservation areas. Because sun bears are forest dependent, the amount of relatively

undisturbed forest reflects the habitat available to the species and thus its potential population size. Malaysia consists of two distinct geographical regions: Peninsular Malaysia and East Malaysia. East Malaysia is located on the island of Borneo and incorporates the two states of Sabah and Sarawak (Fig.9.1, 9.2, 9.3). The total land areas for Peninsular Malaysia, Sabah and Sarawak are 131,623 km², 72,500 km², and 124,450 km², respectively; of which approximately 45%, 60%, and 67% respectively are under various kind of forest cover (Department of Forestry 2003; Sabah Forestry Department 2006; Sarawak Forestry Corporation 2006). Although the proportion of forest cover may seem high, many of these forests are not ideal sun bear habitat. Such forests include recently logged forests, smaller forest fragments, logged or secondary forests subjected to poor logging practices and high timber extraction rates, and forests with uncontrolled hunting and poaching activities.

Current Population estimates

As yet, there has been no attempt to estimate the total



Photo by Siew Te Wong

Photo 9.1: A subadult sun bear resting on a tree branch in the rainforest of Borneo.

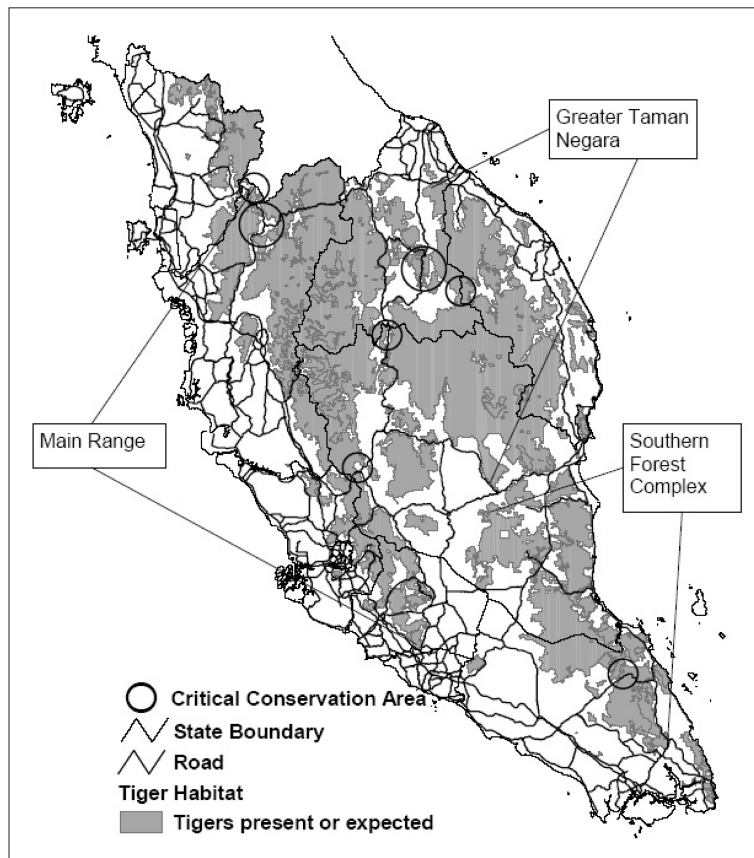


Fig. 9.1: Three important blocks of forested areas in Peninsular Malaysia. Source: Kawanishi et al. (2003)

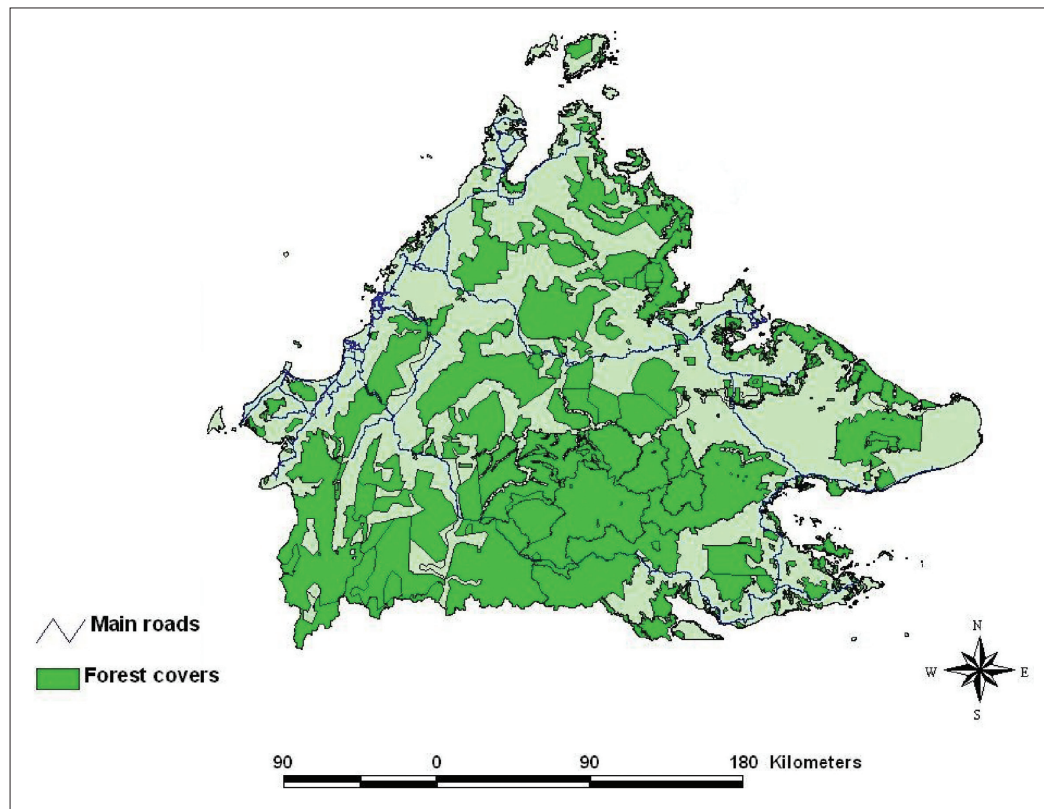


Fig. 9.2: Forest cover map in Sabah.



Fig. 9.3: Forest cover and logging concession in Sarawak.

size of the sun bear population. However, a few authors in Malaysia and Indonesia have estimated the density of the sun bears in various parts of its range. Except for Davies and Payne (1982) who searched for bear sign, all researchers have used camera-trapping data to estimate bear density. Kawanishi and Sunquist (2004) estimated 1.13-1.57 bears/km² in Taman Negara National Park (in Peninsular Malaysia). However, Meijaard et al. (2005) did not consider these densities reliable due to perceived methodological shortcomings. Davies and Payne (1982) reported 0.25 bears/km² in Sabah; S.T. Wong (unpublished data) estimated 0.128 bears/km² in Ulu Segama Forest Reserve in Sabah. Augeri (2005) estimated 0.042 bears/km² and 0.025 bears/km² in Kayan Mentarang National Park, and Bulungan Forest respectively (in Indonesian Borneo). Judging from the shrinking habitat alone (see section on habitat destruction) it is likely that this population is declining rapidly.

Population threats

Illegal hunting and trading, selective logging, population fragmentation and the cumulative effects of habitat destruction are the major threats to sun bear populations in Malaysia. However, there is currently a lack of knowledge of how these factors are affecting mortality rates and population recruitment.

Hunting of sun bears is strictly prohibited in Malay-

sia. However, hunting by opportunistic poachers still occurs due to a lack of enforcement. Many licensed hunting (or indeed illegal poaching) activities take place in oil palm (*Elaeis guineensis*) plantations adjacent to forest patches. Although the targeted species for hunting are wild boar (*Sus scrofa*), bearded pigs (*Sus barbatus*) or sambar deer (*Cervus unicolor*), these hunters will not hesitate to shoot bears if the opportunity arises. Bears that hide in forest patches adjacent to plantations during the day and forage in plantations at night are therefore vulnerable. Oil palm plantations have thus become an ecological trap for bears, and forest patches adjacent to plantations have become population sinks. In addition to opportunistic hunting, poaching activities conducted by well-organized foreign poachers from Thailand, Cambodia, and Vietnam in the past few years have posed additional threats to the survival of Malaysian wildlife including sun bears, in national parks, and other protected areas in Peninsular Malaysia. Sun bear meat and paws are available, although not commonly, as a delicacy to both foreign tourists and locals in some cities across the country (TRAFFIC Southeast Asia personal communication). Sun bear claws and canines, believed to possess the power to drive away evil spirits, are still available for sale in jewellers and antique shops in Sabah. In Sarawak, native rural residents who follow a traditional lifestyle and who legitimately need to hunt

these animals for their own consumption are granted the right to do so without obtaining a hunting license (Meijaard 1999). Because of this uncontrolled hunting, the sun bear in Sarawak is hunted heavily for meat, gall bladders, claws, teeth, and for trade, extremely rare, and completely extirpated from many areas (WCS and Sarawak Forestry Department 1996).

Characteristics of habitat

The tropical rainforests of Peninsular Malaysia and Borneo are well known for their high biodiversity and are one of the most diverse ecosystems on Earth. The Dipterocarpaceae family of trees dominates these tropical rainforest. In Peninsular Malaysia, most productive lowland dipterocarp forests have been lost to urban and agricultural use (mainly oil palm and rubber [*Hevea brasiliensis*] plantations). In 2004, about 17% (22,300 km²) of Peninsular Malaysia was used for oil palm plantations (Department of Statistics 2005). Forested areas of various conditions (approximately 45% of the total land area) are found in higher elevation, mountainous areas, national parks and their surrounding forests, such as Titiwangsa Main Range, the Greater Taman Negara Ecosystem, and the Southern Forest Complex (Fig. 9.1). These three areas are the most important sun bear habitat, not only in Peninsular Malaysia, but also in the entire sun bear's range across Southeast Asia.

In Sabah, about 40% of lowland dipterocarp forests have been converted to either urban area or agricultural land (mainly oil palm plantations). In 2004, about 16.1% of the land in Sabah (or 11,654 km²) was utilized for oil palm plantation (Department of Statistics 2005). This number is expected to increase in the near future. Although about 60% (35,900 km²) of Sabah remains forested (Fig. 9.2), only 23% of that area (14% of the state) has some form of protection (Sabah Forestry Department 2005). The remaining 77% of forested lands (i.e., 46% of the total land base) are designated as logging concessions, mainly Commercial Forest Reserves, which have mostly been selectively logged, or will be logged by the end 2007 (Butler 2006).

According to the Sarawak government, more than 67% (82,200 km²) of Sarawak's land is under natural forest cover (Fig.9.3) (Rautner et al. 2005). However, only around 8% (10,300 km²) has some form of protection as national parks, nature reserves, or wildlife sanctuaries (Rautner et al. 2005). With regard to long-term land use planning, Sarawak has a 6:6:1 policy (6 million ha agriculture and settlements, 6 million ha commercial forest, 1 million ha protected areas) (Rautner et al. 2005). In 2004, 4.1% (50,830 km²) of Sarawak was utilized for oil palm plantation, and this percentage will double during the next few years. At present, almost all of the 6 million ha of commercial forest has been heav-

ily logged.

Habitat threats

Forest destruction is by far the most important threat faced by sun bears in Malaysia today. These forests are highly valued for timber production and are also being rapidly cleared to make way for plantations and human settlement. Selective logging has also converted many primary forests into secondary forests. Malaysia considers forestry one of its strategic backbones to generate revenue for the country's economy through export earning; Malaysia is currently the world's largest producer and exporter of tropical hardwood. Logging affects lowland forests in Malaysia except in a few protected areas. The annual deforestation rate jumped almost 86 percent between the 1990-2000 period and 2000-2005, with Malaysia losing an average of 140,200 ha -0.65 percent of its forest area- yearly since 2000 (FAO 2005). In comparison, the other Southeast Asian countries lost 78,500 ha, or 0.35 percent of their forests annually during the 1990s (FAO 2005). Logging activities not only shrink the sun bear's habitat, they also allow poachers to enter the forest through the networks of logging roads created during the logging operation.

Sun bears are found in logged forest (Wong et al. 2004), but the effects to bears of converting primary forests to secondary plant communities are unknown (Wong 2005). Because most of the remaining forest in Malaysia has either been selectively logged or is earmarked for logging in the near future, the future of the sun bear depends heavily on logged forests. The term "logged forest" is vague because the quality of the logged forest varies from forest with a high extraction rate with very few trees remaining, through heavily disturbed forest after poor logging practices, to less disturbed forest with many larger trees left intact. The latter is usually found on steeper terrain or in relatively small places where environmental friendly logging practices such as Reduced Impact Logging (RIL) have taken place. Whether sun bears use badly logged forests, such as the severely damaged logged forests in many parts of Sarawak, is highly questionable.

Human-bear relationships

Local names of bears

The name of the Malayan sun bear in Malay is "Beruang madu" or "honey bear" probably due to their affinity for honey. Among the Malaysian Chinese, they are known as "Gou-Xiong", which translates as "dog bear," probably because of their small size, short hair, and a smaller head that is dog-like. They also emit a loud bark when threatened.

Conflicts with humans

In Malaysia, the Malayan tiger (*Panthera tigris jacksoni*), Asian elephant (*Elaphus maximus*), and Borneo orangutan produce more conflicts with humans than do sun bears. Although sun bears that live adjacent to oil palm plantations are known to feed on oil palm seeds (Nomura et al. 2004), plantation owners usually tolerate such foraging because few bears are involved, and they tend to feed only on discarded fallen seeds. Nevertheless, plantation workers are usually concerned about their safety when encountering bears, especially if bears later learn to forage near houses. Either local authorities or villagers may therefore kill the bears, not because of crop raiding, but because of safety issues (New Straits Times 2005).

Present management system

The legal status of the species

The Malayan sun bear is been listed as an Appendix I species under the Convention on International Trade in Endangered Species of Wild Fauna (CITES), to which Malaysia is a signatory. International trade of the sun bear or its parts is prohibited without proper permit.

The sun bear is listed as a "Totally Protected Species" under the Wildlife Protection Act (1972) in Peninsular Malaysian (Malaysian Government 1972), and Wildlife Conservation Enactment (1997) in Sabah (Sabah Government 1997). Hunting, killing, keeping or selling the animal or its body parts is totally prohibited.

In Sarawak, the sun bear is listed as a "Protected Species" under the Wild Life Protection Ordinance (1998). A license is needed to keep sun bears as pets, hunt, kill, capture, sell, import or export them, or possess any recognizable part of these animals (Sarawak Government 1998). Nonetheless, an unknown numbers of bears are kept as pets and a small number are kept legally in Sabah and Sarawak, where the owners possessed the bears before the laws were enacted in late 1990's.

List of government agencies, scientists and NGOs concerned with sun bears

In Malaysia, the three different geographic regions of the country each have a separate government agency responsible for conservation of sun bears. These are the Department of Wildlife and National Parks in Peninsular Malaysia, Sabah Wildlife Department in Sabah, and Sarawak Forestry Corporation in Sarawak. A few international and local environmental and conservation NGOs, such as World Wildlife Fund for Nature (WWF-Malaysia), Wildlife Conservation Society (WCS-Malay-

sia Program), and Malaysian Nature Society (MNS), have been established and have conducted conservation programs on many wildlife species for decades. However, no NGOs or public education program are specifically focused on the conservation of the sun bear. The author is the only scientist in the country who has been actively involved in sun bear research and conservation activities either now or in the past. (Wong et al. 2002, 2004, 2005; Wong 2005).

Recommendations

The Malayan sun bear remains the most neglected large mammal in Malaysia and in Southeast Asia. They are still the least known bear species in the world despite the few ecological studies that have been conducted in Borneo during the past few years (Fredriksson 2005; Fredriksson et al. in press a; Fredriksson et al. in press b; Nomura et al. 2004; Wong et al. 2002, 2004, 2005). In Malaysia, no specific management actions have been taken other than the provision of legal protection status, which is weakly enforced. There have been no reliable surveys of its distribution, population densities, population trends, number of bears in captivity, human caused mortality, trading activity, or the utilization of bear parts. In addition, there are no conservation or public education programs specifically targeted for sun bears and no habitat management plans for their conservation. Finally, wise forestry practices are not in common practice; instead, large forest areas are being cleared for plantation development and many logging practices are unsustainable. The lack of basic information on the sun bear and of a government commitment to protect remaining forests is a serious limitation to the conservation efforts and for the long-term survival for sun bears in Malaysia.

Recommendations for the conservation and management of sun bears in Malaysia include:

(1) Conduct a distribution mapping and status survey: a nationwide distribution survey on the presence-absence of sun bear in remaining forest patches. The survey should also identify: a) important habitat blocks for the long-term survival of sun bears and their identification as Sun Bear Conservation Units (SBCU); b) conservation status in each SBCU; c) population and density estimates in each SBCU; and d) conservation activities in each SBCU.

(2) Conduct a survey on trade of bear parts and captive sun bears: Collaborate with NGOs (e.g., TRAFFIC-Southeast Asia) to conduct a nationwide survey on trade of sun bears and its body parts, consumption, and identify the status of captive sun bears in the country.

- (3) Research:** Conduct ecological research in various habitats types (including logged forest) on life history, reproductive biology, population genetics, and the identification of resources critical to the sun bear's survival.
- (4) Improve logging practices and safeguard remaining forested areas:** Promote environmentally friendly logging practices such as Reduced Impact Logging (RIL), and protect keystone resources in sun bear habitat (e.g., mature fig trees, oak tree patches, and trees with cavities) from logging. The most ideal situation would be to halt logging activities and conversion of tropical forest into plantations.
- (5) Education:** Promote sun bear conservation awareness to the general public and students, and promote the legal status of the sun bear to local people who utilize bears, through the development of presentations, posters, brochures and websites.
- (6) Strengthen law enforcement:** Increase penalties for offenders and poachers who commit wildlife crimes. Increase the frequency of patrolling by qualified and well-armed law enforcement personnel in protected areas and popular hunting grounds.

Acknowledgements

I thank the Economic Planning Unit of the Malaysian Federal Government, Sabah Wildlife Department, and Danum Valley Management Committee for the permission to conduct studies on Malayan sun bear in Sabah. Funding of my sun bear field research and conservation projects are supported by Sea World Busch Gardens, Woodland Park Zoo, Alexander Abraham Foundation, Minnesota Zoo, Singapore Zoological Gardens, International Association for Bear Research and management, Lincoln Park Zoo, Columbus Zoo, and Little Rock Zoo.

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