Chapter 10
The Status of Sun Bears in Indonesia

Ligaya Tumbelaka[1], Gabriella M. Fredriksson[2]

[1] *Department of Clinic, Reproduction and Pathology, Faculty of Veterinary Medicine, Bogor Agricultural University*
[2] *Sungai Wain Management Board, East Kalimantan; University of Amsterdam*

Sun bears (*Helarctos malayanus*) in Indonesia occur on the islands of Sumatra and the Indonesian part of the island of Borneo referred to as Kalimantan. Bornean sun bears seem to be smaller than Sumatran or mainland sun bears and subspecies status may be warranted (*H. malayanus eurispylus*) (Horsfield 1825; Meijaard 2004). Bornean sun bears (Photo 10.1) weigh between 30-65 kg (45-90 kg for sun bears from Sumatra or mainland Southeast Asia although no data from the wild are yet available for the latter).

Photo by Garbriella M. Fredriksson

Photo 10.1: Sun bear searching for insects.

Status

Present distribution

Accurate mapping of sun bears throughout their range is currently a priority of the Bear Specialist Group because few recent data are available. However, widespread changes to sun bear habitat have occurred over the past few decades. Some 33% of Sumatra and 54% of Borneo remained forested in the year 2000 (Stibig and Malingreau 2003) (Fig.10.1). Between 1990 and 2005, Indonesia lost 24.1% of its forest cover (http://www.mongabay.com/). During the 1997-98 forest fires, some 10 million ha of forest were severely damaged in Kalimantan alone (Taconni 2003).

Despite substantial forest damage, sun bears still persist in most areas which remain forested in Kalimantan and Sumatra, both inside and outside protected areas. Fresh sun bear sign has been encountered in quite heavily disturbed areas (logged-over forest) and in areas that have been surveyed for bears several years after forest fires, although sign densities in such burned areas 7 years after the fires were only 30% of sign densities found in neighboring unburned forest (Fredriksson unpublished data).

Population estimation

No population estimate can be made at present of remaining sun bear populations in Indonesia, although we believe the population is declining due to habitat disappearance, and lack of effective habitat protection and law enforcement.

Population threats from illegal hunting and capture

No data are available regarding the numbers of sun bears captured annually in Indonesia, although trade of young bears as pets and bear body parts occurs, especially near ongoing logging operations and recent oil palm plantation developments. Trade in gall bladders

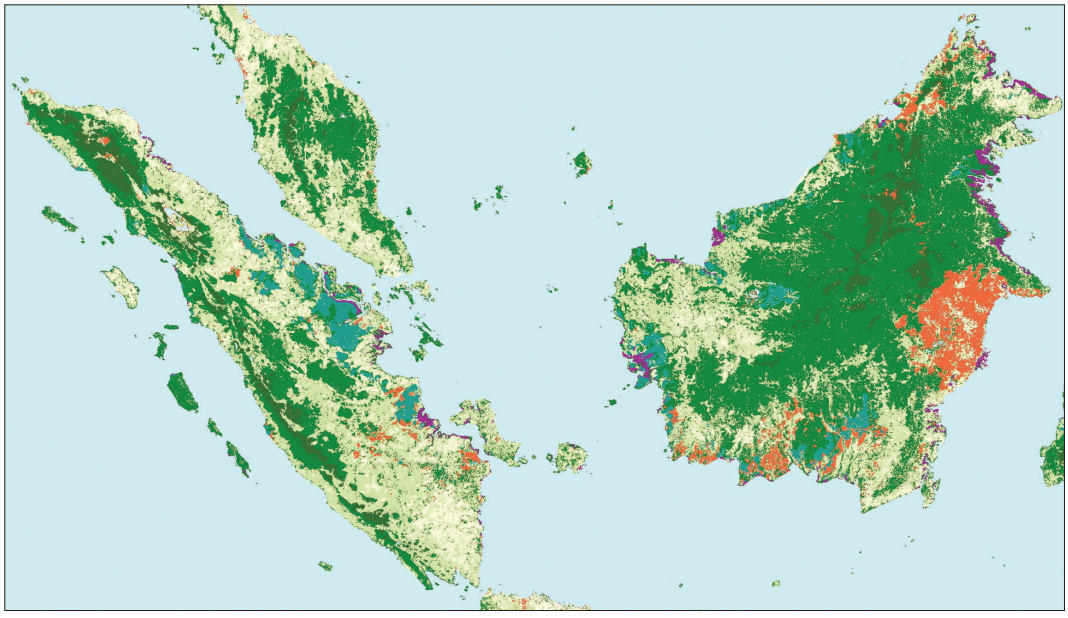

Fig.10.1: Forest cover map of Sumatra and Borneo of 2000 (EU-JRC 2000). Sun bear distribution most likely approximates remaining forest cover, although substantial forest cover (1.9% annually) has disappeared since this image was produced.
・Dark green and blue = forest cover (foreston dry land and peat swamps)
・Purple = mangrove forest, ・Red = burned over areas

exists at a low scale, although this trade becomes more prominent when localized demand is high (i.e. near Korean- or Chinese-owned plywood factories, or in big cities). Hunting of sun bears occurs in most forested areas, although primarily as a by-product of targeted hunting for deer species or pigs. Bear parts (claws and canines) are sold in most curiosa/antique shops and even at the international airport in Jakarta. Law-enforcement regarding violations of wildlife laws is not yet a high priority in Indonesia.

Characteristics of habitat: present conditions and threats

Both in Kalimantan and Sumatra, sun bears have been encountered in all forest types at least up to 2,000 m elevation, with varying sign densities. Due to the lack of clearly defined climatological seasons, sun bears in Kalimantan do not seem to have a defined breeding period, and cubs have been documented year-round (Schwarzenberger et al. 2004). Sun bears in the eastern part of Borneo were quite heavily affected by the El Niño of 1997-98 that manifested itself in a prolonged regional drought. In addition to facilitating forest fires that affected sun bear populations heavily, the drought also affected fruiting patterns in unburned forest areas. Few fruit resources were available in primary forest for over a year after the drought (Fredriksson et al. in press a, b). Sun bears captured for research purposes in 1999 were observed to be in emaciated condition (both in East Kalimantan as well as in Sabah) (Wong et al. 2005; Fredriksson unpublished data).

Lowland dipterocarp forest, the most diverse habitat, continues to be converted and opened up for access at an alarming rate, directly affecting remaining sun bear populations. Increased illegal logging in all protected areas (Fuller et al. 2004) also seriously affects sun bear populations. Forest fires are a serious threat, primarily in southern Sumatra and many parts of Kalimantan.

Human-bear relationships

Local names of bears

Sun bears in Indonesia are generally referred to as 'Beruang Madu' (honey bear). Indigenous tribes frequently have their own names for sun bears (e.g. in Dayak Penihing bears are referred to as "Buhang" but in Sumatran Tapanuli Batak language sun bears are called "Go'pul" and in Aceh, "Cage").

Ethnology of bears: traditional hunting, medicinal use, bear symbolism, stories

Indigenous people hunt sun bears throughout Kalimantan and Sumatra, although in none of the areas surveyed were bears found to be a prime target species. Traditionally people would have used spears and dogs for hunt-

ing bears, usually awaiting a bear when it climbs down a tree. Currently, home-made rifles are the most frequently used tool for hunting bears (as is true of large mammals generally). Meijaard (1999) reported that bear bile in Kalimantan was used to treat ailments such as internal bleeding after surgery, bruising and cuts after falls, sore muscles, and sprained joints.

Few ethno-stories have been compiled to date referring to the use of sun bears in the symbolism of Indonesia's indigenous tribes. In some areas of East Kalimantan, medicine men use hollow canines of bears as whistles to scare off evil spirits during traditional ceremonies. Old baby-carrying baskets are frequently adorned with sun bear canines to ward off evil spirits. More recently, such ornamental "canines" have actually been carved from other types of bone. In previous times, Dayak war-coats would occasionally be made of bear skins (although chiefs more frequently wore coats made from skins of clouded leopards).

Conflicts with humans

Sun bears probably commenced crop-raiding when attractive anthropogenic foods were first planted close to their forest habitat. Early reports from colonialists in Indonesia described ways of deterring or killing marauding bears in fruit plantations (O-Viri 1925), even when adjacent forest habitat was still extensive. Sun bears raid fruit orchards and coconut trees planted near the forest edge especially after nearby forest loss/damage has occurred (Fredriksson 2005). Indonesian farmers are not compensated for any losses sustained from wildlife, and conflict is rarely reported to the Wildlife Protection Branches of the Forestry Department.

Few human injuries have been reported in Kalimantan; unverified reports have been more frequent in Sumatra (Martyr D, *in litt* 2005). Rare occurrences of sun bears attacking goats and other larger livestock have been reported in Sumatra (Martyr D, *in litt* 2005), although no depredation has been documented in Kalimantan.

In both Kalimantan and Sumatra, reports of sun bears entering oil palm plantation are becoming more frequent. Sun bears usually enter plantations at night causing little conflict with plantation workers. Although illegal, several reports exist of the members of the Indonesian hunting association (Perbakin) shooting bears in oil palm plantations or during other hunting expeditions in which wild pigs are the only legal target species.

Commercialism of bears

Bear utilization on commercial basis

Sun bears have been protected in Indonesia since 1973. Sun bears have never been farmed for their gall bladder in Indonesia. Kurniawan and Nursahid (2002) reported that 63% of drug stores investigated during 2000-2002 traded openly (albeit illegally) in bear gall bladders or their derivatives. Packaged products containing supposed bear bile parts were found "endorsed" with issuances by the Department of Health, illustrating the level of ignorance by certain government departments on the legal status of trade in parts of protected wildlife (Kurniawan and Nursahid 2002). Some Indonesian zoos use sun bears as an attraction for visitors (e.g. sun bears playing guitars or riding bicycles) adding little to public education regarding sun bear conservation status and ecology in the country.

Imports and exports

The international trade in bears and their parts between Indonesia and other Asian countries may have been quite high in the 1970s and early 1980s. Customs records from South Korea show that between 1970 and 1980 a total of 206 kg of bear bile was legally imported from Indonesia to South Korea alone. By the 1980-1990 period this had dropped to only 1 kg (Mills et al. 1995). This international trade went on despite the fact that the sun bear became officially protected in Indonesia in 1973 and Indonesia became a signatory to CITES in 1979.

Breeding bears in zoos

Most zoo's and animal parks in Indonesia keep sun bears. As of April 2006, data from a limited sample of 8 zoos indicated a captive population of 93 sun bears. Additionally, at least 77 bears who were confiscated from illegal private captivity in recent years were held in wildlife rescue centers on Kalimantan and Java,. The total number of captive sun bears in Indonesia (both legal and illegal) could possibly be in the hundreds.

Present management system

Protected status of sun bears in Indonesia

The sun bear became officially protected in Indonesia following the Surat Keputusan Menteri Pertanian (Decree of Minister of Agriculture) No. 66/Kpts/Um/2/1973. This was followed up by the Act of the Republic of Indonesia No. 5 Concerning the Conservation of Natural Resources and their Ecosystems (Ministry of Forestry 1990).

List of governmental agencies, scientists and NGOs involved with bear conservation

Enforcement of laws related to sun bears is the responsibility of the Forestry Department's branch for Wildlife

Conservation (PHKA at the national level, KSDA at the provincial and district levels). In reality, KSDA offices are greatly understaffed given the size of area they are charged with controlling and patrolling, and the scope of organized wildlife crime challenging them.

Several international NGO's (i.e. WCS, WWF, TNC, FFI, SOCP, BOSF) collaborate with the Forestry Department to increase the effectiveness of their wildlife protection efforts, both in patrolling protected areas as well as dealing with prosecuting wildlife crime instances and confiscating protected species. These efforts have yet to lead to a serious commitment from the Forestry Department to protect wildlife in Sumatra or Kalimantan.

Sun bear research has barely started in Indonesia. To date, only two studies have been conducted on wild sun bears in Indonesia (both by international scientists) and the first Indonesian student has just started a research project on mapping the distribution of sun bears in Sumatra. In the last few years, research on the reproduction of captive sun bears has been conducted in Taman Safari through the Institute of Agriculture in Bogor (IPB).

Recommendations

The main limitation for sun bear protection is the lack of balanced land-use planning, with large forest areas still being cleared for plantation development or unsustainable logging practices. Law enforcement regarding wildlife crimes is weak at best in most areas. These factors, together with the occurrence of serious forest fires each dry season, affect much of remaining sun bear habitat.

To properly plan conservation priorities for sun bears, it is important to map their current distribution and to conduct surveys assessing relative densities of populations outside of the current protected areas system. Conservation of such remaining sun bear habitat in most areas in Kalimantan or Sumatra will usually involve the protection of important water-catchment areas, which we hope will increase the likelihood of setting aside new areas for conservation.

Poaching of sun bears, although currently at a relatively low level, could easily become a serious threat, especially if bear populations in mainland Southeast Asia continue to decline and if demand for Indonesian sun bear parts grows. Because law enforcement in Indonesia is weak, remaining sun bear populations could become easy targets. Assessment and monitoring of trade in sun bear parts as well as effective law enforcement must be initiated. Increased information regarding sun bear threats and conservation needs could stimulate Forestry Department officials to increase their law enforcement activities against sun bear poaching and trade in body parts. Few protected areas in Indonesia are properly managed, and encroachment and illegal logging occur in most parks. All protected areas in Sumatra and Kalimantan would benefit from a boost in effective management and enforcement of conservation laws.

Low awareness levels among all layers of the public regarding the conservation status of sun bears is prevalent in Indonesia, and only in a few places have conservation education programs been initiated. The shortage of local researchers with interest in sun bears has also added to the lack of interest in sun bear conservation issues. In order to raise the overall levels of interest and knowledge about the species, we encourage training local students to conduct field projects on sun bears throughout Kalimantan and Sumatra.

In Balikpapan and East Kalimantan, the sun bear was recently chosen to become the mascot of the district (Fig.10.2) and awareness programs have been initiated. Although educational programs are important, sun bears cannot await the next generation to ensure their continued survival. Immediate improvements are needed in law enforcement, especially regarding forest protection activities and illegal hunting of bears.

Fig.10.2: Sun bear logo from Balikpapan.

Acknowledgements

We express our gratitude to the Indonesian Institute of Sciences (LIPI) for granting GMF permits to carry out research on sun bears in Kalimantan, the Institute of Agricultural Research (IPB) in Bogor for allowing LT to spend time writing this report and carrying out research on sun bear reproductive biology in Taman Safari Indonesia. LT also extends her gratitude to the Indonesian Zoological Parks' Association for trusting her to be the Indonesian sun bear studbook keeper.

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