

**AN ASSESSMENT OF
TRADE IN GIBBONS
AND ORANG-UTANS
IN SUMATRA,
INDONESIA**

VINCENT NIJMAN

A TRAFFIC SOUTHEAST ASIA REPORT

TRAFFIC
the wildlife trade monitoring network

The
Rufford
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Cover: A Sumatran Orang-utan, confiscated in Aceh, stares through the bars of its cage

Photograph credit: Chris R. Shepherd/TRAFFIC Southeast Asia

An assessment of trade in gibbons and orang-utans in Sumatra, Indonesia

Vincent Nijman



Cho-fui Yang, Martinez

Despite being protected by law, Siamang continue to be traded in Sumatra

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“The fate of the orang-utan is a subject that goes to the heart of sustainable forests ... To save the orang-utan, we have to save the forest.”

**Dr H. Susilo Bambang Yudhoyono,
President of Republic of Indonesia,
December 3, 2007**

“In order to establish palm oil land companies clear forests, which causes the death of fauna such as orang-utans and gibbons in Kalimantan, and elephants, tigers and others, including orang-utans, in Sumatra. [] But all development requires sacrifice — we just have to make it equal to some extent.”

**Dr Tonny Soehartono,
Director of Biodiversity Conservation Office
of the Indonesian Ministry of Forestry
as quoted by The Australian,
November 10, 2007**

KEY TO ACRONYMS USED IN THIS REPORT

ASEAN-WEN	Association of South-East Asian Nations - Wildlife Enforcement Network
BKSDA	Balai Konservasi Sumber Daya Alam (Regional Office for the Conservation of Natural Resources)
BPS	Badan Pusat Statistik (Governmental Statistical Body)
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CoP	Conference of Parties (to CITES)
FFI	Fauna and Flora International
GRASP	Great Apes Survival Project
IUCN	International Union for Conservation of Nature (formerly the World Conservation Union)
KKH-PHKA	Konservasi Keanagaraman Hayati - Perlindungan Hutan dan Konservasi Alam (Biodiversity Conservation Office of the Directorate General of Forest Protection and Nature Conservation)
KSBK	Konservasi Satwa Bagi Kehidupan (Animal Conservation for Life)
LIPI	Lembaga Ilmu Pengetahuan Indonesia (Indonesian Institute of Sciences LIPI)
NGO	Non-Governmental Organisation
OCSP	Orang-utan Conservation Service Programme
OFI	Orang-utan Foundation International
PHKA	Perlindungan Hutan dan Konservasi Alam (Directorate General of Forest Protection and Nature Conservation)
PKBSI	Perhimpunan Kebun Binatang Seluruh Indonesia (Assembly of Zoos throughout Indonesia)
SOCP	Sumatran Orang-utan Conservation Programme
TRAFFIC	The wildlife trade monitoring network, a joint programme of WWF and IUCN
UNEP	United Nations Environmental Programme
WCS	Wildlife Conservation Society
WWF	World Wide Fund for Nature

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EXECUTIVE SUMMARY

This report presents an assessment of the trade in gibbons and orang-utans in Sumatra, Indonesia, including the islands off Sumatra's west coast (most notably, the Mentawai Islands). Until recently Sumatra and its off-lying islands harboured one of the largest expanses of lowland evergreen rainforest in Southeast Asia. Most of the lowland forests are gone and the forest that remains is largely in the hills and mountains, running along the western part of the island, with the largest expanse of forests being in the Leuser Ecosystem, and adjacent Ulu Masen forest to the north. Commercial timber extraction, small-scale logging (legal and illegal), conversion of forest to palm oil or wood-pulp plantations, and forest fires – along with the concurrent increase in access to formerly remote areas – are increasingly threatening the integrity of the remaining forests, thus putting the survival of its inhabitants at stake.

Sumatra is home to five species of ape i.e. the Sumatran Orang-utan *Pongo abelii*, and the Lar Gibbon *Hylobates lar* in the northernmost part, the Agile Gibbon *Hylobates agilis* in the central and southern part, and the Siamang *Symphalangus syndactylus* occurring sympatrically with the other apes throughout the island. Kloss' Gibbon *Hylobates klossi* is found on the four Mentawai Islands, off Sumatra's west coast. Lar Gibbons occur throughout Southeast Asia. The Sumatran Orang-utan is only found in Sumatra, and although the Agile Gibbon and the Siamang do occur in Peninsular Malaysia, based on the area of occupancy, over 90 percent of their populations are found in Sumatra. Kloss' Gibbons are endemic to Indonesia. Indonesia bears a great responsibility towards safeguarding the future of these five ape species. All species are classified by the IUCN Red List as Globally Threatened, primarily due to loss of habitat but also due to illegal hunting and trade.

The Indonesian government has long recognized this responsibility and has pledged to control these problems and to preserve both individual species and their habitats. These pledges have been formalized in a range of laws, regulations and membership of Multilateral Environmental Agreements. Indonesia is a Party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and all gibbons and orang-utans are listed in Appendix I, which prohibits all international commercial trade of these species among contracting Parties. Indonesia is also a signatory to the Kinshasa Declaration pledging to improve the protection of great apes and their habitats.

Over the period of November 2006 – July 2008, data were collected regarding trade in gibbons and orang-utans in Sumatra, and data was compiled from other sources. As such information was available on 351 Sumatran Orang-utans (from the period 1973-2008) and 386 gibbons (2001-2008). Data were collected from a variety of sources: wildlife markets and private owners; public and private zoos (partially as facilitators for confiscated and donated gibbons and orang-utans); wildlife rescue centres and rehabilitation centres (facilitators for confiscated and donated gibbons and orang-utans, as well as monitors of the trade); individuals and local NGOs (monitors of trade); and the Ministry of Forestry (information on confiscations, prosecutions, and registered protected wildlife, and wildlife protection policy).

Despite considerable efforts by the government and by NGOs, and substantial financial investment to conservation of wildlife in Sumatra, there are few indications that the past 15 years have seen a decrease in trade in gibbons and orang-utans. Although trade appears to be less open than before, the number of individuals observed in zoos (including newly acquired individuals) and those taken in by various rescue centres in Sumatra and elsewhere, suggest trade is still very much threatening the survival of these apes.

In order to curb the trade in orang-utans and gibbons, and improve wildlife conservation policies to increase the effectiveness of law enforcement, TRAFFIC makes the following recommendations:

Monitor and examine root causes of trade

There is much anecdotal evidence on the lack of prosecutions and judicial law enforcement in relation to orang-utan confiscations and detailed factual information would support efforts to identify problems and strengthen enforcement. Wildlife trade in Indonesia is capricious with an ever-changing demand for species and frequent switches from one species to another. This is partially demand-driven but, at least for some species, also supply-driven. There is still much to be learned about the economics of the primate trade in Indonesia, both at the supplier's end and the demand end of the chain. In certain areas, especially northern Sumatra and Aceh, the catching of primates appears to be merely a by-product of other activities (logging, hunting) or is strongly associated with encroachment of people into the primate habitat. TRAFFIC recommends continuing the monitoring of animal markets in Sumatra and other parts of Indonesia. In-depth studies are needed, including a more stringent and regular monitoring of the major ports, with the aim of solving the questions that relate to which persons, institutions, and agencies are the driving forces behind logging, hunting and trade, and this should not exclude local and national government agencies, the army and the police. Where appropriate, these latter actions need to be organised with counterparts in neighbouring ASEAN countries.

Increase efficiency and transparency of the implementation of wildlife protection laws

One of the main reasons why people still trade endangered species is the fact that law enforcement is generally lacking in both effort and efficiency. Large sums of money can be made in the illegal wildlife trade, with gibbons and orang-utans fetching prices at the upper end of the spectrum. The chances of having protected animals confiscated, or of facing legal charges, are extremely remote. Fines and jail terms handed out are comparatively lenient and even those that have violated the law rarely, if ever, receive the maximum penalty. An in-depth review is needed of cases where offenders have indeed been brought to justice, focusing not only on the 'unsuccessful' cases (i.e. those instances where the owner did not receive a sentence) but also on those cases where prosecution was indeed successful, and its possible underlying reasons (e.g., pressure from government offices, local NGOs, media, or otherwise) need to be unravelled. Furthermore, the law-enforcement hierarchy needs to be targeted to persuade officials to convict traders, owners, etc., and attention needs to be given towards devising incentives for law enforcers to carry out their duties with greater efficiency. The current *laissez-faire* attitude, where illegal trade in wildlife is not considered a priority, not even by the authorities that should uphold the wildlife protection laws, can no longer be tolerated, and subsequent actions need to be taken.

Greater inter-agency cooperation and alternative routes to law enforcement

At present, the initiatives relating to seizures are largely NGO-driven, with the Balai Konservasi Sumber Daya Alam (BKSDA) or police only assisting in these actions. TRAFFIC encourages NGOs and all involved in the monitoring and curbing of illegal wildlife trade to work actively with not only the BKSDA but also the Police and Customs as to see a greater efficiency and success rate in the number of prosecutions. Over the last few decades, the Ministry of Forestry has demonstrated poor enforcement efforts, particularly where it concerns orang-utans and gibbons, and a new approach, with different players including Police and Customs, is long overdue. Areas within Indonesia with increased levels of autonomy are urged to develop alternative ways of protection their wildlife and curbing wildlife trade.

Increase integration of land-use planning with wildlife protection

Trade in orang-utans, Siamangs, gibbons, and a large range of other wildlife largely occurs as a direct consequence of habitat reduction due to logging, land conversion, encroachment, and forest fires (including arson). Addressing wildlife trade in isolation from this process is futile. Increasing the protection of gibbons, Siamangs and orang-utans throughout western Indonesia by reducing trade can only be achieved when this occurs concurrently with an increase in the protection of the remaining forests. As such, there should be a drastic increase in active protection of forest areas, be it areas that are legally gazetted as conservation areas or forest areas that are outside the protected area network which cannot be used unrestrictedly. Gazettement must be actively implemented and enforced by the respective authorities and executing bodies of the Indonesian Government in conjunction with the land concession holders. Active patrolling of protected areas should be made a top priority. Given the intrinsic links between (illegal) logging of forest areas and the trade in orang-utans and gibbons, it is imperative that illegal logging in areas either inside or outside the protected area network, is halted. New and bold approaches are needed, including, but not restricted to the government-backed tree spiking of all commercially valuable trees in formally protected areas. TRAFFIC urges conservation NGOs and local authorities as well as the central government seriously to consider exploring the possibilities of forest protection in this way, including exploring means as how to reduce any adverse effects of the method.

Awareness and education

Orang-utans and gibbons have been legally protected for over 75 years now, and over the years, enough attention and funding has been given to communicate this message through the *sosialisasi* (socialisation) process. The lack of knowledge on the legal status of these species cannot be an excuse for the persistent illegal trade. Efforts over previous decades to control people from purchasing and keeping wild-caught gibbons and orang-utans have largely proved to be ineffective. It needs to be communicated clearly that keeping protected species as pets is not an option, and this should coincide with widely publicising the cases of offenders who break wildlife laws. The law-enforcement hierarchy needs to persuade officials to prosecute and convict offenders and attention needs to be given towards devising incentives for law enforcers to carry out their duties with greater efficiency.

“During the last eighteen years [i.e. 1922-1940] I must have seen several hundreds of orang-utans in captivity in Singapore where, until recent concerted actions by the Dutch and British Governments reduced operations to a reasonable limit, the entrepôt trade was very large. [] It always seemed to me, as far as possible to compare things seen at intervals of time and in different places that, on average, the more cinnamon and less maroon coloured adults came from Sumatra and the more deeply coloured, almost purple-maroon beasts from Borneo. Furthermore, it is my belief that I have never seen a Bornean specimen alive that equals in size any of several old males from Sumatra”.

Frederick Nutter Chasen, Director of the Raffles Museum, Singapore; ‘A handbook of Malaysian mammals’, 1940 pp 61-62.

“Whatever form the trade takes and whatever motivates it, the overwhelming evidence of the scale and seriousness of the problem is the number of orang-utans in ‘rescue’ and ‘rehabilitation’ centres. In Kalimantan alone, this is approaching 1,000 animals. It is hard to think of another CITES Appendix-I species, in any other country, where individuals are so regularly being confiscated or taken into the care. Indeed, it is hard to view this figure as anything other than an indictment against the law enforcement efforts of the relevant agencies in Indonesia.”

CITES/GRASP Orang-utan Technical Mission to Indonesia 2006, p 11

INTRODUCTION

Primate trade and aims of the study

Wildlife trade is an issue at the very heart of the relationship between biodiversity conservation and sustainable development, on one hand providing a regular, and often the only, income for people in rural areas and generating significant revenues, and on the other hand, threatening the very existence of the animals or plants that are traded. It is recognised as a major threat to biodiversity, and often acts in concert with habitat loss and hunting. Although, depending on the taxa under discussion, a significant proportion of wildlife trade is legal, violation of trade regulations and quotas is commonplace (Broad *et al.*, 2003; Nijman *et al.* in press). Wildlife trade is a diverse and often secretive business, and in Southeast Asia, unsustainable and illegal trade in wildlife threatens the conservation of numerous species (Nooren and Claridge, 2001; Oldfield, 2003; Shepherd *et al.*, 2004; Grieser-Johns and Thomson, 2005; Nijman and Shepherd, 2007; Shepherd and Nijman, 2007), with Indonesia being one of the region's major exporters of (illegal) wildlife (Soehartono and Mardiasuti, 2002).

Among the wildlife that is traded, primates have received a disproportionate amount of attention from animal welfare groups, conservationists, legislators, international donor agencies and the general public. Non-human primates, i.e. all primates other than us, have always been of great interest to our own species, and arguably, the importance of primates to human society has grown over the past decades. Studies of wild primates in the field, as well as studies in more controlled environments such as laboratories, zoos and parks taught more about ourselves and our origins, and the use of primates in biomedical research, albeit not without controversy, continues to contribute to the understanding of own species. This inherent empathy towards primates, coupled with their presence in many of the most threatened natural environments, makes it an excellent flagship species for conservation (Cowlshaw and Dunbar, 2000).



Cho-fui Yang Martinez

Keeper with orang-utan

There is a high degree of agreement on what are the most severe threats to apes. While for most species habitat loss is often seen as the number one threat, with many of the additional threats secondary and often a direct result of habitat loss (MacKinnon, 1987; Kavanagh *et al.*, 1987; Mittermeier, 1987; Eames and Robson, 1993; Eudey, 1987; Eudy, 1999), increasingly hunting has become as serious a threat. Especially for the African Apes hunting for bushmeat is decimating populations (Bowen-Jones and Pendry, 1999; Rose *et al.* 2004) and the Ebola-virus has led to the extinction of apes in substantial areas (Huijbrechts *et al.* 2003; Walsh *et al.* 2003). For all apes, that is the

different species of gibbon, orang-utan, chimpanzee, and gorilla, the forest is the main habitat and habitat loss is brought about by forest clearing, degradation of the forest due to logging, collection of non-timber forest products, and forest fragmentation. Increasingly it becomes clear that hunting and capturing of, and subsequent trade in apes is another serious threat to the survival of these primates (Harrison, 1962; Rose *et al.* 2006; Geissmann *et al.* 2006; Nijman 2006a,b; Wich *et al.*, 2003; Wich *et al.*, 2008).

Trade in live primates began in earnest about half a century ago with large imports into the western world of Rhesus macaques *Macaca mulatta* for the production of polio vaccine (Mack and Mittermeier, 1984). Primates continue to be used in biomedical research with a continuous shift in species composition, suppliers, trade hubs, and origins (wild-caught, ranched, captive-bred). In the past, international trade was largely driven by biomedical research although trade in pets, zoo animals, and circus exhibits also contributes, as does the trade in primate parts for traditional medicines. Within many range countries the majority of live primates are traded as pets (Cowlshaw and Dunbar, 2000; Duarte-Quiroga and Estrada 2003). However, data on domestic trade in apes and other primates are often difficult to obtain (Mittermeier, 1991).

This report focuses on the trade in gibbons and orang-utans from the Indonesian island of Sumatra. Gibbons and orang-utans must have been traded for centuries, over distances small and large, probably more so in the present than in the past. Chasen (1940) illustrates both the nature of the primate trade in Southeast Asia, its magnitude, its brazenness, and its history. Numerous species native to one area, in the case of Chasen (1940) orang-utans from Sumatra and Borneo, are being transported over large distances to other areas and wait in transit at docks and warehouses. If the ‘several hundred’ stated by Chasen means 300 to 400, he must have seen over the 18-year period, on average, some 15 to 20 orang-utans each year. Even at the time of Chasen’s observations, orang-utans were protected in Indonesia and Malaysia but were openly displayed on the docks, waiting to be re-exported. While the plight of the orang-utan was not brought to the international attention until the 1960s when both Barbara Harrison (1962) and George Schaller (1961) publicized its dire conservation status, Chasen’s observations note that trade was clearly already a problem in the first half of the 20th century.

The report by the CITES/GRASP Orang-utan Technical Mission to Indonesia (Virtue and Sellar 2006) more than half a century after Chasen’s observations speaks for itself. It is important to note that, as indicated in two earlier TRAFFIC assessments (Nijman 2005a, 2005b), the 2000 or so orang-utans that have been ‘confiscated’ in Indonesia in the last three decades have led to not more than a handful of people being successfully prosecuted.

This is the third TRAFFIC report focusing on the direct factors contributing to the decline in orang-utan and gibbon populations, including the demand for these primates as pets. The first and second TRAFFIC reports dealt with Java and Bali, and Kalimantan, respectively. Java, and to a lesser extent Bali, can be seen as the main centre of trade in Indonesia, whereas Kalimantan, the Indonesian part of the island of Borneo, as well as Sumatra, are the main source areas. Trade in Indonesian primates is widespread (see Anon., 1998, 1999, 2002, Malone *et al.*, 2002ab, Smits, 2002, Shepherd *et al.*, 2004) with a focus on trade hubs in Java, and only to a lesser extent the other islands.

As in the previous assessments, “trade” in this report is not only defined as the buying and selling of goods – in this case gibbons and orang-utans – in exchange for money and / or other items but also includes those instances where people claim to have received these species as presents or gifts. The rationale is that

firstly, even though many owners claim that they have received their pet gibbon or pet orang-utan as a gift without any exchange of money or goods, such gifts can be considered payments of a sort. Secondly, it is not verifiable whether or not animals were purchased or received as gifts. Orang-utans or gibbons that are kept by the people that caught them in the forests, are included in this assessment as being part of the trade chain as well. In principle, if someone catches an orang-utan, a gibbon or a Siamang in the forest behind his house and keeps it as a pet, in the strictest sense, this animal has not entered the trade network. Since these are rare occurrences, and in order not to unnecessarily complicate the picture, the central premise of this assessment is that all gibbons and orang-utans encountered in private hands or that have been brought to wildlife rescue centres, have at one stage or another been part of the wildlife trade chain. Increasingly wildlife rescue centres in Indonesia actively catch individual primates – mostly if not exclusively orang-utans at the moment – that are found trapped in tiny pockets of forest or single trees amidst deforested land, and that are subsequently taken in by the centre. As in a previous assessment (Nijman 2005b) these so-called rescued individuals, when recognised as such, are excluded from the analysis.

Objectives of the assessment

Information regarding the trade in gibbons and orang-utans on Sumatra is lacking and the available information has not yet been consolidated. TRAFFIC's overall goal for this study was to create an overview on all aspects of the trade and 'uses' of these species throughout Sumatra, and trade connections to other parts of Indonesia, and present it to the relevant authorities as a report with recommendations for action to improve conservation efforts for these primates. More specifically, the objective of this report is to:

- Gather, compile and analyse trade dynamics in Sumatra of the Sumatran Orang-utan and all species of gibbon occurring on Sumatra. This includes data on sources, destinations, availability, and turnover of these species in the trade.
- Document the number of gibbons and orang-utans that are in zoological gardens and rescued / confiscated from the trade and placed in rehabilitation or wildlife rescue centres throughout Sumatra. Special attention is paid to the turn-over in zoos.
- Review the welfare aspects of the gibbons and orang-utans in zoos, given that the majority of gibbons and orang-utans in Sumatran zoos derive directly from the trade (as confiscations, donations, or acquired otherwise). Zoos are indicated as facilities where confiscated animals are to be stored awaiting trial of traders or previous owners,
- Develop practical recommendations based on the findings of the research carried out in order to support efforts aiming to ensure that trade does not pose a threat on the species' survival.

BACKGROUND

Sumatra and its apes

Sumatra is the sixth largest island in the world, it is approximately 470,000 km², and is the largest island entirely in Indonesia. The human population of Sumatra approaches some 45 million, with the highest number of people living in the provinces of North Sumatra and Lampung. The provinces with the lowest population densities, such as Riau, Jambi and South Sumatra, have the highest growth rates (Table 1). Administratively, Sumatra also includes a string of islands to the west and the Lingga and Riau Archipelagos in the east and a series of islands, including the Mentawai Islands, to the west.

Table 1.
Human population in Sumatran provinces in the year 2000

Province	Population (x1000)	Population density (per km ²)	Annual growth rate (% , 1990-2000) %?
Nanggroe Aceh Darussalam	3929	76	1.46
North Sumatra	11642	158	1.32
West Sumatra	4249	99	0.63
Riau	4948	52	4.35
Jambi	2407	45	1.84
South Sumatra	6899	74	2.39
Bengkulu	1564	79	2.97
Lampung	6731	191	1.17

Source: Anon. 2008

Until recently, Sumatra harboured one of the largest expanses of lowland evergreen rainforest in Southeast Asia. Most of the forest now remains in the hills and mountains, running along the western part of the island, with the largest expanse of forest being in the Leuser Ecosystem, and adjacent Ulu Masen forest to the north. Commercial timber extraction, small-scale logging (legal and illegal), conversion of forest to palm oil or timber plantation, – along with the concurrent increase in access to formerly remote areas – are increasingly threatening the integrity of the remaining forest, thus putting the survival of its wildlife at stake.

Sumatra is rich in both number of primates and those endemic to the island. Levels of endemism on the Mentawai Islands, off Sumatra's west coast, is even higher, with each of the four islands having four endemic species living sympatrically. Sumatra's main island is home to four species of ape; three species of gibbon and one species of orang-utan. On the Mentawai Islands an endemic species of gibbon occurs. Northern Sumatra is the only area in the world where three species of ape live sympatrically.

Table 2.

Primate species on Sumatra's mainland and the Mentawai Islands, Indonesia. Taxonomy follows Groves (2001) with updates (see Nijman and Meijaard, 2008); protected status follows Noerjito and Maryanto (2001), Red List status are from IUCN (2008) and SAMD (2006), CITES Appendix data are from CITES (2008)

Species	Protected since (listed as)	Red List-status	CITES Appendix
Greater Slow Loris <i>Nycticebus coucang</i>	SK Mentan No. 66/Kpts/Um/2/1973	VU A2cd	I
Western Tarsier <i>Tarsius bancanus</i>	Peraturan Perlindungan Binatang Liar 1931	VU A2cd	II
Long-tailed Macaque <i>Macaca fascicularis</i>	Not protected	LC	II
Pig-tailed Macaque <i>M. nemistrina</i>	Not protected	VU A1cd	II
Pagai Pig-tailed Macaque <i>M. pagensis</i>	SK Mentan No. 90/Kpts/Um/2/1977	CR A2cd	I
Siberut Pig-tailed Macaque <i>M. siberu</i>	SK Mentan No. 90/Kpts/Um/2/1977 (as <i>M. pagensis</i>)	VU A2cd	I
Banded Langur <i>Presbytis femoralis</i>	Not protected	DD	II
Banded Langur <i>Presbytis siamensis</i>	Not protected	DD	II
Thomas' Langur <i>Presbytis thomasi</i>	SK Mentan No. 90/Kpts/Um/2/1977	VU A2c	II
Banded Langur <i>Presbytis melalophos</i>	Not protected	EN A2cd	II
Mentawai Langur <i>Presbytis potenziani</i>	SK Mentan No. 90/Kpts/Um/2/1977	EN A2cd	II
Silvered Langur <i>Trachypithecus cristatus</i>	Not protected	-	II
Simakobu <i>Simias concolor</i>	SK Mentan No. 327/Kpts/Um/7/1972	CR A2cd	I
Agile Gibbon <i>Hylobates agilis</i>	Peraturan Perlindungan Binatang Liar 1931	En A2cd	I
Lar Gibbon <i>Hylobates lar</i>	Peraturan Perlindungan Binatang Liar 1931	LR/nt	I
Kloss' Gibbon <i>Hylobates klossi</i>	Peraturan Perlindungan Binatang Liar 1931	EN A2cd	I
Siamang <i>Symphalangus syndactylus</i>	Peraturan Perlindungan Binatang Liar 1931	EN A2cd	I
Sumatran Orang-utan <i>Pongo abelii</i>	Peraturan Perlindungan Binatang Liar 1931	CR A2bcd	I

Key: Red List Status: LC = Least Concern; LR/nt = Lower Risk, near-threatened; VU = Vulnerable; EN = Endangered; CR = Critically Endangered.

Gibbons are confined to the tropical forests of Southeast Asia and eastern South Asia, where the 14 or so different species live largely allopatrically (Chivers, 1992). The only extensive degree of sympatry is between the Siamang and either the Lar Gibbons (also known as White-handed Gibbon) or the Agile Gibbon. While at present gibbons are confined to the semi-deciduous monsoon forests of mainland Southeast Asia and the rainforest of Peninsular Malaysia and the islands on the Sunda Shelf, up until the 10th century, gibbons ranged much more into temperate regions as far north as the Yellow River (c 35° N) (Geissmann, 1995). Gibbons live in small cohesive family groups consisting of an adult male and female and up to four of their offspring (Gittens and Raemaekers, 1980; Leighton, 1987; Geissmann, 1991; Chivers 2005). Maturity is reached after 6-8 years (but possibly already as early as 5 years (Geissmann, 1991) or as late as 11 years (Reichard and Barelli 2008)), and a single young is born in intervals of between 2.5-3.5 years. Gibbons are completely arboreal and do not occur outside forest areas; small areas of deforested land act as effective dispersal barriers.

Three species of gibbon occur on Sumatra, and one other, the Kloss' Gibbon, occur on the four Mentawai Islands (Siberut, Sipora, North and South Pagai) off the westcoast of Sumatra. Both the Agile Gibbon and Siamang occur in Sumatra and the Thai-Malay Peninsula, whereas the Lar Gibbon occurs further north into mainland Southeast Asia.

Lar Gibbons are found in southern China (Yunnan), through NW Laos, Myanmar, Thailand into the Thai-Malay Peninsula (with a break in its distribution between the Perak and Muda/Thepa Rivers where the Agile Gibbon is found) and Sumatra roughly north of Lake Toba. The agile gibbon ranges in the Thai-Malay Peninsula, inhabiting the parts where the Lar Gibbon does not occur, and on Sumatra. The Lar Gibbon inhabits semi-deciduous monsoon forest and tropical evergreen forest, preferring the upper canopy of the forest, whereas the Agile Gibbon is more confined to tropical evergreen forest. Both species can be found in regenerating secondary and selectively logged forest (e.g. Johns, 1986). Kloss' Gibbons are confined to the rainforest of the Mentawai Islands (Whitten, 1982) and are less frugivorous than the other *Hylobates* gibbons; it will eat relative large proportions of leaves and insects (Leighton 1987). Siamang is found in semi-evergreen forest and tropical evergreen forest on Sumatra and the Thai-Malay Peninsula. Siamangs are primarily folivorous on the Thai-Malay Peninsula (Chivers, 1974; Raemaekers, 1984) and it is primarily frugivorous on Sumatra (Palombi, 1992), feeding mostly on figs (O'Brien *et al.*, 2003). In a review of studies on the effects of selective logging on primates, Johns and Skuropa (1987) found that large body size and degree of frugivory shows a significant negative relation with the ability of a species to persist in recently logged forest.

The most important factor, however, was not body mass or frugivory per se but the ability to change relative proportions of different food types in the diet, especially the ability to exploit available new leaves in the absence of fruit. Thus highly specialized frugivorous species, with limited ability to switch to alternative food sources, were more at risk than those species that could survive on a largely folivorous diet, despite being primarily frugivorous (Johns, 1986). In Sumatra, orang-utans are both large and show little flexibility in altering their diet, whilst the Siamangs are large but are more flexible foragers, preferring fruits when available but being able to switch to leaves when needed (Palombi, 1992). The Agile, Lar and Kloss' Gibbon are the least flexible, although Kloss' Gibbons – with their relative high proportion of insects in their diet- may benefit from a possible increase in insects following forest disturbance.



Chris R. Shepherd/TRAFFIC Southeast Asia

An Agile Gibbon for sale in Medan, North Sumatra

The main threats to the gibbons and Siamang on Sumatra and the Kloss' Gibbon on the Mentawai Islands are deforestation, forest fragmentation, and hunting (Eudey, 1987; Fuentes, 2002; Fuentes and Ray, 1996; Whittaker, 2003; Geissmann *et al.*, 2006). All four species have seen a drastic reduction of population numbers and available habitat. In recent years the area of (especially) lowland forest has seen a dramatic reduction largely due to illegal logging (Whitten *et al.*, 2000) and forest fires. Vast areas of formerly forested land are either barren or have been converted into plantations that offer no home to gibbons. Between 1995 and 2000, almost 40% of the habitat of the Siamang was damaged or destroyed by logging, road development (plus associated hunting), and conversion to agriculture and plantations (unpublished data in O'Brien *et al.* 2004).

Legal logging seems to be accelerating in Sumatra, although this differs greatly between areas (with the southeastern parts being affected most and the north due to the political unrest in Aceh being affected least). Extremely fragmented forests and coffee plantations present an increasing risk in the southern part of the islands (O'Brien and Kinnaird, 2003) whereas elsewhere conversion of forest for oil palm and wood-pulp plantations poses a serious threat to Sumatra's apes. O'Brien *et al.*, (2004) stated "while populations of

[the Siamang] appear secure today, its future is uncertain and will depend on vastly improved conservation efforts, especially in Sumatra's remaining parks and protected areas". Apart from habitat loss, hunting has had a significant impact on the populations of gibbons. Hunting, both for subsistence and the pet trade, has been identified as the number one threat for Lar Gibbons (SAMD, 2005), having replaced even forest clearance as the major threat. Hunting pressure varies across the Lar Gibbon's range though. Construction of roads may pose an additional threat since it promotes forest clearance and increased access to forest. Things have not fared better on the Mentawai islands. Whittaker (2003) noted that populations of Kloss' Gibbons have seen a reduction in numbers of up to 50% between 1980 and 2005, due to a combination of hunting and logging. Historically and presently, Kloss' Gibbons faces threats from logging, hunting and the pet trade although the levels of threat do seem to vary from one location to the other. The population in Siberut national park is subjected to moderate levels of hunting pressure from local people. In Sipora, hunting is a threat but logging less so, and the South Pagai forest is selectively logged and the gibbons are heavily hunted (Whittaker, 2006). Recently, the threat from hunting has risen due to increased access to remote areas due to the construction of logging roads and tracks as well as the replacement of bow and arrows with air rifles. Local rituals and taboos that formerly regulated hunting are abandoned (many of the Mentawaians have adopted Christianity as their main religion). Of all the Mentawai primates, this species suffers most from the pet trade (D. Whittaker pers. comm. in SAMD, 2005). Apart from the Agile Gibbon, considered Least Concern, the three Sumatran gibbons all are listed as Endangered (IUCN 2008).

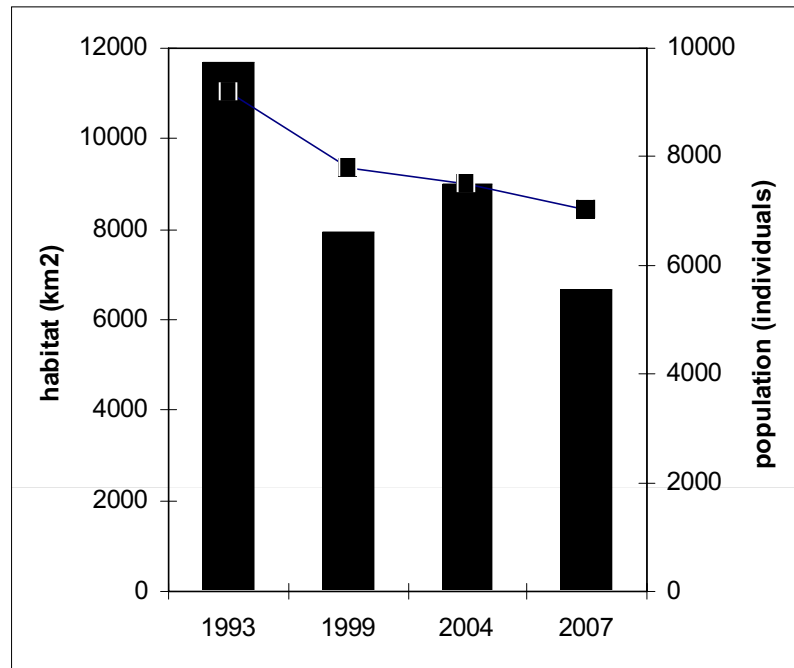
The orang-utans are the only Great Apes that are confined to Asia. At present their distribution is restricted to the islands of Sumatra and Borneo. In the past only a single species of orang-utan was recognized, known as *Pongo pygmaeus*, with two subspecies, *P. p. abelii* from Sumatra and *P. p. pygmaeus* from Borneo. Diagnostic differences between the orang-utans from Borneo and Sumatra in morphology (e.g., MacKinnon, 1973; Groves, 2001), karyotype (Seuanez *et al.*, 1979), mitochondrial DNA (e.g., Zhi *et al.*, 1996; Xu and Arneson 1996; Warren *et al.*, 2001), and nuclear DNA (Steiper 2006) led that the two island taxa are now by most recognised as two distinct species, i.e. *P. pygmaeus* from Borneo and *P. abelii* from Sumatra. Molecular data indicates a prolonged separation between the two island populations, in the order of 1.1 to 1.5 million years (Warren *et al.*, 2001; Zhi *et al.*, 1996) to over 5 million years (Steiper 2006). Given that in the past the two species were treated as one, when assessing past levels of trade or assessing threat levels, it is often difficult to differentiate between the two species, and whether or not reference is made to the Bornean Orang-utan, the Sumatran Orang-utan, or both.

Orang-utans have one of the most prolonged developments of any mammal and sub-adult males, although sexually mature, may not breed until they are between 15-20 years of age. Likewise, females do not start reproducing early, and mostly, their first infant is born when they are between 12-15 years old. Birth intervals are approximately eight years, but depending on environmental and physical conditions and depending on species and subspecies, may range from 5-10 years (Yeager, 1999; Wich *et al.* 2004; Anderson *et al.* 2008). The main threat to the Sumatran Orang-utan is continuing deforestation. The species is listed as Critically Endangered by the IUCN Red List (IUCN, 2008).

Population estimates of Sumatran Orang-utans have varied over the years, generally showing a downward trend. Using data presented in the various action plans (see Appendix 1), it shows that numbers of orang-utans, as well as the estimated amount of forest inhabited by orang-utans in Sumatra has seen a steady decline over the last 15 years or so. The decline in numbers started considerably longer ago but has probably never been more rapid as at present.

Figure 1.

Estimates of habitat (bars) and population sizes (line) of Sumatran Orang-utans. Note that although different methodologies have been used to reach these estimates, the overall trend is clearly downwards



Local protection of gibbons and orang-utans

Gibbons and orang-utans are protected under *Undang-undang Republik Indonesia No.5 Tahun 1990 tentang Konservasi Sumber Daya Alam Hayati dan Ekosistemnya (Act of the Republic of Indonesia No.5 of 1990 concerning Conservation of Living Resources and their Ecosystems)* widely known as UU No 5 or Act No 5. However, primates were first protected in Indonesia with the prohibition of hunting and killing certain species by Ordinance (*Dierenbeschermingsordonantie*) in 1925. Additions to this Ordinance came into effect in 1931 and 1932, which made it illegal to catch alive, to disturb, to trade alive or dead, or to hold certain species of primate in captivity. Included in this limited list were all species of gibbon and the orang-utan.

Act No 5 prohibits to “Catch, injure, care for, transport, and trade in a protected animal in a live condition; Keep, possess, care for, transport, and trade in a protected animal in a dead condition; Transfer a protected animal from one place to another, within or outside Indonesia; Trade, keep or possess skin, bodies, or other parts of a protected animal or the goods made of parts of the animal, or transfer from one place in Indonesia to another, within or outside Indonesia”. Penalties that can be imposed when these laws are broken can total to fines of up to IDR 100 000 000 (USD 9000 at 2008 rate) as well as an imprisonment for up to five years.

In 1993 the President of the Republic of Indonesia announced 12 species receiving special protection, including the orang-utan, Sumatran and Javan Rhinoceros *Dicerorhinus sumatrensis* and *R. sondaicus*, the Asian Elephant *Elephas maximus*, the Tiger *Panthera tigris*, the Komodo Dragon *Varanus komodoensis* and the Javan Hawk-eagle *Spizaetus bartelsi*. Besides proper CITES permits, these species require the specific authority of the President of the Republic of Indonesia before any specimen may be exported from the country.

International treaties and agreements

Indonesia is signatory to a number of international conventions and agreements that are relevant for the protection of orang-utans and, to a lesser extent, gibbons, i.e. CITES, the Kinshasa Declaration and the ASEAN Wildlife Enforcement Network (ASEAN-WEN).

Indonesia is signatory to the CITES. It acceded to the Convention on 28 December 1978, which entered into force on 28 March 1979 (Soehartono and Mardiasuti 2002). All species of gibbon and orang-utan are listed on Appendix I which generally prohibits commercial international trade of these species, their parts and derivatives, among contracting Parties, except under specific circumstances. It is the responsibility of the Directorate General of Forest Protection and Nature Conservation (PHKA), as Indonesia's Management Authority for CITES, to ensure that illegal international trade of these species does not occur.

As a Party to CITES, Indonesia is obliged to fully implement and enforce the requirements of the Convention through national legislation. All Parties to CITES have been categorized under the CITES National Legislation Project based on the ability of their national legislation to implement and enforce CITES, and Indonesia is listed in Category 1 (legislation generally meets the requirements for the implementation of CITES).

In September 2005 Indonesia signed the Kinshasa Declaration, adopted by delegates to the Intergovernmental Meeting and first GRASP Council meeting that was held in Kinshasa, the Democratic Republic of the Congo. Signatories to the Kinshasa Declaration resolve to improve “the protection of individual great apes and their habitats everywhere by demonstrably improving where necessary the quality and the enforcement of relevant laws, as well as the capacity of law enforcement agencies” (CITES-GRASP, 2006). The Kinshasa Declaration has no legal standing and signatories to the Declaration have no obligation to implement its provisions.

Indonesia, along with all 10 Member Countries of the Association of South-East Asian Nations (ASEAN), has committed to a Regional Action Plan on Trade in Wild Fauna and Flora 2005-2010. This action plan includes objectives on increased law enforcement networking to prevent illegal trade, which is being implemented through the ASEAN-WEN. Formed in 2005, this is the world's largest wildlife enforcement network, which aims to facilitate better intelligence sharing between national counterparts, increased collaboration between government agencies, and cross-border co-operation to prevent illegal trade.

In the last 15 years at least 14 action plans (Population and Habitat Viability Analysis (PHVA), Species Action Plans, Conservation Assessment and Management Plans, etc.) specifically addressing orang-utans and / or gibbons have been published (see Appendix 1). Most of these highlighted trade-related issues. What becomes apparent is that between the first PHVA report being published in 1993 and now, progressively more attention is given to the threats trade in especially orang-utans pose to the survival of the species. In Tilson *et al.*'s (1993: 17) report, the editors note that the issue of loss due to hunting and / or pet trade was not addressed at the workshop. In the year following trade gained a more prominent position in the various reports, noting however, that frequently it was mentioned that more data were needed on the impact of trade, and that in few factual data were presented. In the most recent reports, i.e. from 2006 onwards, trade is specifically mentioned, and specific recommendations are made as to curb the trade. As will become apparent however, despite these recommendations, very little action has been taken on the ground with respect to tackling problems associated with trade in gibbons and / or orang-utans.

METHODS

Survey of wildlife markets and private owners

In the periods January 2001 (Lampung and South Sumatra), November 2006, February and April 2007 (North Sumatra and Aceh), and June-July 2008 (North Sumatra, West Sumatra, Riau and Jambi) data were collected on trade in gibbons and orang-utans (Fig. 2). Several local researchers were appointed to conduct additional surveys in various parts of the island, covering the entire distribution range of the three species of interest within Indonesia. No surveys were conducted on the Mentawai Islands, but records of trade were collected from the literature, and in Padang, the main port on Sumatra for entry to and from the Mentawai Islands. Given that gibbons and orang-utans do not occur on the islands of Bangka, Belitung, Bunguran, and the smaller islands of the Lingga and Riau Archipelago, all administratively part of Sumatra, trade in these species was not specifically assessed.

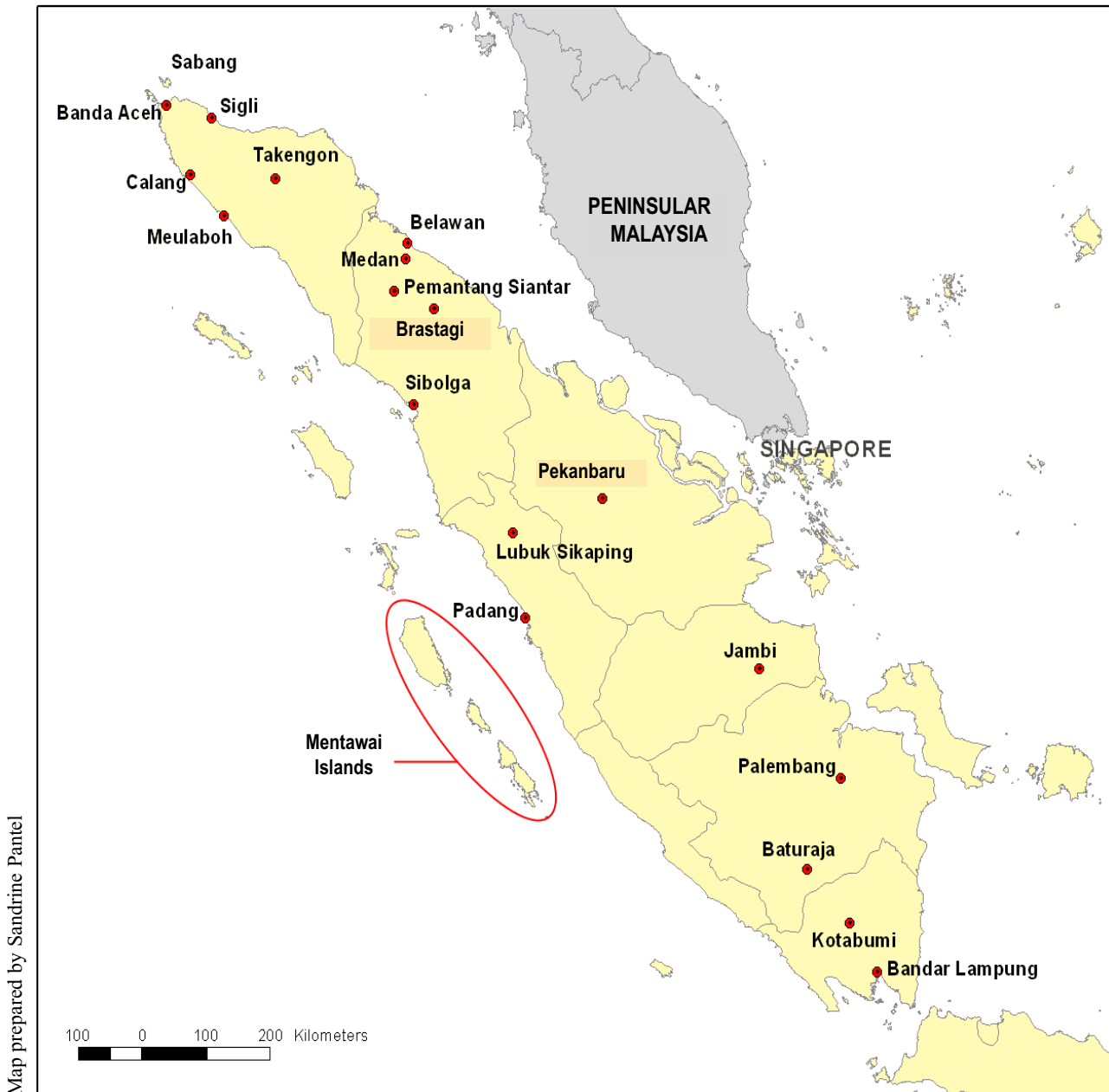
Wildlife markets (*pasar burung / pasar satwa*), ranging from just a few shops along some of the main roads leading out of town to over 25 spread out over two locations in Medan, were visited to assess the availability of primates, and gibbons and orang-utans in particular. Many vendors sell mostly unprotected species, and often protected species are also openly offered for sale, and there was no need to resort to undercover techniques to collect the relevant data (the negative side of this was that few prices were obtained and therefore prices are not presented in this report). Special attention was given to stalls and traders that specialised in primates or that had primates on offer (mostly the non-protected macaques and langurs (see Table 2) but also protected species such as Greater Slow Loris *Nycticebus coucang*) and protected birds as it was expected that these vendors would most likely be willing to sell gibbons and/or orang-utans, or would have access to them. The wildlife market in Medan has been monitored systematically by TRAFFIC in 1997-2001 (monthly spot-checks), and less regularly since 2001 (some ten spot-checks in total).

In towns and villages visited by TRAFFIC researchers (for locations see Figure 2), attempts were made to locate private owners that kept gibbons or orang-utans as pets. From the owners, when possible data were obtained on the history of the animal, where and how it was acquired. During the survey no gibbons or orang-utans were purchased.

Data on gibbons and orang-utans in trade or in private hands was obtained from various NGOs, students and researchers that were known to have collected data at wildlife markets or that were otherwise involved in monitoring wildlife trade. These included, amongst others, Yayasan WWF-Indonesia (Jakarta, Jambi), Flora and Fauna International (Banda Aceh, Padang, Bogor), Conservation International (Jakarta), and Sumatran Orang-utan Society (Medan), Kalaweit (Padang), and the Sumatran Orang-utan Conservation Programme (Medan).

Figure 2.

Map of Sumatra with the towns where the survey was conducted; not surveyed but indicated are the Mentawai Islands



Public and private zoological gardens

During the survey, all larger zoological gardens in Sumatra were visited, i.e. Medan Zoo, Hairos Indah, Murah Indah Varia, all near Medan North Sumatra, Kebun Binatang Siantar, North Sumatra, Kasang Kumbang Zoo Pekanbaru Riau, Palembang, Jambi, and Bukittingi Zoo, West Sumatra. Data on Sumatran gibbons and orang-utans in Java and Bali were available from the following zoos: Pusat Primata Schmutzer, Jakarta; Ragunan, Jakarta; Taman Safari Cisarua; Kebun Binatang Bandung; Gembiraloka, Yogyakarta; Taru Jurug Surakarta; Kebun Binatang Tinjomoyo, Semarang; and Taman Kaloko Widya Mandhala, Purwokerto; Kebun Binatang Surabaya; Taman Safari Pasaruan and Bali Zoo Park.

The zoo records as well as records from BKSDA show that animals confiscated from trade frequently end up in zoos. Furthermore, zoos are often willing to accept gibbons and orang-utans that have been kept as pets and are no longer wanted by their owners. Some zoos, certainly in the past but perhaps also at present, actively acquire wild animals to put on display, and these may include gibbons and orang-utans. For instance, Shepherd and Magnus (2004) report on trade in Siamangs, Serow *Naemorhedus sumatraensis*, Malayan Tapir *Tapirus indicus*, Binturong *Arctictis binturong*, Clouded Leopard *Neofelis nebulosa*, and Sumatran Tiger *Panthera tigris* involving several Sumatran zoos and Anon. (2004) reports on substantial trade in Malayan Tapir from a zoo in Pekanbaru.

In zoos, data on the occurrence of gibbons and orang-utans was firstly collected by simply purchasing a ticket to check what kind of animals were on display. When keepers were present these individuals were informally questioned on the total number of individuals present in their zoo (including those that were not currently on display), their origin, whether or not breeding had been successful, etc. Only later was a more formal request made to the zoo to obtain data on the origin of their stock.



Chris R. Shepherd/TRAFFIC Southeast Asia

Gibbons kept in extremely poor conditions at the Medan Zoo, North Sumatra

In many zoos staff and managers were sympathetic to the aims of the survey and as such were in principle willing to provide data. However, detailed information on the precise origin of each of the orang-utans or gibbons present was rarely available. Information was elicited based on what the staff recalled, and in this way information became available for some of the individuals.

Special attention was paid on the conditions under which gibbons and orang-utans were kept in zoos, including the presence of shelter, food, housing conditions, and protection from the public.

Wildlife rescue centres and reintroduction programmes

Data were obtained from three rehabilitation centres, one of which is no longer in operation. The rehabilitation centres or wildlife rescue centres take in gibbons and orang-utans that have been confiscated (or ‘donated’) from traders and the public. Data from three wildlife rescue centres on West Java that frequently receive primates from Sumatra were available as a result of earlier surveys (Nijman 2006a).

Additional data

A search was conducted to find newspaper articles that relate to the trade in gibbons and orang-utans in Sumatra, or that originated from Sumatra. All items that did not explicitly refer to this region were dismissed. An internet search (www.google.com) was conducted with the key words: gibbons, *Hylobates*, orang-utans, Pongo, Sumatra, Indonesia, trade, in various combinations, and the Web of Science (<http://isi4.isiknowledge.com/>) and the primate literature database of the Wisconsin Primate Research Center, the Washington National Primate Research Center and the University of Wisconsin-Madison Libraries (<http://primatelit.library.wisc.edu>) was consulted to search for scientific reports on the trade in gibbons and orang-utans.

In the course of the study any additional information in the form of unpublished reports, unpublished bachelor's theses, and unpublished data were solicited from those individuals that were identified as most likely to have knowledge of the presence of these sources.

Analysis

All the data were entered in a database for this report, with each of the individuals receiving entries on origin, current location, dates, prices, fate, legal follow-up in case of confiscations, if any, and source of the information. In zoos, some of the species were misidentified or were identified only to the generic level. Likewise, sometimes gibbons were not identified to the species level, or were only tentatively identified pending more study. The most obvious misidentifications were either omitted from the analysis, or pooled under a more general entry (i.e. *Hylobates* spp.). Similarly, there is no consistent distinction made between the two species of orang-utan, especially in older reports. When referring to orang-utans in Sumatra, it is assumed that this referred to the Sumatran Orang-utan, unless this was indicated otherwise. Orang-utans traded in Java appear to be mostly from Borneo and these specimens do occasionally show up in Sumatra, especially in the southernmost provinces closed to Java. Special attention to these instances, and when in doubt, was not included in the analysis.

All prices were converted to USD at the appropriate exchange rate at the time the data were collected. For this, the foreign currency exchange website: <http://www.oanda.com/convert/classic> was used. In addition, the local currency, Indonesian Rupiah (IDR) is listed next to the converted USD price. Unless otherwise indicated all prices noted in this report are converted to 2008 USD rates (1 USD = 11000 IDR).

By its very nature, illegal trade is a difficult issue to document particularly when information is being solicited from secondary sources as it can be hard to evaluate the veracity of the data. Many of the people interviewed were very open and clearly spoke their mind, but others were more cautious and did not reveal what they knew. Most of the interviews and discussions were conducted in Bahasa Indonesia, and only a few in English or the author's native Dutch. All attempts have been made to present the data collected in an objective manner. However for some parts of the report, few hard data were available and what is presented is partially based on the author's own interpretation of the available information, and this has been made explicit in the text.

RESULTS AND DISCUSSION

General structure and numbers in trade

By and large, trade in gibbons and orang-utans on Sumatra involved live animals. Konservasi Satwa Bagi Kehidupan (KSBK) (2002) reported of the large-scale killing of macaques to provide meat for specialised restaurants in southern Sumatra, but no evidence was found for trade in gibbon or orang-utan meat.

In the wildlife markets few gibbons or Siamangs were offered for sale. For instance, over 65 visits to the Jalan Bintang bird market between April 2005 – July 2008 in Medan, 2 Siamang, 3 Agile Gibbon and 1 Lar Gibbon were found. The Agile Gibbon is not native to North Sumatra, although it is found further south on the island which indicates inter-provincial trade. Dealers in the Medan markets stated that the animals were purchased from other wildlife dealers in the province of Riau, although the Lar Gibbon must have originated from either North Sumatra or Aceh. The Agile Gibbon is also found in Malaysia, but there was no evidence that any of the animals recorded during this study came from Malaysia. Observed individuals were often young, the mother having been shot in order to catch the offspring. No Sumatran Orang-utans were observed during these visits. Despite the low numbers observed in the markets, dealers in the markets alleged that they could arrange sales of large mammals such as orang-utan, siamang, Sumatran Tigers, Sun Bear *Helarctos malayanus* and others upon request. One trader in Pekanbaru market had an immature Agile Gibbon for sale, but this animal was not kept in his shop at the market but at his house, nearby.

Siamangs being kept as pets were reported frequently. A single young individual was observed near Sibolga in November 2006, apparently newly obtained, and kept with a Banded langur *Presbytis melalophos*. One young Siamang, with an injured hand was held as a pet by locals in the Kerinci Sungai Penuh area (M. Linkie pers. comm. 2008) and 1 Siamang in the Kerinci area of western Sumatra (D. Martyr, pers. comm. 2008). On three occasions, 3 Siamangs, 1 juvenile and 2 infants, were observed in three villages in South Sumatra and Lampung in January 2001. Siamangs are frequently kept as pets in this part of Sumatra. For instance, eight Siamangs were confiscated in Lampung in May 2003 and brought over to the Tegal Alur wildlife rescue centre in Java. ProFauna (2006) reported on high volumes of trade in Siamangs in Bengkulu, South Sumatra, with 26% of the owners being government civil servants and 22% were either army or police officers.

Siamangs are frequently kept as pets in Java as well, and these all must have been caught at one time or another in Sumatra, with probably a prevalence of animals originating from the southern part of the island (i.e. Lampung, Jambi, Bengkulu). In 2003 no less than 52 Siamangs were kept in the seven wildlife rescue centres on the island of Java, and with 21 records from Javan bird markets, it was among the most common primate traded on the island.

The next most common gibbon in trade in Sumatra after the Siamang is the Agile Gibbon. One infant was observed in Muara Dua, a village in southern Sumatra in January 2001. Agile Gibbons are commonly offered for sale at Javan bird markets. In the period 1994-2003 19 individuals were observed and a further 19 individuals were present in Javan wildlife rescue centres.

Kloss' Gibbons were rarely reported in trade. In April 2007 3 pet Kloss' Gibbons were recorded on the island of Siberut (T. Ziegler, pers. comm. to VN 2008), but according to Thomas Ziegler, Kloss' Gibbons

are not frequently kept as pets on the islands. If there was any trade in Kloss' Gibbons in all likelihood they were sent to the city of Padang as demand and subsequent prices were higher on the mainland than on Siberut. The website of the Kalaweit Gibbon rehabilitation project (www.kalaweit.org/, accessed 2 August 2008) mentions the presence of 6 individuals in trade, and a single individual was received in June 2008 and taken into the rehabilitation centre. The website further mentions the launch of a programme to rescue 25 to 30 captive Kloss' Gibbons; it is unclear if all these individuals have been located as pets or that this refers to for instance the capacity of the rescue centre.

In summary, TRAFFIC received information pertaining to 53 gibbons and Siamangs observed at markets or offered for sale by middlemen, and an additional 15 individuals were observed as pets. No definite observations of Sumatran Orang-utans offered for sale on markets or being kept by private owners were made. Sumatran Orang-utans nowadays appear to be less openly traded than in the past. Yet, reports continue to emerge about (Sumatran) orang-utans showing up unaccounted for in Southeast Asian Zoos. For instance, Chiew (2005) raised concern over the presence of 15 orang-utans kept by two private parks in West Malaysia, with seven being Sumatran Orang-utans, precluding Bornean Malaysia as their origin. While the zoos did have a special permit allowing them to keep endangered species, according to Chiew (2005) proper documentation to keep Sumatran Orang-utans were lacking.



Cho-fui Yang Martinez

Many orang-utans in zoos are kept in appalling conditions

How many Orang-utans are killed to supply infants to the pet trade?

The most preferred age categories for orang-utans in the pet trade are infants older than a few months and juveniles up to the age of perhaps six to seven years old. Aveling (1982), for instance, reported that for the period 1973-1979, of the 98 orang-utans that were received at the Bohorok Orang Utan Rehabilitation Centre, 80% were less than seven years old (and about a third of these were infants less than 2.5 years young). In the wild these young individuals spent most of their time either clinging onto their mother or in close proximity to the mother. It is widely appreciated that in order to obtain a young orang-utan suitable for the pet trade one needs to kill its mother (van Balen 1898; Schluster et al. 2008). Furthermore, when the mother is shot the infant is often killed in the process as well, falling from the trees, still clinging onto its dying mother. The conditions under which the young orang-utans are kept during the journey from the forest, to one or more villages, and thenceforward to the towns where it can be sold are far from optimal, and the welfare of the animal is often compromised. Undoubtedly many die in the process. Those that do survive and make it to the markets, the process of capture and sale is an extremely traumatic one and many infants still die from the stress. However, as noted in Nijman (2005a: 35) it is very difficult to obtain hard data on the mortality rates of gibbons and / or orang-utans during capture, transportation, storage, and when in illegal captivity.

In a previous report (Nijman 2005a: 16) the term 'loss rate' was used as the number of individuals that have died for one single individual to reach a bird market, rescue centre or zoo (those being the points where orang-utans in trade are often first detected), including the observed individual. In modelling the impact of trade on the wild populations two scenarios were followed, one conservative and one perhaps more realistic. Loss rates in the conservative model were set at 2 orang-utans lost for every individual observed in trade, and in the more realistic model was set at 4. Here the range of numbers of orang-utans killed as to supply the demand for pet orang-utans, as expressed by orang-utan researchers and conservation organisations, is explored. When reference is made to Taiwan, this refers to the large number of orang-utans that were imported to this island in the late 1980s.

In 1962, the Harrissons stated that 'There is a continuous selective human pressure on females with babies. The normal procedure is still to kill the female to get a baby. The last zoo collector permitted to operate legally in Sarawak in 1946 removed 14 or more young orang-utans alive. To achieve this, we know for certain that 20 others died as an immediate consequence' (Harrisson, 1962: 201) [loss rate 2.4]

and

'As this [obtaining orang-utans from the wild] now has to be done largely at the native smuggling level, it is safe to estimate that for every one orang-utan brought out and sold to a dealer, three more have been killed: two mothers shot to obtain two babies—with one of the babies dying before reaching reasonable standards of human care. Harrisson, 1962: 204) [loss rate 4]

"Since the majority of orang-utans in 'rescue' and 'rehabilitation' centres are juveniles, the overall number of poached animals can presumably be almost doubled if one attempts to estimate the scale of illegal activities, since a lot of these animals will have been taken from their mothers (who will have been killed during a poaching or 'problem animal' incident)". CITES-GRASP (2006) [loss rate 2]

"Hunting for trade, to have one baby they must kill the mother" Supriatna et al. (2001) [loss rate 2]

"...it is worth bearing in mind that each juvenile found in illegal custody reflected at least one dead mother and possibly two or more other orang-utan casualties which remain undetected" (Rijksen, 1982) – quoted in Rijksen and Meijaard 1999: 118) [loss rate 2-4]

"It is thought that for each orang-utan reaching Taiwan, as many as three to five additional animals die in the process." WWF (http://www.panda.org/about_wwf/what_we_do/species/about_species/species_factsheets/great_apes/orang-utans/orang-utans_threats/index.cfm, accessed 08-05-08) [loss rate 4-6]

“Based on these estimates, it could be concluded that in order to catch one orang-utan, at least three to five will be the victims of animal-slaughter; the spokeswoman [Samboja Orang-utan Reintroduction and Rehabilitation Center’s Jean Mandala] asserted” Antara News Agency, 7 August 2002 - Some 910 Orang-utans Killed in Indonesia Every Year. [loss rate 4-6]

“It is estimated that 4-5 orang-utans die for every baby reaching the market.” Borneo Orang-utan Survival UK (http://www.savetheorang-utan.co.uk/?page_id=31, accessed 09-05-08) [loss rate 5-6]

“A very conservative estimate suggests that probably only one out of every three infants captured ever survives the experience. With the death of their mothers this means that for every one orang-utan that arrives at someone’s home as a so-called pet, at least five others will have died in the process.” Sumatran Orang-utan Survival Programme (http://www.sumatranorang-utan.org/site_mawas/UK_GE/ALL/pag/page.php?language=ukandniv1=2andniv2=2, accessed 08-05-08) [loss rate 6]

“It is believed that five or six orang-utans die for every one that is traded.” WWF-UK (<http://www.wwf-uk.org/researcher/issues/rareSpecies/0000000153.asp>, accessed 09-05-08) [loss rate 6-7]

“Do you know that for every one orang-utan that becomes a pet it is estimated that six other orang utans are killed?” Gunung Palung Orang Utan Conservation Project, as cited by Sowards (2006) [loss rate 7]

“It has been estimated that for every infant that survives the process of capture and transport, at least four adult females and three other infants will have died.” Friends of the Earth, The Ape Alliance, The Borneo Orang-utan Survival Foundation, The Orang-utan Foundation (UK), The Sumatran Orang-utan Society, based on a personal communication with Lone Droscher-Nielsen (Buckland 2005: 21). [loss rate 8]

“It has been estimated that for every infant that survives the process of capture and transport, at least 3 others will have been lost, and each of these infants also represents the death of an adult female orang-utan.” Sumatran Orang-utan Society (<http://www.orang-utans-sos.org/orang-utans/crisis/>, accessed 09-05-08) [loss rate 8]

“Although hard data are lacking various estimates have been made about the number of orang-utans that have died for each baby obtained, and these range from one up to eight.” WWF Indonesia / International (Fouad et al. 2004) [loss rate 2-9]

“For every orang-utan put up for sale, at least eight or nine die. To capture an infant orang-utan, one must kill the mother. But captured infants rarely survive for long. A single survivor, like Sugito, represents three to four other infants who died in captivity, as well as four or five mothers who were murdered during their capture” (Galdikas, 1999) [loss rate 8-10]

“Trappers usually kill the mothers - and sometimes other adults and babies - to obtain one young orang-utan. Taking into account the high mortality rate suffered by captured animals, animal rights advocates estimate that certainly two or three, and perhaps as many as ten, animals die for each one who survives the long journey to a zoo or other destination.” (Cantor, 1993) [loss rate 3-11]

“In order for a baby or juvenile orang-utan to be captured the mother must be killed first. Field experts say that on average, 2 adults are killed in order to successfully secure 1 baby. Typically, up to 5 babies are shipped together in a single box, in hopes that one will survive the arduous journey.” Honolulu Zoo (<http://www.honolulu zoo.org/orang-utan.htm>, accessed 09-05-08) [loss rate 15]

Numbers in rehabilitation centres

Leighton and Whitten (1984) argued that the greatest accomplishment of orang-utan rehabilitation has been its impact on the illegal trade of orang-utans. As the rate of confiscations increased, trade in orang-utans is believed to have declined (Leighton and Whitten, 1984), presumably since there have been more efforts by the Indonesian government officials to confiscate orang-utan since places to send captive orang-utans have become available.

However, in the intervening 25 years after between Leighton and Whitten's report and TRAFFIC conducting this survey, the numbers of confiscated or donated orang-utans has increased to a level higher than or equal to what it has been before. Initially, the number of Sumatran Orang-utans taken in by the rehabilitation centres has showed a steady decline, but this changed after the closure of Bohorok as a rehabilitation centre and the subsequent opening of the new Sibolangit rehabilitation centre. Some of the peaks in Fig. 3 are possibly associated with the arrival of new staff (resulting on perhaps a more active pursuit of receiving orang-utans), or the opening of a new facility or a policy of accepting orang-utans from other areas (both inside and outside Indonesia)

A comparison of the data from rehabilitation centres in Sumatra from the periods 1973-2000 and 2002-2008 reveals that while these take in largely young or very young individuals, in recent years proportionally more individuals with an estimated age of >7 years were received (Table 3). Estimating ages of orang-utans is difficult and prone to errors, with possibly consistent biases towards estimating too young an age. Added to this is the problem that different observers in different time periods estimate ages differently. Despite this the general pattern of the centres receiving mostly young or very young individuals holds. Although it is not known precisely how long all these individuals have been kept by their previous owners, it is clear that when these orang-utans were taken from the wild they were (considerably) younger than when they first were recorded by the rehabilitation centres.

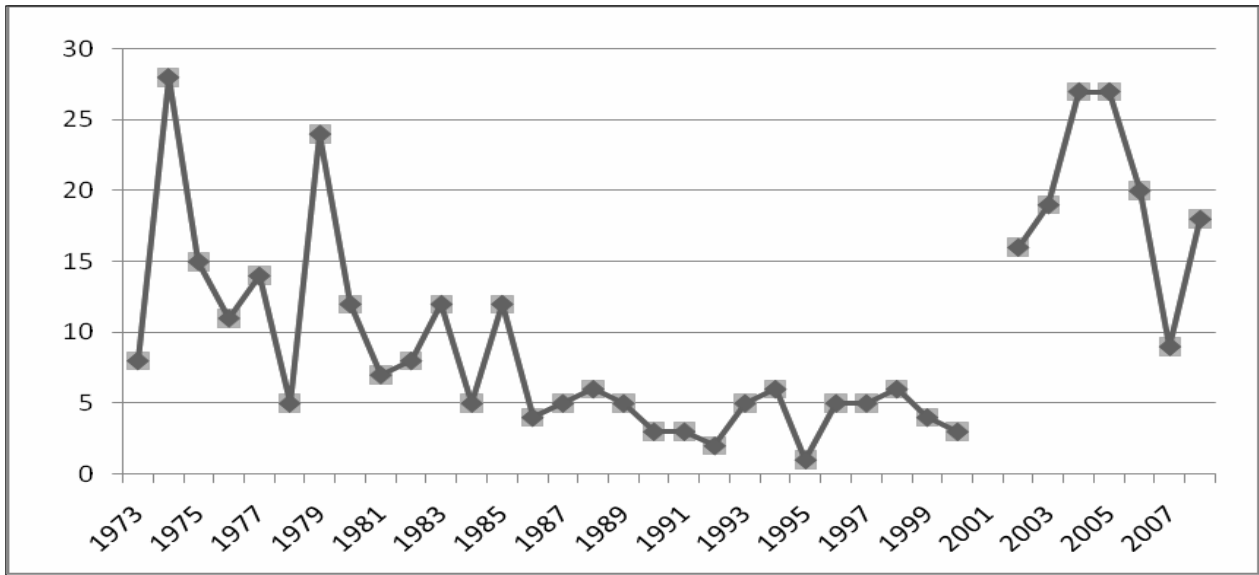


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In all likelihood, it can be assumed that for each orang-utan less than seven years of age, its mother must have been killed

Figure 3.

Number of orang-utans arriving in the Bohorok, Bukit Lawang rehabilitation centre (July 1973-2000) and the Sibolangit quarantine of the Sumatran Orang-utan Society (2002-April 2008)



In Sumatran Orang-utans, by the age of three the young have largely reached locomotor independence and have well-developed nest skills. Immatures share their mother’s nest until weaned at around age seven (Van Noordwijk and van Schaik 2005). It can therefore be assumed that for each orang-utan of less than seven years of age, its mother must have been killed. Virtue and Sellars (2006: 8) report that “one highly-experienced researcher told the team that orang-utans older than 7-8 months have, by that age, acquired their teeth and will consequently bite, or try to bite, any human that seeks to handle them. This person was therefore of the view that poachers seeking to capture young orang-utans sought out animals below that age”. TRAFFIC did not find support for this assertion, not in Sumatra nor in Kalimantan, but there is a clear preference for individuals younger than seven years of age.

Table 3.

Estimated age of 1021 Sumatran and Bornean Orang-utans arriving at three rehabilitation centres, showing that almost half of the individuals are less than four years of age and the vast majority are not yet adolescent. Data from Bohorok from Aveling 1982, and Nyarumenteng and Wanariset from Nijman 2005b

Estimated age	Sumatran Orang-utan	Sumatran Orang-utan	Bornean Orang-utan	Combined
	1973-2000	2002-2008	1999-2003	
0-4 years	103	59	203	365
0-7 years	165	100	311	576
>7 years	25	35	20	80

Furthermore, compared to data from two rehabilitation centres from Borneo (1999-2003) it shows that in Sumatra, proportionally more older individuals (>7 years of age) are taken in.

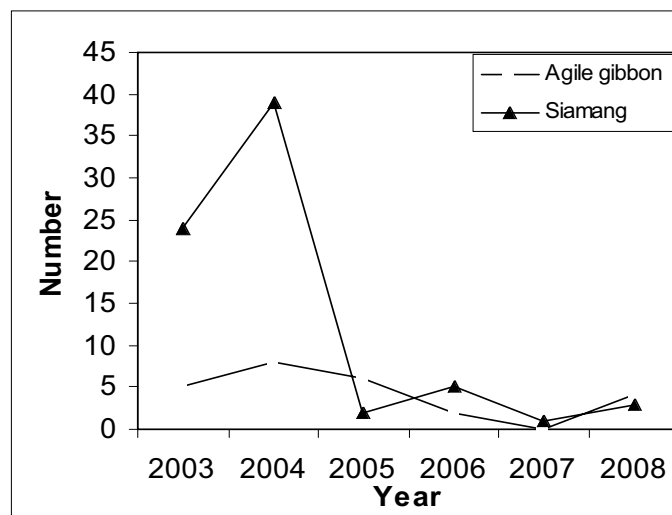
Table 4.

Estimated age of 99 Agile Gibbons and Siamangs when arrived at a rescue centre in West Sumatra, showing that the majority of them are not yet sexually mature. Data from Kalaweit (www.kalaweitfm.com, accessed 30 July 2008)

Estimated age	Agile Gibbon 2003-2008	Siamang 2003-2008	Combined
0-4 years	6	21	27
0-7 years	19	55	74
>7 years	6	19	25

Figure 4.

Numbers of Agile Gibbons and Siamangs arriving at the Kalaweit rehabilitation centre in Padang, Sumatra; note that many of the individuals received in the first two years after opening were received from Javan wildlife rescue centres



Combining the data from the different rescue centres on Java and Sumatra from the period 2001-2008, it shows that 170 Sumatran gibbons and Siamangs are present in rescue centres. A further 325 Sumatran Orang-utans derived from trade have been taken in by rescue and rehabilitation centres in the period 1973-2008.

Zoos

Combining the data from the various Indonesian zoos on Sumatra, Java and Bali, it shows that they maintain 75 Siamangs in their collections. Few, if any of these individuals have been born in captivity and originating from the wild the vast majority must have been in trade at one time or another as no cases of 'rescuing' Siamangs from forest areas by the Indonesian authorities is known to TRAFFIC. A total of 46 Agile Gibbons individuals were present in Indonesian zoos. Most of these individuals were taken from the wild in Sumatra, although a small proportion of them may be Bornean Agile Gibbon *H. albibarbis* (currently these two taxa are considered to represent separate species differing morphologically and genetically (Groves, 2001; Hirai *et al.*, 2005) but in many zoos and databases they are still listed as one).

In 2003, two Kloss' Gibbons were observed in two zoos on Java, but the ISIS lists 5 individuals as being present in two zoos (both in Jakarta) as of 2008 (Table 7). None are known from zoos outside Indonesia.

Table 5.

Gibbons and orang-utans present in Sumatran zoos (for a list of full names of the zoos, see methods) in June-July 2008

Species	Agile Gibbon <i>H. agilis</i>	Lar Gibbon <i>H. lar</i>	Siamang <i>S. syndactylus</i>	Sumatran Orang-utan <i>P. abelii</i>
Medan	2	1	8	2
Hairos Indah	1		1	
Murah Indah Varia		2	1	
Siantar	2	1	4	2
Pekanbaru	1			2
Bukittingi			4	3
Palembang			2	1
Jambi	4			
Total	10	4	20	10

Table 6.

Sumatran gibbons and orang-utans in international and Indonesian registered zoological gardens. For list of zoos see methods. (source international: ISIS, 2008, source Java, Bali: Nijman 2005a, source Sumatra: this survey 2008; note that the collections of many of the smaller international zoos, and most Indonesian zoos, do not have their data included in the ISIS database)

Species	International	Indonesia	Total
Agile Gibbon <i>Hylobates agilis</i> (incl. some <i>albibarbis</i>)	26	46	72
Lar Gibbon <i>Hylobates lar</i>	407	4	411
Kloss' Gibbon <i>Hylobates klossi</i>	0	5	5
Siamang <i>Symphalangus syndactylus</i>	299	75	374
Sumatran Orang-utan <i>Pongo abelii</i>	220	22	242

Table 7.

Gibbons and Sumatran Orang-utans in international zoos (those in brackets are in Indonesian zoos) as listed by the International Species Information System (ISIS, <http://app.isis.org/abstracts/abs.asp>, accessed 23 June 2008)

Species	Males	Females	Unknown
Agile Gibbon <i>Hylobates agilis</i> (incl. <i>albibarbis</i>)	24 (11)	20 (8)	1 (0)
Lar Gibbon <i>Hylobates lar</i>	191 (0)	185 (0)	31 (0)
Kloss' Gibbon <i>Hylobates klossi</i>	2 (2)	3 (3)	0 (0)
Siamang <i>Symphalangus syndactylus</i>	164 (10)	139 (8)	15 (1)
Sumatran Orang-utan <i>Pongo abelii</i>	90 (4)	135 (3)	1 (0)

Table 8.

Housing conditions of gibbons and orang-utans in seven Sumatran zoos, showing many having small cages with often no access to water or having shelter from the elements. Orang-utans that are housed on open paddocks during the day but caged during the night are excluded

Species	Age class	Zoo	Volume (m3)	water	Shelter	
<i>Hylobates lar</i>	infant	Medan Zoo	1	no	no	
	adult	Medan Zoo	100	no	no	
	infant	Hairos Indah	4	yes	yes	
	juvenile	Hairos Indah	14	yes	yes	
<i>Hylobates agilis</i>	adult	Muriah Indah Varia	8	no	yes	
	infant	Medan Zoo	12	no	yes	
	juvenile	Medan Zoo	6	no	no	
	juvenile	Pekanbaru Zoo	3	yes	yes	
	juvenile	Jambi Zoo	40	no	yes	
	adult	Jambi Zoo	2	no	yes	
	juvenile	Jambi Zoo	3	no	no	
	adult	Siantar Zoo	30	no	yes	
	adult	Siantar Zoo	30	no	yes	
	<i>Symphalangus syndactylus</i>	adult	Muriah Indah Varia	11	no	yes
juvenile		Medan Zoo	6	no	no	
adult		Medan Zoo	100	no	no	
adult		Medan Zoo	100	no	no	
adult		Medan Zoo	100	no	no	
infant		Hairos Indah	4	yes	yes	
adult		Siantar Zoo	27	no	yes	
adult		Bukittingi	80	no	yes	
adult		Palembang	12	no	no	
adult		Siantar Zoo	30	no	yes	
<i>Pongo abelii</i>		adult	Pekanbaru Zoo	3	no	no
		adult	Pekanbaru Zoo	3	no	no
		adult	Bukittingi	80	no	yes
	adult	Bukittingi	80	no	yes	
	immature	Palembang	40	no	yes	

Combining all the data from Indonesian zoos, TRAFFIC documented a total of 148 Sumatran gibbons and Siamangs, the vast majority, if not all, being derived from trade. Similarly, 26 Sumatran Orang-utans were observed in Indonesian zoos. These figures include gibbons, Siamangs and Sumatran Orang-utans that died in Medan Zoo (see Table 9).

Mortality rates

Table 9.

Turnover of gibbons and orang-utans in Medan Zoo in the period 2005-2008, with number of individuals present during each survey, and the number of individuals that have died between the current and the previous survey shown in brackets

Species	2005	2006	2007	2008	Percentage of individuals dead	Annual death rate (individuals per year)
Agile Gibbon <i>Hylobates agilis</i>	4	-	4	2 (4)	67	1
Lar Gibbon <i>Hylobates lar</i>	0	-	0	1	0	0
Siamang <i>Symphalangus syndactylus</i>	13	10 (3)	6 (8)	8 (3)	64	3.5
Sumatran Orang-utan <i>Pongo abelii</i>	5	6	3 (3)	2 (1)	67	0.75

Over the period 1973 – 2000 of the 226 orang-utans that were received by the Bohorok Orang-utan rehabilitation centre, 49 died in the centre. This translates to a crude mortality rate of 1.74 orang-utans year⁻¹, with 22% of the animals dying in the centre. In the Sibolangit centre, over the period 2002-2008, a total of 142 orang-utans were received of which 17 died, translating to a crude mortality rate of 2.83 orang-utans year⁻¹, with 12% of the animals dying in the centre. Many of the animals arriving at the centres are already ill, may die shortly after arrival, or carry diseases with them. The mortality rates in the rehabilitation centres are raised as many of the individuals arriving are young or very young, and have been deprived from essential care from their mothers.

Rehabilitation centres in Sumatra have undoubtedly better access to veterinary care, and have considerably more expertise than owners keeping orang-utans as pets. High mortality rates of gibbons taken into a rehabilitation centre and subsequent release in a nearby forest were reported by Bennett (1992) from Sarawak. The mortality rate of orang-utans kept as pets is expected to be higher than those reported by the rehabilitation centres, with expected higher rates still in the period when the animal is being traded.

Data on turnover and mortality rates over a 4-year period in the Medan Zoo provide additional insight in the amount of animals that die while in captivity. Of the six orang-utans that were present in 2006, only two remain in 2008. All four were adult orang-utans. The number of Siamangs that died in the zoo was even larger than that for orang-utans. Fourteen animals died in the last four years, including at least three newborn babies. Four out of six Agile Gibbons present in the zoo in the period 2007-2008 died, including one newborn infant.

Part of the reason why mortality rates in Sumatran zoos, or certainly in Medan Zoo, are so high, is that the conditions under which the animals are being kept are appalling. Most gibbons have no continuous access to drinking water, cages are rarely, if ever, cleaned, the public has access to most of the animals allowing them to harass them freely and frequently, or to feed them all kinds of foods. More often than not, hawkers are actively selling food to the public to be fed to the animals, including peanuts, sugarcane and sweets, often positioning themselves near primate cages, despite some zoos displaying signs 'do not feed the animals'. However, a Medan Zoo has a sign on the gibbon cages telling visitors to 'please do feed the animals', and the author was informed that this is not a translation error. Cage sizes are often extremely small, and totally inadequate. Combining data from seven zoos shows that Agile Gibbons on average have

15 m³ (range 1-100 m³) of cage space at their disposal, Lar Gibbons 30 m³ (range 2-30 m³), Siamangs 50 m³ (range 4-100 m³) and Sumatran Orang-utans 40 m³ (range 3-80m³). Mortality rates probably are influenced by the small cage sizes, aided by often inadequate food and lack of medical care. Successful breeding, where the offspring survives for more than a few weeks is rare, if not virtually nil in these zoos. The high mortality rate thus will create a need to acquire new animals, reaffirming the direct link between inadequate care for primates in zoos and the primate trade.

Origin

Table 10 presents the reported origin of 224 (out of a total of 326) Sumatran Orang-utans that were received by the two rehabilitation centres in Sumatra over the period 1973-2008. It clearly shows that many of the orang-utans were confiscated from or donated by people from the two provincial capitals, Banda Aceh in Aceh (30 orang-utans) and Medan in North Sumatra (47 orang-utans). The southern part of Aceh is the reported origin of 83 orang-utans, with most of them coming from the Aceh Tenggara Regency. North Sumatra is another area where many orang-utans have been confiscated, followed by North Sumatra's mountain region and Aceh's northern region. In this respect it is interesting to note that for instance no



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Ten Agile Gibbons were observed in Sumatran Zoos in June-July 2008

orang-utans were reported from regencies such as Bireuen, Nagan Raya, Gayo Lues (southern Aceh), Asahan, Tapanuli Utara or Labuan Batu (North Sumatra). If the situation of the confiscation of orang-utans in Sumatra is similar to that of orang-utans and gibbons on Java (Nijman 2005a) then this in all likelihood is a reflection of the activities of the forestry department as opposed to where orang-utans are being traded.

Orang-utans were additionally received from some of the other provinces in Sumatra, i.e. Riau (7 individuals), Jambi (8 individuals), Bengkulu and Lampung (1 individual each). Few were received from any of the other islands in Indonesia, and if so, it was not always clear if this referred to Sumatran or Bornean Orang-utans. During a survey in Java it was found that only 1 out of 30 orang-utans recorded on the island were Sumatran Orang-utans, suggesting that relatively few orang-utans are transported from Sumatra to Java.

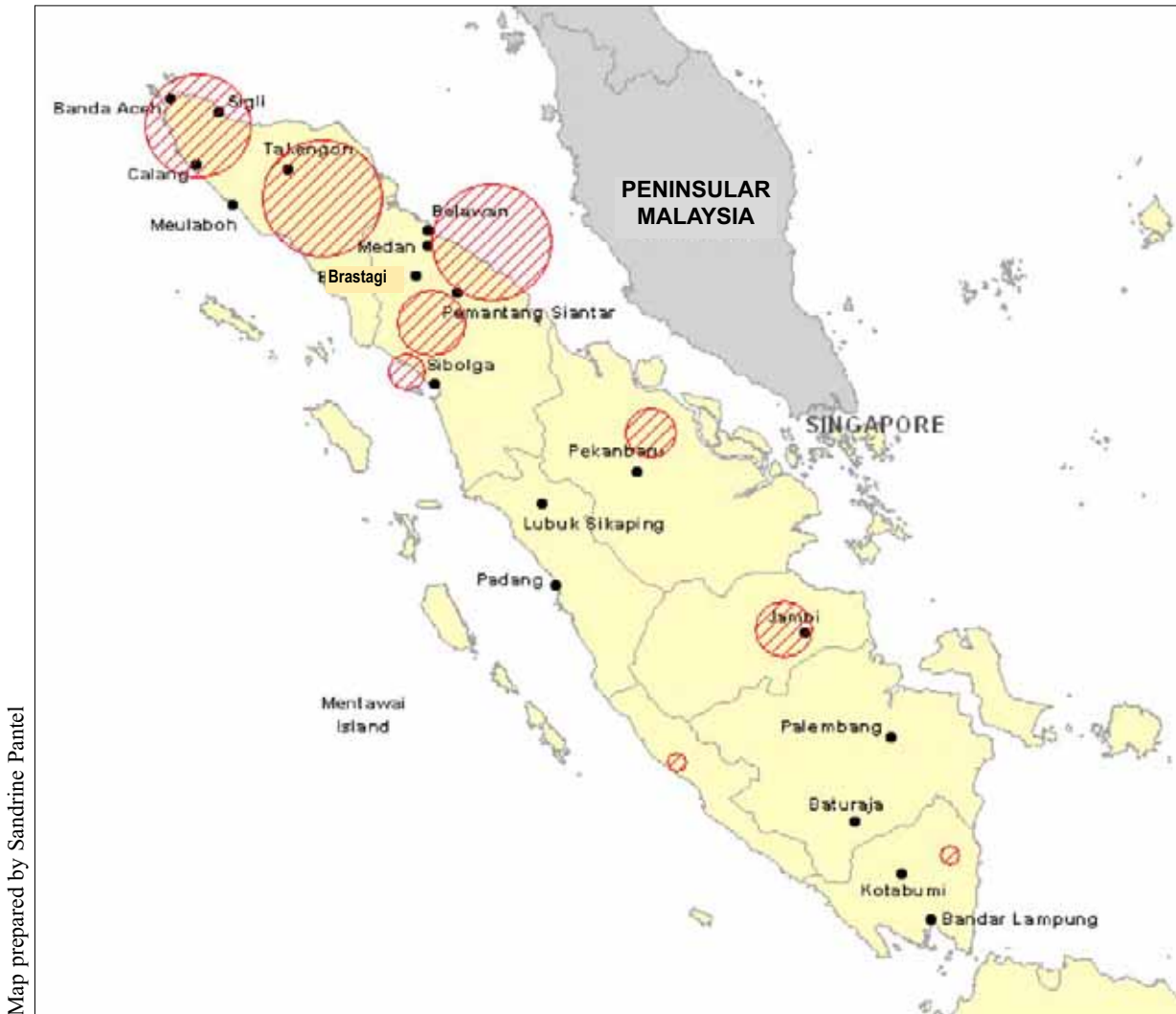
Table 10.

Origin of Sumatran Orang-utans in two provinces (Aceh, North Sumatra), listed by Regency (Kabupaten) and decade, received by two rehabilitation centres in Sumatra in the period 1973-2008, excluding orang-utans received from elsewhere in Sumatra, Java, Kalimantan or abroad

	1970s	1980s	1990s	2000s	Total
ACEH					
Northern region:					
Banda Aceh	1	2	1	26	30
Pidie	1			1	2
Aceh Utara	1	1	0	1	3
Aceh Barat	2			4	6
Aceh Barat Daya	1				1
Aceh Jaya	5				5
Southern region:					
Aceh Selatan	6	3	7	8	24
Aceh Singkil	5			1	6
Aceh Tamiang	3				3
Aceh Tengah				3	3
Aceh Tenggara	4	7	5	23	39
Aceh Timur	4	2	1	1	8
NORTH SUMATRA					
West coast region:					
Tapanuli Selatan				1	1
Tapanuli Tengah	2			1	3
Mountain region:					
Karo	3	2	2	1	8
Dairi				2	2
Simalungun			1	1	2
East coast region:					
Langkat	12	6	2	2	22
Deli Serdang	3		1	3	7
Serdang Bedagai	1			2	3
Medan	17	6	14	10	47

Figure 5.

Graphic representation of the locations where orang-utans received by Sumatran rescue centres in the period 1973-2008. The size of the circles are proportional to the number of orang-utans



As of 2008, a total of 99 gibbons have been received by the Kalaweit rescue centre in West Sumatra. This includes 73 Siamangs, 9 Agile Gibbons, 2 Kloss' Gibbons and 1 Lar Gibbon. Large numbers of Siamangs, i.e. 41, were received from the Tegal Alur rescue centre near Jakarta. In part, these were the result of targeted operations in Lampung province in 2003. At the time, no rescue centre for gibbons was operational in Sumatra, and the Kalaweit rescue centre was not yet established in Sumatra. Of the ones that were received directly from Sumatra, 10 originated from Bengkulu (6 Siamangs, 4 Agile Gibbons), 4 from Jambi (1 Siamang, 3 Agile Gibbons), 3 from West Sumatra (1 Siamang, 1 Agile Gibbon and 1 Lar Gibbon), and 1 Siamang from Lampung. However, many of the Siamangs said to have come from Jakarta were confiscated in Lampung as well.

National wildlife protection policy

Orang-utans and gibbons have been legally protected in Indonesia since the beginning of the 20th century, and, over recent decades, especially with respect to orang-utans, high ranking officials, including ministers

and presidents have expressed the importance and need for an increase of protection. Despite this, forest areas with significant populations of orang-utans (and gibbons) continue to be converted to other land-uses, including oil palm plantations, under permits endorsed by either the national government or, increasingly, by regional governments. Given that large areas of 'wasteland' are found in Sumatra (and in Kalimantan), if the Indonesian government is serious about its pledges to preserve biodiversity there should be no reason to convert prime orang-utan and prime gibbon habitat to any form of plantation (*Hutan Tanaman Industri* or *Perkebunan*) until all those areas have been used to their fullest extent. In 2001, the central government through the Ministry of Forestry launched a policy to stop conversion of natural forests (Samedi, *in litt.* 2005), but implementation at the local level is clearly in need of improvement.

There is no policy on what needs to be done with large number of animals in the forest that is to be converted. By law, the animals cannot be harmed, but in the absence of integrated planning this will simply mean that in the forest the animals will be killed either by loggers, by outside hunters or by starvation. When the animals are displaced out of the forest, at best they are being 'rescued' and taken to one of the rehabilitation centres, but in many instances they will end up being killed. For example, when oil palm plantations are established, and there are still orang-utans present in the surrounding forest, the orang-utans will frequently enter these plantations, bringing them in close contact with humans. In these plantations orang-utans are perceived as pests, with the adults being killed and the young taken as to make an easy profit. These factors create easy opportunities for people to obtain a gibbon or baby orang-utan to be sold for profit. As such, there is a steady supply of orang-utans and gibbons entering the trade chain and the 'problem' of the trade in orang-utans and gibbons thus needs to be addressed at a multiple levels rather than simply the points of trade.

There have been efforts by Indonesian authorities to curb the illegal trade in wildlife, often helped by NGOs, through Action Plans, policies and programmes to reintroduce confiscated animals into forest areas without resident populations. However, the same authorities are also indirectly ensuring a steady supply of these primates through permits which are handed out, allowing habitat destruction which affects some of the largest remaining primate populations.

In conclusion, by adding up the total numbers of individuals that have been taken in by the rescue centres, zoos and that have been observed at markers, TRAFFIC compiled data pertaining to 351 Sumatran Orang-utans from 1973-2008 (inclusive) and 386 gibbons from 2001-2008 (inclusive) in trade in Sumatra. The present reports confirms the findings from the previous two TRAFFIC assessments into the trade of gibbons and orang-utans in Indonesia that the illegal trade in these species continues.

CONCLUSIONS AND RECOMMENDATIONS

The following recommendations are a reiteration of those made following the two previous assessments, updated and with a focus on Sumatra. These practical recommendations will hopefully lead to a decrease of the level of threat that trade poses on the survival of gibbons and orang-utans.

Monitoring and data collection and examine root causes of trade

As indicated by Rosen and Byers (2002), there is much anecdotal evidence on the lack of prosecutions and judicial law enforcement in relation to orang-utan confiscations and detailed factual information would support efforts to identify problems and strengthen enforcement. In the last five years TRAFFIC's assessments have revealed that a significant number of gibbons and orang-utans have been traded, and are still traded at bird markets, along roadsides, and in rural and forested areas throughout western Indonesia. Orang-utans appear to be most significant, with the Siamang and the gibbons appearing to be less openly displayed than a few years ago. It also appears that a large proportion of the trade has gone underground. Wildlife trade in Indonesia is capricious with an ever-changing demand for species and frequent switches from one species to another. This is partially demand-driven but, at least for some species, also supply-driven. When previously inaccessible areas are opened up due to indiscriminate land-use changes species that were rarely traded might see an increase in numbers traded simply because there is access to markets. There is still much to be learned about the economics of the primate trade in Indonesia, both at the supplier's end and the demand side of the chain. In certain areas, especially northern Sumatra and Aceh, and also in many parts of Kalimantan the catching of primates is either merely a by-product of other activities (logging, hunting) or is strongly associated with the encroachment of people into the primate habitat.

TRAFFIC recommends to continue, or to reinvigorate, the monitoring of bird and mammal markets on Sumatra, Java and Bali. Wildlife trade is less concentrated on such markets in Kalimantan. In-depth studies need to be conducted including undercover operations to further unravel the trade network. To anticipate any changes in the volume or species composition, this ideally should not just be restricted to gibbons and/or orang-utans, but a variety of species. Personnel involved in monitoring need to have adequate skills in identifying the species of interest. Current levels of monitoring have been sufficient to obtain the general pattern of what species were traded and in what volumes, but many questions remain to be answered. The availability and consistency of data needs to be improved and a regular and well-designed monitoring scheme may reveal temporal changes far better than has been currently possible and allow for subsequent actions to be taken.

Besides the animal markets, a more stringent monitoring of the major ports is recommended. Again, it needs to be assessed whether or not primate traders operate independently or if they are fully embedded in other businesses (e.g., timber trade). It would be worthwhile to further assess in detail the relationship between logging and collection of non-timber forest products, with the poaching and trade of orang-utans and gibbons. Central to this is solving the questions that relate to which persons, institutions, and agencies are the driving forces behind legal and illegal logging and trade, and this should not exclude local and national government agencies, the army and the police.

Increase efficiency and transparency of the implementation of wildlife protection laws

The main conclusion of this and the previous two assessments is that one of the main reasons why people still trade endangered species is the fact that law enforcement concerning protected species is generally lacking in both effort and efficiency. Large sums of money can be made in the illegal wildlife trade, with gibbons and orang-utans fetching prices at the upper end of the spectrum. The chances of having protected animals confiscated, or of facing legal charges, are extremely remote. Fines and jail terms handed out are comparatively lenient and even those that have violated the law, for instance, those that have substantial private zoos in their backyard, or those traders that regularly buy and sell protected species, rarely, if ever, receive the maximum penalty. It would be worthwhile to make an in-depth review of cases where offenders have indeed brought to justice, focusing not only on the ‘unsuccessful’ cases but also on those cases where prosecution was indeed successful, and its possible underlying reasons such as pressure from government offices, local NGOs, media, or otherwise. By analysing ‘successful’ with ‘unsuccessful’ court cases, more can be learned about how to effectively curb the trade.

As recommended in the Nijman (2005a) and reported in some detail by Robertson and van Schaik (2001), conservation agencies, with the aid of NGOs specializing in environmental law, need to consider the options of setting up a test trial where a ‘gross offender’ is either sued or, with the aid of the prosecutor, brought to court. TRAFFIC, as part of the ASEAN-WEN initiative has spearheaded several judiciary workshops aimed at enforcement officials (police, customs, forestry wardens), CITES authorities, judges and prosecutors, empowering them to contribute to stopping the decline of wildlife throughout Indonesia. Furthermore, the law-enforcement hierarchy needs to be targeted to persuade officials to convict traders, owners, etc., and attention needs to be given towards devising incentives for law enforcers to carry out their duties with greater efficiency.

It almost goes without saying that wildlife protection laws, protecting both species and their habitats, need to be enforced more effectively. This cannot be achieved without recognising that protection of wildlife is intrinsically important. This recognition largely needs to come from the general public, with various government agencies, including the police, the forestry department and the courts recognising that the laws provide a reference point for their inter-agency responsibilities. It is the responsibility of the national offices up to the ministerial level to direct their subordinates to enforce wildlife protection laws as intended. The current laissez-faire attitude, where trade in wildlife is not considered a problem, not even by the authorities that should uphold the wildlife protection laws, can no longer be tolerated.

Greater inter-agency cooperation and alternative routes to law enforcement

In Sumatra and Kalimantan, with a few notable exceptions, the BKSDA is not co-operating sufficiently with other regional government bodies to tackle illegal wildlife trade and uphold wildlife protection laws. This included insufficient co-operation with the authorities at ports (including customs), the different branches of the forestry department, local government agencies, the police, and also NGOs as well as logging concessions and plantation owners. The provincial branches of the BKSDA need to take the initiative for a greater and more efficient co-operation and to initiate collaborative actions. Agencies need to meet more regularly to discuss actions to be taken, and this is best achieved through communication focal points. In the major towns on Java and Sumatra, and to a lesser extent Bali and Kalimantan, this should include more active monitoring of wildlife trade by the BKSDA, or any other government body that is responsible for upholding wildlife protection laws. Hitherto this is not routinely and systematically done.

More stringent monitoring of the major ports and known localities where wildlife or wildlife products are traded (pet shops, souvenir shops, animal markets, etc.) by the BKSDA is recommended.

At present the initiatives relating to ‘confiscation’ are largely NGO-driven, with the BKSDA or police only assisting in these actions. Although in a previous assessment TRAFFIC concluded that if effective actions are to be taken a proper working relationship between the BKSDA, NGOs and other relevant enforcement agencies is essential for a greater efficiency and success rate in the number of prosecutions. Over the last few decades, the Ministry of Forestry has demonstrated that it is incapable of enforcing wildlife protection laws, certainly when it concerns orang-utans and gibbons, and in the interest of protecting our closest relatives a new approach, with different players including Police and Customs, may be needed. Areas within Indonesia with increased levels of autonomy such as Aceh Province and West Papua are urged to develop additional ways of protection their wildlife and curbing wildlife trade, if not independent from Jakarta then at least with a greater level of autonomy.

Increase integration of land-use planning with wildlife protection

Trade in orang-utans, Siamangs, gibbons indeed a large range of other wildlife largely occurs as a direct consequence of habitat reduction due to logging, land conversion, encroachment, and forest fires (including arson). Addressing wildlife trade in isolation from this process is futile. Increasing the protection of gibbons and orang-utans throughout western Indonesia by reducing trade can only be achieved when this occurs concurrently with an increase in the protection of the remaining forest. As such, there should be a drastic increase in active protection of forest areas, be it areas that are legally gazetted as conservation areas or forest areas that are outside the protected area network. Gazettement must be actively enforced by the respective authorities and executing bodies of the Indonesian Government in conjunction with the land concession holders. Active patrolling of protected areas should be made a top priority.

Forest areas with significant populations of orang-utans and gibbons continue to be converted to other land-uses, including oil palm plantations, under permits endorsed by either the national government or, increasingly, by regional governments. Given that large areas of ‘wasteland’ are found in Kalimantan and Sumatra, there is no reason to convert prime orang-utan and gibbon habitat to any form of plantation (*Hutan Tanaman Industri* or *Perkebunan*). As such, TRAFFIC recommends the Indonesian government to follow up on its pledges to preserve biodiversity, and subsequently introduce a moratorium on the conversion of primary forest to any other land-uses (as indeed has been introduced in Aceh and that has been agreed upon at the provincial level in Sumatra at the provincial level). Plantations of any kind should only be allowed to be established in non-forested areas. As indicated by President Susilo Bambang Yodhoyono (see first page of this report) at the launch of the Indonesian Orang-utan Conservation Action Plan and Strategy for 2007-2017 (Soehartono *et al.*, 2007), for the conservation of orang-utans (and by extension other forest-dependent species such as gibbons) it is vital that the forest it lives in is saved.

Given the intrinsic links between logging of forest areas and the trade in orang-utans and gibbons it is imperative that, especially illegal logging, be it inside or outside the protected area network, is halted. As discussed in some detail in Rosen *et al.* (2001) and Rosen and Byers (2002) tree spiking may be an effective tool in curbing illegal logging. Illegal logging inside protected areas can be tackled by either an increase in the number of patrols and an increase in effectiveness of patrols, and a subsequent increase in effectiveness in the prosecution of offenders, or by more physical protection of the forest itself. As the law

already prohibits logging in these areas, and provided that it is condoned by the authorities, the insertion of metal, concrete or ceramic spikes into commercially valuable trees might be an effective means to protect the forest. If implemented only in formally protected areas (National Parks, Strict Nature Reserves, and other types of protected areas), and backed by the authorities, tree spiking has the potential to be one of the most effective methods of combating illegal logging on a local scale. Experiences from the Sungai Wain Protection Forest in East Kalimantan (where a small population of reintroduced orang-utans can be found), and where the local government has issued a decree that all commercially valuable trees in the outer part of the reserve needed to be spiked, are very promising. Combined with an intensive campaign explaining the need for tree-spiking, sign-posting the fact that trees were indeed spiked, within a matter of a few months, logging came to a complete halt. With respect to the conservation of orang-utans, Siamangs and gibbons in the Leuser Ecosystem (including the Gunung Leuser National Park), if the construction of the Ladia Galaska road system that will dissect the reserve is indeed implemented, tree spiking of all trees within easy reach of loggers in the forest bordering the road may greatly reduce the impact the road will have on the populations of the threatened apes. It needs to be understood that tree-spiking in this context has a complete different meaning than it has in North America and Australia, where it is primarily a means to prevent logging of trees in concessions where it is legal to log. TRAFFIC urges conservation NGOs and local authorities as well as the central government to seriously consider exploring the possibilities of forest protection in this way, including exploring means as how to reduce any adverse effects of the method.

Awareness and education and the role of non-government agencies

Orang-utans and gibbons have been legally protected for over 75 years, and over the years, enough attention has been given to communicating this message, and lack of knowledge on whether or not these species are indeed protected cannot be an excuse for the persistent trade in species such as gibbons or orang-utans. Significant reductions in the incidence of hunting and capture of orang-utans and gibbons from the wild populations in western Indonesia can be assisted by recognised education programs to make people (especially those living around gibbon and orang-utan habitat) aware of the protected status of the wildlife in their immediate surroundings. Efforts over previous decades to control people from purchasing and keeping wild-caught gibbons and orang-utans have largely proved to be ineffective. It needs to be communicated clearly that keeping protected species as pets is not an option, and this is best achieved by a bold and innovative approach. Offenders who break wildlife laws, and especially those that violate these laws with respect to orang-utans or gibbons, should be brought to justice, and whether or not this is successful or not, needs to be publicised. The law-enforcement hierarchy needs to persuade officials to prosecute and convict offenders. Due attention needs to be given towards devising incentives for law enforcers to carry out their duties with greater efficiency.

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Zhi, L., Karesh, W.B., Janczewski, D.N., Frazier Taylor, H., Sajuthi, D., Gombek, F., Andau, M., Martenson, J.S. and O'Brien S.J.. (1996) Genomic differentiation among natural populations of orang-utan (*Pongo pygmaeus*). *Current Biology* 6 (10): 1326-1336.

Appendix I – Abstracts from Indonesian Action Plans for Orang-utans and Gibbons

Tilson, R., Seal, U. S., Soemara, K., Ramono, W., Sumardja, E., Ponirin, S., van Schaik, C. P., Leighton, M., Rijksen, H. D. and Eudey, A. (1993). *Orang-utan population and habitat viability analysis report*. Conservation Breeding Specialist Group (SSC/IUCN), Apple Valley, MN.

In the analysis trade was not considered separate from other threats, and few details pertaining to trade were mentioned: “Loss due to hunting and/or pet trade was not addressed at the workshop, but the fact that there are several hundred confiscated orang-utans in Indonesia, and several hundred more living in Taiwan, suggests that wild orang-utans have been captured for the pet trade at some time in the past. [] Although past levels of removal are unknown, it is believed that it has greatly diminished in recent years.” With reference to Sumatran Orang-utans, Tilson *et al.* (1993) state: “Although poaching of orang-utans is considered limited in Sumatra, it is recommended that regular monitoring should be performed to identify and confiscate illegal captive animals.”

Yeager, C.P. (ed.) (1999). *Orang-utan action plan*. PHPA, WWF and CERC, Jakarta.

Results for Sumatra and Borneo were not presented separately; statements on trade specifically were sparse and could refer either to the situation in Sumatra and / or Borneo: “Illegal hunting for food, sport, or to obtain infants for the wild animal trade, are contribute to increased risk for adult females. Adult females are found at higher densities than adult males, and thus are more likely targets for hunters. In addition, adult females are typically killed if the infant is captured for trade. Loss due to hunting and / or the pet trade may be sizeable. Recent reports [] indicate an increase in poaching”.

Supriatna, J., Manansang, J., Tumbelaka, L., Andayani, N., Indrawan, M., Darmawan, L., Leksono, S. M., Djuwantoko, Seal, U. and Byers, O. (2001). *Conservation Assessment and Management Plan to the Primates of Indonesia: final report*. Conservation Breeding Specialist Group (SSC/IUCN), Apple Vally, MN.

The CAMP report gives species overviews, listing amongst others the threats to the different species. They list habitat loss, habitat fragmentation, fire, genetic problems, and climate chance as threats to the Sumatran Orang-utan, only habitat loss and habitat fragmentation are perceived as threats to Agile Gibbons and Siamangs, and only habitat loss is listed as a threat to Kloss’ and Lar Gibbons. Furthermore it is interesting to note what is not perceived as a threat to the apes of Sumatra: the establishment of plantations or droughts were not perceived as problems, neither is hunting or trade is listed as a threat (it is listed as a threat for Bornean Orang-utans, three species of langur and ten species of tarsier): no reason is given why it is not perceived as a threat for Sumatran Orang-utans. Further on in the report (p 243) it was recommended, however, to ‘investigate and reduce Sumatran primate related trades especially for the threatened species i.e. orang-utans and siamang’ suggesting that trade is perceived as a threat.

Rosen, N., Russon, A., and Byers, O. (2001). *Orang-utan reintroduction and protection workshop*. IUCN/SSC Conservation Breeding Specialist Group, Apple Valley, MN.

The workshop proceedings present a wealth of data on the pros and cons and intricacies of reintroduction of orang-utans, including veterinary aspects. Trade is mentioned throughout the different sections; for each orang-utan forest area the threat that trade poses to the local population was assessed on a scale from 1 to 5, with 1 indicating that it is a small problem. Of the five Sumatran populations listed, the level of threat trade poses was indicated for one (Leuser Ecosystem), with question marks for three others (North Aceh, Batang Toru, Tapanuli Tengah) indicating lack of knowledge on the level of threat trade poses to these populations. It was identified that CITES and other international treaties were not always used as effectively as possible to combat illegal activities, although this seems to refer mostly to trade in timber and not so much the trade in orang-utans per se.

Rosen, N. and Byers, O.(2002). *Orang-utan Conservation and Reintroduction Workshop: Final Report*. IUCN/SSC Conservation Breeding Specialist Group, Apple Valley, MN.

It was recognised that despite international awareness campaigns, there is still a need to continue and step up exposure of the plight of the orang-utan, focusing attention on habitat loss and eco-labelling of tropical hardwoods. At the same time it was noted that the issue of the pet trade should not be ignored. Prosecution, development and enforcement of protection laws were recognised as vital, as this may enlighten countries about the problems caused by the illegal orang-utan and timber trade. Recognising that there is much anecdotal evidence on the lack of prosecutions and judicial law enforcement in relation to illegal logging and orang-utan confiscations, compilation of detailed factual information would support efforts to identify problems and strengthen enforcement. It was recommended that systematic independent research (NGO or academic) should be conducted to learn the facts and figures about the current status of the legal system. Specifically, independent systematic research should be directed into, amongst others, the following: (a) the number of orang-utan confiscations / arrests of illegal loggers leading to prosecutions; (b) the nature of fines and penalties imposed by different courts in different districts in relation to confiscations / illegal logging; (c) the extent and location of the orang-utan pet and bush meat trade (opinions differ strongly as to the extent of such a trade).

Singleton, I., Wich, S., Husson, S., Stephens, S., Utami Atmoko, S., Leighton, M., Rosen, N., Traylor-Holzer, K., Lacy, R. and Byers, O. (2004). *Orang-utan population and habitat viability assessment: Final report*. IUCN/SSC Conservation Breeding Specialist Group, Apple Valley, MN.

Throughout the report it was stressed that habitat loss is the main threat to the species. Low levels of hunting were included into VORTEX model as to assess the effect of hunting: “With the best natural mortality, a removal due to hunting of 1% of the orang-utans per year does not cause population extinction but does lead to depressed population size, while even this low level of hunting can cause declines to extinction if natural mortality is at the levels estimated for less than optimal habitat. Higher rates of hunting are unsustainable even under the best assumption for natural mortality. The current numbers of orang-utans estimated to be removed annually by capture for the pet trade or killed to obtain infants as pets is much higher than the rates that would be sustainable. Additional killings of orang-utans for food or other purposes would further accelerate decline”. Some of the recommendations focusing on policing, law

enforcement and protection, were to increase the effectiveness of environmental lawyers to develop cases and coordinate these (by employing an environmental law expert in each of the priority areas to ensure that cases are carried as far as possible in the court cases) and since illegal logs and orang-utans are marketed through a limited number of ports, it was deemed necessary to ensure that relevant government bodies carry out patrols at these ports.

Nijman, V. (2005a) *In Full Swing. An assessment of trade in orang-utans and gibbons on Java and Bali, Indonesia*. TRAFFIC Southeast Asia, Petaling Jaya, and Nijman, V. (2005b) *Hanging in the balance. An assessment of trade in orang-utans and gibbons on Kalimantan, Indonesia*. TRAFFIC Southeast Asia, Petaling Jaya.

These reports present a compilation of the extent of trade in gibbons and orang-utans in Java, Bali and Kalimantan, based on data from 35 animal markets, 5 wildlife rescue centres, 4 rehabilitation centres and 15 zoological gardens, presenting data on 553 *Hylobates* gibbons, 142 Siamangs and 1706 orang-utans. It found trade to be widespread and concluded that despite considerable efforts by the government and by NGOs, and substantial financial investment to conservation of orang-utan and gibbons, there are no indications that the past 15 years have seen a decrease in trade in gibbons and orang-utans. This in part results from a serious lack of co-operation between government planning agencies and the forestry departments with respect to the protection of wildlife. Large forest areas, with significant large populations of orang-utans and gibbons are continuously being converted to cash-crop plantations or are being clear-felled, leading to large numbers of gibbons and orang-utans to die or to end up in trade. Law enforcement with respect to orang-utans and gibbons is failing at different levels. Prosecution of those that violate wildlife conservation laws is absent, and despite hundreds of orang-utans and gibbons being confiscated over the past decade not a single person has been prosecuted. Government authorities do not appear to consider trade in orang-utans and gibbons to be a problem; perceived levels of trade are low and the offence is not considered serious enough to warrant punishment.

Foad, N., Elliott, W., Ziegler, S. and Nijman, V. (2005). *WWF's Species Action Plan for the conservation of orang-utans (Pongo pygmaeus and Pongo abelii) in the wild*. WWF, UK

Due to the extremely low tolerance for non-natural mortality combined with increasing rates of hunting and/or live removal, poaching and illegal trade of orang-utans was recognized as the second most significant threat to the survival of orang-utans after habitat loss. It was stated that “An additional threat to orang-utan conservation which became evident in the middle of the 20th century is the removal of live animals from the wild for either the pet industry, or the entertainment and tourism industry. Performing orang-utans are very popular in Southeast Asia, and the physical similarities between baby orang-utans and human babies increases their appeal as pets. Former key trade destinations for live orang-utans such as Taiwan were closed in the 1990s. However, new markets such as Thailand and Indonesia, have emerged more recently and their demand for live orang-utans poses a constant threat to the survival of this species. This industry is especially damaging to wild orang-utan populations as the mortality is focussed on adult females.”

The Species Action Plan's second of three targets was ‘Poaching and trade is no longer a threat to orang-utan populations by 2015’, and this was to be achieved by amongst others (1) establishing trade dynamics

and identifying trade hotspots across orang-utan range, (2) increase enforcement in trade hotspots by 2008, (3) reducing demand for live orang-utan trade by 2009 and (4) a 75% reduction in trade in live orang-utans by 2010

Virtue, M. and Sellar, J. M. (2006). CITES/GRASP Orang-utan Technical Mission Indonesia. CITES and GRASP, Gland, Switzerland

Based on conversations with those involved in monitoring trade or rehabilitation of orang-utans, and government officials, the team found that as a by-product of poaching for meat and conflict killings, live orang-utans are illegally captured for trade. The limited time-span of the orang-utan as a pet will presumably lead to the requirement to replace one animal with another; creating a vicious circle of illegal activities.

The mission team was unable to determine how many juveniles will simply be retained as pets by those engaged in poaching or those who kill 'problem animals' and how many will subsequently enter into the illicit trade chain for more commercial purposes. It is also not clear how many poaching or illegal killing incidents are opportunistic or are conducted deliberately with financial gain as the main motivation. Aside from the orang-utans that are kept as 'pets', there also seem to be significant numbers of animals that are possessed as status symbols. Not only does such possession indicate social status or wealth on the part of the 'owner' but the mission team was often told that possession is sometimes for the purpose of demonstrating that the 'owner' was above the law and 'untouchable'.

There are several examples of orang-utans, many thought to be of Indonesian origin, being discovered in countries elsewhere in the world; where their legal possession and import in compliance with CITES is highly questionable. It was recognized that some of the detections of illegal possession, trade and import that have been made outside Indonesia concern significant numbers of orang-utans, indicating something of an organized structure to the harvesting, collection, trading and smuggling that would be required to meet such demand.

The figure that would consequently result from even a rough estimation of orang-utans affected by criminal activities speaks volumes of a serious failure by the Indonesian government to protect and conserve this species. The numbers indicate: (1) that illegal activities directed at orang-utans must be at levels which current population numbers cannot sustain; (2) that significant numbers of the public, especially those living in or close to orang-utan habitat, do not regard this species as threatened or endangered and, thus, do not respect or value the animal; (3) that current efforts to protect orang-utans and prevent poaching and illegal trade are not effective; and (4) that there is currently no effective policy or practice in place to deter criminal activities directed at orang-utans.

The mission team was unable to reach any conclusion other than that the protection of orang-utans in Indonesia is significantly inadequate. The team believes that the situation is so serious that the CITES Secretariat would be justified in invoking the relevant processes under Article XIII of the Convention¹.

¹ Consistent with Article XIII of the Convention measures to restore compliance can include temporary suspension of commercial or all trade in specimens of one or more CITES-listed species. A recommendation to suspend trade should be made in cases where a Party's non-compliance is persistent and the Party is showing no will or intention to cooperate towards compliance where it is determined that such persistence is wilful or is the result of manifest negligence and it is determined that this persistent non-compliance is likely to be detrimental to the survival of one or more CITES listed species.

Whilst the information obtained by the mission team may not be sufficient to demonstrate that there are serious shortcomings with regard to implementation of CITES by Indonesia (although according to the mission team its export controls seem highly questionable), it appears that orang-utans are being adversely affected by trade (both domestic and international illicit trade).

Ellis, S., Singleton, I., Andayani, N., Taylor-Holzer, K. and Supriatna, J. (2006). *Sumatran orang-utan conservation action plan*. Conservation International, Washington and Jakarta.

The consensus was that it appeared that hunting and the trade of orang-utans in northern Sumatra occurs at relatively low levels. At the same time it was recognized that “there is a black market that trades orang-utans both domestically and internationally”. The trade is thought to be especially common in Aceh Tenggara regency but also exists throughout the rest of the region. Hunters can be found among the military and police personnel, and local communities. There is additional hunting and killing of orang-utans when plantations are created, largely because orang-utans in plantations are considered pests. Creditors often state to the industry that the area must be free of pests and disease as a condition for loans.

The military and police are often implicated in hunting, either hunting the animals themselves or confiscating them from citizens – with the end result being the same, either that they keep them for themselves or trade them. Numerous examples exist of orang-utans being confiscated from military or police personnel and of Military or Brimob vehicles transporting orang-utans out of the region. Most orang-utan killings occur along the forest edges, as orang-utan resident in the area are found raiding crops in gardens that were formerly part of their forested home range. As a result they are often shot (as with any crop pest) and if infants survive the ordeal, they are then traded, given away, or ‘taken’ by military or police personnel (who then keep them as pets).

A relatively small number of orang-utans from Sumatra have been smuggled overseas in recent years in the dozens as opposed to the hundreds of animals from Borneo.

Nellemann, C., Miles, L., Kaltenborn, B. P., Virtue, M., and Ahlenius, H. 2007. *The last stand of the orang-utan – State of emergency: Illegal logging, fire and palm oil in Indonesia’s national parks*. United Nations Environment Programme, Arendal, Norway

Despite the mentioning of orang-utans in the title of the report, much of it dealt with illegal logging, and rain forest loss. A section in the report was dedicated to the illegal international trade in live orang-utans. It was recognised that the illegal international trade in orang-utans is a by-product of forest clearing and the timber trade. Information from the CITES/GRASP Orang-utan Technical Mission (Virtue and Sellers, 2006) were summarised, as well as the signing of the Kinshasa Declaration by Indonesia was highlighted. Most of the information on trade, and how to tackle it, was linked to the trade in illegally felled timber.

Soehartono T, Susilo HD, Andayani N, Atmoko SSU, Sihite J, Saleh C, Sutrisno A (2007). *Strategi dan rencana aksi konservasi Orang-utan Indonesia 2007-2017*. Direktorat Jenderal Perlindungan Hutan dan Konservasi Alam, Departemen Kehutanan, Jakarta.

The Ministry of Forestry, in their Strategic Plan 2005-2009 (Soehartono *et al.*, 2006) set out to achieve five priority policies following the Decision of Minister of Forestry No. SK.456/Menhut-VII/2004. This included combating illegal logging within the state forests and its illegal trade, and conservation and rehabilitation of forest resources but curbing illegal wildlife trade was not identified as one of the priorities. An increase in law enforcement efforts to stop hunting and trade in orang-utans and to halt the destruction of orang-utan habitat was deemed of the highest priority, with the Ministry for Forestry, regional governments, NGOs, the police and the judiciary listed as the implementing agencies. Under the section dealing with the curbing the illegal trade in orang-utans it was recognised that law enforcement towards the hunting, keeping as pets and the trade in orang-utans had increased since the 1990s, but it was noted that improvement in the legislation to increase law enforcement in order to stop the hunting of and curb the trade in orang-utans is still needed. In order for law enforcement to be effective, it was recognised that the law enforcement agencies needed an increase in capacity as well as an increase in understanding of the relevant laws. Cases of orang-utans being hunted or orang-utans being traded need to be brought to court and high punishments are needed.

Campbell, C., Andayani, N., Cheyne, S., Pamungkas, J., Manullang, B., Usman, F., Wedana, M. and Taylor-Holzer, K. (2008). *Indonesian Gibbon Conservation and Management Workshop Final Report*. IUCN/SSC Conservation Breeding Specialist Group, Apple Valley, MN.

Habitat loss (including land conversion and construction of new roads) and harvesting (for gifts, pet trade or bushmeat) were identified as some of the major threats affecting gibbons in Sumatra. Kloss' Gibbons in Mentawai were recognised as facing a special challenge due to their isolation and vulnerability. For the Siamang hunting for traditional medicine was recognised by the group as a threat. With respect to the trade in gibbons, recommended actions for Sumatra included the cessation of hunting and trade by (i) strengthen effective law enforcement, (ii) improve monitoring and management of hunting activities, (iii) strengthen legal culture (compliance), (iv) work collaboratively with the media, and, for the Kloss' Gibbon, (v) promote capacity building of the local culture/wisdom (under the assumption that the local people traditionally did not hunt gibbons). The section dealing with ex-situ conservation specifically mentioned not only to address captive management issues but also issues affecting the flow of gibbons into captivity (pet trade) and their potential release back to the wild.

Soehartono T. et al. (2008) *Orang-utan Strategic Plan - Improving law enforcement for the poaching, trade, and habitat destruction of Orang-utan, 2008 – 2017*. Ministry of Forestry, Indonesia

Priority I

Illegal trade of orang-utan - Law enforcement of the poaching, keeping and trade of Orang-utans has increased since the 1990s. Regulations need to be corrected to improve law enforcement to put an end to the poaching and trade of Orang-utans. Capacity building and increasing the understanding of law enforcement officers of relevant regulations to protect Orang-utans must be done to improve law enforcement. Cases of orang-utan poaching and trade must be brought to court and processed effectively with the most severe sentence.

TRAFFIC, the wildlife trade monitoring network, works to ensure that trade in wild plants and animals is not a threat to the conservation of nature. It has offices covering most parts of the world and works in close co-operation with the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

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