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RAPID RESPONSE ASSESSMENT

THE LAST STAND OF THE ORANGUTAN

STATE OF EMERGENCY: ILLEGAL LOGGING, FIRE AND PALM OIL IN INDONESIA'S NATIONAL PARKS

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Christian Nellemann *(Editor in Chief)*
Lera Miles
Bjørn P. Kaltenborn
Melanie Virtue
and Hugo Ahlenius

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PREFACE

Globalization and international trade are generating wealth on an unprecedented scale and lifting millions out of poverty. However, the growth of global markets is also putting pressure on the Earth's ecosystems or natural assets that in many ways are the foundation of wealth creation in the first place.

The planet's tropical forests are some of these extraordinary and economically important assets – ecosystems playing a vital role in moderating the atmosphere, sequestrating greenhouse gases, delivering watershed management and are home to a rich and biologically important array of plants and animals.

This UNEP Rapid Response report, carried out on behalf of the UN-led Great Ape Survival Project, has used the latest satellite imagery and data from the Government of Indonesia to assess changes in the forests in one part of south-east Asia.

The results indicate that illegal logging, fires and plantations of crops such as palm oil are now intruding extensively into Indonesia's national parks which, for example, are the last safe-holds of the orangutan.

In the past five years more than 90% of over 40 parks have now been impacted putting at risk national and regional attempts to meet the 2010 biodiversity target. The driving forces are not impoverished farmers, but what appears to be well-organized companies with heavy machinery and strong international links to the global markets.

UNEP applauds the Indonesian government's new initiative focusing on new and specially trained ranger units to win back the national parks. It is starting to show some promising results with illegal logging halted in two parks in 2006. But the authorities need more assistance. National parks represent a common heritage and their protection and enforcement is essential in international conservation. UNEP therefore hopes to work even more closely with Indonesia's government in the coming years and support them in this vital work that may hold promise for other nations too.

Achim Steiner
Executive Director
United Nations Environment Programme

SUMMARY

Orangutans are native to Indonesia and Malaysia. Their survival is seriously endangered by illegal logging, forest fires including those associated with the rapid spread of oil palm plantations, illegal hunting and trade. In the last few years, timber companies have increasingly entered the last strongholds of orangutans in Indonesia: the national parks. Official Indonesian data reveal that illegal logging has recently taken place in 37 of 41 surveyed national parks in Indonesia, some also seriously affected by mining and oil palm plantation development. Satellite imagery from 2006 document beyond any doubt that protected areas important for orangutans are being deforested. The use of bribery or armed force by logging companies is commonly reported, and park rangers have insufficient numbers, arms, equipment and training to cope.

If current logging trends continue, most of Indonesia's national parks are likely to be severely damaged within the next decade, because they are amongst the last areas to hold valuable timber in commercially viable amounts. The situation is now acute for both the Bornean orangutan and Sumatran orangutan. These species are classed as Endangered and Critically Endangered respectively by the World Conservation Union (IUCN), and are listed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The rapid rate of removal of food trees, killing of orangutans displaced by logging and plantation development, and fragmentation of remaining intact forest constitutes a conservation emergency. More than one thousand orangutans are living in rescue centres in Borneo alone, with uncertain chances of ever returning to the wild.

A series of international and national initiatives have been developed to address illegal logging. However, it is evident that Asian, European and North American markets are still major recipients of illegally logged wood products, which often change ownership and recorded country-of-origin multiple times during transport. An estimated 73–88% of all timber logged in Indonesia is illegal. Less than 20% is smuggled out as logs, and the remaining wood is processed in saw, paper or pulp mills and later exported. These mills have a capacity of two to five times greater than the legal supply of timber.

This assessment, based on a series of independent studies, shows that the disastrous situation in Indonesia's forests is driven mainly by international markets and well-organised timber supply networks. This pattern is also seen in other tropical areas including Latin America and Africa. If the immediate crisis in securing the future survival of the orangutan and the protection of national parks is not resolved, very few wild orangutans will be left within two decades. A scenario released by UNEP in 2002 suggested that most natural rainforest in Indonesia would be degraded by 2032. Given the rate of deforestation in the past five years, and recent widespread investment in oil palm plantations and biodiesel refineries, this may have been optimistic. New estimates suggest that 98% of the forest may be destroyed by 2022, the lowland forest much sooner. Since mature forest is being lost from large areas, the supply of timber will decline further. This means that the incentive to log protected areas will grow. The rate and extent of illegal logging in national parks may, if unchallenged, endanger the entire concept of protected areas world wide. At current rates of intrusion into national parks, it is likely that many protected areas will already be severely degraded in three to five years, that is by 2012.

Indonesia has worked extensively with other countries to reduce illegal logging, but this objective requires the substantial support of the international community, including recipients of illegally logged timber. Efforts to introduce timber certification, and other work to reduce levels of illegal trade are critical, but most likely to have impacts over the long-term. The recent Indonesian initiative of better training and equipment of park rangers, including the development of Ranger Quick Response Units (SPORC – Satuan Khusus Polisi Kehutanan Reaksi Cepat) is therefore the most promising countermeasure, but requires substantial strengthening to deal with the scale of the immediate problem. Currently, 35 national parks have 2 155 ordinary field rangers to patrol an area of 108 000 km^2.

These rangers have little access to ground vehicles, helicopters, aeroplanes, communication, necessary arms or paramilitary long-range patrol training that would enable them to intercept and stop illegal intrusions at these scales. The training, sufficient arming and equipping of these rangers and SPORC units to locate, intercept, arrest and repel companies from protected areas appear to be among the most promising critical emergency responses. If such programmes are strengthened to become fully operational in the most threatened parks, they may serve as global role-models for the continued protection of national parks for biodiversity conservation.

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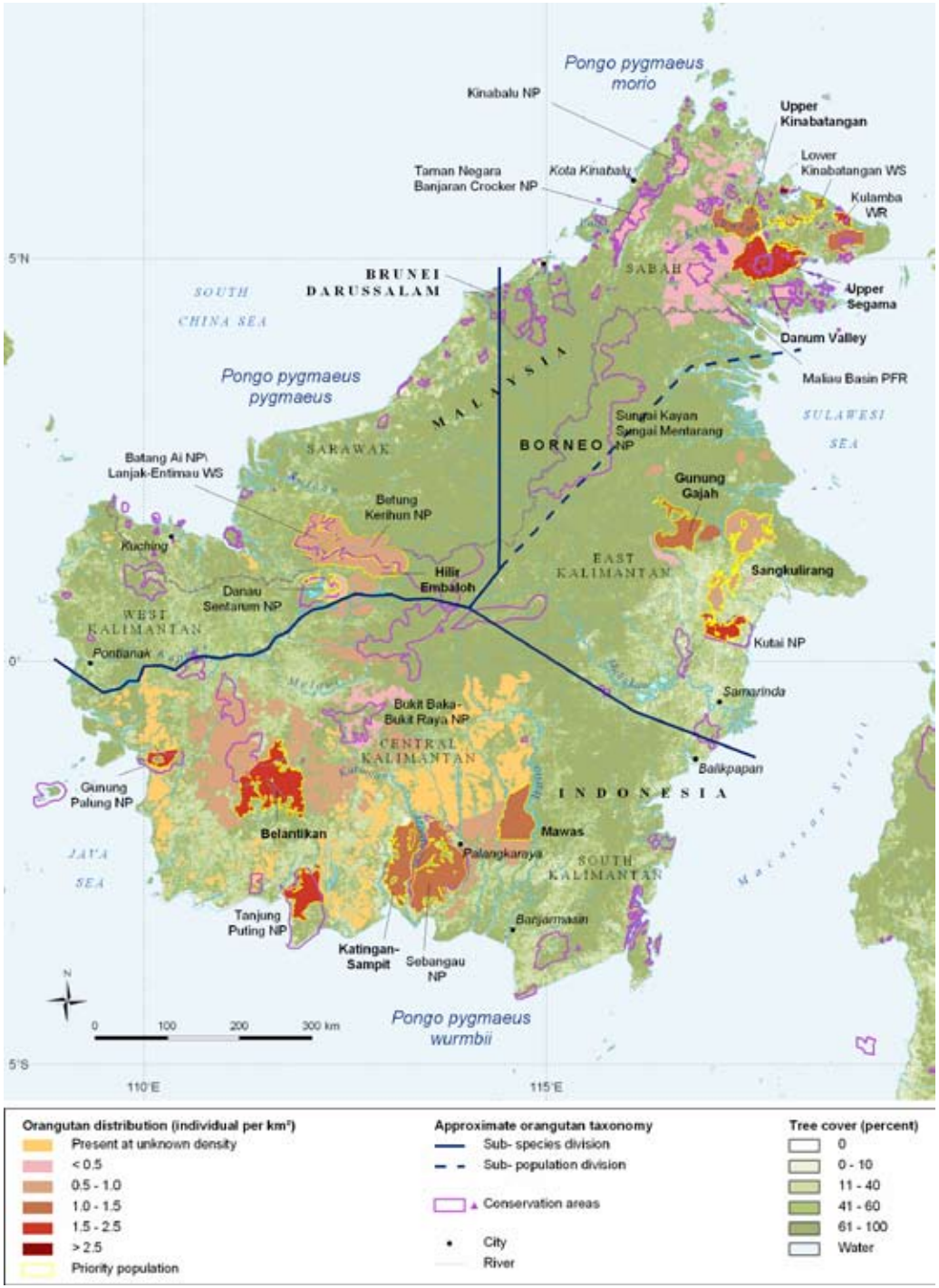

Figure 1: Bornean orangutan distribution, with priority populations highlighted. Reproduced from Caldecott & Miles (2005); updated with GRASP priority populations. Sources: Ancrenaz & Lackman-Ancrenaz (2004); Meijaard *et al.* (forthcoming); Meijaard *et al.* (2004); Singleton *et al.* (2004).

ORANGUTANS ON THE EDGE

Orangutans survive only in the dwindling tropical rainforests of Borneo and northern Sumatra, being dependent on the forest for food and nesting sites. Orangutan populations are seriously affected when their forest is destroyed or logged, not least because they are often killed for meat or to protect newly planted crops. For example, in the Sebangau swamp forests of central Borneo, orangutans fled from illegal logging operations, moving into less ideal habitat (Husson *et al.* 2002). The resulting overcrowding led to an increased death rate among young orangutans, and fewer births amongst females. When the forest started to regenerate, the orangutans were able to return. In Malaysia, the Kinabatangan Orangutan Conservation Project has studied the effects of the transformation wrought by logging on dipterocarp forests. The removal of most large trees means that the heavy adult male orangutans were forced to move along the ground, increasing their vulnerability, but on the other hand, the invasion of the logged forest by vines and pioneer species soon resulted in an increased abundance of fruit (Ancrenaz *et al.* 2005). If they are not killed in the process, orangutans in these habitats can survive selective logging. Evidence from Ketambe and Gunung Leuser in Sumatra suggests that the ability of these forests to support orangutans initially declines with selective logging, but can recover over time. Over Borneo and Sumatra as a whole, illegal logging has led to huge declines in orangutans and other wildlife. Where forests are converted to plantations of oil palm (*Elaeis guineensis*) or other crops, the consequences are even more serious, with many orangutans starving.

Like all great apes, orangutans have long lifetimes, long "childhoods" and relatively low reproductive rates, which makes it difficult for them to recover when large numbers are killed. Recent estimates suggest that there are 45 000 to 69 000 Bornean orangutans and only 7 300 Sumatran orangutans remaining in the wild (Caldecott & Miles 2005). The Bornean orangutan is classified as Endangered by IUCN (the World Conservation Union), indicating that it has a very high risk of extinction in the wild in the near future. There are at least three subspecies of Bornean orangutans: *Pongo pygmaeus pygmaeus* (northwest), *Pongo pygmaeus wurmbii* (central) and *Pongo pygmaeus morio* (northeast) (Figure 1). The central Bornean orangutan is the largest, followed by the northwest subspecies, and the northeast subspecies is the smallest.

Orangutan biology

Orangutans are intelligent, strong, large primates, and live a semi-solitary life in the trees. A balanced orangutan diet consists of fruits and seeds, but they are also able to eat foodstuffs such as bark, leaves and insects to survive in times of shortage. Fresh sleeping nests are built from branches and leaves almost every evening.

Sumatran orangutans (*Pongo abelii*) are only found in Indonesia, and Bornean orangutans (*Pongo pygmaeus*) only in Indonesia and Malaysia, with occasional males reported as wandering into Brunei Darussalam. The Bornean and Sumatran species have formed separate breeding populations for around one to two million years, differing in genetics, behaviour, diet, life history and morphology (MacKinnon *et al.* 1996; Delgado & van Schaik 2000, Wich *et al.* 2004; McConkey 2005; Wich *et al.* 2006a, b; Taylor 2006). Neither species is territorial, but fully developed adult males tend to avoid one another, and occasionally fight if they do meet.

The Sumatran orangutan is classified as Critically Endangered by IUCN, indicating that it has an extremely high risk of extinction in the wild in the near future. Since 1900, the number of Sumatran orangutans is thought to have fallen by about 91%, with a rapidly accelerating loss towards the end of the twentieth century (McConkey 2005). As a result of logging, infrastructure development, internal migration and plantation development, Sumatra's

forest area was reduced by 61% between 1985 and 1997. The remaining orangutan population is therefore fragmented, with the core of its range being the Leuser Ecosystem. This conservation area is itself recognised in Indonesian law, and contains the Gunung Leuser National Park, which forms part of the Tropical Rainforest Heritage of Sumatra World Heritage Site.

There is a serious need for conservation action on both islands, because even within these formally protected areas, orangutans are under pressure. Priority populations for conservation action (Figure 1, 2) have been identified by scientists working with the Great Apes Survival Project (GRASP). The goal is to retain viable populations of both orangutan species and all three Bornean subspecies in their natural habitats wherever they exist, conserving their genetic, cultural and ecological diversity.

Figure 2: Sumatran orangutan distribution, with priority populations highlighted. Reproduced from Caldecott & Miles (2005); updated with GRASP priority populations. Sources: Dadi & Riswan (2004); Singleton *et al.* (2004).

AN IRREPLACEABLE HABITAT

Orangutans share their forests with a wide range of other threatened and ecologically important species. The tropical rainforests of Borneo and Sumatra have a biological richness and diversity (Table 1) that reflects their unique history, climate and ecology. The most species-rich are the lowland dipterocarp forests, so named because of the predominance of trees from the Dipterocarpaceae family. These dipterocarp trees tend to fruit simultaneously, producing very large amounts of fruit at the same time every two to five years. In these "mast years", there is an abundance of food for seed-eaters, meaning that most of the seeds escape uneaten. Conversely, there is less fruit in other years, meaning that fruit-dependent animals such as orangutans need to occupy large ranges.

The peat swamp forests of Borneo and Sumatra have fewer endemic species than the dipterocarp forests, but they have a high density of fruiting trees, and do not have mast years which results in a more stable fruit supply, making them extremely important for orangutans.

Orangutans play a crucial role in the forests they inhabit: their diet of fruit and their mobility means that they are excellent seed dispersers. Orangutans are thus responsible in part for maintaining forested ecosystems that provide important environmental services to humanity, from water resources to climate regulation.

Table 1: Species richness and endemism in Sumatra (475 000 km^2) **and Borneo** (740 000 km^2).

Island	Birds	Mammals	Reptiles	Fresh-water fish	Selected plant taxa
Number of native species					
Sumatra	465	194	217	272	820
Borneo	420	210	254	368	900
Percentage of endemic species					
Sumatra	2	10	11	11	11
Borneo	6	48	24	38	33

Source: Kapos & Caldecott 2005.

Flagship species of the lowland rainforests of Sumatra and Borneo

There are no more than 400 to 500 **Sumatran tigers** left in the wild (Macdonald 2006). It is thought that orangutans travel in the treetops to avoid tigers. Like the Sumatran orangutan, the Sumatran tiger is Critically Endangered according to the IUCN Red List (Cat Specialist Group 1996). The Bali, Caspian and Javan subspecies of tiger have already been lost.

The **Sumatran rhinoceros** is the smallest, hairiest and probably most endangered of the five rhino species. This is a mountain rain forest rhino, which browses on woody vegetation and occasionally fruit. At most 300 individuals remain in the wild and their numbers are declining as a result of illegal hunting and habitat fragmentation.

The **Asian elephant** has a widespread distribution, but the two small, forest-dwelling subspecies found in Borneo and Sumatra are unique. Elephants come into conflict with humans when their forests are destroyed and they seek food in croplands. Sumatran elephants made the news in 2006, when at least seven elephant deaths were associated with new oil palm plantations. The Indonesian government responded in June 2006 with a commitment to increase the size of the Tesso Nilo National Park.

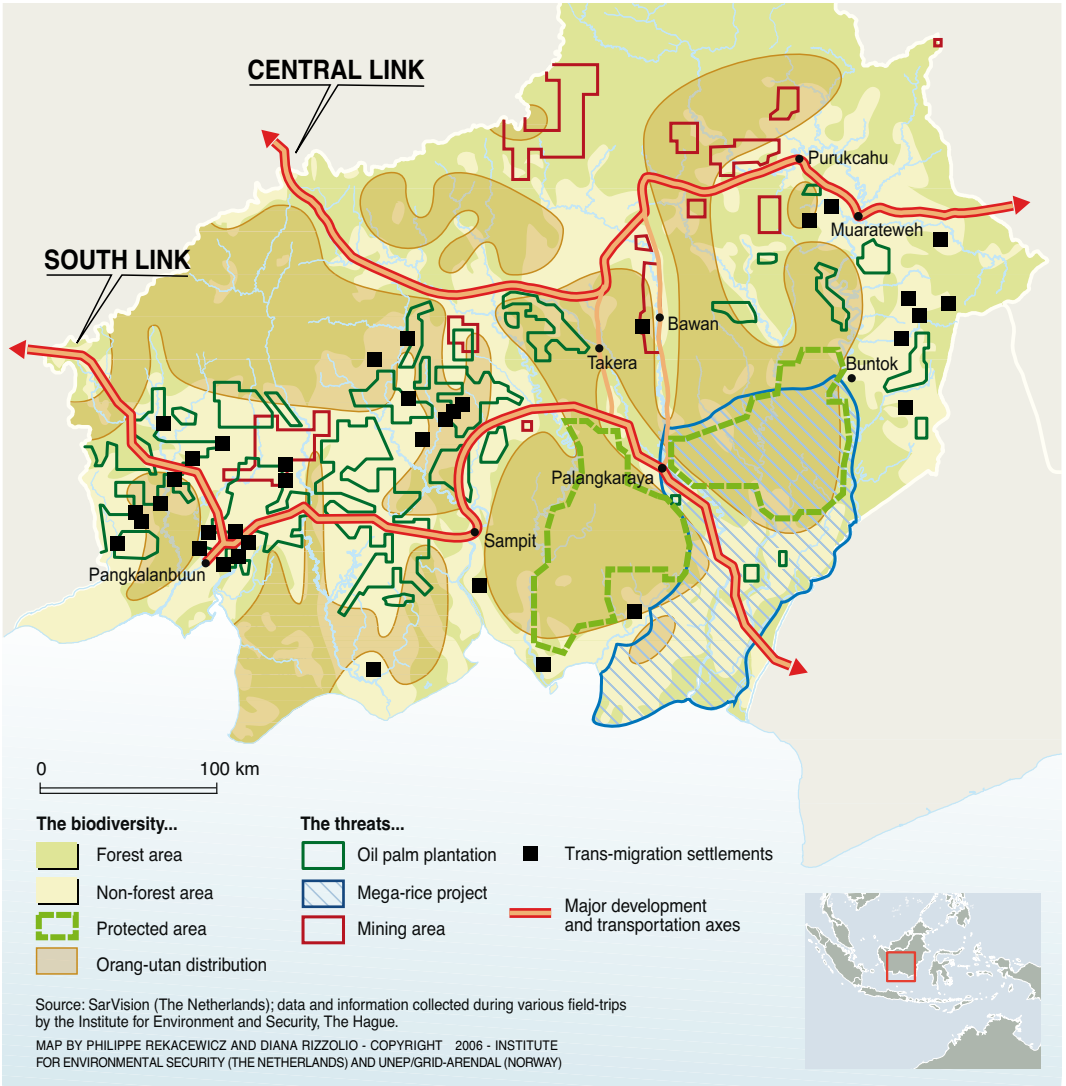

Figure 3: Loss of orangutan habitat resulting from logging, plantations, rice-fields and mining operations in southern Kalimantan. Note that this map does not show the Tanjung Puting National Park or Lamandau Nature Reserve. The illustration mainly serves to demonstrate how the range of pressures work together.

ORANGUTAN UPDATE: SITUATION DETERIORATING

To conserve the priority populations of orangutans identified as crucial for the species' survival, it is critical to tackle the loss of forest cover within their range. Indonesian forests are being destroyed or degraded by **(1)** illegal logging for timber, pulp, paper and plywood; **(2)** conversion to industrial timber and crop plantations, such as oil palm; **(3)** clearing for small-scale shifting cultivation; and **(4)** fire (Schroeder-Wildberg and Carius 2003). The trade in wood products and palm oil is largely conducted by multinational networks based in Asia, Europe and North America.

ILLEGAL LOGGING

Illegal logging includes "all forestry practices or activities connected with wood harvesting, processing and trade that do not conform to Indonesian law" (FWI/GFW 2003; Schroeder-Wildberg and Carius 2003). Illegal timber ranges from 73–88% of the total volume logged in 2003, by far the largest share of all logging in Indonesia (Schroeder-Wildberg and Carius 2003). Legal timber concessions can also be detrimental when granted in priority areas for biodiversity conservation, but illegal logging currently has far greater impacts.

Whilst the forestry sector is very important to the Indonesian economy, illegal logging is costing Indonesia at least 3 billion USD a year in lost revenues alone (Jakarta Post 2003). Officially exported wood products accounted for 6.6 billion USD in 2003, and unreported exports at least an additional 2.4 billion USD, suggesting that direct illegal export is at least 30% of the total export (Sizer 2005; White *et al.* 2006). A considerable share of this passes through Malaysia, whose mill capacity far exceeds its national wood production.

According to the Ministry of Forestry, legal timber supplies from natural forests declined from 17 million m³ in 1995 to less than eight million m³ in 2000, but logged timber estimated to be at least 70–80 million m³ (Schroeder-Wildberg and Carius, 2003). While several hundred logging concessions exist, the Indonesian government attempted to reduce legal as well as illegal logging in the late 1990s. In 2004, it even proposed a law that would punish convictions for illegal logging or the setting of fires by a minimum jail sentence of 12 years, or death in exceptional cases (McConkey *et al.* 2005).

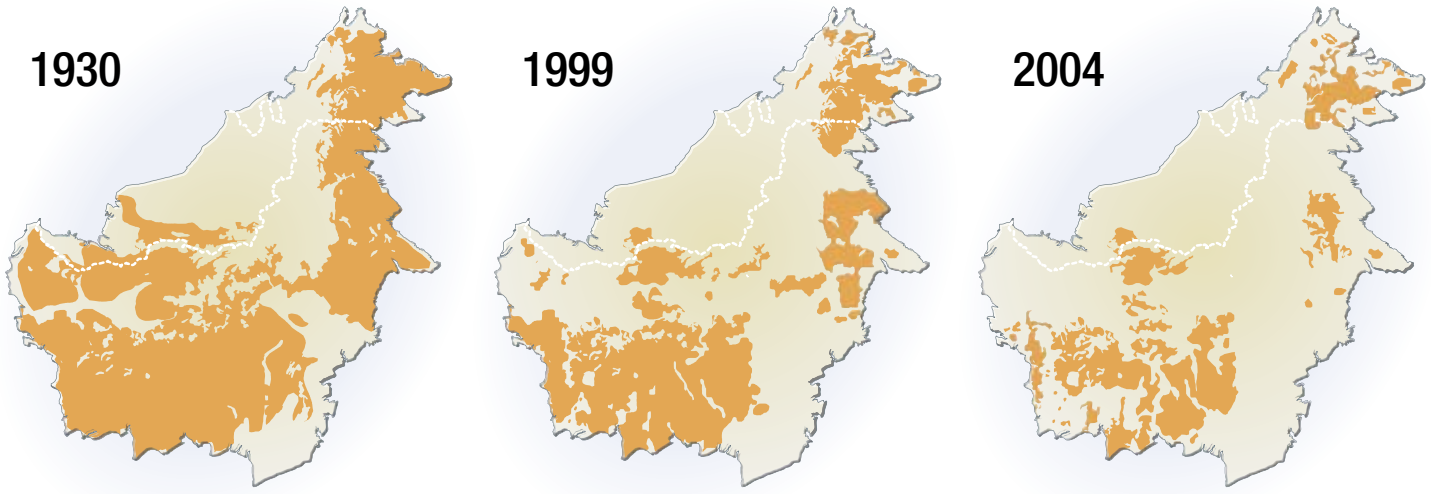

Figure 4: Changes in orangutan distributions 1930–2004. Source: WWF.

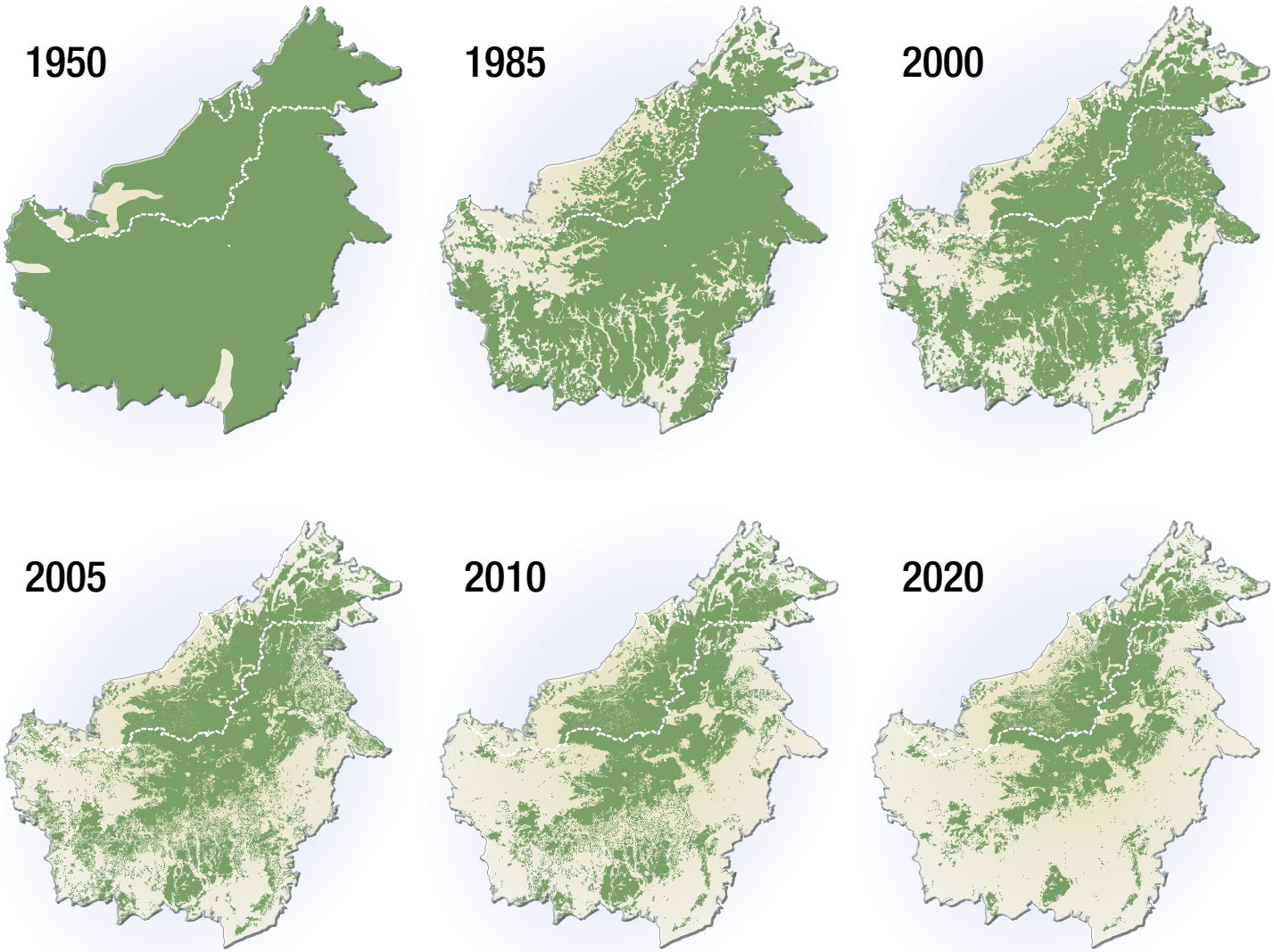

Figure 5: Extent of deforestation in Borneo 1900–2005, and projections towards 2020. Source: WWF.

ILLEGAL EXPLOITATION OF NATIONAL PARKS

Illegal logging occurs in 37 of the 41 national parks of Indonesia, but is most severe in Gunung Palung, Kutai, Danau Sentarum, Gunung Leuser and Tanjung Puting (Ministry of Forestry 2006b). Several of these parks host priority populations of orangutans and form part of the UNESCO World Network of Biosphere Reserves.

Satellite imagery confirms that in the worst cases, up to half the protected area has been exposed to heavy logging (Curran *et al.* 2004). Illegal mining is also a major threat in national parks. The miners frequently employ their own security companies and guards, which makes monitoring and enforcement difficult for rangers with very limited equipment, mandate and arms. Illegal hunting occurs in virtually all protected areas, but to varying degrees. It is highest in the areas with the fewest rangers. Projections for 2005–2010 from the Ministry of Forestry indicate that the situation will continue to deteriorate.

Assessing pressures and threats in National Parks

The WWF Rapid Assessment and Prioritization of Protected Area Management Methodology (Ervin 2003) was used at a 2004 workshop organised by the Ministry of Forestry to assess the pressures that have affected national parks over the last five years, and future threats to their integrity (Figure 7, 8). An index of Degree of Pressure (or Threat) was produced, with a scale of 1 to 64. The index multiplies scores for:

- the extent of the pressure (or threat...) over the national park, from (1) localized to (4) widespread;
- the impact of the pressure, from (1) mild to (4) severe;
- and the permanence of the pressure, from (1) <5 years to (4) permanent.

A value of 1 would indicate a short-term, mild, pressure affecting less than 5% of the national park. To be allocated a value of 64, the pressure must affect more than 50% of the park AND be severe in impact AND be permanent. Detailed guidelines are provided for allocating and analysing the scores (WWF 2003).

Ervin (2003). WWF: Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) Methodology. WWF, Gland, Switzerland.

Figure 6: Loss of critical orangutan forest in the Leuser Ecosystem, Sumatra from satellite (Landsat 1989 and ASTER 2006).

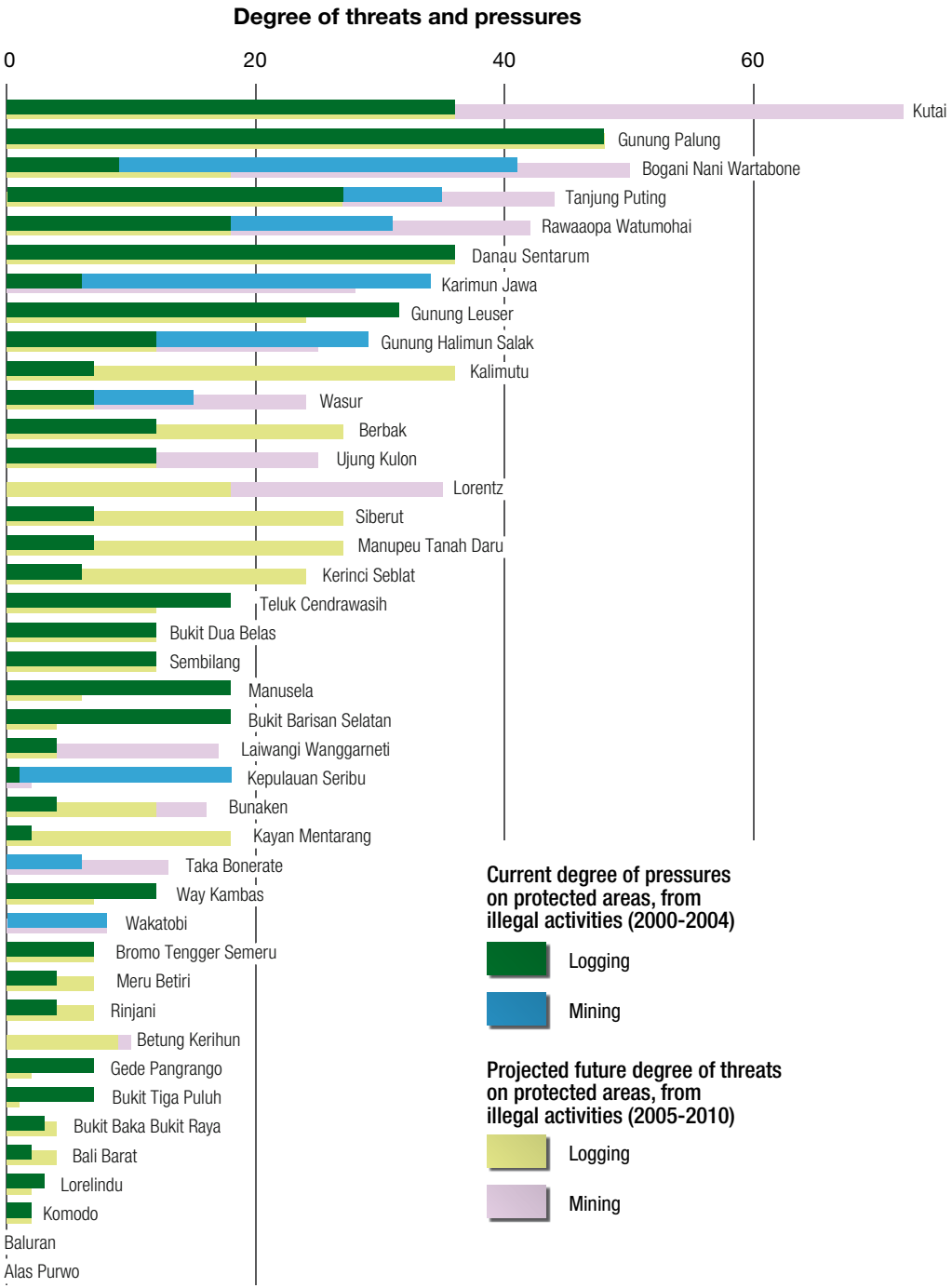

Figure 7: The extent of illegal logging and mining in national parks, Indonesia. Source: Ministry of Forestry (2006b).

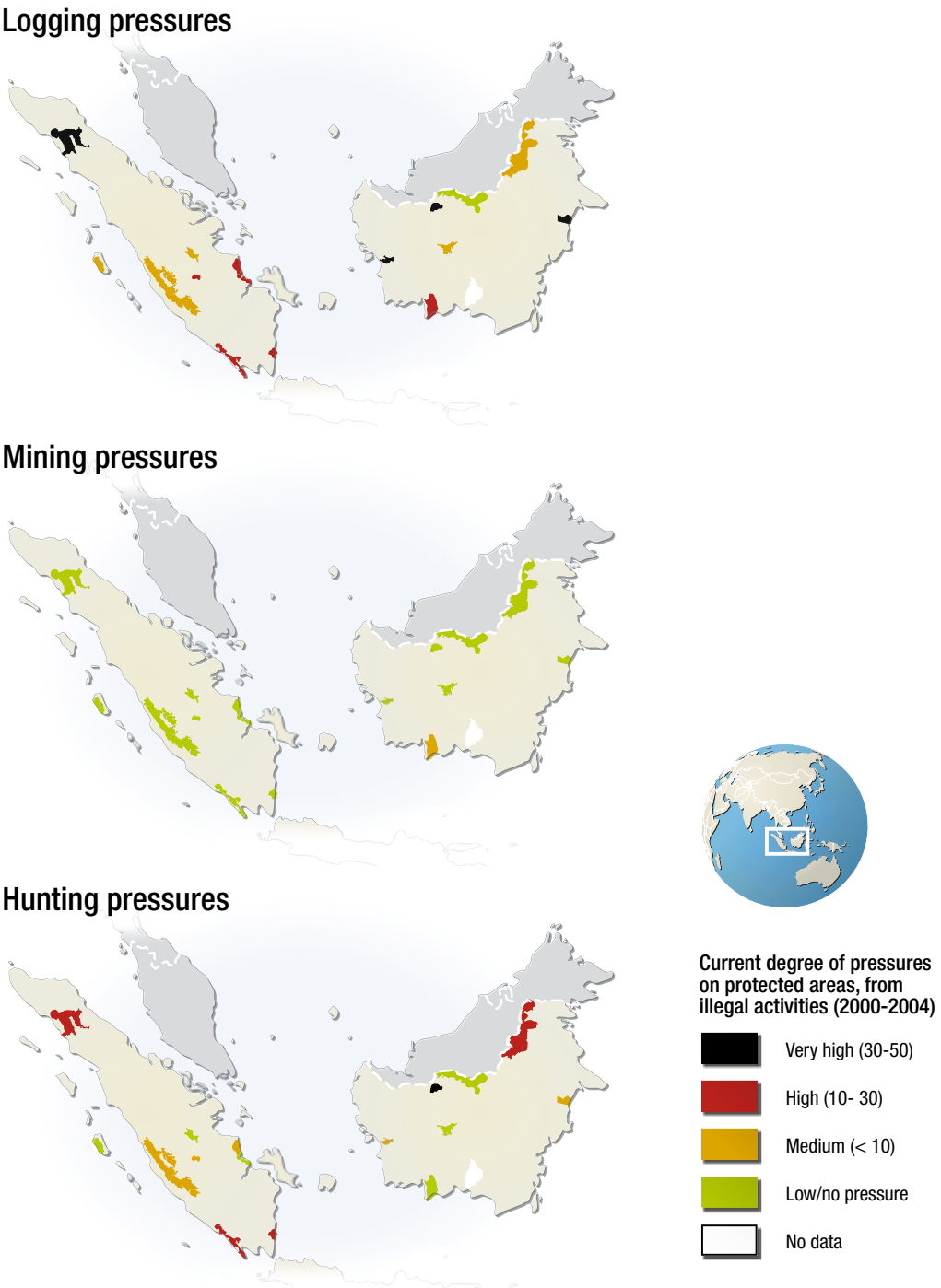

Figure 8: Illegal logging, mining and poaching in national parks. Source: Ministry of Forestry (2006b).

CASE STUDIES

After the fall of the Suharto regime in 1998, central management of protected areas was compromised. In the following few years, Tanjung Puting National Park was amongst those to suffer from illegal logging and mining. Logs were floated from the park down the Sekonyer River; the park offices in Kumai were destroyed; and rangers were unable to keep control. This exploitation was difficult to control until early 2003, the first 'Operasi Wanalaga' enforcement operation was carried out in the west of the park, involving police, military and forestry officers. Twenty-nine boats transporting around 20 000 m³ of illegal timber from the park were confiscated and over 35 km of logging rails and numerous logging camps were destroyed (EIA/Telapak 2003). Logging in the east of the park continues, and oil palm development within the park is also an issue.

Gunung Palung National Park contains highly diverse lowland forest, hosting 178 bird species and 72 mammal species (Curran *et al.* 2004). In 2003, after many years of gradual encroachment into the park (Figure 9), illegal loggers reached the research station – one of the last untouched areas deep within the park. Several illegal logging crews began actively cutting down trees, including many that had been continuously monitored for over 20 years. The illegal loggers posed an immediate threat to safety, so the Gunung Palung Orangutan Programme/Yayasan Palung (GPOPC) was forced to shut down operations.

Now, after intensive conservation efforts in the area by the GPOPC as well as other organizations and the intervention of the national government, a major percentage of Gunung Palung National Park has been cleared of illegal logging activities. It is now safe to return to the park and a consortium of national park stakeholders has developed an agreement for the re-opening and management of the park going forward and the research station will be re-built in mid-2007.

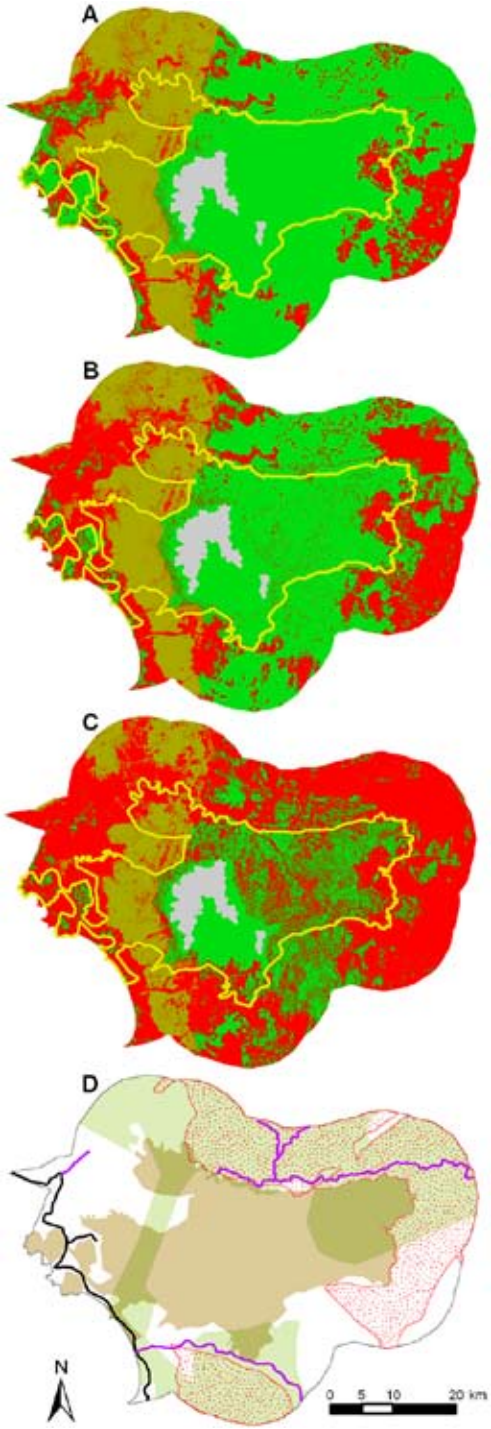

Figure 9: Cumulative forest loss within the Gunung Palung National Park boundary (yellow) and its surrounding 10 km buffer. Forest classifications are based on a Landsat Thematic Mapper time series are shown (1988 (A), 1994 (B), and 2002 (C). The well-defined degraded forest area that appears northeast of GPNP in (B) has been clear-felled for an oil palm plantation. (D) Industrial land uses – areas formerly allocated to timber concessions (green) and current plantation allocations (dotted red) account for most of the degradation within the buffer area (Curran *et al.*, 2004).

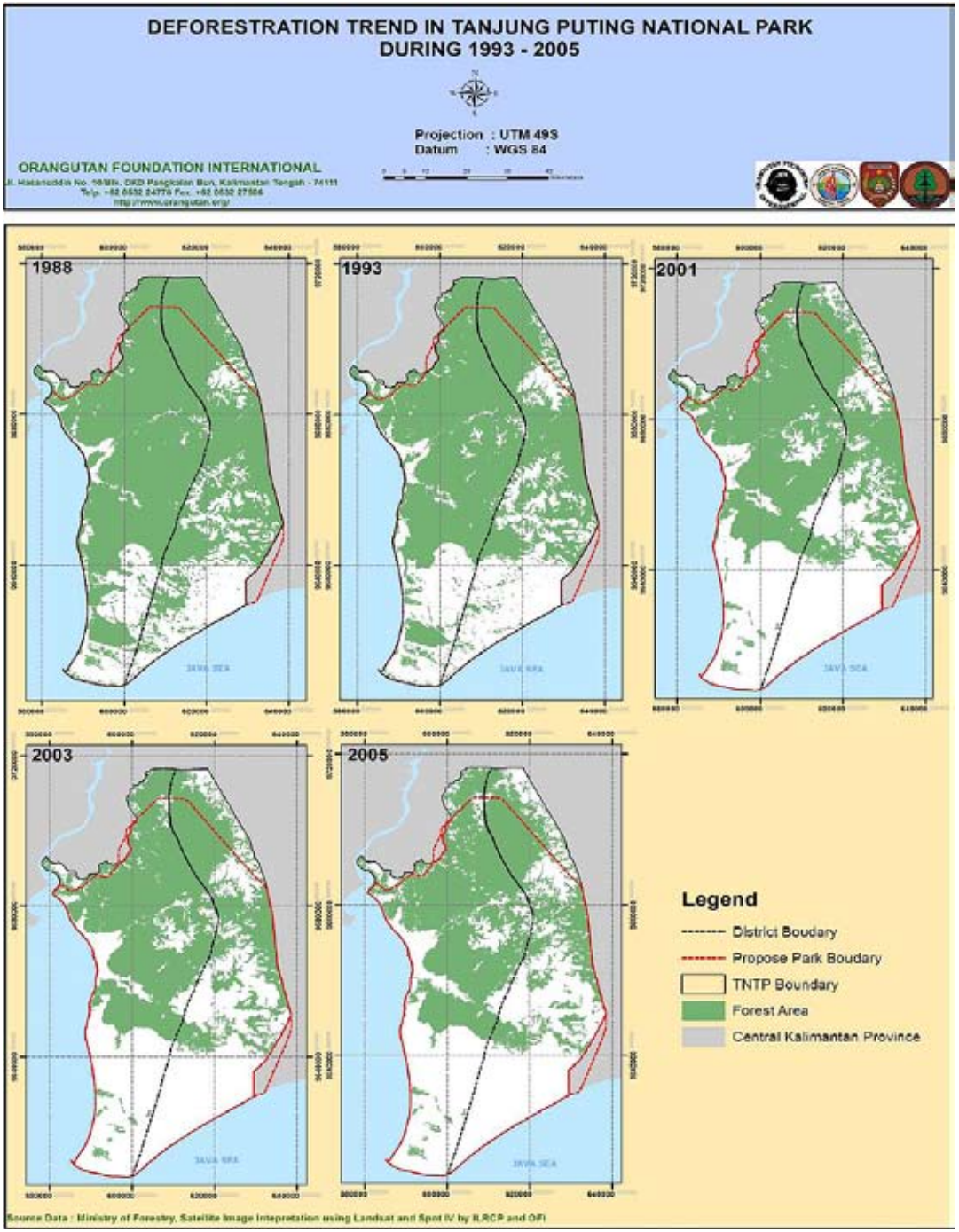

Figure 10: Deforestation in Tanjung Puting, one of the 37 national parks affected by logging and oil palm plantations.

INTERNATIONAL DRIVERS OF ILLEGAL LOGGING

GLOBAL AND DOMESTIC DEMAND EXCEEDS SUPPLY

The present reality is that domestic demand for timber from Indonesian industries exceeds the supply that can be met from the legal and licensed harvest. This domestic timber shortage is exacerbated by the fact that trading logs on the international market is more profitable than trading logs within Indonesia. As many pulp, saw and paper mills in Indonesia are largely owned or controlled through multinational parent companies (Schroeder-Wildberg and Carius 2003), the products of illegal logging easily find their way to the international market.

The combined annual raw demand of wood by the approximately 1 600 mills in Indonesia is at least 70–80 million m^3, which far exceeds the legal cut by a factor of two to five (Schroeder-Wildberg and Carius 2003).

INDONESIAN TIMBER MILLS HAVE EXCESS CAPACITY

A related problem is the fact that many of the mills are designed to process much larger volumes of timber than what can possibly be sustainably harvested from Indonesia's forests. In order to operate at a profit, timber companies are forced to seek out cheap and readily available sources of wood. This means that illegal logging has, in recent years, spread to protected areas, as they are among the few places left with valuable timber in commercial volumes (Wardojo *et al.* 2001, Curran *et al.* 2004). These areas are protected for their high biodiversity value, so enforcement is critical but generally lacking to a large extent.

TIMBER PROCESSING COMPANY DEBT COMPLETES THE CIRCLE

There is a serious debt problem associated with investments in the Indonesian industrial forestry sector. Unless the financial problems linked to the timber industry are somehow resolved, the need to get returns on these investments will remain a driving factor in the unsustainable use of forests.

One consequence of this burgeoning international trade is that Indonesia cannot address the growing problem of illegal logging alone. It requires the full assistance and co-operation of timber importing countries, including other countries in the region.

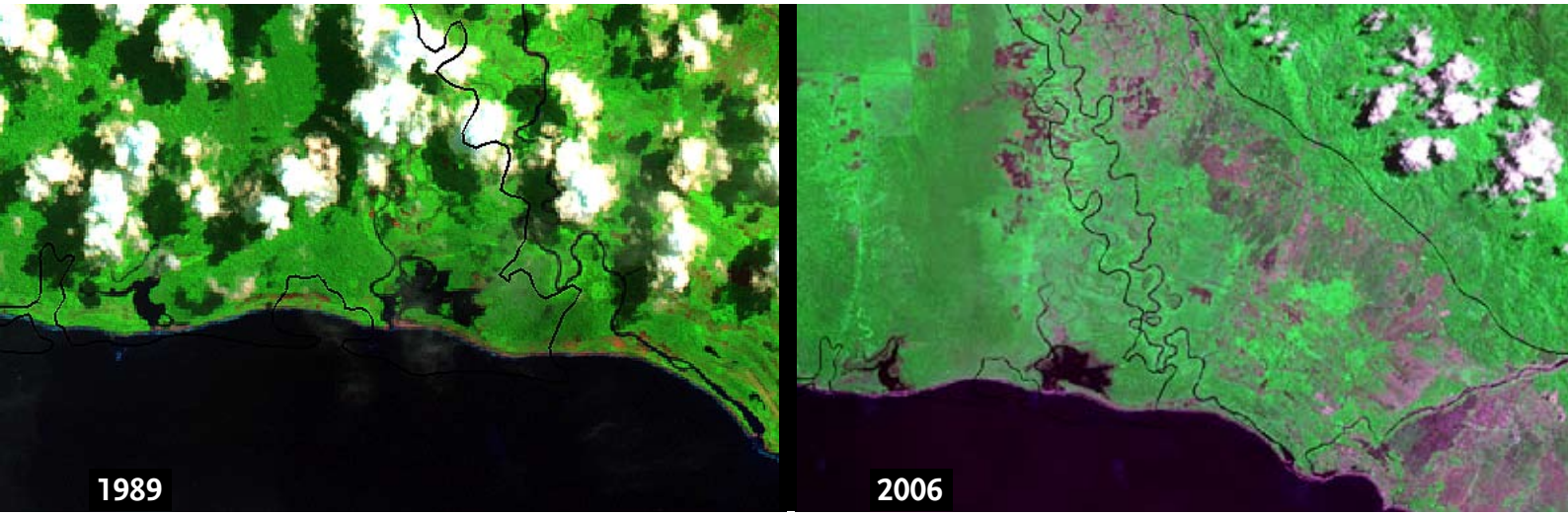

Figure 11: Loss of critical orangutan forest in the Leuser Ecosystem, Sumatra from satellite (Landsat 1989 and ASTER 2006).

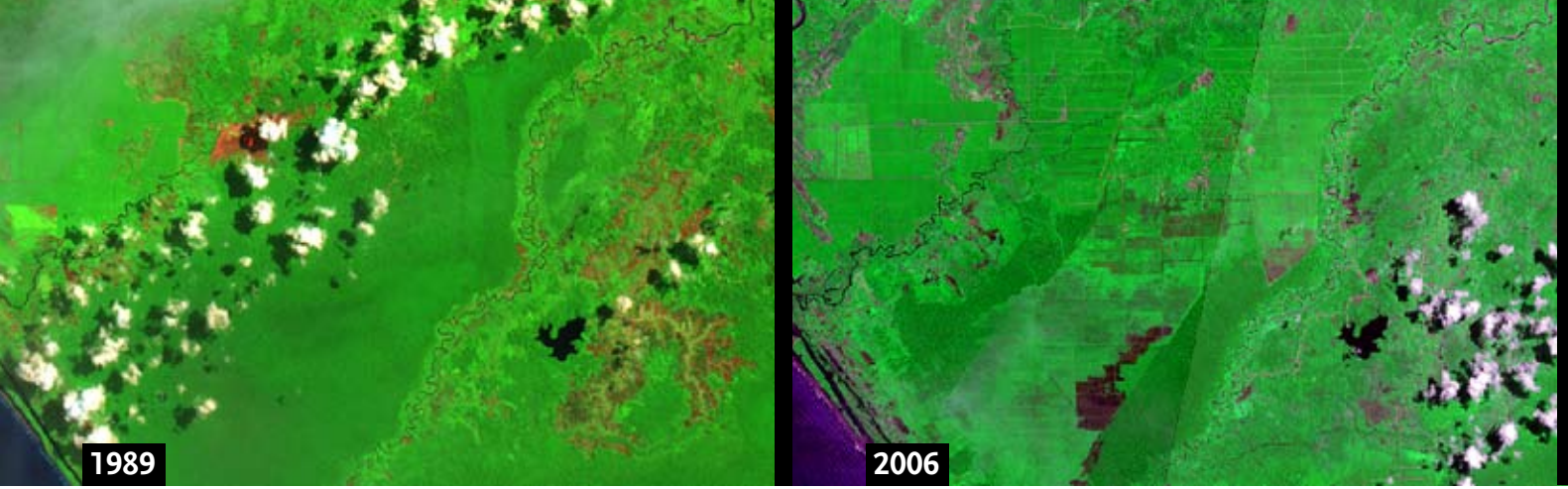

Figure 12: Loss of critical orangutan forest in the Leuser Ecosystem, Sumatra from satellite (Landsat 1989 and ASTER 2006).

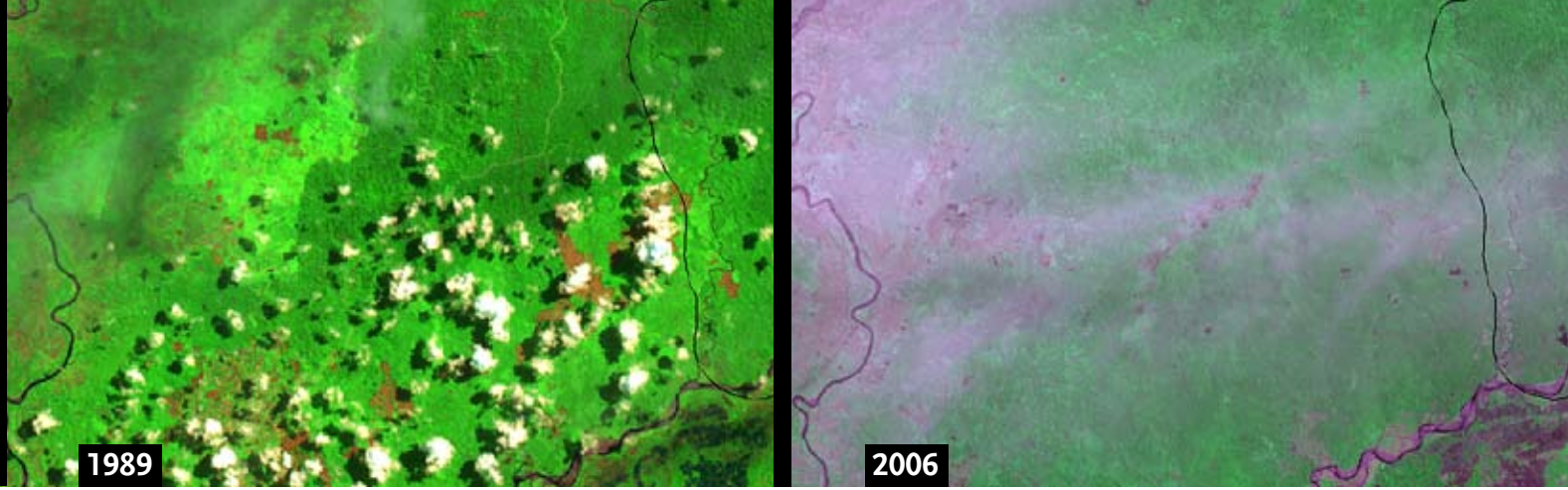

Figure 13: Loss of critical orangutan forest in the Leuser Ecosystem, Sumatra from satellite (Landsat 1989 and ASTER 2006).

MULTINATIONAL NETWORKS

The forestry sector in Indonesia includes a number of actors, including concession holders, mill operators and wood manufacturers. Most of the logging companies operating on Borneo and Sumatra are subsidiaries or contractors of multinationals or their networks, some changing names and ownership fairly rapidly, thus eluding monitoring. While many contractors are Indonesian based or owned, multinational networks, foreign investors and recipients play a crucial role in the industry.

Several mills, for example, are owned by or through subsidiaries of UFS (United Fiber System), a consortium of companies from eight countries, with its headquarters in Singapore. In 2002, ten companies controlled 45% of the total logging concessions in Indonesia (WRI 2002). And in 2005, logging concessions on 11.6 million hectares of forests in Papua province alone were granted to 65 different logging companies.

A considerable share of the timber and pulp mills are subsidiaries of multinational companies and processed in Indonesia, but 10–15% of the logs are exported directly to Malaysia or other Asian destinations (Figure 147) (Schroeder-Wildberg and Carius 2003; Currey *et al.* 2001). The remaining large share of timber, most of it illegally logged, is processed in sawmills, plywood mills, pulp mills and chip mills prior to export.

The forestry and wood-processing industry of Indonesia make up around 10% of the GDP and plywood, pulp and paper exports account for 10–20% of the total export earnings. China and Japan receive near half of all the wood products exported from Indonesia. Other Asian countries, Europe and North America account for the rest. China's import of wood products overall increased from 40 million m^3 in 1997 to over 140 million m^3 in 2005 (White *et al.* 2006).

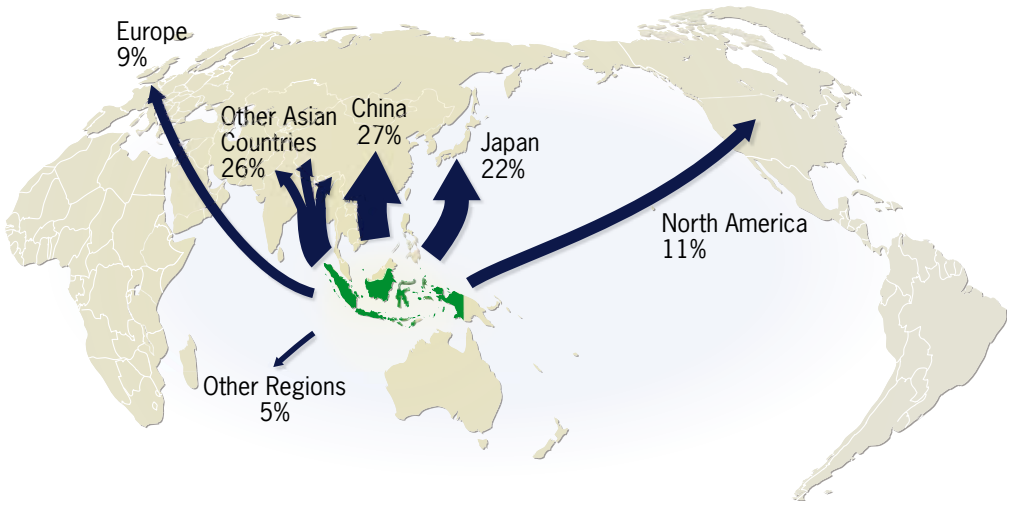

Figure 14: Export of wood products from Indonesia, a large proportion travels through Malaysia.

Figure 15: Smuggling routes of illegally logged ramin timber from Indonesia, including from national parks and protected areas (Currey *et al.*, 2005).

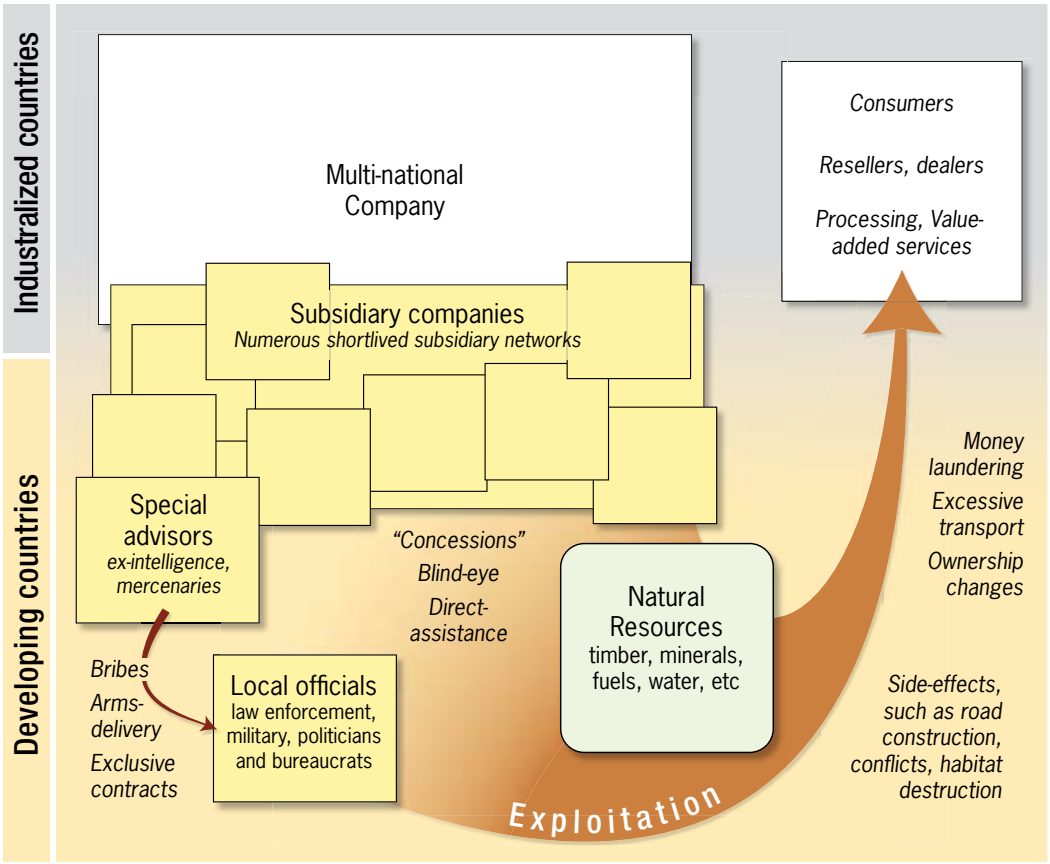

Figure 16: A generalized diagram of how multinational networks exploit natural resources by developing numerous temporary subsidiaries and use corruption and security firms to ensure rapid exploitation and maximum profits. Arms trading has been reported from the Democratic Republic of the Congo, while the bribes and "security firms" also play a major role in Indonesia.

Illegal logging may be conducted by companies with no right to be in the area, but also by legal concession holders, operating in several ways. Concession holders may over-harvest from the lands granted to them, or they may exploit areas outside these lands. In a 2001 survey, loggers from 14 out of 18 surveyed concessions illegally expanded their operations into protected areas (Curran *et al.* 2004). The timber or processed wood products may be smuggled secretly from the country, or sold and transported as if produced from a legal concession. To avoid international tracking of the timber or wood products, the products often change ownership multiple times in transit. Hence, when the wood products arrive in port in another country, it is no longer recorded as Indonesian timber.

The extent to which smuggling poses a problem can be seen in official trade data. Import figures from many countries including China, Taiwan and Malaysia, to mention a few, are generally far above that of officially reported exports from Indonesia (Schroeder-Wildberg and Carius 2005). A comparison of the official import data for a series of countries compared with Indonesia's export figures suggests discrepancies in magnitudes of up to a hundred, typically a factor of three to five. Once again, the looting and destruction of Indonesia's rainforests is an international concern, with multinational networks operating openly, while the protection of the parks is a primary law enforcement issue of Indonesia.

OIL PALM PLANTATIONS

Large areas of Indonesian and Malaysian forest have been converted to oil palm plantations, in which multinational networks are also implicated. The cheap vegetable oil is becoming increasingly popular, because, despite being high in saturated fats, it is an alternative to trans fats, which are more closely associated with heart disease, and increasingly being banned in Western countries. It is stable at high temperatures, making it very popular with food manufacturers. Already, it is found in one in ten supermarket products, including margarine, baked goods, sweets, detergents and lipsticks.

There is also an increasing market for vegetable oil as a renewable fuel (biofuel), in response to the need to reduce global carbon dioxide (CO_2) emissions. In Europe, this market was stimulated by the Biofuels Directive of 2003, which aims to reduce greenhouse gas emissions and dependence on fossil fuels. This directive promotes the use of renewable fuels for transport. Palm oil is currently considered the most productive source of biodiesel fuel.

Palm oil and palm kernel oil now make up one of the largest shares of global vegetable oil supply. Indonesia and Malaysia account for 83% of the global production of palm oil. Several African countries are also developing palm plantations to meet the expected biofuel demand. Experiences from Indonesia in improving environmental management may therefore be relevant to the sustainable development of oil palm plantations in other countries.

Today, the rapid increase in plantation acreage is one of the greatest threats to orangutans and the forests on which they depend. In Malaysia and Indonesia, it is now the primary cause of permanent rainforest loss. The huge demand for this versatile product makes it very difficult to curb the spread of plantations. Palms tend to be planted on newly-cleared forest land, rather than abandoned agricultural land, despite the availability of large amounts of suitable cleared areas. As palms do not begin to produce a crop for five years after the area is planted, the ability to sell the timber to subsidize these first non-productive years is attractive. Between 1967 and 2000, the total oil palm area in Indonesia grew from less than 2 000 km² to over 30 000 km² (FWI/GWF 2002)]. The

Plantation development in Ketapang

In Ketapang regency (kabupaten), on the south coast of western Kalimantan, there are ten large oil palm companies operating, mainly the southern part of the regency (Dinas Perkebunan pers. comm.). Eight of these companies will soon be operating around Gunung Palung National Park. The planned oil palm plantations will be developed on various habitats, such as logged over areas and peat swamp forest. These companies have been granted permission from the Ketapang regency since 2004. The oil palm plantations may increase human-orangutan conflict, locust plagues, river pollution levels and the risk of flooding.

Human – orangutan conflicts are reportedly widespread. As forests are cleared for plantations, confused orangutans can be found wandering in the newly planted areas that used to form part of their range. An adult orangutan can be intimidating to humans, so it is common for them to be killed by plantation workers. With their habitat gone, hungry orangutans will turn their attention to the young palm trees, where they can cause considerable damage, thus exacerbating the conflict.

"There's human – orangutan conflict indications in Nanga Tayap district. According to local people and workers, there were two orangutans shot last year because they entered the nursery area. The company also pays local hunters to kill sun bears and wild pigs that enter the plantation area."

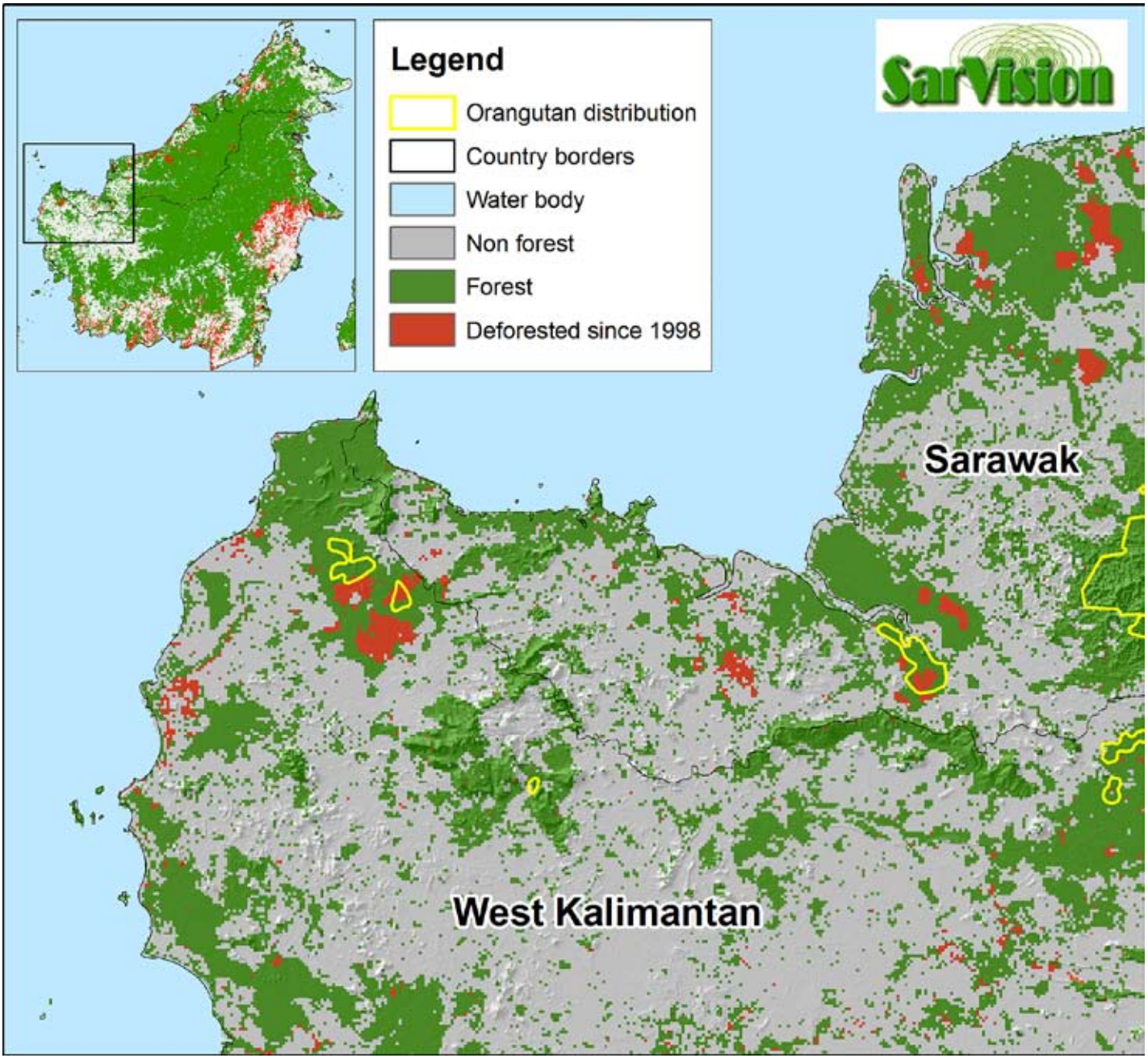

Figure 17: Deforestation and plantation development in western Borneo.

demand for palm oil is expected to double this area by 2020, which implies the annual conversion of another 30 000 km2 of forest.

The ongoing conversion of tropical rainforest for biofuel production has been a cause of concern for conservationists (Buckland 2005). But new analysis shows that CO_2 emissions from conversion of peat swamp forest in particular are far greater than gains from substitution of fossil fuels with palm oil (Hooijer *et al.* 2006). The land is drained, the trees are cut, and the peat soil that has built up over thousands of years breaks down. When fire used to clear forests for biofuel spreads into additional forest land, even more CO_2 is released. While fire fighting and emergency measures are helpful in the short-term, long-term change in the management of peatlands in Indonesia is required if the CO_2 is to remain stored in peatlands.

Ironically, in the desire to cut CO_2 emissions, western markets are driving ecosystem destruction and producing vast and significant CO_2 emissions through forest burning and peat swamp drainage. The most effective measure to achieve this is conservation of remaining peatland forests, alongside rehabilitation of degraded peatlands and improved management of plantations and agricultural areas (Hooijer *et al.* 2006).

There are signs that the world is waking up to this issue. While no certification mechanism yet exists to identify sustainably-produced palm oil, the Roundtable on Sustainable Palm Oil has been set up to bring the commercial sector together with conservation organisations, civil society groups, governments and other stakeholders. So far it has devised Principles and Criteria for sustainable palm oil production (RSPO 2006), and a broad code of conduct for members. In late 2006, there were some signs of response in the energy industry. The Dutch power company Essent has pledged to stop using palm oil (Wetlands International 2006), and one British power company in the UK that was testing the use of palm oil has dropped its plans. But the legal and illegal spread of oil palm plantations, and development of biodiesel refineries, continues.

FORESTS ON FIRE

Insular Southeast Asia endures months of smoke-filled air every year during the dry season. Farmers and plantation developers deliberately and illegally set fire to the forest to clear the way for crops, and in logged-over forest, fire spreads rapidly. When peat swamp forests catch alight, the peat burns as well as the trees. These fires can spread underground, and persist for long periods, destroying natural habitats and releasing substantial volumes of greenhouse gases.

The annual burning in Southeast Asia is usually worst in El Niño years, which are exceptionally dry. The worst recorded so far, in 1997–8, destroyed 95% of the forest in Kutai National Park: this protected area had previously been subject to high levels of logging, and may no longer be viable (Rautner *et al.* 2005). In 2006, fire levels peaked again in what is thought to be the start of an El Niño season that could continue through March 2007 (Figure 18; CPC/NCEP 2007).

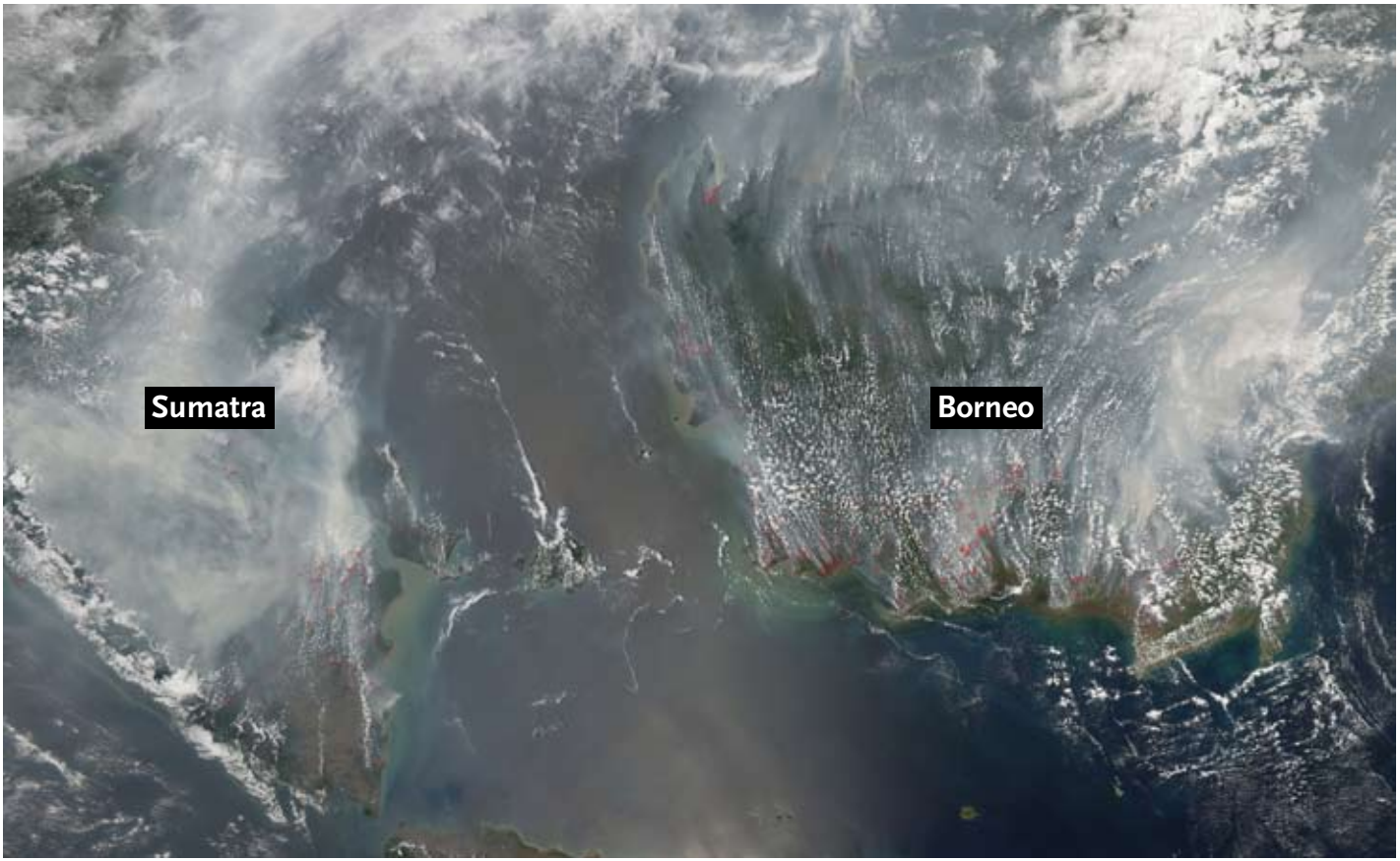

Figure 18: Fire and smoke over Borneo and Sumatra, late September to October 2006 (© Jesse Allen, Earth Observatory/MODIS Rapid Response team).

The expansion of oil palm plantations is thought to be a major driver of this fire peak. In 2006, the leaders of Singapore, Malaysia, Brunei, and Thailand urged Indonesia to do more to stop the annual fires because the regions' citizens suffer both economic losses and health problems from the resultant haze. It is worth noting, however, that several of these countries are also recipients for illegally logged products from Indonesia.

In central Kalimantan, hundreds of orangutans may have died in the fires (Sastrawan 2006). If they can, orangutans flee the flames, but if they reach cultivated areas, they are often attacked by residents out of fear, for meat or to protect crops. The most fortunate individuals are taken in by rescue centres and, when possible, are released into the wild. In 2006, at least 120 Bornean orangutans were rescued suffering from dehydration, smoke inhalation or wounds inflicted by villagers; a number of others had to be translocated from a release site because it was on fire (Sastrawan 2006).

Protected areas including national parks are not immune from fire. As the number of plantations increase adjacent to and even within national parks, so do the numbers of wildfires. Table 2 shows that in 2002 and 2004, more than 50% of all recorded burnt area was in conservation forest (mainly in national parks and nature reserves).

Table 2: Estimated forest fire occurrences, 2000 to 2005.

Forest categories	Area burnt (hectares)					
	2000	2001	2002	2003	2004	2005
Conservation forest	**1 216.85**	**1 927.45**	**19 938.96**	**267.95**	**2 422.56**	**1 251.35**
Protection forest	117.65	4.25	160.50	0.50	20.43	4 002.12
Production forest	1 682.00	12 397.80	15 396.77	3 277.00	886.00	82.00
Other forest	0.00	0.00	0.50	0.00	15.00	167.00
Total burnt area	**3 016.50**	**14 329.50**	**35 496.73**	**3 545.45**	**3 343.99**	**5 502.47**

Source: Ministry of Forestry 2005, 2006.

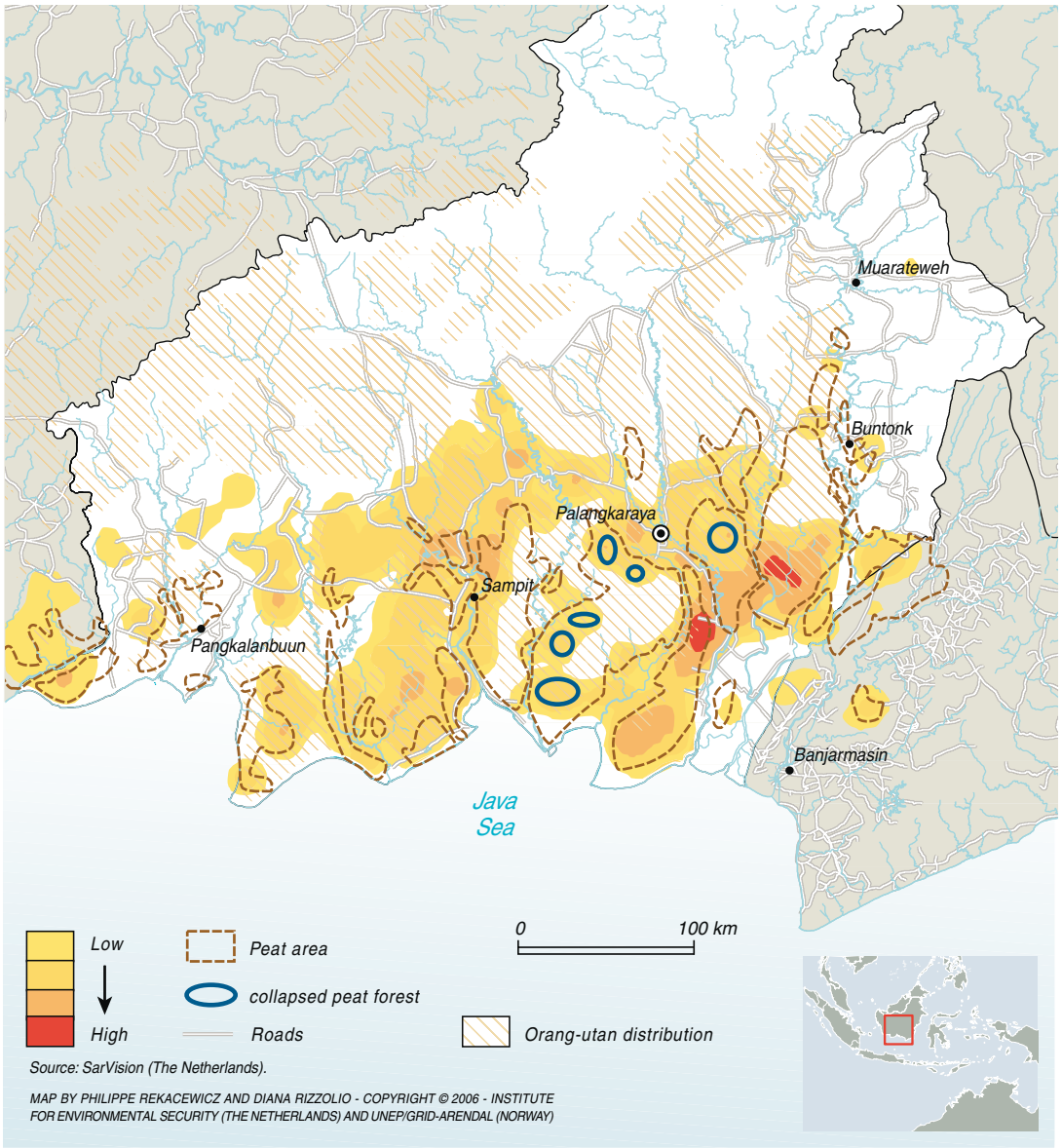

Figure 19: Fire density in southern Borneo.

ILLEGAL INTERNATIONAL TRADE IN LIVE ORANGUTANS

A by-product of forest clearing and the timber trade is the illegal international trade in live orangutans. A UNEP special mission team learned in 2006 that many illegally-caught orangutans, destined for illicit international trade, are removed from forest areas on the riverboats that carry timber that has been legally and illegally extracted. These orangutans are bought by the boats' crews and conveyed either directly to other countries or to major ports in Indonesia, where they will be transferred to other vessels operated by foreign crews and owners. Orangutans are also sometimes sold to the crews of foreign fishing vessels, such as boats from Thailand. This illicit trade includes an opportunistic element, as well as involving illegal traders who deliberately seek out orangutans (CITES/UNEP 2006).

The increase in oil palm plantations and general reduction of orangutan habitat increases the frequency of opportunistic capture of young orangutans.

A fraction of the apes that are taken from the forest find their way are brought to "rescue" or "rehabilitation" centres. In Borneo alone, this number is close to 1 000 orangutans in 2006 (CITES/UNEP 2006). Many of the others find their way to zoos, "Safari World"-type facilities and private ownership. Recent cases involving Cambodia, Thailand, Malaysia and Saudi Arabia have come to the attention of the CITES secretariat. In 2006, orangutans confiscated in Thailand and Malaysia were repatriated to Indonesia.

FORMER SCENARIOS TOO OPTIMISTIC: 30% INCREASE IN ORANGUTAN HABITAT LOSS

Scenarios released by UNEP in 2002 suggested that most of the natural rainforest in Indonesia would be degraded by 2032 (UNEP 2002). At the same time, the World Bank estimated that this would include the loss of all Kalimantan's lowland forest outside protected areas by 2010 (World Bank 2001). These estimates were based on information from the 1980s and 1990s on the rate of deforestation and human impact zones.

By 2005, much of the easily accessible timber had been exploited, yet illegal logging continued. Many kilometres of logging roads have been constructed within in protected areas (Curran *et al.* 2004). As the forest product industry has maintained its capacity and even expanded, the demand for both valuable timber and pulp wood for the mills has not declined. The pressures on the remaining forest fragments are therefore even greater than initially predicted by UNEP. In addition, palm plantations have taken up an estimated 12 000 km² in the last decades and are rapidly growing, and the area may be tripled by 2020; many plantation concessions have been granted but not yet developed (Curran *et al.* 2004, Rautner *et al.* 2005). Peat swamp forests, which host high densities of orangutans, are targeted for palm oil production (Caldecott & Miles 2005, Wetlands International 2006). Palm oil plantations are also being developed on logged-over forest land, preventing recovery and further reducing the future timber stock outside protected areas.

There are three primary factors that have changed since the late 1990s, influencing the rate of orangutan habitat loss. First, the rate of deforestation and logging has increased. The deforestation rate in the late 1990s was at least 1.5% or 20 000 km² annually for Indonesia as a whole, with losses concentrated in Sumatra and lowland Borneo (UNEP 2002; Schroeder-Wildberg and Carius 2003; Rautner *et al.* 2005); Second, the development of oil palm plantations, often by draining peat swamps, has decreased orangutan habitat further. Plantation development often involves fire, which spreads, further reducing available habitat. Third, the rising scarcity of accessible valuable timber has increased the extent of illegal logging in national parks.

Scenarios of forest cover loss by WWF, based on Landsat imagery for 2000, and annual forest loss figures, suggest that Kalimantan's well-drained lowland forest will be lost by 2012 to 2018, even within protected areas (Rautner *et al.* 2005) (Figure 5). This, in combination with the figures above and the recent 2006 satellite images, suggest that the rate of loss of orangutans and their habitats may be at least 30% higher than projected only a few years back.

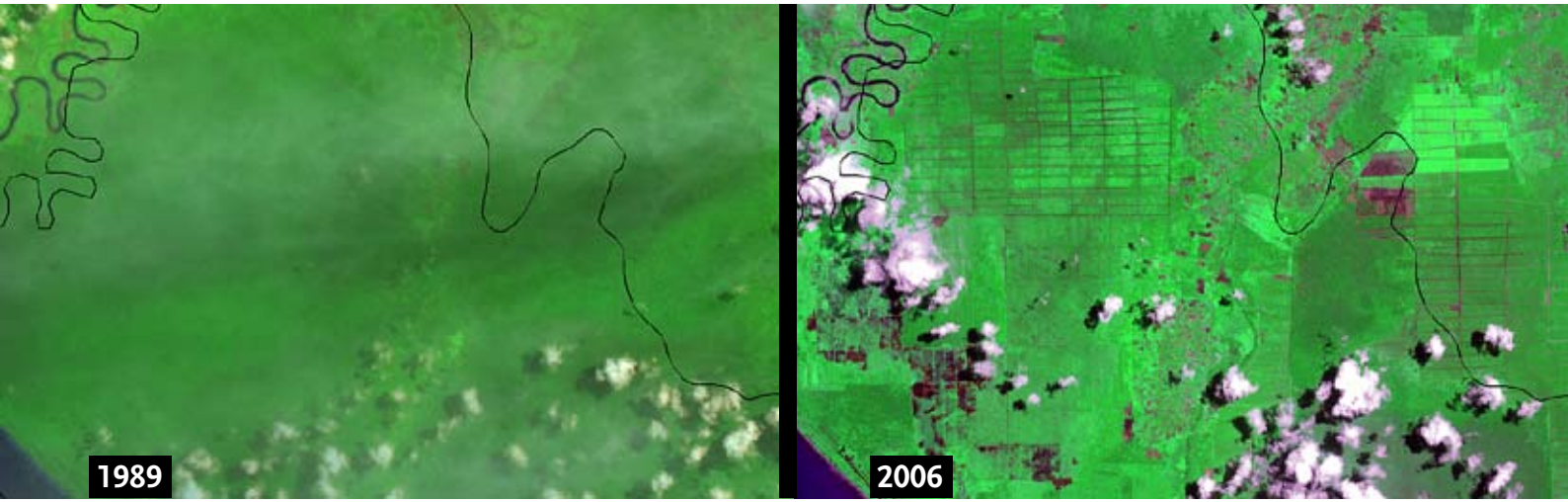

Figure 20: Loss of critical orangutan forest in the Leuser Ecosystem, Sumatra from satellite (Landsat 1989 and ASTER 2006).

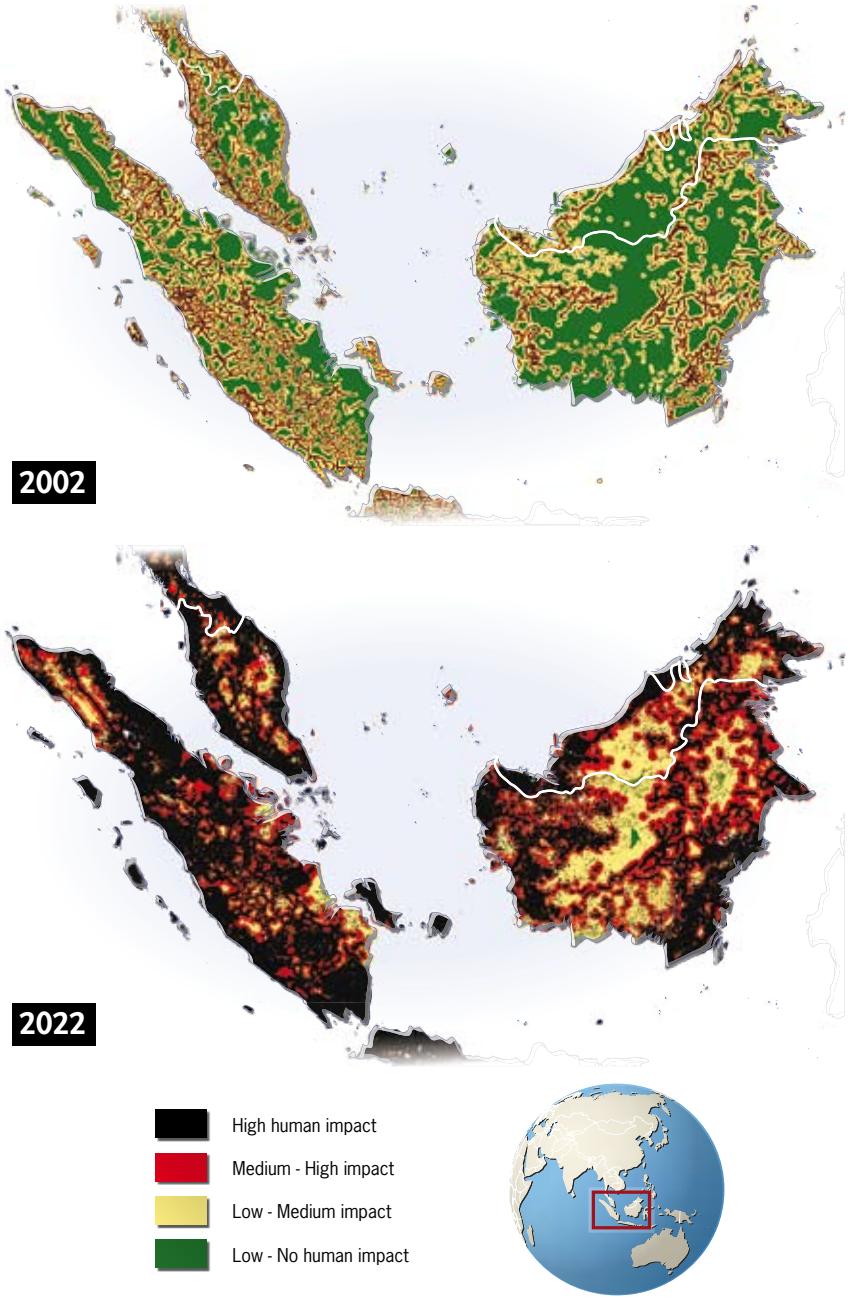

Figure 21: Degree of human impact. Green areas in Borneo and Sumatra indicate remaining undesturbed areas, while black-to yellow indicate loss, an estimated 98% by 2022, mainly due to oil palm plantation development and illegal logging in protected areas.

LAW ENFORCEMENT RESPONSES TO ILLEGAL FORESTRY ACTIVITIES

Several government agencies share the responsibility or authority to enforce Indonesia's wildlife-related laws, including Customs, the Forest Department, the police, the military police and the Quarantine Service. However, the agencies with primary responsibility for such work are the Directorate of Biodiversity Conservation, Directorate General of Forest Protection and Nature Conservation and the Ministry of Forestry, also often known as the Department of Forestry.

The Forest Department has an Animal Protection Unit, within which there is a general wildlife crime unit and four species-specific units for the protection of tigers, elephants, rhinos and orangutans. However, rangers face major logistic challenges in Indonesia, given the extent of the national park network.

To improve overall effectiveness, the government in 2004 launched a Ranger Quick Response Unit (SPORC – Satuan Khusus Polisi Kehutanan Reaksi Cepat), an elite unit of rangers trained to confront illegal loggers. The Forestry Ministry has expressed an ambition to train a total of 1 500 SPORC personnel before 2009. It plans to assign them to regions prone to illegal logging. Most of the first 299 SPORC personnel were recruited from existing forest rangers and they underwent 38 days of special training in shooting, self defence and ambush skills.

In addition to their rapid response duties, SPORC personnel also undertake patrol duties to detect and deter illegal logging, poaching and illegal trade. Some SPORC staff will also be deployed to guard posts situated at the entry and exit points to protected areas and on the rivers that flow through many forest areas. It appears that SPORC units will often become involved in the confiscation of animals (including parts and derivatives) or timber that is possessed or being traded illegally.

Although SPORC units and other Forest Department staff will respond to information received from local people, NGOs and other sources, they currently have limited resources in terms of covert work, surveillance and intelligence gathering. Forest Department staff has no access to any reward scheme to either recruit or pay informants. They are not currently available in sufficient numbers to prevent heavily organized intrusions into the parks. And yet, these units represent the greatest on-the-ground opportunity to stop illegal logging and agricultural encroachment in protected areas.

As in many other parts of the world, forest and wildlife law enforcement staff in Indonesia receives less in the way of salaries, training and equipment than the armed forces and regular police units. Consequently, these rangers have very variable levels of training and background. Even well trained staff receives little training in patrolling or combat skills, which is required to take on the massive well-organized intrusions into the park. There is also a general lack of vehicles, aeroplanes or helicopters, boats and arms. Neither does their ordinary training include the military long-range patrol skills or combat training required to take on the massive well-organized intrusions into the parks. Their counterparts working for logging companies, however, include security guards, sometimes with a foreign military background, automatic weapons and tactical training. When making encroachments into parks, they are often present in large numbers, bringing heavy machinery deep into the protected area. Ordinary rangers face high and sometimes lethal risks in confronting these organized invasions.

COUNTERING ILLEGAL LOGGING – MEASURES AND THEIR EFFECT

The "Forest Law Enforcement and Governance (FLEG)" process is a particularly important response to the current wave of forest crime in Indonesia. FLEG is a continuous harnessing of national efforts and improvement of international collaboration to address violations of forest laws and illegal activities. The aim of FLEG is to eradicate illegal logging and associated illegal trade and corruption, and in the long term to promote sustainable management and protection of the world's remaining forests. FLEG is a global effort, and in East Asia it started with a series of consultations leading up to a political commitment known as the Bali Declaration in 2001. Although not legally binding, the declaration is considered a significant step by governments in acknowledging the need to combat corruption in the forestry sector. It recognizes the responsibilities of both producing and consuming countries to eliminate illegal logging and illicit trade and corruption, and provides a base for bilateral and international cooperation in harmonizing forest law enforcement and protection programmes.

To implement FLEG, a number of potential responses are possible. While all are rational and well intended, only a few can be expected to have any significant short term impact on the current state of rapid deforestation and degradation of critical orangutan habitat. The empowerment and sustainable development of local communities is critical to enable their custodianship of natural habitats over the longer term, but immediate targeted actions are required to deal with the existing crisis. Effective responses must:

- target root causes and key actors
- be rapid in effect
- be effective in the face of existing power structures (risk of coercion and reprisals, corruption, dysfunctional institutions)
- address impacts over large areas to avoid simply displacing the problem.

Table 3: Probable timescale and effects of impacts of conservation measures on illegal logging.

Responses	Probable effects		Conditions, forces	Recommended actions
	Short term	Long term		
International law enforcement	Moderate	High	Potentially highly effective, but politically, legally, institutionally and economically very demanding	Laws in consumer countries against imports of illegally harvested timber. Embargos, trade control International agreements on law enforcement and prosecution International surveillance and reporting on crimes
Domestic law enforcement	High	High	Highly and directly effective if implemented efficiently and extensively in threatened areas. May increase violence, but can result in increased deterrence of future illegal activities	Specialized enforcement units Arming and paramilitary training of sufficient numbers of rangers under a separate command, extensive collaboration with police, Army and Navy and international experts and sufficient equipment
Amend national laws and regulations to strengthen law enforcement efforts	Low	Moderate/ high	Lack of common jurisdiction and sanctions across administrative borders hinders effective national law enforcement efforts	Update and harmonize regulations across administrative borders, facilitate investigation and prosecution
Logging moratorium	Moderate	Moderate – high	Can effectively curb legal and partly, illegal logging if sufficient surveillance is present	Implement moratoriums in highly impacted areas, secure regional political and institutional support
Log export ban	Low – moderate	Moderate	Smuggling will still prevail, corruption hinders effective control in most places	Task force to control ports and transportation corridors
Reduce demand	Low	Moderate/ high	Impossible to achieve in short time due to market mechanisms. Questionable at large scale even in the long run due to the diversity and elusiveness in corporate structure and market mechanisms	Laws in consumer countries against imports of illegally harvested timber, national compliance with FSC in major consumer countries
Reduce supply of illegal timber	Low	High	Very difficult or impossible to achieve in the short term. Highly effective in the long run if supply can be controlled	Implement systems of chain-of-custody to eliminate illegal wood from supply chain Compliance with FSC
Strengthen governance	Low	Moderate	Requires institutional change to break link between conflict timber and corruption	Minimize and control corruption Enhance fair law enforcement Resolve property conflicts

Table 3: Probable timescale and effects of impacts of conservation measures on illegal logging (continued).

Responses	Probable effects		Conditions, forces	Recommended actions
	Short term	Long term		
Combat corruption	Low	Moderate	Corruption is rampant at all levels of institutions, affects all elements in supply chain of timber harvesting and concession system	Prosecution of actors involved Public disclosure of cases involving public officials, timber mafia heads and corporations
Cut off shipping routes	High	High	Very effective, but difficult to implement due to large number of ports, vessels and shipping lanes. Requires massive monitoring and law enforcement	Task force to control ports and transportation corridors, seizure of log shipments at ports, quarantines of ships, prosecution of shipping compani4es and owners
Controlling access to protected areas	High	High	Very effective but requires clear mandate, massive equipment, training and law enforcement	Surveillance and patrolling of salient timber and biodiversity habitats, blocking of illegal constructed roads, confiscation of equipment, closing of saw mills operating without concession
Financial regulation	Low	Moderate	Good systems for private sector financing of the forest industry are lacking, creates unsustainable use and inappropriate incentives. Release of debt pressure on forest processing plants can have major effect on demand for forest resources	Increase investments in the legitimate forest industry Resolve bank and debt issues related to forestry assets and non-performing loans
Monitoring	Low	Low (High)	Important for assessment of forest conditions and response measures, no direct effect on actions	Include monitoring in management plans for all national parks and buffer zones
General education	Low	Low/ moderate	No short term effect on major driving forces or impact factors, possible moderate long term effects through increased awareness	Integrate knowledge on environmental concerns and sustainable development in education curricula, both in consumer and producer countries
Public information disclosure	Low	Low	Increased transparency and disclosure of critical information can sensitize some stakeholders and increase awareness	Consumer awareness campaigns Ensure public access to monitoring data, especially within producer country
Advocacy	Low/ moderate	Low/ moderate	Well targeted advocacy can disclose criminal actions, and/or mobilize powerful interests	Targeting of root causes vs. powerful institutions

Table 3: Probable timescale and effects of impacts of conservation measures on illegal logging (continued).

Responses	Probable effects		Conditions, forces	Recommended actions
	Short term	Long term		
Strengthen public procurement and corporate social responsibility	Low	Moderate	Improve corporate performance and transparency with time	Transparent and reliable procedures for procurement, environmental actions and interactions with stakeholders
Community development/ stakeholder participation	Low	Low – High	While usually important in all resource management, can be ineffective against rapid, capital intensive resource exploitation by outsiders	Compensation schemes, direct payments for conservation efforts; strengthening land rights (below); reduce poverty/improve livelihoods (below)
Strengthen land rights	Low	Low/ moderate	Land tenure issues are generally disregarded by key actors in this context; but ownership creates an incentive to defend resources	Land registration schemes, formalize land rights of indigenous populations. Support local communities in exercising forest related rights, entitlements and responsibilities
Promote sustainable development	Low	Low/ moderate	Requires good governance, equitable management, land tenure control and inclusion of all actors. Sustainable land use strategies usually overrun by corporate interests	Forestry information systems Management plans Public-private alliances to combat illegal logging Community development/stakeholder participation (above)
Reduce poverty/improve livelihoods	Low	Low/moderate	Significant improvement in local livelihoods can offset unsustainable resource use, can be a slow process with minimal effect on rapid environmental degradation	Development of sustainable income generating activities, regional development programs, social services, training, education

Sources: Illegal Logging Response Center 2006, USAID 2005, World Bank 2006, InWent 2003, FLEG 2006, Global Forest Watch; Schroeder-Wildberg & Carius 2003, FLEG 2006, CIFOR 2005, Wahli 2007.

Measures are therefore required to directly intervene with exploitation and distribution of timber *in situ*. Law enforcement including surveillance, patrolling, arrest and prosecution of actors involved in illegal harvesting will require a massive input to staffing, training and equipping/arming of personnel working in the national parks, but are of utmost importance to achieve a reduction in illegal logging. At a higher level, international cooperation around legal instruments and procedures to detect and seize illegal timber, and prosecute key players, thus cutting off the trade routes could have a very positive effect. Root causes such as supply and demand can be addressed with time and political will, but implementation is too complex to expect predictable results for the current crisis.

In 2005, the President of Indonesia issued Presidential Instruction No. 5 requiring government agencies with law enforcement responsibilities (a total of 18 altogether) to increase their efforts to combat illegal logging and also to increase efforts to combat

illegal trade in wildlife. Indonesia has signed the Kinshasa Declaration, adopted at the Intergovernmental Meeting on Great Apes held in Democratic Republic of the Congo, in September 2005. This declaration sets the target of securing a constant and significant reduction in the current loss of great ape populations by 2010 and to secure the future of all species and subspecies of great apes in the wild by 2015 (GRASP 2005).

Illegal logging and oil palm plantations in protected areas are the result of poor law enforcement and lack of resources to allow effective monitoring and inspection. Illegal practice begins with the issue of permits and licenses to harvest timber and runs through to forest management regulation and inspection. Concessionaires easily get away with over-harvesting or harvesting outside areas allocated for exploitation, and purchasing wood on the black market from illegal sources. Punishment and fines for any such violations are rare. Combating illegal logging through certification processes, increased transparency, lowering corruption and strengthening systems for concessions is only possible with effective enforcement by well-trained and coordinated staff.

COMPANIES USE UNDERHAND METHODS

Currently, logging companies not only extensively use bribes, they are also better armed and equipped than most rangers, frequently employing security guards including foreign nationals and former police and military officers. Where efforts have been made to prosecute illegal loggers, the cases have often failed to make headway in the judicial system. Indeed, only around 10% of cases ever reach the courts.

Better coordination between government departments would also help to resolve the issue. The wood industry has an annual capacity for processing around 74 million m^3 of timber, but the licensed harvest is in the region of only 23 million m^3 (Schroeder-Wildberg and Carius 2003). Hence, the general capacity of the various mills is two to five times higher than the legal amount available. Despite knowledge of this state of affairs, it has proved difficult to reduce industry capacity because the Ministry of Forestry lacks the authority to withdraw operating licenses, a responsibility which lies with the Ministry of Industry and Trade.

LACK OF ENFORCEMENT CAPACITY

Indonesia has 9 700 forest rangers. Thirty-five national parks that the team was able to secure information from through the Ministry of Environment and Ministry of Forestry had 2 155 field rangers to patrol an area of 108 000 km^2 and generally no access to helicopters, aeroplanes, necessary arms or military patrolling skills that would enable them to prevent illegal activity. Currently, logging companies not only extensively use bribes, they are also better armed and equipped than most rangers, frequently employing security guards. If the rangers had the necessary training, communication, transport and arms, even a relatively small force would be able to effectively conduct surveillance and reconnaissance, and when required, prevent illegal intrusions with the appropriate force.

CONCLUSIONS AND RECOMMENDATIONS:
STATE OF EMERGENCY FOR ORANG-UTANS AND NATIONAL PARKS

A series of national and international measures have been implemented or are evolving in response to the crisis situation in Indonesia. Most of these have a long-term rather than immediate effect. Given the extent and severity of the intrusions into protected areas and the international involvement in the theft of timber and land from these reserves, the situation must now be characterized as a state of emergency.

This review shows that the responsibility for this situation, including the massive pollution and greenhouse gases generated from burning of forests, is shared by Indonesia and consumer countries. Protected areas are being destroyed to feed an international market for wood products and vegetable oil.

Unfortunately, most long-term initiatives like reducing corruption and certification of timber require the substantial support of the international community including recipients of illegally logged timber. Furthermore, most responses require massive changes in management regimes and actions, long-term institutional change, financial, technical and human resources support, changes in market mechanisms and demand structures, as well as international cooperation in monitoring trade and prosecuting criminal actors including corporations. Some or all of these responses may potentially have paramount effects in the long-term, but they will generally take too much time to develop to an effective level and will fall short of the immediate crisis in securing the future survival of the orangutan and the protection of national parks. Immediate on-the-ground action is required to back up the global-scale efforts towards sustainable wood production.

Without direct intervention in the parks, orangutans and other forest-dependent wildlife will become progressively scarcer, until their populations are no longer viable in the long-term. Previously released scenarios suggested that most natural rainforest in Indonesia would be degraded by 2032. Given the rate of deforestation in the past five years, and recent widespread investment in oil palm plantations and biodiesel refineries, new calculations suggest that 98% of lowland forest may be destroyed by 2022. Since mature forest is being lost from such large areas, the supply of timber will decline further. This means that the incentive to log protected areas will grow. It is possible that many protected areas will already be severely degraded by 2012.

Among the most promising and important Indonesian government initiatives is the further development, support and training of the 'SPORC' rapid response ranger units. However, it is essential that these units and selected parks have the necessary paramilitary training, equipment and mandate to prevent illegal loggers from operating inside protected areas.

Protected areas including national parks form a cornerstone of international conservation efforts, including the 2010 globally-agreed target to reduce the rate of biodiversity loss. Reducing the rate of deforestation over Indonesia as a whole will also have a

dramatic impact on regional carbon dioxide emissions, and thus help to prevent dangerous levels of global climate change. If the logging of national parks continues unchallenged, it could undermine the protected area concept worldwide. The Indonesian initiatives to strengthen protection of their parks therefore urgently need substantial support from the international community if the orangutan habitats and national parks are to be rescued from this growing state of emergency.

Recommendations

Based on these findings, it is recommended that Indonesia and countries involved in processes such as FLEG consider the following actions:

1. Substantially strengthening the Indonesian initiative of SPORC units to ensure the necessary para-military skills and equipment for securing national parks, including evaluation of the combined joint operations conducted in recent years between the Ministry of Forestry, police and Joint Chiefs of Staff of Navy and Army. This could include bringing in expertise from other Indonesian and international agencies in training and countering illegal activities at these scales
2. Rapid deployment of reconnaissance units to collaborate with the relevant law enforcement and forest rangers, to secure information from the individual parks
3. Rapid development of training units to prepare existing rangers locally for future enforcement
4. Removal of illegal plantations, mining and agricultural development inside the national parks
5. Strengthening surveillance and intelligence units in this work
6. Further strengthening international programmes of law enforcement against illegal logging and activities, including support from Interpol
7. Establishing a small, strategic cross-sectoral coordination unit, including selected international specialists, with sufficient presidential mandate to assist in operational planning and monitoring of the programme to win back the parks

CONTRIBUTORS

A large number of people contributed, including from the Ministry of Environment and Ministry of Forestry, Indonesia. The people below contributed with either direct contributions, maps, satellite images or reviews:

Masnellyarti Hilman
Deputy Minister for Natural Resources Conservation Enhancement and Environmental Destruction Control, Ministry of Environment, Indonesia

Matthew Woods
Great Apes Survival Project (GRASP) Secretariat, United Nations Environment Programme, P.O. Box 30552, 00100, Nairobi, Kenya
http://www.unep.org/grasp

Mark Attwater
Orangutan Foundation (UK), 7 Kent Terrace, London NW1 4RP
http://www.orangutan.org.uk

Simon Blyth, Alison Marsh, Iordan Hristov, Kaveh Zahedi
UNEP World Conservation Monitoring Centre (UNEP-WCMC), 219 Huntingdon Road, Cambridge CB3 0DL UK
www.unep-wcmc.org/species/great_apes

Bruce Pengra, Ashbindu Singh, Hua Shi
UNEP/GRID-Sioux Falls, EROS Data Center, Mundt Federal Building, Sioux Falls, SD 57198 USA

Petter Sevaldsen
UNEP/GRID-Arendal, P.O. Box 183, N-4802 Arendal, Norway
www.grida.no

Ole-Gunnar Støen
University of Life Sciences, NO-1432 Ås, Norway
www.umb.no

Ingunn Vistnes
Norut NIBR Finnmark, Follumsvei 33, N-9510 Alta, Norway

Marte Qvenild
Norwegian Institute for Nature research, Fakkelgården, Storhove, N-2624 Norway
www.nina.no

Markus Radday
Senior Officer Tropical Forests, WWF Germany, Rebstoecker Strasse 55, 60326 Frankfurt, Germany

Cheryl Knott
Gunung Palung Orangutan Conservation Programme/Yayasan Palung, Harvard University, 11 Divinity Avenue, Cambridge, MA 02138, USA
www.fas.harvard.edu/~gporang

Al Hooijer
River Basin Management, WL | Delft Hydraulics, PO Box 177, 2600 MH Delft, The Netherlands

Nils Wielard
SarVision, Agro Business Park 10, 6708 PW Wageningen, The Netherlands
www.sarvision.com

THANKS IS ALSO GIVEN TO

Serge Wich, Great Ape Trust; Ashley Leiman, Orangutan Foundation International; Yulia Stange, Great Ape Survival Project; Catherine McMullen, UNEP-DEWA; Yarrow Robertson, Leuser Development Programme; Helen Buckland, Sumatran Orangutan Society; Ian Redmond, Ian Singleton, Sumatran Orangutan Conservation Programme, and many others for valuable comments and assistance in the drafting of this report.

PHOTO CREDITS

1 Nick Lyon/Cockroach Productions **1** Pramudya/Cockroach Productions **3** Nick Lyon/Cockroach Productions **4** Ian Singleton/SOCP **7** Florian Siegert **9** Cindy Fromme/BOS **10–11** Ian Singleton/SOCP **12** ZSL **14** Nick Lyon/Cockroach Productions **14–15** Ian Redmond/GRASP **15** Nick Lyon/Cockroach Productions **15** Florian Siegert **15** Florian Siegert **24** Nick Lyon/Cockroach Productions **25** Nick Lyon/Cockroach Productions **28** Nick Lyon/Cockroach Productions **30** Florian Siegert **32** Nick Lyon/Cockroach Productions **34** Nick Lyon/Cockroach Productions **38** Nick Lyon/Cockroach Productions **42** Ian Singleton/SOCP **44** Nick Lyon/Cockroach Productions **44** Helen Buckland/SOS **45** Florian Siegert **54** Nick Lyon/Cockroach Productions **56** Topham/UNEP

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UNEP/GRID-Arendal
PO Box 183
N-4802 Arendal
Norway

Phone: +47 3703 5650
Fax: +47 3703 5050
grid@grida.no
www.grida.no

UNEP-WCMC
219 Huntingdon Road
Cambridge CB3 0DL
United Kingdom

Phone: +44 (0)1223 277314
Fax: +44 (0)1223 277136
info@unep-wcmc.org
www.unep-wcmc.org