

REPORT ON
THE IUCN-UNESCO WORLD HERITAGE MONITORING MISSION TO THE
TROPICAL RAINFOREST HERITAGE OF SUMATRA, INDONESIA

25 February - 5 March, 2006

Mission team:
Peter Hitchcock (for IUCN)
Koen Meyers (for UNESCO)

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EXECUTIVE SUMMARY AND LIST OF RECOMMENDATIONS

At the time of inscription of the Tropical Rainforest Heritage of Sumatra (TRHS) on the WH List in 2004 IUCN recommended that the property be simultaneously inscribed on the List of WH in Danger. The WH Committee, at its 28th session, noted the urgency of the ascertained threats to the property but due to the strong objection of the State Party of Indonesia to the inclusion on the Danger List, the Committee requested the State Party to prepare an emergency action plan focusing in particular on illegal logging, agricultural encroachments, proposed road development, securing international assistance and protection of critical habitat. As this action plan was not submitted as requested and due to the tsunami disaster of December 2004 that affected northern Sumatra, the Committee, at its 29th session (Durban, 2005) requested IUCN and the WH Centre to carry out a monitoring mission and report to the 30th session on the state of conservation of the property, the impacts of the tsunami and progress with the proposed emergency action plan.

The IUCN-UNESCO mission was successfully carried out from 25 February to 5 March 2006. It found that all three National Park components of the serial WH property continue to face serious threats. Notwithstanding some welcome improvements and positive changes since listing, all areas are subject to a mounting series of on-going and imminent threats linked to agricultural encroachments, illegal logging, road construction (legal and illegal), and poaching. Not only are all of the protected areas being substantially encroached upon and losing habitat, they are also losing their forested surrounds to agriculture and industrial coffee and oil palm plantations. Most indicators point towards quickening loss of biodiversity, particularly the larger mammals such as the elephant, tiger and rhinoceros. The capacity of management to effectively respond to and resolve critical situations has failed to keep pace with the mounting threats due to a range of institutional constraints, including funding constraints; inadequate cooperation and support from local, provincial and central government agencies, including in some cases law enforcement agencies; confusion over the rights of local government within national parks; and bureaucratic procedural constraints and inefficiencies. In addition, local communities and local government remain largely uninformed about the importance of and threats to WH property, and are therefore often antagonistic.

Of all the major threats to the values and integrity of the property, increased unchallenged encroachment has the greatest potential for destruction. Mapping by the Wildlife Conservation Society shows that the cumulative loss of forest to encroachments within the Bukit Barisan Selatan National Park is now in the order of 22.5% (86,000ha). The largest known encroachment in Gunung Leuser National Park is at least 16,000ha in an area previously recognised as critical elephant and prime tiger habitat.

The mission noted that notwithstanding a skilled and motivated leadership in the management regime of the property, the burden of effectively protecting and managing the WH property in the face of overwhelming external threats is now beyond the current capacity of management. Failing an urgent and major management intervention, the TRHS WH property will remain critically endangered.

The most urgent intervention is required in Kerinci Seblat National Park, the largest and most critically threatened component of the property. This is illustrated by local government planning for construction of no less than 34 roads through the core zone of the park, recent illegal commencement of one such road and on-going illegal logging and encroachments. The rhinoceros, according to the Park authority, is on the verge of local extinction and the elephant population has been divided and 'boxed in' by topography and agriculture. Park management has in effect lost control of illegal encroachments by local farmers and does not presently have the

capacity to respond to or press prosecutions, let alone establish other deterrents and conduct meaningful reforestation.

The major interventions necessary to remedy the deterioration in the state of conservation will require a combination of financial, institutional, government policy changes and on-ground initiatives. Failure on any one of these components will result in further deterioration of the value and integrity of each component area and hence the serial property as a whole.

If the outstanding universal values and integrity of the TRHS WH property are to be maintained in the longer term, it is essential that a major intervention in protection and management is mounted as a matter of urgency.

Based on the findings of the IUCN – UNESCO monitoring mission, it is recommended that:

1. The boundaries of the WH property be amended to exclude major cleared encroachments and to add critical habitats for the conservation of biodiversity, as identified in the mission report;
2. The State Party be requested to submit an Emergency Action Plan by the 1 February 2007, for examination by the WH Committee at its 31st session (2007), to address the trend in loss of value and integrity of the property. In this regard the State Party should,
 - a. seek international assistance from the WH Fund and the FFI-UNESCO-UNF WH Rapid Response Facility, as well as technical support from IUCN and the WH Centre, to urgently convene a workshop to scope the parameters of an Emergency Action Plan and identify partners, timeframe, responsibilities and sources of funding for its implementation, as well as benchmarks to assess progress over time;
 - b. ensure that the Emergency Action Plan is developed in collaboration with national and international partners and should consider a number of key interventions proposed by the monitoring mission to arrest the alarming on-going decline of the WH property;
3. The State Party, with support from UNESCO, IUCN and members of WH Committee, call for significant international donor support to implement the Emergency Action Plan and to develop capacity for effective management and governance of the property;
4. The Tropical Rainforest Heritage of Sumatra serial WH property be included on the List of WH in Danger due to serious ongoing ascertained threats to the outstanding universal value and integrity of the property, notably from extensive illegal logging, agricultural encroachment, poaching, road construction and institutional and governance issues.

Finally, a number of benchmarks are proposed for assessing progress within 3-4 years. These need to be assessed during preparation of the emergency action plan, and endorsed by the State Party and WH Committee.

1. BACKGROUND TO THE MISSION

1.1 *Inscription history*

The Tropical Rainforest Heritage of Sumatra (TRHS), a serial property including three National Parks (Kerinci Seblat NP (KSNP), Gunung Leuser NP (GLNP) and Bukit Barisan Selatan NP (BBSNP), was inscribed on the World Heritage (WH) List at the 28th session of the WH Committee (Suzhou, 2004).

Based on the type and immediacy of the threats identified during its technical evaluation, IUCN recommended the Committee to inscribe the property simultaneously on the WH List and the List of WH in Danger (see IUCN evaluation report in Annexe 4). There was vigorous debate among the Committee on the subject, and IUCN provided a revised draft decision following strong opposition to Danger Listing from the State Party of Indonesia (see Annexe 5).

The Committee, although noting the urgency of threats to the property, decided not to inscribe the property on the List of WH in Danger at its 28th session. It requested the State Party to prepare an emergency action plan and submit a state of conservation report by February 2005 "...in order to enable the 29th session of the World Heritage Committee in 2005 to consider whether to send a monitoring mission to the site and the possibility of including the site on the List of World Heritage in Danger in accordance with the provisions of paragraphs 86-93 of the *Operational Guidelines* (2002)." [Decision 28 COM 14B.5 – see Annexe 6].

1.2 *Inscription criteria and World Heritage values*

The property was inscribed on the basis of natural criteria (ii), (iii) and (iv). See IUCN Evaluation Report at Annexe 4.

1.3 *Integrity issues raised in the IUCN evaluation report at time of inscription*

Several integrity issues were raised in the IUCN evaluation report at the time of inscription, including in particular:

- **Illegal logging:** The IUCN evaluation report stated:
"The unsustainable exploitation of tropical forests in Indonesia has degraded or destroyed so much of the lowland forests that timber exploitation is now increasingly dependent on illegal exploitation of protected areas, including national parks. Illegal logging is a threat in all three areas and can be expected to reach a crisis point in the next few years as timber supply from outside the protected areas continues to rapidly decline."
- **Encroachment:** The IUCN evaluation report drew attention to the critical issue of encroachment as a serious on-going threat to the nominated parks.
- **Law enforcement:** deficiencies were identified as a serious and fundamental threat to effective management of the parks.
- **Road development:** A proposal for the Ladia Galaska Road was identified as a key threat to the GLNP and Leuser Ecosystem.
- **Boundaries:** Omission of important elephant, tiger and orang-utan habitat from the Leuser component, and omission of important habitat links in the Kerinci Seblat section (Merangin River 'missing link').

1.4 Examination of the State of Conservation by the World Heritage Committee and its Bureau

In 2005 the State of Conservation report on the TRHS focussed particularly on the aftermath of the tsunami and earthquake tragedies that struck Sumatra (Aceh and Nias) on the 26 December 2004 and the possible need for emergency assistance to the property. No emergency action plan was submitted by the State Party. The WH Committee:

“...Expresse[d] its deep sympathy to the State Party of Indonesia and the people directly affected by the natural disaster for the loss of life and damage to infrastructure caused by the Indian Ocean tsunami of 26 December 2004 and subsequent earthquakes;

Encourage[d] the World Heritage Centre and IUCN to assist the State Party in preparing the emergency action plan for the property as requested by the Committee at its 28th session (Suzhou, 2004);

Requeste[d] the World Heritage Centre, IUCN and other international partners to support the recovery of basic management capacities at the property by providing appropriate international assistance in collaboration with the competent national authorities;

Urge[d] the State Party to ensure that the post-tsunami rehabilitation and infrastructure building activities in Sumatra do not have negative impact on the integrity of the property;....” [Decision 29 COM 7B.9]

1.5 Justification of the mission

The WH Committee, at its 28th session in July 2004, foreshadowed the likely need for a monitoring mission within 2 - 3 years of inscription, while the decision of the 29th session in 2005 requested *“the State Party to invite a joint mission of the World Heritage Centre and relevant sectors of UNESCO, with the assistance of IUCN, to assess damage caused by the earthquake and tsunami and identify urgent rehabilitation needs for the property”*. The Committee further requested *“the World Heritage Centre to provide by 1 February 2006, on behalf of the State Party, a report on the state of conservation of the property, including the impact of the tsunami and earthquakes as well as the requested emergency action plan and the existing threats for the conservation of the property, for examination by the Committee at its 30th session (Vilnius, 2006)”*. [Decision 29 COM 7B.9]

This mission and report therefore are in direct response to the decisions of the 28th and 29th sessions of the Committee. The terms of reference for the mission, the programme and a list of the people the mission team met, are provided in Annexes 1, 2 and 3.

2. NATIONAL POLICY FOR THE PRESERVATION AND MANAGEMENT OF THE WORLD HERITAGE PROPERTY

National policy and management arrangements are the same as at the time of inscription and as reported in the IUCN technical evaluation report (2004). See Annexe 4.

2.1 Protected area legislation

All three of the component protected areas in the WH property are national parks established under the Forestry Act No.5, 1990, Act No.5, 1994, Act No.41, 1999 and Government Regulation No.68, 1998.

2.2 *Institutional framework*

The manager of each of the national parks in the property is responsible to the Directorate General of Forest Protection and Nature Conservation (PHKA) in the Ministry of Forestry, Indonesia, with head office in Jakarta. There is a coordination mechanism for national parks and conservation areas in Sumatra through Pusat Pengendalian dan Pembangunan Kehutanan Regional 1 (PUSDAL 1), under the authority of the Secretary General of Ministry of Forestry. However there are no direct institutional links between Managers of the three national parks.

2.3 *Management structure*

Day-to-day management of each of the three protected areas is separately the responsibility of a Manager and staff. There is currently no formal provision for input of advice from local or national communities or for participation of stakeholders in management. A new regulation (P.19/Menhut-II/2004) allowing for the establishment of a collaborative management has not yet been fully put into use by the park management.

2.4 *Response to the recognition of values under international treaties and programmes (World Heritage Convention, Ramsar Convention, Biosphere Reserve etc.)*

No specific integrated response from the State Party to listing under the WH Convention is apparent. Management arrangements remain as prior to listing. There has been little or no signposting of WH status at the property or publicity of the WH status in the local communities.

However, after the inscription, a range of projects with international support were developed and initiated. At the end of 2004, the “Partnership for the Conservation of Sumatran Natural Heritage” (CANOPI) project was developed between WCS, UNESCO and the Directorate General of Forest Protection and Nature Conservation (PHKA) with financial support from the UN Foundation (UNF) and Critical Ecosystem Partnership Fund (CEPF). The project, with a budget of nearly US\$ 2 million, aims at testing networking and partnership development approaches to build and strengthen collaboration among government, civil society and private sector for the conservation of the Tropical Rainforest Heritage of Sumatra. The project focuses mainly on the BBSNP under an integrated conservation management scheme including research and training, park management, public awareness, and investment strategy and regional planning. The project is used to catalyze similar programs in the two other parks. The main outcomes expected from the CANOPI project are: (1) the establishment of a partnership working for conservation action and providing advice to the management of BBSL (Bukit Barisan Selatan Landscape), (2) establishment of baseline information and on-going research and monitoring related to the ecology and socioeconomics of BBSL, (3) increased capacities of park staff and other stakeholders, (4) the implementation of a comprehensive BBSL management strategy to prevent, mitigate, and minimise illegal natural resource exploitation, (5) heightened local community awareness and (6) conservation objectives of BBSL management incorporated into economic investment and regional planning. Other international assistance provided to BBSNP during the last two years encompassed projects of WWF, EU and the International Rhino Foundation.

The GLNP is also receiving increased international support as a result of the tsunami disaster of December 2004. Further information on this is provided in Section 3 below.

During the last two years KSNP received substantially less international support than the other two national parks. This could be related to the recent termination of the Integrated Conservation and Development Project (ICDP) funded by the World Bank. The only direct international support received by KSNP is currently provided by FFI. FFI activities focus on surveying and monitoring species in the park including tigers, elephants and tapirs, and helping the national park to improve its management. FFI is also working with park officials and other partners in establishing anti-poaching teams.

3. IDENTIFICATION AND ASSESSMENT OF ISSUES / THREATS

3.1 *Management effectiveness*

Management effectiveness is best judged by measuring performance since the 2004 IUCN evaluation mission in abatement of recognised threats to the WH serial property. The main threats identified during the 2006 monitoring mission and indicative performance indicators are presented below:

- **Illegal Logging:** Some improvements in abatement are apparent in some localities as a result of management effort. However, the overall conclusion is that, management has not been able to fully meet the challenge of illegal logging which remains a serious and on-going threat to the values and integrity of the property. [*Note:* Some improvements are not attributable to management performance (Aceh Peace Agreement (15th August, 2005)) and some serious failures were beyond the direct control of park management (Jurisdictional problems)]. Media reports of illegal logging in the parks abound, often confirmed by and rarely contested by park management (See copies of a selection of media reports in Annexe 13).
- **Poaching:** Some improvements in abatement of poaching were apparent for the larger iconic species in parts of the property, especially in BBSNP and parts of KSNP. Elsewhere, poaching remains a serious threat to both the iconic larger mammals and many bird and smaller mammal species. Capacity to conduct the necessary surveillance, investigations and prosecutions is seriously constrained by finances and equipment (e.g. Transportation for one forest police post in BBSNP with 25 officers is limited to only 4 motorcycles).
- **Encroachment (Agricultural):** Encroachment is one of the most serious, persistent and largely unchallenged threats to all three components of the serial property. It is also acknowledged to be one of the most sensitive issues to address. Management performance in abatement of this threat is seriously deficient due to lack of coherent policy, financial constraints and operational sensitivities with the result that on-going encroachment endangers the values and integrity of the whole property.
- **Road Incursions:** The threat of road incursions into the rainforests of the property is serious and on-going. Roads arise both illegally, including as a result of illegal logging, and are proposed by other government agencies, especially local government. KSNP is threatened by a total of 34 proposed roads through the Core Zone of the park. One illegal road was under construction immediately prior to the mission and late reports indicate that construction has since resumed. A road under construction also threatens Langkat District of GLNP.

- **Institutional and Governance Issues:** Management of the three component national parks is essentially independent of each other with little or no synergistic cooperation and collaboration. Notwithstanding a number of notable cases of positive improvements in management, there are a number of aspects that constitute serious institutional and governance dysfunction including:
 - Under-resourcing (impacting on equipment, vehicles and ultimately on staff morale);
 - Zoning plan for KSNP still not adopted;
 - Law enforcement: Inability to resolve or challenge known illegal logging operations;
 - Jurisdictional issues where other government agencies refuse to cooperate with park managers [e.g. 13 sawmills (operations nowadays already halted) on KSNP boundary extracting timber from the park – the mills, were authorised by local and provincial government who refused to cooperate in stopping the associated illegal logging]. Cases of Police refusing to cooperate in law enforcement were reportedly widespread.
 - Final gazettal of park boundaries of GLNP and BBSNP remains unfinished;
 - Lack of accurate wildlife monitoring systems that establish population patterns and trends to provide sound basis for management and quick response to threats.

3.2 *Nature and extent of threats to the property, taking into consideration the natural values for which the property was inscribed and specific issues outlined by the World Heritage Committee*

- **Illegal Logging:** Illegal logging remains a widespread and serious threat to the value and integrity of the forests of the property. Evidence gathered during the mission revealed widespread and varied evidence of illegal logging in the national parks over the past 2 years, ranging from large scale operations with sawmills inside parks to small-scale syndicated logging. Extensive operations continue in KSNP, the Solok Selatan section in the north and the Pesisir Selatan and Benkulu Utara sections in the south, with some current operations reported in the western section of GLNP. There is an unresolved conflict over a logging concession that reportedly overlaps with KSNP. (BAT Co.)

Illegal logging is not only destroying the integrity of the forests but also increasing their vulnerability to hunting, poaching and encroachment. Illegal logging is often a precursor to encroachments into the property.

- **Poaching:** Poaching in the national parks is widespread and involves many different species of wildlife, both animals and plants. The larger, endangered iconic mammals (elephant, tiger and rhinoceros) receive the greatest attention in terms of publicity, funding and effort by management. Combating poaching of the larger mammals is making progress in some localities but is by no means universal.

Poaching of birds is reportedly very widespread and markets operate openly, notwithstanding the illegality of the poaching, trapping and marketing. Monitoring by NGO's in some markets has revealed disappearance from the markets of some bird species, indicating at least local disappearance of the species from the forest.

Smaller mammal species such as the pangolin are in such strong demand for traditional Asian medicinal use that the species is being vigorously poached everywhere. (The scales of the pangolin are marketed and exported through the same channels as tiger bone)

- **Encroachments:** All three parks exhibit evidence of major and on-going agricultural encroachment. Encroachment for primarily agricultural purposes is probably the single greatest on-going threat to all three national parks of the WH property.

Encroachments have been occurring in all three national parks over some decades and evidence obtained during the mission established that encroachment is evident and on-going throughout. Encroachments range from small isolated household plots to large scale commercial plantations and, in numerous cases, to large aggregates of smaller scale encroachments. Some encroachments are deep inside the parks. (e.g. In BBSNP north of Ratagung where there are now 150 families and associated farming deep inside the core of the park. The encroachment reportedly (re)started only 7 years ago and has recently escalated)

Some new land uses around the parks actually stimulate encroachment into the park. There is therefore a need for park managers to more actively participate in monitoring and influencing proposed adjacent land uses that represent a threat to the park.

The cumulative effect of on-going encroachment is illustrated best by the mapped sequences provided by the Wildlife Conservation Society (WCS) in BBSNP. Cumulative loss of forest to largely unchallenged encroachments is now in the order of 22.5 % of the park and on-going. Habitat continuity has been effectively severed in several places and is now threatened in others, further limiting migration of larger mammal species. (See Annexe 7)

In the Sekincau encroachment of BBSNP, transects by WCS have established that 70% of the 24,000 ha. encroachment area is established commercial coffee plantations. The Sekincau encroachment is now so devoid of conservation value that it serves no purpose as a part of the WH property, on the contrary, and is recommended for excision from the listing.

Two encroachments in KSNP have occurred by industrial oil palm plantations, TKA and SJAL, one 500 ha the other 850 ha. The TKA area has been left deforested after the company withdrew from the area and is currently under natural rehabilitation. There has been no prosecution for the SJAL case. Unless the encroachment is rapidly resolved and rehabilitated, it too should eventually be excised from the WH property.

The largest known encroachment in GLNP, in the Langkat Regency, is at least 16,000 ha. and previously some of the most important forest and habitat in GLNP, being one of the largest remnants of the lowland rainforest of Sumatra. It was known to be prime elephant and tiger habitat. The encroachment is now devoid of forest, has many occupiers, mostly Internal Displaced People (IDP), who took refuge in the area due to the armed conflict between the Indonesian Military and the Free Aceh Movement (GAM). Furthermore, large sections have been 'bought

and sold' by land speculators. Logging and clearing occurred right up to the ranger station. (See Photo, Annexe 10) In the absence of any clear and funded commitment to resolve and re-afforest this large encroachment, it is recommended for excision from the property.

Not surprisingly, many of the encroachments are in areas of highest conservation value (e.g. Lowland rainforest/elephant habitat in GLNP). Steep mountainous and barren areas are rarely encroached.

In summary, of all the major threats to the values and integrity of the WH property, the one that has the greatest potential to destroy the values and integrity of the property is on-going, unchallenged encroachment. There is currently no evidence of any effective curtailment or elimination of encroachment, nor is there any official commitment to a proposal for a major initiative to remedy the threat.

- **Road Incursions:** The threat posed by roads in this serial property is common to many Indonesian parks. Roads not only have a direct impact on the pristine conditions of forest but provide the means by which illegal logging and encroachments penetrate the protected area. In this context, all new roads in the WH property represent a serious threat to the integrity and values of the property. All three parks are facing proposals for new roads but none is more threatened than KSNP which is confronted with a staggering 34 proposed roads through its Core Zone (Zona Inti).

Protection and management of forest along existing roads in the three parks is already sufficient challenge to park management that, with existing resources and practices, additional roads would simply create a totally unmanageable situation.

One of the proposed roads in the Core Zone of KSNP was in process of being illegally constructed immediately prior to the IUCN-UNESCO mission (See photo Annexe 8). Anonymous reports indicate that construction resumed inside the park one week after the mission, reportedly with the financial backing of a timber businessman. In some cases, local governments consider that they have the right to construct such roads notwithstanding opposition by PHKA and opt on occasions to undertake construction without consultation with park management.

If the management of KSNP is faced with challenging each of the proposed roads one by one, the situation will be chaotic. This is one case where there is a need for a strong policy statement from Central Government. More immediately, it is essential that the Zoning Plan be approved as a matter of urgency to provide the park with a strong defensive position.

- **Institutional and Governance Issues:** A recognisable and serious suite of threats to the value and integrity of the property is institutional and governance issues. PHKA, as the Central Government agency responsible for the three protected areas in the property operate with a suite of internal and external constraints that prevent their effective protection and management of the site. PHKA has dedicated staff and professional capacities and has been effective in some important aspects of management of the property. Notwithstanding, the constraints on management are major and critically incapacitating. Some of the most serious issues are:

- **Financial** - with many important competing financial demands within Central Government, the normal allocation to the agency is wholly inadequate for the challenging task of managing these three parks to an acceptable standard. International aid funding to date has been sporadic and not sustainable. One serious subsidiary aspect of financial constraints is the exceptionally poor level of staff equipment and available transport. It was also reported that important prosecutions for illegal activities, such as encroachment and poaching, were not proceeding because of lack of finances to facilitate the prosecution process.
- **Jurisdictional** - it is apparent that there are some important jurisdictional problems that are seriously exacerbating problems with illegal logging and illegal roads. (e.g. PHKA has no authority to close or dismantle the 13 sawmills established on the southern boundary of KSNP and the responsible government authorities are not cooperative. Also, there were persistent reports of some local governments, police and police prosecutions being uncooperative, indeed antagonistic towards the park. It is clear that in many instances PHKA does not enjoy the support of key government agencies essential to meeting its management obligations.
- **Bureaucratic Procedure and Performance:** - Managers and staff reported often inefficient and even counter-productive bureaucratic procedures and performance, especially on financial matters, both within their organisation and other arms of government that at times seriously handicapped their ability to effectively manage. This was seen to be one of the factors contributing to overall low staff morale and motivation in some areas.

The combined effect of the institutional and governance failings is such that the current management regime of PHKA is not able to effectively address the huge on-ground threats to the values and integrity of the property. This factor alone is sufficient basis for concluding that the values and integrity of the property are presently endangered.

- **Other Identified Threats:**
 - Proposals for reactivating logging concessions adjoining KSNP and possible conversion of some of these adjoining forest concessions into oil palm plantations.
 - Proposed transmigration project into Renah Pemetik section of the Sungai Penuh enclave of KSNP where existing settlements already extensively encroach into the surrounding park
 - Corrupt practices in other agencies, such as those responsible for administration of timber transportation, frustrates illegal logging law enforcement. (See media clippings in Annexe 13)
 - Lack of map, satellite imagery resources and relevant skilled personnel. (GLNP is essentially devoid of all these resources)
 - Poor community relations and communications with local communities.
 - Often poor relations between park management and local government and other stakeholders, including NGO's in some cases handicaps cooperative and collaborative initiatives.
 - Failure to take a leadership role in the re-building following the flooding disaster at Bukit Lawang on the border of GLNP could threaten the

presentation if not the values of GLNP. A unique opportunity now presents for park management to re-plan this potentially important tourism access to the WH property.

3.3 *Impacts of the tsunami disaster of December 2004*

The tsunami, which hit Southeast Asia on December 26, 2004, caused tremendous impacts on the entire coastal zone of Nanggroe Aceh Darussalam (NAD) and North Sumatra, both provinces in which GLNP is located. The GLNP's ecosystem was not directly affected by the tsunami but the human resources and infrastructure of the national park and the nature conservation agency – which is also responsible for the management of conservation areas adjacent to the GLNP – were heavily impacted. Water masses flushed away entire parts of coastline and existing infrastructure in a width of up to 6km inland. The Nature Conservation Agency Aceh (BKSDA-A) Office in Banda Aceh, the provincial capital of Nanggroe Aceh Darussalam (NAD) and several GLNP resort offices along the western coast of Aceh were destroyed.

The final death toll in both provinces was 226,000 people. Many of the victims included people working for environmental governmental and non-governmental agencies. More than 150 staff, working for governmental forestry agencies, perished in the disaster. In the aftermath of the tsunami, massive loss of human resources and damage to infrastructure seriously hampered the daily operations of conservation agencies and other related sectors. Post-tsunami conditions (i.e. the growing needs for timber and the large amount of displaced and jobless people) have increased the pressure on forest resources in Aceh and to a lesser extent in GLNP. Logging concessions issued to local companies are not located in the vicinity of GLNP and it is therefore possible to assume that their presence will not directly impact the park's ecosystem.

Increased international attention and support was given to the property after the tsunami. The World Heritage Fund provided US\$ 66,000 in the form of emergency assistance to GLNP with the aim to rehabilitate some of the damaged infrastructure. In addition to the assistance of the WH Fund, the Government of Spain is financially supporting a two-year project, developed by UNESCO and PHKA, with a budget of US\$ 615,000. The project aims at mitigating post-tsunami environmental threats on GLNP and adjacent conservation areas. The main objective of the project is to rehabilitate the destroyed infrastructure and facilities and rebuild management capacities of the GLNP and the Nature Conservation Agency Aceh (BKSDA-A), responsible for the protection of natural resources adjacent to the park, following the tsunami disaster. As well as rebuilding necessary infrastructure, UNESCO will seek to collaborate with local stakeholders to strengthen the capacities of both agencies in mitigating post-tsunami and other existing threats (i.e. illegal logging, encroachment, etc.). The project is constituted of five major components: (1) Assess GLNP most critical needs in dealing with post-tsunami and other existing threats; (2) Rehabilitate GLNP infrastructure and equipment destroyed by the tsunami and acquire new equipment to restore and re-establish effective ground presence; (3) Build capacities of GLNP management to mitigate post-tsunami and other existing threats (i.e. illegal logging, encroachment, etc.); (4) Develop assessment and monitoring mechanism at GLNP level to mitigate post-tsunami and other existing threats. (5) Increase awareness of the value of GLNP and surrounding conservation areas for the maintenance of Acehnese biodiversity and the local economy.

Another newly developed project in support of the Leuser Ecosystem will be implemented by the Leuser International Foundation with the financial support of the Multi-donor Trust Fund. The project with a budget of more than US\$ 7 million will be implemented over a period of four years and focus on the Leuser Ecosystem, the areas adjacent to the national park. The purpose of the project is to ensure that environmental services from the Leuser forest ecosystem are protected during the post-tsunami reconstruction process. The project aims to contribute toward mitigating negative impacts of reconstruction interventions on the forests of Aceh, mainstreaming environmental concerns into planning processes, and building sustainable capacity and institutions for forest protection.

3.4 *Positive or negative developments in the conservation of the property since the last report to the World Heritage Committee*

It is difficult to be precise about particular changes in the conservation of the property over the short period of just 2 years since the last report to the WH Committee. It is more a case of threatening processes present at the time of listing having continued largely unabated. Nonetheless, some specific observations can be made:

Positive:

- It is evident that key staff in the management framework of the parks remain professionally committed to the cause of good park management, notwithstanding the many prevailing institutional and external constraints that limit their capacity to meet the huge challenges confronting them. PHKA have made good progress in remedy of an important gap in a wildlife corridor in KSNP (Merangin River). This particular action was previously recommended by IUCN and the WH Committee at the time of inscription.
- Anti-poaching units and their activities in parts of KSNP and BBSNP have been effective and achieved prosecutions.
- The public service status of park managers has been upgraded.
- Some of the derelict buildings in BSSNP have been demolished or repaired.
- A first collaborative meeting between managers and staff of the three national parks of the property and PHKA was held in March 2006 in KSNP headquarters in Sungai Penuh.
- The Aceh Peace Agreement appears to have led to a reduction in large scale illegal logging in GLNP.
- The BRR (Aceh and Nias Rehabilitation and Reconstruction Board) is highly supportive of protecting the forests of Aceh, including GLNP, including:
 - Opposition to sourcing of timber from illegal logging
 - Opposition to reactivation of logging concessions in vicinity of GLNP and Leuser Ecosystem.
 - Opposition to former Ladia Galaska 'Highway' and other road development through Leuser Ecosystem.

Further, BRR is facilitating the import of donated timber as a means of avoiding the impact of over-logging local forests.

Negative:

- The State Party has made no progress in preparing an emergency action plan requested by the WH Committee.

- None of the critical habitat recommended for inclusion in the property by the WH Committee at the time of inscription have been proposed for addition to the GLNP section of the property. Recent proposals to reactivate logging concessions over these lands have reportedly been rescinded. (Subject to confirmation)
- On-going encroachment in all component parks remains largely unchallenged.
- Major on-going illegal logging in KSNP remains unresolved due largely to jurisdictional constraints and lack of inter-agency cooperation.
- No evidence was found of any signposting, publicity, public education or socialisation on the WH status of the three component national parks of the property. This is reflected in an apparent widespread lack of awareness of the WH status of the Sumatran parks.

3.5 *Information on any threat or damage to or loss of outstanding universal value, integrity and/or authenticity for which the property was inscribed*

Based on evidence during the monitoring mission, reports from NGOs working in the area and the media, and as described above, there is incremental on-going loss of outstanding universal value and integrity throughout much of WH serial property. These are presented elsewhere in the report.

4. ASSESSMENT OF THE STATE OF CONSERVATION OF THE PROPERTY

4.1 *Review whether the values, on the basis of which the property was inscribed on the World Heritage List, and the conditions of integrity are being maintained:*

Each of the three criteria that provided the basis for inscription are reviewed separately below:

Criterion (ii): IUCN technical evaluation (2004) “*The Tropical Rainforest Heritage of Sumatra represent the most important blocks of forest on the island of Sumatra for the conservation of the biodiversity of both lowland and mountain forests. This once vast island of tropical rainforest, in the space of only 50 years, has been reduced to isolated remnants including those centred on the three nominated sites. The Leuser Ecosystem, including the Gunung Leuser National Park, is by far the largest and most significant forest remnant remaining in Sumatra. All three parks would undoubtedly have been important climatic refugia for species over evolutionary time and have **now become critically important refugia for future evolutionary processes.***” (emphasis added)

Review:

On-going truncation and fragmentation of the forests by roads, illegal logging, poaching and especially encroachment is progressively degrading both the value and integrity of the property as a critically important refugium for evolutionary processes. Although the degradation process is incremental, the trend is now very clear; in the absence of major intervention(s), the value and integrity of the property will continue to decline.

Criterion (iii): IUCN technical evaluation (2004) *“The parks that comprise the Tropical Rainforest Heritage of Sumatra are all located on the prominent main spine of the Bukit Barisan Mountains, known as the ‘Andes of Sumatra’. Outstanding scenic landscapes abound at all scales. The mountains of each site present prominent mountainous backdrops to the settled and developed lowlands of Sumatra. The combination of the spectacularly beautiful Lake Gunung Tujuh (the highest lake in southeast Asia), the magnificence of the giant Mount Kerinci volcano, numerous small volcanic, coastal and glacial lakes in natural forested settings, fumaroles belching smoke from forested mountains and numerous waterfalls and cave systems in lush rainforest settings, emphasise the outstanding beauty of the Tropical Rainforest Heritage of Sumatra.”*

Review:

The outstanding natural beauty of the property has to date been little compromised at the landscape level. However, the natural beauty associated with the lowland rainforests is under on-going threat at the local level as the magnificent lowland rainforests are progressively destroyed by the combination of logging and encroachment. Encroachments inside KSNP are now approaching the spectacularly beautiful Lake Gunung Tujuh and unless checked will seriously threaten the value and integrity of this superb natural feature. A currently proposed transmigration project in this vicinity is likely to accelerate the threat to Lake Gunung Tujuh. (transl. Seven Mountains Lake)

Criterion (iv): IUCN technical evaluation (2004) *“All three parks that comprise the Tropical Rainforest Heritage of Sumatra are areas of very diverse habitat and exceptional biodiversity. Collectively, the three sites include more than 50% of the total plant diversity of Sumatra. At least 92 local endemic species have been identified in Gunung Leuser National Park. The nomination contains populations of both the world’s largest flower (Rafflesia arnoldi) and the tallest flower (Amorphophallus titanium). The relict lowland forests in the nominated sites are very important for conservation of the plant and animal biodiversity of the rapidly disappearing lowland forests of South East Asia. Similarly, the montane forests, although less threatened, are very important for conservation of the distinctive montane vegetation of the property.”* (emphasis added)

Review:

The protected areas of the property are threatened in many ways but it is the lowland components of these parks that are under greatest threat, especially from encroachment: Examples include:

- Extensive encroachment of lowland in (GLNP) (>16,000 ha. cleared)
- Lowland large mammals (elephant, tiger, rhinoceros, orang-utan) increasingly threatened. (Population of rhinoceros reduced to possibly only 4 in KSNP, elephant in KSNP reduced and broken into small isolated herds).
- Wildlife corridors are being increasingly truncated by roads and major encroachments. (e.g. BBSNP – habitat severed in two places and threatened in a third; 34 proposed roads through core zone of KSNP)
- Local endemic mammals and birds are reported to be increasingly under greater threat and some face local extinction.
- Major threats to the property are developing outside and adjoining the parks that will impact on the wildlife populations and biodiversity associated with the property.

4.2 *Review any follow-up measures to previous decisions of the World Heritage Committee on the state of conservation of the property and measures which the State Party plans to take to protect the outstanding universal value of the property*

Extracts of the Decision adopted by 28th session of the World Heritage Committee (Suzhou, China, 28 June – 7 July 2004) (Reiterated at the 29th session Durban, South Africa, 10 – 17 July 2005) vide;

“Encourages the State Party to consider extending the World Heritage site to include other Leuser Ecosystem protected lands surrounding Gunung Leuser National Park, particularly the Singil Barat Wildlife Reserve, Langsa [Langkat] lowlands and foothills, Aceh Highlands and Tapaktuan lowlands;” [Decision 28 COM 14B.5]

Review: Advice to the monitoring mission was that no action has been taken towards addition of the subject critical habitat to the GLNP Section of the property. NOTE: The recommendation was, and remains, only about addition to the WH property, not about addition to the park per se. The first collaborative workshop between the management of the three parks and PHKA held recently identified management problems that need to be addressed.

“Requests the State Party to submit detailed topographical maps clearly showing the boundaries for each site before 1 February 2005.” [Decision 28 COM 14B.5]

Review: The requested maps have as yet not been provided.

“Noting the urgency of the ascertained threats to the site,

“Requests the State Party to submit a State of Conservation Report and an emergency action plan by 1 February 2005 focusing on:

i) the serious threats posed to the nominated sites by on-going illegal logging and agricultural encroachment;

ii) urgent review of the proposed Ladia Galaska Road, especially its likely serious impacts on both the nominated Gunung Leuser National Park and the surrounding Leuser Ecosystem;

iii) the need to secure international assistance (especially for capacity building) to better protect and manage the nominated sites, with highest priority being for Bukit Barisan Selatan National Park. Assistance is additionally required to replace the many derelict visitor facilities and infrastructure and to develop an ecotourism / visitor management strategy in Bukit Barisan Selatan National Park;

iv) protection of the critical habitat ‘missing link’ across the Merangin River between the main eastern and western blocks of the Kerinci Seblat National Park;

in order to enable the 29th session of the World Heritage Committee in 2005 to consider whether to send a monitoring mission to the site and the possibility of including the site on the List of World Heritage in Danger in accordance with the provisions of paragraphs 86-93 of the Operational Guidelines (2002)”. [Decision 28 COM 14B.5]

Review:

- **Emergency Action Plan:** There has been no progress in preparing the requested emergency action plan.
- **Illegal Logging and Encroachment:** As reported elsewhere in this mission report, illegal logging and encroachment remain a major issue.
- **Ladia Galaska Road:** Officially the Ladia Galaska Road proposal has been halted but the mission was informed that some sections are being constructed by the local authorities. Road construction in the area remains a threat to the park and associated forest habitat.
- **International Assistance:** An international assistance request to support in the preparation of an integrated action plan for the better protection and management of the property was submitted in December 2004 and IUCN provided comments on ways to focus and improve the proposed activities so that they responded to the request of the Committee. However, the request has not been resubmitted despite the encouragement of the 29th session of the Committee.
- **Merangin River:** Resolution of this identified deficiency has made excellent progress and is well advanced. A tract of important forest habitat linking two major parts of the park have been withdrawn from a logging concession and is in process of being formally added to the park, thereby formally protecting the wildlife corridor.

On the 26 December 2004 the tsunami disaster occurred and priorities then focussed on support to Banda Aceh. In response, in 2005 the State Party requested emergency assistance from the WH Fund to support rebuilding damaged infrastructure and purchasing equipment in GLNP. Unforeseen delays resulted in the assistance not being received during 2005 and is only now in process.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 *Recommendation as to whether the level of threats to the property warrants the property being placed on the List of World Heritage in Danger*

This section aims to assess the current state of conservation of the TRHS against the criteria of the WH Convention, as noted in the Operational Guidelines (2005), for inclusion of a property on the List of WH in Danger.

i) “A serious decline in the population of the endangered species or the other species of outstanding universal value which the property was legally established to protect, either by natural factors such as disease or by man-made factors such as poaching.”
(Extract of Operational Guidelines - 2005, Para. 180 (i))

It is evident from habitat assessment and mostly informal monitoring of populations that there is overall a serious **decline in the population of the endangered species**, though the degree of decline varies across the property. There are no comprehensive and

effective wildlife monitoring systems that establish population patterns and trends to provide sound basis for focussed management and quick response to threats. The arial extent and continuity of animal habitat is the subject of on-going loss by encroachment, roads and degradation by illegal logging, with the result that the effective area and quality of habitat for many species continues serious decline. The following are simply examples of impacted high profile species:

- **The endemic Sumatran rhinoceros** is approaching local extinction in KSNP, largest of the three sites (perhaps only 4 animals remaining) The numbers appear stable in BBSNP and GLNP, though much reduced in range compared to preceding decades. Survival is threatened.
- **The endemic Sumatran elephant** is now critically endangered in KSNP (down to several small herds that are isolated) though numbers of elephants in BBSNP appear to be remaining stable in at least the southern half of the park. The Sumatran elephant is now widely threatened in Sumatra as a result of increasing agricultural and industrial development such that BBSNP and the Leuser Ecosystem are increasingly critical to the long term future of the endemic sub-species. Longer term in-situ survival is threatened
- **The endemic Sumatran tiger** is now seriously threatened in KSNP. The Sumatran tiger is increasingly threatened throughout its range as a result of loss of habitat, hunting of prey species, human conflict and poaching. All three parks with the serial WH property, together with the Leuser ecosystem, are becoming the final main refugia for the species. The market price for Sumatran tiger bone has increased dramatically in recent years, making poaching an increasingly rewarding enterprise. Few tiger poachers are ever apprehended or prosecuted. The combination of illegal logging, numerous threatening road incursions and on-going agricultural encroachment facilitates loss of habitat, poaching and human encounter with tiger.
- **Some endemic bird taxa** are now highly endangered as a result of poaching e.g. local endemic form of white-rumped shama and hanging parrot. It has been estimated by informed persons that the number of birds poached from KSNP could now exceed 100,000 per year. Law enforcement of bird poaching and marketing outside the property is minimal.

Overall, many species of wildlife, particularly the larger mammals and some bird species are now threatened throughout their range in Sumatra including in their main refuges, in the WH property and Leuser Ecosystem.

NOTE: GLNP is inhabited by tiger, elephant, rhinoceros and orang-utan but arguably does NOT contain the most important habitat of the tiger, elephant or orang-utan; hence the previous recommendations by IUCN and the WH Committee that those habitats important for tiger, elephant and orang-utan be added to the GLNP section of the WH property.

Threat Abatement: Although there is significant threat abatement for poaching, this is incomplete and not comprehensive. Good progress is evident in parts of BBSNP and parts of KSNP where there is significant NGO participation. Overall, the threat

abatement is neither adequate nor sustainable, the conclusion being that the target species of poaching continue to be threatened.

ii) Severe deterioration of the natural beauty or scientific value of the property, as by human settlement, construction of reservoirs which flood important parts of the property, industrial and agricultural development including use of pesticides and fertilizers, major public works, mining, pollution, logging, firewood collection, etc. (Operational Guidelines Para 180 (ii))

- **Illegal logging:** All three protected areas have been subject to on-going illegal logging and associated road incursions. Although some progress has been made in curbing illegal logging, it remains a serious issue in all parks, and in KSNP in particular, where management is unable for ‘security’ reasons to apprehend illegal logging operators. (Benkulu side of KSNP. See media clipping in Annexe 13). The natural beauty of the forests and their scientific value continues to be threatened and subject to ongoing threats.
- **Encroachment:** Agricultural encroachments continue to extend towards some of the hitherto less accessible sites of outstanding natural beauty such as the Seven Mountains Lake (Danau Gunung Tujuh) in KSNP (cited in the nomination) and so threaten such sites.

iii) “Human encroachment on boundaries or in upstream areas which threaten the integrity of the property” (Operational Guidelines 183 (iii))

- **Major and on-going encroachment** is apparent in all three parks comprising the WH serial property. Management has largely proved unable to prevent or reverse encroachments and so encroachment is having an on-going and cumulative impact on the parks.

The cumulative effect of on-going encroachment is illustrated best by the mapped sequences provided by the Wildlife Conservation Society (WCS) in BBSNP. Cumulative loss of forest to largely unchallenged encroachments is now in the order of 22.5 % of the park and on-going. Habitat continuity has been severed in several places, further limiting migration of larger mammal species. (See Annexe 7)

All three parks exhibit evidence of major and on-going agricultural encroachment. Two tracts of land, one in BBSNP and one in GLNP, are now so extensive (26,000 ha. and 16,000 ha. respectively) and so devoid of conservation values that they represent an indictment of their current WH status and are therefore recommended for excision from the listed property. The total cumulative area of agricultural encroachment would now well exceed 100,000 ha (56,000 ha in BBSNP alone). In the Sekincau encroachment of BBSNP, transects by WCS have established that 70% of the area is established commercial coffee plantations.

Although many encroachments in the property are individually small and peripheral to the protected areas, some are wholly inside the parks, some are industrial encroachments (oil palm) and some are very extensive (see above). The larger encroachments are mostly in areas of high conservation value (e.g. Lowland rainforest/elephant habitat in GLNP). Habitat continuity has been severed or is seriously threatened in some cases. (BBSNP)

- ***No significant threat abatement:***

There is no evidence of any major management initiative to stem the growing tide of encroachments; encroachers are often not confronted or removed, prosecutions are rare and rehabilitation of encroachments is rare. The clearly established trend throughout the site is that encroachment is a serious and on-going threat to the values and integrity of the TRHS WH property.

Conclusion:

Notwithstanding skilled and motivated leadership in each of the component protected areas, the burden of effectively protecting and managing the WH property in the face of overwhelming external threats is beyond the current capacity of management. It is therefore concluded that the WH values and integrity of the TRHS WH serial property are currently endangered and, failing an urgent and major management intervention, these will remain critically endangered. This extraordinarily important property of global natural heritage significance may therefore be considered as endangered according to paragraph 4 of Article 11 of the WH Convention.

5.2 *Recommendations for action to be taken by the State Party, including draft recommendations to the World Heritage Committee*

Based on the findings of the IUCN – UNESCO monitoring mission, it is recommended that:

1. The boundaries of the WH property be amended by,
 - a. Excision of the two major cleared encroachments, the Besitang Area, Langkat district in GLNP (about 16,000 ha.) and the Sekincau area, Lampung Barat, in BBSNP (about 26,000 ha);
 - b. Addition of the following lands to the WH property:
 - lands previously recommended by the WH Committee for addition to GLNP section of WH property ('Other Leuser Ecosystem protected lands surrounding Gunung Leuser National Park, particularly the Singil Barat Wildlife Reserve, Langsa [Langkat] lowlands and foothills, Aceh Highlands and Tapaktuan lowlands');
 - important forest habitat on south-western side of KSNP (Air Seblat Merah); and
 - important forest habitat on south-western side of BBSNP (Bengkunat).
2. The State Party be requested to submit an Emergency Action Plan by the 1 February 2007, for examination by the WH Committee at its 31st session (2007), to address the trend in loss of value and integrity of the property. In this regard the State Party should,
 - i) seek international assistance from the WH Fund and the FFI-UNESCO-UNF WH Rapid Response Facility, as well as technical support from IUCN and the WH Centre, to urgently convene a workshop to scope the parameters of an Emergency Action Plan and identify partners, timeframe, responsibilities and sources of funding for its implementation, as well as benchmarks to assess progress over time;

- ii) ensure that the Emergency Action Plan is developed in collaboration with national and international partners and should consider the following key interventions to arrest the alarming on-going decline of the WH property:
 - a. Encroachment:**
 - Urgently develop and implement a decisive national policy on encroachments in national parks as a first step in arresting the on-going loss of valuable protected area.
 - Keeping in mind the apparent benefits to address illegal logging generally when the President of Indonesia announced a Government initiative to address illegal logging in 2004; a similar approach might be appropriate for illegal encroachments; the main elements of such a policy initiative might include:
 - Use of (existing) satellite technology for near-to-real-time boundary monitoring and early detection of new encroachments (and illegal logging); (See example at Annexe 12)
 - Early on-ground intervention on detected new encroachments;
 - Policy of zero tolerance of all **new** encroachments (enforce the law);
 - Define or redefine park boundaries with greater on-ground marking and signposting;
 - Priority socialization in key local communities neighbouring the parks;
 - Programme and implement action for removal and rehabilitation of at least selected existing encroachments; and
 - Proceed with resolution or prosecution of major commercial encroachments, particularly in KSNP and GLNP.
 - b. Illegal Logging:**
 - Central Government intervention to require far greater cooperation from all levels of government and agencies in eradication of illegal logging in the property.
 - Introduce application of latest satellite surveillance for early detection of illegal logging.
 - Address the issue of proposed reactivation of logging concessions adjoining KSNP and associated threat of illegal logging in the national parks.
 - c. Road Incursions:**
 - Central Government intervention to resolve the matter of the 34 proposed roads in the core zone of KSNP, together with other proposed roads through GLNP and BBSNP (including some already under construction) on the basis of it being a serious national issue requiring an urgent national solution.
 - d. Poaching:**
 - Rapid expansion and better resourcing of anti-poaching activities and to broaden monitoring and law enforcement to all protected wildlife, plants and animals in the property and to markets trafficking poached wildlife and protected species.
 - Rapid development of long term wildlife monitoring systems that provide a sound basis for wildlife management and response to threats.

e. Institutional Restructuring:

- Review the existing management framework with the aim to bridge the increasing gap between a highly centralised and often alienated bureaucracy and the regional community. (e.g. local government, provincial government, NGO's, science community, tourism), in particular to provide greater opportunities shared management burden through collaborative and participative management.

f. Resourcing:

- Secure international assistance to help urgently address the critical on-going threats to the value and integrity of the property. (especially for capacity building)
- Carry-out an independent audit and review of existing staff arrangements and performance to establish a basis for rapidly developing management teams with greater motivation, skills and effectiveness in the management of the property.
- Provide, as a matter of priority, greater transportation and communication capacity, especially for rangers and law enforcement staff (four-wheel drive vehicles, motorcycles and radios.)
- In the interests of supplementary resourcing of the property, PHKA should facilitate a permanent capacity for specialised fund raising and sponsorship for the benefit of the WH property. (e.g. fund-raising foundation / Trust Fund, a contract fund-raiser/sponsorship agent).

g. Promotion and Presentation of World Heritage:

- Give greater attention to identification, signposting and publicity of the World Heritage status of the parks, in particular communication of that fact to the local community.
 - Park management take an immediate initiative and preferably leadership role in the re-planning of the destroyed Bukit Lawang tourism precinct adjacent to GLNP to safeguard the park and provide a quality presentation of the WH property.
3. The State Party, with support from UNESCO, IUCN and members of WH Committee, call for significant international donor support to implement the Emergency Action Plan and to develop capacity for effective management and governance of the property;
 4. The Tropical Rainforest Heritage of Sumatra serial WH property be included on the List of WH in Danger due to serious ongoing ascertained threats to the outstanding universal value and integrity of the property, notably from extensive illegal logging, agricultural encroachment, poaching, road construction and institutional and governance issues.
 5. Given the critical condition of the property, regular monitoring of its values and integrity be carried out to establish whether threat mitigation is proving successful in arresting the on-going deterioration of the property;
 6. If substantial financial assistance and its effective application to the critical threats of the property is not forthcoming within 4 years, the longer term value and future of the property as a WH property be critically reviewed.

5.3 *Benchmarks and timeframe for corrective measures*

It is reasonable to expect within 3-4 years that there is demonstrable evidence that:

- a) **An Emergency Action Plan** is completed, resourced and under implementation;
- b) **Encroachment, logging and roads:** Sustainable programmes are in place to effectively control encroachment, illegal logging and road development; there is a clear reduction in the percentage of the property subject to these threats, reforestation of habitat is underway and there is no new encroachment or logging within the property.
- c) **Boundaries and zoning:** The boundaries are amended to exclude major encroachments and include critical habitat; all park boundaries are marked, including signposting of World Heritage status; park gazettal is completed; and park zoning plans are finalised, formally adopted and communicated to local government and stakeholders;
- d) **Governance:** Effective governance is in place to ensure mechanisms for institutional coordination across the serial property, and that collaboration and participatory management regimes are in place;
- e) **Resourcing:** Progress is made in establishing sustainable financing for the property and developing capacity for effective management;
- f) **Monitoring:** Effective wildlife monitoring and anti-poaching programmes are in place for the whole property and the associated Leuser Ecosystem to arrest the decline in populations of all wildlife species, especially of the Sumatran endemic taxa;

These benchmarks need to be assessed during preparation of the emergency action plan, and endorsed by the State Party and WH Committee.

6. ANNEXES

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Annexe 1

Terms of Reference for a Joint UNESCO/IUCN Reactive Monitoring Mission to the Tropical Rainforest Heritage of Sumatra, Indonesia

Undertake a UNESCO/IUCN Reactive Monitoring Mission from 25 February to 3 March 2006 in Indonesia to the World Heritage property of **the Tropical Rainforest Heritage of Sumatra**. The mission should:

- (i) Assess the state of conservation of this property;
- (ii) Hold consultations with the Indonesian authorities in examining the progress made in the implementation of the recommendations of the World Heritage Committee in its decisions, **28 COM 14B.5** and **29 COM 7B. 9** (copies attached);
- (iii) Assess progress made and provide advice as necessary to the Indonesian authorities in developing an emergency action plan, including identification of necessary resources, to address the concerns expressed by the World Heritage Committee in Decision 28 COM 14B.5, Paragraph 5, and agree on a timeframe for the prompt submission and implementation of the emergency action plan;
- (iv) Follow up with the State Party on the request by the World Heritage Committee in Decision 28 COM 14B.5, Paragraph 3 to submit detailed topographical maps clearly showing the boundaries for each site;
- (v) Assess whether conditions warrant for inclusion of the property on the List of World Heritage in Danger in accordance with the provisions of paragraphs 86-93 of the Operational Guidelines (2002);
- (vi) Make recommendations to the Government of Indonesia and the World Heritage Committee for a better conservation and management of the property, particularly on the strategy for the sustainable protection of the surrounding Leuser Ecosystem and potential extension of the World Heritage property;
- (vii) Prepare a joint report on the findings and recommendations of this Reactive Monitoring Mission following the attached format and submit it to the UNESCO World Heritage Centre and IUCN Headquarters by 31 March 2006 at the latest in hard copy and an electronic version.

Annexe 2

ITINERARY AND PROGRAMME

**UNESCO/IUCN Reactive Monitoring Mission to the World Heritage Property of
the Tropical Rainforest Heritage of Sumatra (TRHS), Indonesia
25 February – 6 March 2006**

Day/Date	Time	Activity	Remarks
Saturday, 25/02/2006	06:20 hrs	Departure from Jakarta to Banda Aceh (by air)	with Garuda (GA190)
	09:00 hrs	- Arrival in Banda Aceh - Proceed to UNESCO House in Banda Aceh	
	10:00 hrs	Security briefing at UNDSS Banda Aceh	<i>to be coordinated with Pak Roesman, Sr. Fin. Officer of UNESCO/JAK as a contact person for UNESCO House in Banda Aceh.</i>
	11:00 hrs	Meeting with BRR (Ms. Saodah Lubis)	<i>to be coordinated with Pak Wiratno, Head of GLNP</i>
	12:00- 13:00 hrs	Meeting with Head of Gunung Leuser NP, BKSDA, NGOs and BRR to discuss impact of tsunami on GNLP and conservation in general.	<i>in coordination with Pak Wiratno</i>
	14:00- 15:30 hrs	Visit the destroyed facilities of the office of Unit Nature Conservation (BKSDA) and Gunung Leuser National Park, and ground zero.	
	17:30 hrs	Banda Aceh of Nanggroe Aceh Darussalam Province to Medan of North Sumatra Province (by air)	with Garuda (GA 195)
	18:25 hrs	- Arrive in Medan - Check in Hotel Novotel	Hotel Novotel Soechi Medan Jln. Cirebon No. 76A Medan 20152
	19:30 hrs	Informal meeting with GLNP, NGOs (i.e. LEF, CI, FFI, Walhi, etc)	<i>venue at the office of GLNP in Medan</i>
Sunday 26/02/2006	08:00 hrs	Drive Medan to Langkat and Bukit Lawang	
	pm	- Stay overnight Bukit Lawang	Gunung Leuser National Park Jln. Raya Blangkejeren Km 3 No. 37, Kutacane, Nanggroe Aceh Darussalam

			Tel.: +62-629-21358 Fax: +62-629-21016
Monday 27/02/2006	06:00 hrs	Inspect Bukit Lawang flood damage and tourist facilities.	
	13:00 hrs	Drive Bukit Lawang to Medan	
	pm	Stay over night in Medan	Hotel Novotel
Tuesday 28/02/2006	07:00 hrs	Medan to Padang of West Sumatra Province (by air)	with Mandala (RI089)
	08:00 hrs	- Arrive in Padang - Drive Padang to Sungai Penuh, South Sumatra (8 hours)	
	pm	- Arrive in Sungai Penuh - Stay overnight in Sungai Penuh	Hotel Jaya Sungai Penuh Tel.: +62-748-21221
Wednesday 1/03/2006	08:30 hrs	Meeting with the Head and key staff of Kerinci Seblat NP	Kerinci Seblat National Park Jln. Basuki Rahmat 11 Sungai Penuh 32112, Jambi Tel.: +62-748-22250 Fax: +62-748-22300
	10:00 hrs	Meeting with NGOs	<i>FFI, local based NGOs, etc.</i>
	pm	Field visit	<i>in coordination with Pak Suwartono, Head</i>
	pm	Stay overnight in Sungai Penuh	Hotel Jaya
Thursday 2/03/2006	06:00 hrs	Drive Sungai Penuh-Padang (8 hours)	
	16:15 hrs	Depart Padang-Jakarta (by air)	with Garuda (GA165)
	17:50 hrs	- Arrive in Jakarta - Stay overnight in Jakarta	<i>no direct flight between Padang and Lampung – this has to go through JKT</i>
Friday 3/03/2006	07:20 hrs	Depart Jakarta-Lampung Province, South Sumatra (by air)	with Merpati (MZ3500) – please note the departure gate is through the Halim Perdana Kusuma Airport, East Jakarta
	08:00 hrs	- Arrive in Bandar Lampung - Proceed to Kotaagung by land (2 hours)	
	10:00 hrs	Meeting with Head and key staff of Bukit Barisan Selatan NP	Bukit Barisan Selatan National Park Jln. Ir. H. Juanda 19, Tanggamus Kota Agung, Lampung 35751

			Tel.: +62-722-21064
	14:00 hrs	Meeting with NGOs	WCS-IP, CANOPI Project, RPU-TNBBS, & WWF-BBS
	Pm	Stay overnight in Kotaagung	Hotel Setia Tanggamus, Kotaagung Tel.: +62-722-21065
Saturday			
4/03/2006	07:00 hrs	Field visit to Sukaraja (i.e. the destroyed facilities in Sukaraja Atas)	in coordination with Head of BBSNP
	09:00 hrs	Filed visit to Krui (i.e. the encroachment areas in Rataagung)	
	16:00 hrs	Field visit to Liwa (potential ecotourism spot in Kubu Perahu)	
	pm	- Return to Kotaagung - Stay overnight in Kotaagung	
Sunday			
5/03/2006	10:00 hrs	Drive Kotaagung-Bandar Lampung (2 hours)	
	16:10 hrs	Leave for Jakarta (by air)	with Merpati (MZ3503)
	17:00 hrs	- Arrive in Jakarta - End of mission	
Tuesday,			
7/03/2006	am/pm	Meeting with the Indonesian NATCOM, Directorate-General of PHKA, Heads of TRHS, WH Focal Point, etc.	<i>Bu Puspa & team to coordinate with Natcom/WH Focal Point.</i>

Annexe 3

List of people and organisations met by mission team:

- PHKA Jakarta: Mr. Banjar Y. Laban, Ms. Puspa Dewi Liman, Mr. Adi Susmianto
- Gunung Leuser National Park: Wiratno and staff
- NGOs Leuser: WALHI North Sumatra, Conservation International Indonesia, Flora and Fauna International Indonesia, Sumatra Orangutan Conservation Project
- Rehabilitation and Reconstruction Agency (BRR) for Aceh-Nias: Ms. Saodah Lubis, Ms. Puteri Watson
- Leuser International Foundation: Mike Griffith, Niser Tarigan.
- Kerinci Seblat National Park: Kholid Indarto (Deputy Manager) and staff
- NGOs KS: Kerinci NGO Forum
- Bukit Barisan Selatan National Park: Taman Sitorus (Manager) and staff
- NGOs BBS: WWF, Wildlife Conservation Society Indonesia, CANOPI
- WCS (Bogor Office): David Gaveau and staff
- World Bank: Josef Leitman, Timothy Brown, Mario Boccucci

WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION
TROPICAL RAINFOREST HERITAGE OF SUMATRA (INDONESIA) ID N°1167

1. DOCUMENTATION

- i) **IUCN/WCMC Data Sheet:** Two references.
- ii) **Additional Literature Consulted:** De Wilde, W.J.J.O. and Duyfjes, B.E.E. 1996. **Vegetation, Floristics and Plant Biogeography in Gunung Leuser National Park, in Leuser: A Sumatran Sanctuary**, Yayasan Bina Sains Hayati Indonesia; Flora and Fauna International, 2003, **The Ecological and Subsequent Social-Economic Impacts of Ladia Galaska**, Technical Memorandum, Sumatran Elephant Conservation Programme, FFI; Marshall, A.J., Jones, J.H., Wrangham R.W. 2000, **The plight of the apes: a global survey of ape populations**. Briefing paper. Department of Anthropology, Harvard University; Thornton, I. 1997, **Krakatau: The destruction and reassembly of an Island Ecosystem**, Harvard University Press; Whitten, T., Sengli J. Damanik, Jazanul Anwar, Nazzaruddin Hisyam, 2000, **The Ecology of Sumatra**, The Ecology of Indonesia Series, Vol. I Periplus.
- iii) **Consultations:** Five expert reviewers. Ten external reviewers consulted. The mission met with experts and high-level representatives from the Directorate of Forest Protection and Nature Conservation (PHKA), Jakarta; the Ministry for Environment; Jakarta Office of UNESCO; Leuser Development Programme; North Sumatra Planning Board; Flora and Fauna International, Sumatran Elephant Programme; National Park staff; Provincial authorities; Office for Investment, Culture and Tourism of Lampung Province.
- iv) **Field Visit:** Peter Hitchcock, January, 2004.

2. SUMMARY OF NATURAL VALUES

The Tropical Rainforest Heritage of Sumatra (TRHS) nomination comprises three widely separated protected areas on the island of Sumatra, one of the larger islands and westernmost of the Indonesian archipelago of some 17,000 islands.

By way of introduction, Indonesia occupies only 1.3% of earth's land surface, its 17,000 islands include more than 10% of the world's flowering plants, 12% of the world's mammal species, 17% of all reptiles and amphibians and 17% of the world's bird species (BAPPENAS 1993). This extraordinary biological richness is the reason why Indonesia is recognised as one of the 7 megadiverse countries, containing 2 of the world's 25 'hotspots' (areas of high diversity as defined by Conservation International – CI). Of the 200 WWF Global Ecoregions, 18 are located in Indonesia – 11 terrestrial, 4 freshwater and 3 marine.

Sumatra comprises part of the WWF "Sundaland" hotspot and is the location of the 'Sumatran Islands Lowland and Montane Forests Ecoregion'. Whitten (2000) estimated the original vegetation cover of Sumatra to include 5,680,000 ha of montane forest and 25,154,000 ha of tropical evergreen lowland forest. The lowland tropical forests have been largely destroyed in

recent decades (circa 20% remaining, mostly as small remnants) and montane forest is increasingly threatened by logging and agricultural encroachment.

The biodiversity of the forests of Sumatra is exceptional. There are an estimated 10,000 species of plants, including 17 endemic genera. This very diverse flora is in large part shared with other parts of the West Malesian region that extends from southern Thailand to the island of New Guinea. The part of Sumatra north of Lake Toba includes a distinctive Sumatran flora (de Wilde and Duyfjes 1996), most distinctive in the montane and sub-alpine vegetation, especially the '*blang*' forest.

Animal diversity in Sumatra is also impressive, with more than 200 mammal species and some 580 bird species of which 465 are resident and 21 are endemics. Of the mammal species, 22 are Asian species not found elsewhere in the Indonesian archipelago and 15 are confined to the Indonesian region, including the endemic Sumatran orangutan.

Geologically, Sumatra is located on the southern edge of the Asian tectonic plate adjacent to the oceanic floor section of the Austro-Indian plate that downthrusts beneath the island. The collision of the two plates has created the uplifted mountain range, the Bukit Barisan Range, extending the full 1680 km length of the island with many active volcanoes. Climatically, GLNP, KSNP and the western part of BBSNP fall within Type A (wet) of the Schmidt and Fergusson climate classification. The southern part of BBSNP is drier and is akin to a Type B climate, with an annual dry season of 5 months.

Turning now to the nomination, this has total core area of **2,595,125** hectares, the nomination comprises three national parks (Taman Nasional) established under national legislation of the Republic of Indonesia:

- Gunung Leuser National Park (GLNP) (established in 1980) 862,975 ha.
- Kerinci Seblat National Park (KSNP) (established in 1992) 1,375,350 ha.
- Bukit Barisan Selatan National Park (BBSNP) (established in 1982) 356,800 ha.

All three parks are located on Bukit Barisan range, that runs from Aceh in the north-west to Bandar Lampung in the south-east. Together they represent whole or part of the three most significant remnant 'islands' of the once vast Sumatran forests.

The nomination includes the highest mountain in Sumatra, Gunung Kerinci (3,800 m). This is also Indonesia's highest volcano and remains very active. Since both GLNP and BBSNP have minor frontages to the Indian Ocean, the altitudinal range of the nomination extends from the highest mountains on Sumatra to sea level. Thus all three protected areas in the nomination exhibit a wide altitudinal zonation of vegetation, from lowland rainforest to montane forest, extending to sub-alpine low forest, scrub and shrub thickets in GLNP and KSNP. But most of the nominated parks are mountainous with only small lowland areas (for example, 12% of GLLNP is below 600m). The nominated areas are therefore more characteristic of the Bukit Barisan Mountain Range than of Sumatra as a whole, which is otherwise predominantly lowland with very extensive floodplains.

GLNP is a part of one of 18 regions in Indonesia classified by the WWF as part of the 200 Global Ecoregions of importance for conservation of the world's biodiversity. The distribution of some species of animals in Sumatra is believed to provide evidence of the role played by the Toba tuff eruptions 75,000 years ago. For example, the Sumatran orangutan is not found south of Lake Toba and the tapir is not found north of it. Further, the high level of endemism in the mammals and birds is presented as evidence of the bridge-barrier relationship between the Sumatra biota and that of mainland Asia as a consequence of sea level changes. Despite periodic land bridges to Asia, Sumatra has developed a high endemism, an important natural process well represented in the nominated sites. The altitudinal range and connectivity between diverse habitats in the

nominated sites, in particular in GLNP and KSNP, would have facilitated on-going ecological and biological evolution.

There are no formal buffer zones included in the nomination. However, GLNP is the core of a tract of protected lands comprising the Leuser Ecosystem. This is of great conservation significance in itself but is also a critically important buffer zone to the park. There are other protected lands adjoining KSNP and BBSNP presently representing effective buffers but due to extensive illegal logging and encroachment, these can no longer be assumed to be permanent buffers.

3. COMPARISONS WITH OTHER AREAS

The geology of the TRHS is typical of the region. The TRHS includes two sample transects across the Sumatran subduction zone with largely intact naturally vegetated landscapes, incorporating sections of the uplift, rifting and volcanic zones. KSNP provides a transect with a very clearly defined rift valley and associated volcano, the largest in Indonesia. Whilst these represent important earth science values, they are features that are widespread throughout the region, and are not the basis of a distinctive claim for outstanding universal value.

From a biodiversity and ecological perspective, there is no comparable area within Indonesia, although a cluster forest site in Borneo has been nominated for examination in 2004/2005. However, the TRHS has significantly higher mammal diversity than the island of Borneo, which lacks many of the larger Sumatran mammals, which are endemic to that island.

Although many of the Asian mammals once extended further east in the archipelago, extensive clearing, intensive agriculture and other human activity has progressively eliminated at least the larger mammals and their habitat from Bali and Java. The only other existing large World Heritage site in Indonesia is Lorentz National Park in Papua which is located in a completely different biogeographic realm (Australian realm).

Although Ujung Kulon National Park World Heritage site is just across the Sunda Strait from BBSNP, its very much smaller size and lesser biodiversity, means that it does not compare with either BBSNP or the TRHS nomination as a whole. There is also little basis for comparison with the Komodo National Park World Heritage site in eastern Indonesia where the primary values are the endangered 'komodo dragon' species and adjacent marine areas.

Looking more widely, none of the mainland Asian sites exhibits the effect of sea-level oscillations on the on-going biological evolution, evidenced by the high level of endemism in Sumatra. Indeed, the TRHS needs to be compared with other places in the South Eastern Asian biogeographic region, as well as elsewhere in the tropical world. At the global level, the biodiversity of the TRHS nomination compares very favourably with that of other World Heritage sites. The best test of comparison is to compare like-with-like, using Manu National Park (Peru) and the Central Amazon Conservation Complex (CACC, Brazil), which includes Jau National Park, in the high biodiversity Amazon forests of Brazil, as shown in Table 1 below.

Table 1: Comparison of biodiversity between the nominated site and other World Heritage sites

Biodiversity class	Mammals	Birds	Reptiles & Amphibians	Fish
Protected Area				
TRHS (nominated area) 2,595,124 ha	Circa 180	Circa 450	Circa 200	30+
Manu NP (Peru) 1,532,806 ha	99	850	120	Circa 200
CACC, Brazil	120	411	Circa 150	320

5,232,018 ha				
Thungyai-Huai Kha Khaeng, Thailand	120	400	139	113
622,200 ha				
Lorentz NP, Indonesia 2,350,000 ha	41	274+	150+	Circa 100

The nominated site clearly excels in the high biodiversity of mammals when analysed at a global scale and one of the highest biodiversity of birds only after Manu National Park that protects 15% of all the birds species of the world. The broadly comparable diversity when compared with the much larger CACC is not surprising, given the much greater altitudinal range and hence habitat diversity of the Sumatran sites.

The large mammals of the TRHS (tiger, elephant, rhinoceros, tapir, sunbear and orangutan) are indicators of the Asian realm. The regions that need to be directly compared are the island of Java, peninsular Malaysia, Thailand, Myanmar, Borneo, Vietnam and Laos. Both Java and Sumatra have been periodically linked by land bridges in a geological timescale to Asia. However, Sumatra demonstrates an evolutionary divergence in response to longer isolation.

The Sumatran sites are distinguished by the high level of endemism, including the three Sumatran endemic large mammals. However, at the generic level, the most comparable sites are several in Malaysia and Thailand which share with the TRHS several large mammals, including the tiger and elephant, but lack the high plants and animals endemism of the Sumatran taxa, among montane biota.

In summary, the features of the TRHS that make it globally and regionally distinct from other existing World Heritage sites in biodiversity terms are:

- Very high fauna biodiversity rating at the global level;
- In SE Asia, overall fauna and flora biodiversity comparable only with some Borneo prospective sites.(e.g. 4,000 + plant species);
- The highest mammal diversity in insular SE Asia (incl. 22 Asian species not found elsewhere in insular SE Asia);
- Critically important habitat for many rare and threatened faunal species.(e.g. 58+ birds on 2000 IUCN Red List of Threatened Species);
- Critically important habitat for four threatened large mammals , three of which are Sumatran endemics (tiger, elephant, orangutan);
- Outstanding climatic refugial value for many species, and outstanding habitat diversity over a large altitudinal range (from sea level to 3,800 m);
- The presence of outstanding diverse and distinctive 'Asian' montane biota.

Finally, in terms of landscape and natural beauty, the TRHS cluster differs from the distinctive landscapes of both Kinabalu Park and Gunung Mulu National Park in Malaysian Borneo. It differs too from Taman Negara in peninsular Malaysia and the Thungyai - Huai Kha Khaeng Wildlife Sanctuaries (Thailand). All the above lack the volcanic component of the TRHS. Unlike Kinabalu Park and Gunung Mulu National Park, the natural beauty of the TRHS is mostly dispersed and often of a smaller scale, including many individual beautiful features, such as alpine landscapes, waterfalls, lakes, caves and rivers. Although Ujung Kulon National Park includes the remains of one of the world's most famous volcanoes, Krakatau, its scale and spectacle is not comparable to the volcanoes in the nomination such as Gunung Kerinci volcano in KSNP (3,404 m). This mountain is a 'classic' and active stratovolcano, the highest indeed in SE Asia (3,800 m). Moreover, the site is remarkable as the only nominated one in SE Asia with active volcanoes embedded in tracts of rainforest.

4. INTEGRITY

4.1. Legal Status

All three nominated parks are public lands designated as national parks by the Government of Indonesia. National Park status is the appropriate level of legal protection in Indonesia. The managing authority of all three nominated sites is presently the Directorate General of Forest Protection and Forest Conservation (PHKA) within the Ministry of Forestry. The nomination refers to the handover of management of the Leuser Ecosystem from the Leuser Management Unit to the Leuser International Foundation (LIF) in 2004. The home page of the LIF advises that it has a thirty year concession over the Leuser Ecosystem. The GLNP, however, will continue under PHKA management.

4.2 Management

Park rangers (mainly Polisi Hutan or Forest Police) administrative staff and technicians are employed at each park. Staff may from time to time be formed into special units such as a 'Rhino Management Unit'. Total staff numbers however (GLNP – 237, KSNP – 162, BBSNP – 127) suggest a greater management capacity than is the case. There is a need for increased training and resourcing to achieve greater effectiveness, especially in law enforcement. Whereas base salaries of staff are funded, in almost all cases there is a serious lack of resources for effective field routine management: for example, a shortage of vehicles severely limits mobility of field staff..

Management plans, as required by Indonesian law, exist for all three parks. However, many staff are not conversant with them, suggesting the need for a more concise document for briefing and training purposes.

The level of involvement and cooperation of local communities, including local government, in management of the parks, vary greatly within the nominated areas. In some cases, local communities and local government are seen by managers as a serious threat to the parks: in others they are playing a supporting role. In KSNP with a memorandum has been developed between 14 or more local governments and the park management: a commendable initiative. Even so, the level of support by local government has declined since management has opposed the opening of new roads through the park and demonstrated increasing effectiveness in anti-poaching and anti-logging activities within it. The operation of two large international aid projects in KSNP (GEF) and GLNP (part of EU sponsored Leuser Management Unit) resulted in a great deal of consultation and interaction with local communities on many aspects of park and wildlife management.

It is apparent that the financial resources available over the past decade have varied greatly within each site, as well as between sites, as shown in Table 2. Further major changes are imminent as a result of recent and pending cessation of several international aid programs.

Table 2: Trends in financial resources to nominated sites (indicative only)

Budget Period	GLNP	KSNP	BBSNP	Total
1984/85-1994/95	US\$63,886.00 (70% from National budget)	Approx. average annual budget - US\$6,546,960.	Most funding came from National Budget	
1984/85–1994/95	US\$63,886.00	Most funding since 1996 came		

2000	US\$192,696.00 (\$96,460 from National budget; \$13,635 from Gunung Leuser Mgt. Strengthg. Fund)	from the KS-ICDP Project* totalling US \$46 million. This project finished in 2002.		
2001			US\$240,450	
Annual Funding (approx. only)	US\$190,000	US\$6,546,000*	US\$240,000	*US\$6,976,000

*Note: The KS-ICDP project has now finished.

All three nominated parks have outstanding tourism potential. However, a variety of factors are impeding or preventing significant tourism development. These include inadequate strategic planning for tourism; totally inadequate infrastructure in parks; poor road infrastructure in some localities outside parks; lack of certainty in protection of the natural resource; illegal activities continuing to degrade the resource (e.g. logging along scenic forest routes); and security problems in Nanggroe Aceh Darussalam (NAD). If these issues are addressed tourism could be an important alternative to provide additional funding for managing these parks.

4.3. Boundaries

Gunung Leuser National Park

GLNP is one component of a much larger block of high quality wildlife habitat and natural landscape known as the 'Leuser Ecosystem'. The Leuser Ecosystem provides major habitat for four threatened and critically threatened Sumatran endemic large mammals exist here, including the Sumatran Orangutan (critically endangered - CR), the Sumatran Tiger (CR), the Sumatran Elephant (endangered, IUCN Red List) and the Sumatran Rhinoceros (CR). GLNP, embedded in the Leuser Ecosystem, contains habitat of all four species though does **not** contain '*the most important habitat*' of three of those species (elephant, tiger and orangutan) in the region. Furthermore, GLNP is the only part of the cluster nomination that falls within the range of the critically threatened endemic Sumatran orangutan: while it contains important orangutan habitat, much of the critically important habitat is located outside the nominated area in the surrounding Leuser Ecosystem.

Unfortunately, some of the best evidence of significant on-going ecological and biological processes is contained in the part of the Leuser Ecosystem outside the nomination. For example, the recent discovery of evolutionary adaptation in a population of orangutans (use of tools) is limited to a population outside of the nominated GLNP. The most important areas of high biodiversity of the Leuser Ecosystem outside GLNP are mainly (i) the Singkil Barat Wildlife Reserve, (ii) Langsa lowlands and foothills, and (iii) the Aceh Highlands and the Tapaktuan lowlands. The Singkil Barat Wildlife Reserve alone is a threatened lowland swamp forest and considered by the Leuser Management Unit as being of global significance for conservation of the Sumatran orangutan.

In addition much of the regional scale migration of the Sumatran elephant in the Leuser area largely takes place outside of GLNP in the Leuser Ecosystem. Furthermore, the Policy Dialogue on World Heritage Forests held in Berastagi, Sumatra in December, 1998 paid particular attention to the nearby Leuser Ecosystem. The Berastagi proceedings refer to both BBSNP and KSNP but specify the Leuser Ecosystem instead of the smaller component GLNP. Limiting the nomination to the Gunung Leuser National Park section of the Leuser Ecosystem creates an anomalous situation and fails to meet international expectations from this important serial site nomination.

Kerinci Seblat National Park

KSNP is by far the largest of the three nominated areas. Whilst many of its boundaries interface with developed lands or highly degraded lands, some boundaries adjoin critically important habitat that currently functions as an integral part of the park ecosystem. With development proceeding apace outside the park, some of those boundaries will become very problematic, especially for the larger mammals. For example, the western boundary of the park between Padang and Bengkulu transects tiger and elephant habitat. If development is allowed to extend up to the park boundary in such locations, the park will become very much more difficult to manage, unnecessary people/wildlife interaction will occur, and long term survival prospects for the larger mammals will be greatly diminished.

There is clearly a case for urgent review of the boundary of KSNP with view to identifying opportunities for protection of additional habitat critical to the larger endangered mammals. In particular, there are a number of adjoining logging concessions in which logging has been completed but which remain important habitat for larger mammals. There is also a critical habitat link between the east and west blocks of the park that requires urgent protection.

Bukit Barisan Selatan National Park

The existing boundaries of BBSNP are adequate for the purpose of the nomination. Smallest of the three nominated sites, BBSNP has greater pressure from surrounding developed lands. Nonetheless, some adjacent protected forests and degraded forest lands are of complementary importance as habitat for the larger mammals, in particular for tiger, elephant and to some extent rhinoceros. Two of the three species are critically endangered and their survival will depend very much on the protection and management of populations outside the national park, either as future additions to the park or as managed buffer zones. Failure to initiate protection and management of large mammal populations and/or their habitat outside the park will ultimately threaten the survival of the park.

4.4. Human Impact

There are four fundamental and related threatening processes that are continuing to impact on the nominated sites. The common denominator in all cases is access provided by roads and the failure to enforce the law effectively. Roads in tropical forests where law enforcement is ineffective are 'the beginning of the end' for rainforest ecosystems, facilitating illegal logging, encroachment, poaching and other ecologically degrading activities. The nominated Sumatran forests are no exception.

4.4.1 Illegal Logging

The unsustainable exploitation of tropical forests in Indonesia has degraded or destroyed so much of the lowland forests that timber exploitation is now increasingly dependent on illegal exploitation of protected areas, including national parks. This problem is very evident throughout Indonesia and attempts to control it have been largely ineffective. Illegal logging is a threat in all three areas and can be expected to reach a crisis point in the next few years as timber supply from outside the protected areas continues to rapidly decline. The international linkages in the illicit timber trade are presently the subject of a dispute between the Malaysian and Indonesian governments. A number of people interviewed asserted that illegal logging in Sumatra was highly organised, from the forest to the port, and that Sumatran timber was being exported as certified timber from other countries. Illegal logging is now very much a national issue currently being debated in Indonesia, both as an election issue and a matter that the President is publicly trying to address.

4.4.2 Encroachment

Encroachment into forest areas, including national parks, for subsistence agriculture and industrial plantations has now reached a critical point in many parts of the country. The three nominated parks are no exception to this general pattern. Significant recent organised illegal

encroachments into a rare tract of lowland rainforest in GLNP were claimed by informed sources to have been an illegal operation facilitated as a 'business venture'.

4.4.3 Poaching

A combination of economic and social issues, combined with improved accessibility has intensified poaching of wildlife, in particular of elephants, tigers and rhinoceroses. All three nominated parks have a poaching problem that threatens the larger mammals. With international assistance, great effort is being put into anti-poaching activities in several of the parks, particularly KSNP.

4.4.4 Roads

As already noted, roads within and near the nominated sites facilitate forest and wildlife destruction.. KSNP is threatened by several road proposals that would cross critically important parts of the park. Those road proposals are currently being publicly debated and there is no guarantee that they will be cancelled.

GLNP, together with the surrounding parts of the Leuser Ecosystem, is also seriously threatened by a major highway proposal and several other road proposals. The proposed Ladia Galaska road traverses the northern section of the Leuser Ecosystem. Although it does not directly cross the GLNP, it will seriously impact on the park by changing the accessibility of the highland parts of the park. Its impact on the greater Leuser Ecosystem will be even greater; as well as facilitating illegal logging it will seriously impact on the critically important habitat of the Sumatran elephant. Although the road is a local initiative, it has now been approved-in-principle by Central Government. However, there appear to be dissenting opinions about the scheme in parts of the Government and the President has become involved in the issue.

4.5 Other Threats

4.5.1 Law Enforcement

Deficiencies in law enforcement probably represent the greatest single threat to the long-term survival of the natural heritage values of the nominated sites. Informal evidence gathered during the mission confirms that law enforcers often fail to uphold the law and instead seek financial gain from illegal activities. Most concerning is evidence of government officials involved in illegal logging in national parks. It was repeatedly asserted to the mission that military personnel participated in or controlled illegal logging operations, especially in the Aceh section of the Leuser Ecosystem. The involvement of law enforcers in illegal operations makes it doubly difficult for the park managers, PHKA, to obtain cooperation and support for their law enforcement. In the absence of major improvements in the effectiveness of law enforcement in the nominated sites, their long-term viability cannot be assured and much of their natural heritage values must be considered under serious threat.

There is some good news: with support from the police, recent convictions have been secured in cases of tiger poaching and illegal logging in KSNP. And the issue of illegal logging is now very much a national one, and has been raised in the course of both parliamentary and Presidential elections.

4.5.2 Decentralisation

There are presently some problems arising in terms of the authority of local government in national parks arising from the 'Otonomi Daerah' legislation that devolves a lot of powers from central government to local government. Provincial Governments are also exercising some powers in national parks in Indonesia. The confusion has the potential to threaten the integrity of the nominated parks and needs to be resolved.

4.5.3 Management Resources

As noted above, the adequacy of resources for management of the TRHS is an issue. Further, more support is urgently needed from law enforcement partner agencies, such as the police.

This is an issue acknowledged by PHKA staff and a foreign aid project has been initiated to try to deal with it.

4.5.4 International Assistance

Both KSNP and the Leuser Ecosystem (including GLNP) have benefited from major international assistance in natural heritage management. In BBSNP however there is a low level of international assistance and resources and management are inadequate. The European Union funded the Leuser Management Programme, which has provided excellent data to assist in the planning and management of the Leuser Ecosystem, including GLNP. With cessation of major funding to KSNP in 2002, and the finalisation of the Leuser programme late in 2004, a major shortfall in management resources for the TRHS will arise. Major new international funding for all three sites, especially for BBSNP, will be critically important to their survival as protected areas.

5. ADDITIONAL COMMENTS

Justification for Serial Approach

When IUCN evaluates a serial nomination it asks the following questions based on the requirements in the Operational Guidelines:

a) What is the justification for the serial approach?

The main justification for the serial approach is that together the three parks form the cores of the three regions that offer the greatest potential for long term conservation of the distinctive and diverse biota of the island of Sumatra, including many endangered species. The three sites, all located on the Bukit Barisan mountain chain, in combination also provide biogeographic evidence of the evolution of the island of Sumatra and its rich biota. Together, the three sites include much of the critically important habitat necessary for long term conservation of critically endangered species, in particular the large mammals endemic to Sumatra.

b) Are the separate elements of the site functionally linked?

The three separate elements of the nomination are essentially not functionally linked, particularly at the large mammal level. Unlike a number of existing serial World Heritage sites, the lack of functional linkages between the three components of this nomination raises questions about the appropriateness of them being considered legitimate parts of a serial nomination. Whereas both the Leuser Ecosystem and KSNP could independently qualify as World Heritage, BBSNP would be in doubt. BBSNP nonetheless makes a significant contribution to the biodiversity significance of the nominated sites by contributing populations of numerous rare or endangered species. BBSNP retains some semblance of a functional habitat link with KSNP but without a concerted effort, this corridor is likely to be eliminated by development over time.

c) Is there an overall management framework for all the units?

There is not presently an overall coordinated management framework for the three units but some coordination initiatives are proposed in the nomination document, which are to be implemented upon World Heritage listing. From a conservation viewpoint, greater cooperation and coordination between the three sites would be beneficial for effective management of each of the sites. Similarly, across the Sunda Strait, the Ujung Kulon World Heritage site would benefit from being included in coordinated management programs with the TRHS sites, more particularly BBSNP as many management issues are similar, e.g. rhinoceros management.

6. APPLICATION OF CRITERIA / STATEMENT OF SIGNIFICANCE

The Tropical Rainforest Heritage of Sumatra has been nominated under all four natural criteria.

Criterion (i): Earth's history and geological features

The site has important earth science values, represented in cross sections across the main mountain range of Sumatra. However the fact that the feature is widespread within the wider region, does not support a distinctive claim for inscription under criterion (i). IUCN considers that the nominated site does not meet this criterion.

Criterion (ii): Ecological processes

The nominated areas represent the most important blocks of forest on the island of Sumatra for the conservation of the biodiversity of both lowland and mountain forests. This once vast island of tropical rainforest, in the space of only 50 years, has been reduced to isolated remnants including those centred on the three nominated sites. The Leuser Ecosystem, including the nominated GLNP, is by far the largest and most significant forest remnant remaining in Sumatra. All three nominated sites would undoubtedly have been important climatic refugia for species over evolutionary time and have now become critically important refugia for future evolutionary processes. IUCN considers that the nominated site meets this criterion.

Criterion (iii): Superlative natural phenomena or natural beauty and aesthetic importance

The TRHS sites are all located on the prominent main spine of the Bukit Barisan Mountains, known as the 'Andes of Sumatra'. Outstanding scenic landscapes abound at all scales. The mountains of each site present prominent mountainous backdrops to the settled and developed lowlands of Sumatra. The combination of the spectacularly beautiful Lake Gunung Tujuh (the highest lake in SE Asia), the magnificence of the giant Mount Kerinci volcano, numerous small volcanic, coastal and glacial lakes in natural forested settings, fumaroles belching smoke from forested mountains and numerous waterfalls and cave systems in lush rainforest settings, emphasise the outstanding beauty of TRHS. IUCN considers that the nominated site meets this criterion.

Addition of the Leuser Ecosystem to the nomination, as discussed above, would greatly enhance qualification on this criterion with its magnificent mountain forests, coastal swamp forests and natural beaches and the relative abundance of large mammals.

Criterion (iv): Biodiversity and threatened species

All three components of the nomination are areas of very diverse habitat and exceptional biodiversity. Collectively, the three sites can be expected to include more than 50% of the total plant diversity of Sumatra. At least 92 local endemic species have been identified in GLNP. The nomination contains populations of both the world's largest flower (*Rafflesia arnoldi*) and the tallest flower (*Amorphophallus titanum*)

The relict lowland forests in the nominated sites are very important for conservation of the plant and animal biodiversity of the rapidly disappearing lowland forests of South East Asia. Similarly, the montane forests, although less threatened, are very important for conservation of the distinctive montane vegetation of the TRHS.

The rapid and extensive destruction of the rainforests of SE Asia, Sumatra in particular, will continue to increase the already outstanding importance of the TRHS nomination for biodiversity conservation. The diversity of landscape, altitude, geology and habitat type will facilitate longer-term survival of many species through periods of climatic change. IUCN considers that the nominated site meets criterion (iv).

Although the three nominated sites meet criterion (iv), qualification against this criterion would have been greatly enhanced if at least the critical habitat of endangered large mammals in the Leuser Ecosystem had been included in the nomination. The Leuser Ecosystem contains the

most critically important habitat of the Sumatran endemic orangutan and elephant and some of the most important habitat of the endemic Sumatran tiger. For instance, Marshall, Jones and Wrangham (2000) note that 47% of the orangutan habitat in protected areas will be lost in the next decade, with less than 1% of habitat undisturbed by 'infrastructural' development by 2030. There is clearly an urgency to secure this critically important habitat.

7. RECOMMENDATIONS

- 7.1 IUCN recommends that the World Heritage Committee **inscribe** the Tropical Rainforest Heritage of Sumatra on the World Heritage List under natural criteria (ii), (iii) and (iv).
- 7.2 IUCN further recommends that the Committee should advise the State Party to consider extending the WH site to include other Leuser Ecosystem protected lands surrounding Gunung Leuser National Park, particularly the Singkil Barat Wildlife Reserve, Langsa lowlands and foothills, Aceh Highlands and the Tapaktuan lowlands. Such action should however be not be proceeded with until the integrity questions referred to in section 7.3 have been addressed and the mission called for on 7..4 completed satisfactorily.
- 7.3 IUCN also recommends that the World Heritage Committee should at the same time **inscribe the site on the List of World Heritage in Danger** on the basis of Operational Guidelines 83 (i) Ascertained Danger.

Given the type and immediacy of the identified threats, it is important that the Government of Indonesia, with the assistance of the international community, responds with urgency to ascertained threats facing the three components of this serial nomination. In particular IUCN recommends:

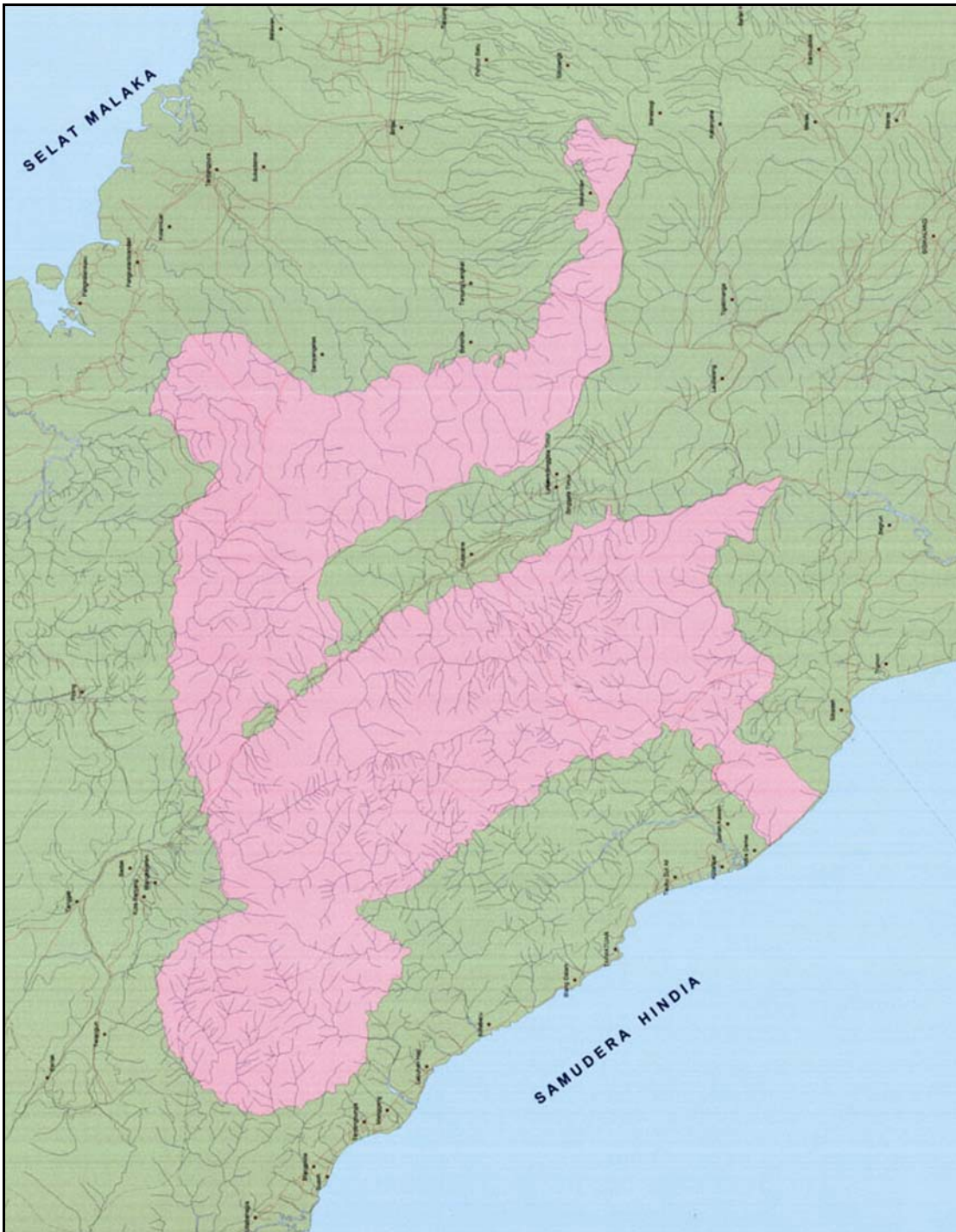
- i) a major coordinated effort, to address the serious threats posed to the nominated sites by on-going illegal logging and agricultural encroachment;
 - ii) urgent review of the Ladia Galaska Road, especially its likely serious impacts on both the nominated Gunung Leuser National Park and the surrounding Leuser Ecosystem;
 - iii) a coordinated effort to secure longer-term international assistance (especially for capacity building) to better protect and manage the nominated sites, with highest priority being for Bukit Barisan Selatan National Park;
 - iv) protection of the critical habitat 'missing link' across the Merangin River between the main eastern and western blocks of the Kerinci Seblat National Park;
 - v) a special funding project to urgently replace the many derelict visitor facilities and infrastructure and to develop a ecotourism/visitor management strategy in Bukit Barisan Selatan National Park.
- 7.4 IUCN advises the Committee to request the State Party to agree to invite a mission to the site within 2 years of its inscription. Based on the report of that mission, the Committee will need to decide whether to remove the site from the List of World Heritage in Danger, to retain it on that List of World Heritage in Danger or to remove it from the World Heritage List altogether.
- 7.5 Finally, IUCN recommends the Committee to request the State Party to submit detailed topographical maps clearly showing the boundaries for each site as soon as possible.

Map 1: Tropical Rainforest Heritage of Sumatra

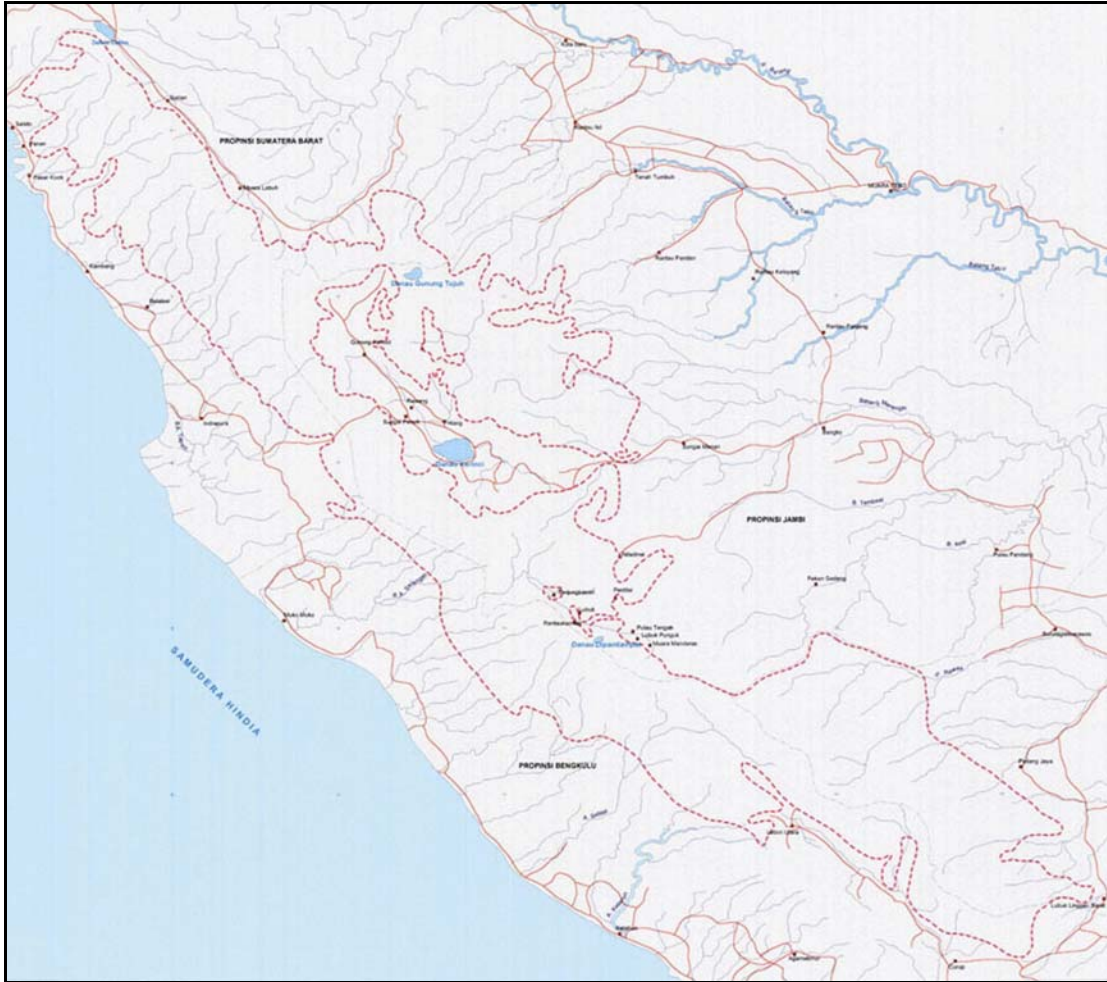


Tropical Rainforest Heritage of Sumatra comprises Gunung Lesser National Park on the north, Kerinci Seblat National Park on the middle, and Bukit Barisan Selatan National Park on the South. Map by PIKA.

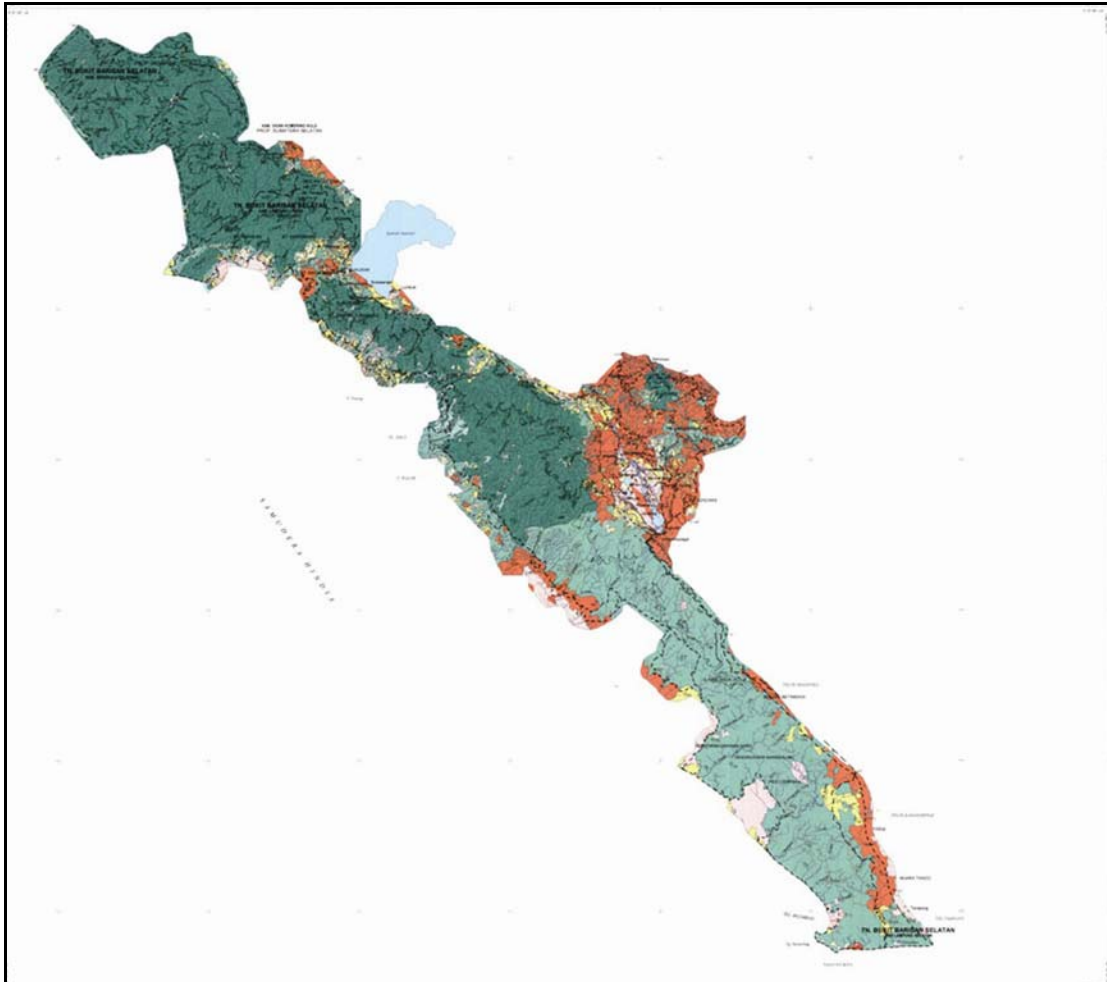
Map 2: Gunung Leuser National Park



Map 3: Kerinci Seblat National Park



Map 4: Bukit Barisan Selatan National Park



Annexe 5

Alternative IUCN recommendation and draft decision presented to 28th session of the WH Committee on 29 June 2004

1. *IUCN recommends that the World Heritage Committee **inscribe** the Tropical Rainforest Heritage of Sumatra on the World Heritage List under criteria (ii), (iii) and (iv).*
2. *However, in view of the type and immediacy of the ascertained threats, it is essential that the Government of Indonesia, with the assistance of the international community, respond with urgency to the integrity issues facing the site. Specifically, IUCN recommends that the State Party be requested to submit a detailed emergency action plan for review by the 29th session of the World Heritage Committee which would address the following four issues:*
 - i) *the serious threats posed to the nominated sites by on-going illegal logging and agricultural encroachment;*
 - ii) *urgent review of the proposed Ladia Galaska Road, especially its likely serious impacts on both the nominated Gunung Leuser National Park and the surrounding Leuser Ecosystem;*
 - iii) *the need to secure international assistance (especially for capacity building) to better protect and manage the nominated sites, with highest priority being for Bukit Barisan Selatan National Park. Assistance is additionally required to replace the many derelict visitor facilities and infrastructure and to develop an ecotourism / visitor management strategy in Bukit Barisan Selatan National Park;*
 - iv) *protection of the critical habitat 'missing link' across the Merangin River between the main eastern and western blocks of the Kerinci Seblat National Park;*
3. *IUCN advises the Committee to request the State Party to invite a IUCN-UNESCO mission to the site within 2 years of inscription to gauge progress on the implementation of this action plan in time for the 30th session of the World Heritage Committee. Based on the report of this mission the possibility of including the site on the List of World Heritage in Danger will be considered.*
4. *IUCN further recommends that the Committee should request the State Party to consider extending the World Heritage site to include other Leuser Ecosystem protected lands surrounding Gunung Leuser National Park, particularly the Singil Barat Wildlife Reserve, Langsa lowlands and foothills, Aceh Highlands and Tapaktuan lowlands.*
5. *Finally, IUCN recommends the Committee to request the State Party to submit detailed topographical maps clearly showing the boundaries for each site as soon as possible.*

Annexe 6

Decision of the 28th session of the WH Committee [Decision 28 COM 14.B.5]

The World Heritage Committee,

1. **Inscribes** the Tropical Rainforest Heritage of Sumatra, Indonesia, on the World Heritage List on the basis of natural criteria (ii), (iii) and (iv):

Criterion (ii): The Tropical Rainforest Heritage of Sumatra represent the most important blocks of forest on the island of Sumatra for the conservation of the biodiversity of both lowland and mountain forests. This once vast island of tropical rainforest, in the space of only 50 years, has been reduced to isolated remnants including those centered on the three nominated properties. The Leuser Ecosystem, including the Gunung Leuser National Park, is by far the largest and most significant forest remnant remaining in Sumatra. All three parks would undoubtedly have been important climatic refuge for species over evolutionary time and have now become critically important refuge for future evolutionary processes.

Criterion (iii): The parks that comprise the Tropical Rainforest Heritage of Sumatra are all located on the prominent main spine of the Bukit Barisan Mountains, known as the 'Andes of Sumatra'. Outstanding scenic landscapes abound at all scales. The mountains of each site present prominent mountainous backdrops to the settled and developed lowlands of Sumatra. The combination of the spectacularly beautiful Lake Gunung Tujuh (the highest lake in southeast Asia), the magnificence of the giant Mount Kerinci volcano, numerous small volcanic, coastal and glacial lakes in natural forested settings, fumaroles belching smoke from forested mountains and numerous waterfalls and cave systems in lush rainforest settings, emphasise the outstanding beauty of the Tropical Rainforest Heritage of Sumatra.

Criterion (iv): All three parks that comprise the Tropical Rainforest Heritage of Sumatra are areas of very diverse habitat and exceptional biodiversity. Collectively, the three sites include more than 50% of the total plant diversity of Sumatra. At least 92 local endemic species have been identified in Gunung Leuser National Park. The nomination contains populations of both the world's largest flower (*Rafflesia arnoldi*) and the tallest flower (*Amorphophallus titanum*). The relict lowland forests in the nominated sites are very important for conservation of the plant and animal biodiversity of the rapidly disappearing lowland forests of South East Asia. Similarly, the montane forests, although less threatened, are very important for conservation of the distinctive montane vegetation of the property.

2. Encourages the State Party to consider the extension of the World Heritage property to include other Leuser Ecosystem protected lands surrounding Gunung Leuser National Park, particularly the Singil Barat Wildlife Reserve, Langsa lowlands and foothills, Aceh Highlands and Tapaktuan lowlands;
3. Requests the State Party to submit detailed topographical maps clearly showing the boundaries for each site by 1 February 2005;
4. Noting the urgency of the ascertained threats to the site;
5. Requests the State Party to submit a State of Conservation Report and an emergency action plan by 1 February 2005 focusing on:
 - a) the serious threats posed to the nominated sites by on-going illegal logging and agricultural encroachment,

b) urgent review of the proposed Ladia Galaska Road, especially its likely serious impacts on both the nominated Gunung Leuser National Park and the surrounding Leuser Ecosystem,

c) the need to secure international assistance (especially for capacity building) to better protect and manage the nominated sites, with highest priority being for Bukit Barisan Selatan National Park. Assistance is additionally required to replace the many derelict visitor facilities and infrastructure and to develop an ecotourism / visitor management strategy in Bukit Barisan Selatan National Park,

d) protection of the critical habitat 'missing link' across the Merangin River between the main eastern and western blocks of the Kerinci Seblat National Park;

in order to enable the 29th session of the World Heritage Committee in 2005 to consider whether to send a monitoring mission to the site and the possibility of including the property on the List of World Heritage in Danger in accordance with the provisions of paragraphs 86-93 of the Operational Guidelines (2002).

Annexe 7

The impact of on-going encroachment in Bukit Barisan Selatan National Park (BBSNP)

BBSNP FOREST COVER

	FOREST AREA (Ha)
1972	308,283.13
1994	270,819.07
1997	268,892.44
2000	263,307.21
2002	261,678.36
2004	253,702.47
2005	249,855.09

Total Forest Area (2005) : 77.5 %



Source : ILRC, 2005



Annexe 8

Road construction in Kerinci Seblat National Park

Lempur Road in Kerinci Seblat NP goes through the core zone of the park



This illegal road construction in Kerinci Seblat National Park was underway just one week prior to the field mission and reportedly has since resumed

Annexe 9

Photos of impacts of flooding in Gunung Leuser National Park (GLNP)



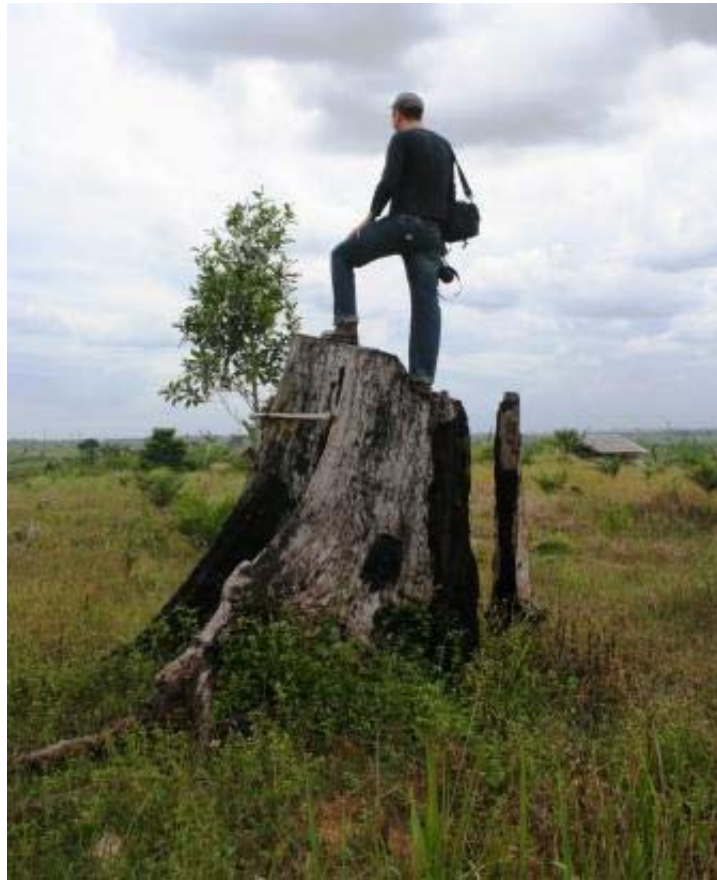
Downstream section of river at Bukit Lawang adjacent to entrance to GLNP. A major flooding disaster destroyed tourism infrastructure and killed more than 200 people in 2004.



Park entrance and orang-utan contact area. A major flooding disaster has destroyed many buildings and infrastructure downstream of this point and now provides an opportunity to re-plan access and presentation of the park/World Heritage property.

Annexe 10

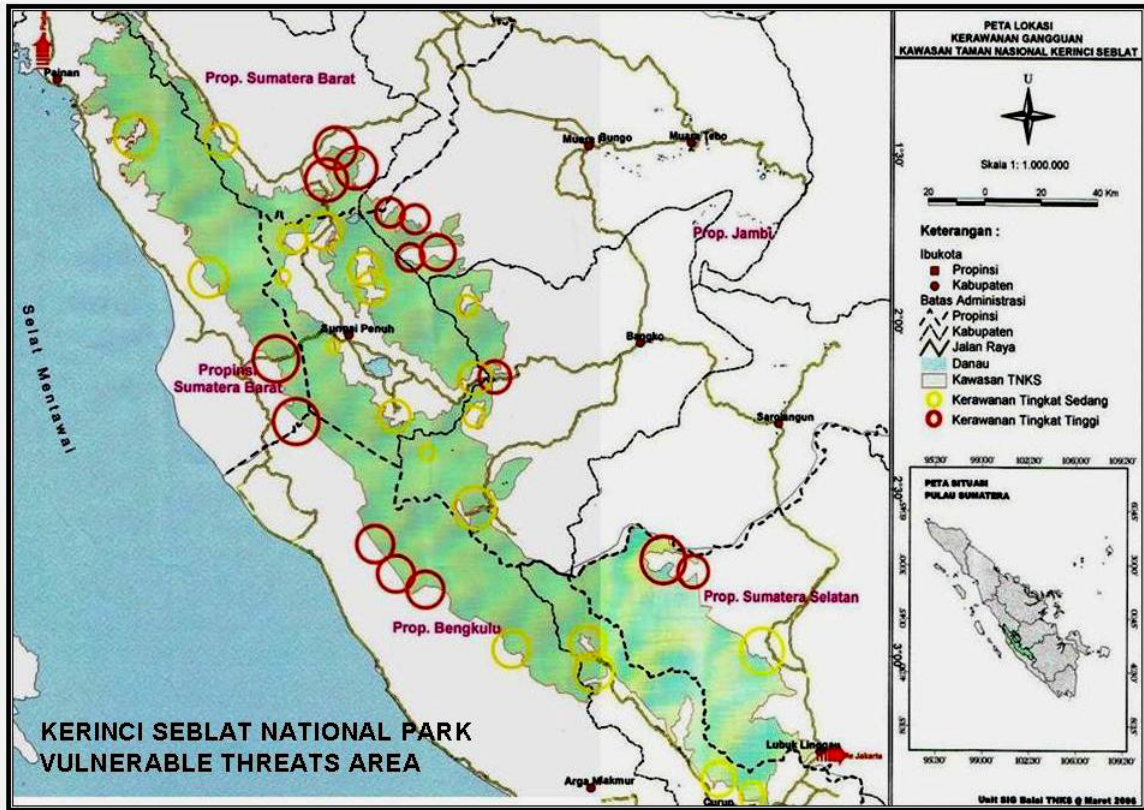
Photos of encroachment in Gunung Leuser National Park (GLNP)



Part of the major cleared encroachment in GLNP. The nearest forest in the park is now many kilometres in the distance. Photo: Peter Hitchcock

Annexe 11

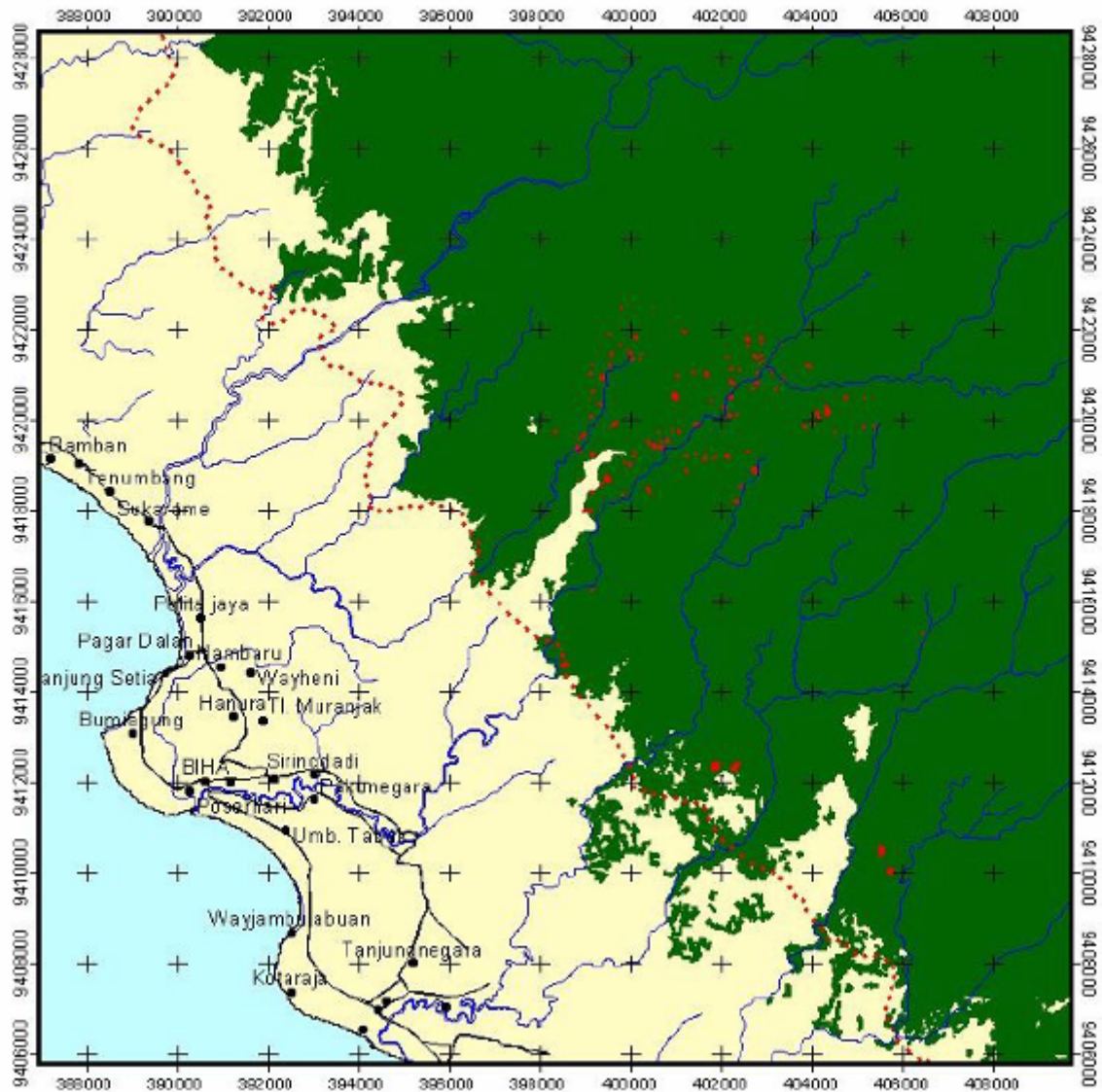
Distribution of the main identified specific threats to Kerinci Seblat National Park



Red – High threat, Yellow – Medium Threat. (Map provided by PHKA)

Annexe 12

Illegal Logging in Bukit Barisan Selatan National Park (BBSNP)



Map derived from SPOT satellite imagery, revealing recent illegal logging (red) within forested section of BBSNP. This is just one of the technologies already available that could be deployed in TRHS WH property in the fight against illegal logging. Map courtesy of Wildlife Conservation Society (Indonesia)

Annexe 13

SELECTION OF MEDIA REPORTS

Illegal logging in Padang extends to national park

Syofiardi Bachyul Jb, *The Jakarta Post*, Padang

Illegal loggers have stripped bare at least 20 percent of the forest in Kerinci Seblat National Park in West Sumatra, and the losses will continue unless the authorities take action, an official says.

Aman Zamora, an official with the 271,870-hectare national park, located in Pesisir Selatan regency, told *The Jakarta Post* that satellite images had pinpointed 11 large-scale illegal logging sites that are currently operating.

"The most extensive damage has been done along the planned Kambang-Muara Labuh highway, construction of which has been halted by the forestry minister, where all of the trees 200 to 500 meters from both sides of the road have been cut down," he said.

Some 60 kilometers of the road were completed before the minister put a halt to the project. A 20-kilometer stretch of trees along the road from Kambang, and four kilometers from Muara Labuh, were affected.

According to Aman, there are 11 illegal sawmills operating just outside the national park which are encouraging illegal logging in the park, particularly by residents. He said that though the sawmills were illegal, authorities had done nothing to restrict their operation.

"I'm sure the level of illegal logging would dwindle if the sawmills were closed down, because that's where residents sell their timber. To tell you the truth, we can't stop the sawmills because they always know when we are coming and disappear," he said.

The group West Sumatra People Against Illegal Logging (MAIL), said the national park in Pesisir Selatan was one of the main victims of illegal logging in the province.

"Indonesian Military and police personnel are believed to be involved in escorting timber trucks that are not carrying legal documents," MAIL coordinator Vino Oktavia said Friday.

MAIL is an alliance of 31 NGOs in Padang, among them the West Sumatra chapters of the Indonesian Environmental Forum and Conservation International, which conducted investigations of illegal logging locations in Pesisir Selatan in January.

The groups discovered 18 unlicensed sawmills operating in the regency, most fed with timber coming from Kerinci Seblat National Park.

"Illegal logging in Pesisir Selatan begins with businessmen placing orders for timber from sawmill owners. The sawmill owners then order timber from chain saw owners, who then pay residents to fell trees. The timber is then transported to the border between Pesisir Selatan and Muko Muko in Bengkulu province, and taken back to Padang equipped with legal documents from Bengkulu in the names of forest concession holders there," said Vino.

MAIL blames flash floods in several districts in Pesisir Selatan in January and February on illegal logging in the national park.

Three districts in Pesisir Selatan were hit by flash floods on Feb. 26, damaging hundreds of houses, hundreds of hectares of fields and a number of bridges and schools. Material losses have been estimated at about Rp 114 billion (US\$12 million).

"If the regency administration doesn't put a stop to illegal logging in Pesisir Selatan immediately, the area will continue to be at risk of floods that will cause extensive damage," Vino said.

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Sumatra Rhino population reduced by 50 percent in last 10 years

Source: Antara news - March 1, 2006, Jakarta

The population of the Sumatran Rhinoceros dropped by around 50 percent over the last 10 years due poaching and deforestation which destroyed the animals habitat, a Forestry Ministry official said.

The population of the Sumatran Rhinos in 1993 was around 215 to 319, while previously the number was estimated at between 420 and 875, Adi Sumianto, director of the ministry's biodiversity conservation affairs, said on Wednesday (3/1). "Sumatran Rhinos are to be found in four locations in Sumatra Island's national parks, and maybe in other areas also," Adi said.

The habitats of the Sumatran Rhino, the only two-horned rhino in the Asian region, were the Leuser, Kerinci Seblat, South Bukit Barisan and Way Kambas national parks. The endangered animal was now on the brink of extinction due to modern as well as traditional poaching activities, deforestation and the fragmentation of their habitats, he said.

"In the past, their habitats were connected to each other. But now, they are totally fragmented due to the opening of forest areas for farming, plantations and human settlements, he said.

The forestry ministry planned to restore the endangered animal's habitats in an effort to boost their reproduction and population. The ministry will conduct scientific study, which will include genetic analysis (DNA) and distribution monitoring especially among female and offspring in order to find out about their reproduction cycle.

"The priority might be to increase population of Sumatra Rhino in Way Kambas National Park, he said.

The Way Kambas National Park, which is located in Lampung Province, southeast coast of Sumatra Island, is believed to have four two-horned Rhinos consisting of one male and three females.

The Sumatran hairy rhino, *Dicerorhinus sumatrensis*, is probably the most endangered of all rhinoceros species in the world, which include Javan Rhinos, Indian Rhinos and African Rhinos. There is no indication that the situation is showing any signs of stabilizing.

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Illegal logging threatens parks

February 3, 2006 Jakarta Post

MEDAN, North Sumatra: Illegal logging threatens the future of Batang Gadis and Gunung Leuser national parks in North Sumatra, according to the Indonesian Forum for the Environment (Walhi) on Thursday.

The forum said the destruction of Gunung Leuser in Langkat regency had reached 25 percent of its 200,000 hectares, while Batang Gadis park in Mandailing Natal had lost 15 percent of its 108,000 hectares of forest.

The forum's executive director in North Sumatra, Job Rachmat Purba, said illegal logging in the two parks had been going on for some time and alleged that it involved the police, military and forestry officials.

"Batang Gadis and Gunung Leuser national parks are facing critical degradation caused by illegal logging activities," Job told *The Jakarta Post*.

The director of the North Sumatra Police's criminal division, Sr. Comr. Ronny F. Sompie, said police did not play down the alleged involvement of officers in illegal logging in the park.

"We have received information on the involvement of officers and several businesspeople in illegal logging in North Sumatra. The police are currently gathering evidence to arrest them. We have no reluctance to arrest any officers proven to be involved in illegal logging," he said.

North Sumatra Police arrested four people, including a forestry official in Mandailing Natal regency, for their alleged involvement in illegal logging in Batang Gadis National Park on Thursday. -- *JP*

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Tiger shooting investigated

Jakarta Post 30th January, 2006

PADANG, West Sumatra: A conservation group in West Sumatra is investigating the fatal shooting of a Sumatran tiger (*Panthera tigris sumatrensis*), allegedly perpetrated Friday by a police officer in Kapur Sembilang, Limapuluh Kota regency.

The Natural Resources Conservation Center (BKSDA) investigator, Djoko Suhardjo, said Sunday he was in the process of gathering all the information.

"We regret the shooting. Why did that tiger have to be shot? There are other ways to deal with them. Besides, we had already sent a team from the Safari Park and BKSDA to capture the protected animal," he said.

The team, which also included police officers, was in the regency to capture the tiger following reports it had been attacking villagers, who were too close to its habitat. In the last two months, three residents were killed and nine others were injured, allegedly in attacks by the slain tiger.

Chief of Limapuluh Kota Police, Adj. Sr. Comr. Priyo Widyanto, argued Saturday that the tiger was about to attack his men.

"Since the tiger was thought to be on the verge of an attack, for the safety of the group and self-defense, one of our officers fired at the tiger, which was running fast toward him. It was killed on the spot after being hit in the chest and leg" Priyo asserted. -- *JP*

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Quotas endangering Aceh forests: NGO

Tb. Arie Rukmantara, The Jakarta Post, Jakarta 25th January, 2006

Tsunami-hit Aceh will soon face an environmental disaster if the government keeps on issuing logging concessions in the province's forests, an environmental group says.

Greenomics executive director Elfian Effendi said the quotas totaling 500,000 cubic meters of timber, which the Forestry Ministry awarded to eight logging companies this year, were a huge mistake.

"The huge quota along with the rampant illegal logging in Aceh, means we estimate that by the end of 2006, deforestation in the province will reach 266,000 hectares, or four times the size of Singapore," he said.

A recent study by the group found that between 2002 and 2004, Nanggroe Aceh Darrusalam lost some 350,000 hectares of forests, mostly from illegal logging. About 60 percent of the cut forest was in designated conservation zones.

Aceh's south and west coasts and central Aceh were identified as the worst-hit areas.

Elfian dismissed as "unrealistic" Forestry Minister Malam Sambat Kaban's argument that the quota was necessary to support reconstruction efforts in Aceh.

"The BRR (Aceh-Nias Reconstruction and Rehabilitation Agency) has projected it needs four to eight million cubic meters of wood to build more 150,000 houses until 2008. So the quota won't help much because in the first three years it could only provide about 1.6 million cubic meters (of timber)," he said.

Rapid deforestation, he warned, would only bring Aceh more massive disasters.

"Forests account for 62 percent of Aceh. That means the province heavily depends on forest products. If deforestation continues, massive floods might hit the province in the near future," he said.

Aceh spans five million hectares of land, in which 2.7 million ha are protected forests and another 640,000 ha are production forests.

Forestry Ministry spokesman Masyhud defended the quota, saying it was necessary not only to help the reconstruction efforts but also to provide jobs for the Acehnese.

"(Legal) logging in the province had stopped for several years. It is only logical that companies there (now) get larger quotas," he told *The Jakarta Post*.

Earlier, the executive director of the Indonesian Forum for the Environment (Walhi), Chalid Muhammad, suggested the forestry minister ask international organizations working in Aceh to import timber for the reconstruction projects. "For that, the government should give them incentives, such as scrapping import duties and taxes for the imported wood," he said.

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Sumatran tiger under threat

Jon Afrizal, Muko Muko, Bengkulu Dec 17, 2005

The population of the Sumatran tiger (*panthera tigris Sumatraensis*) in the forest of Muko Muko regency, Bengkulu province, is progressively dwindling. If in the past decade the tiger population numbered in the dozens, now fewer than 10 are thought to remain due to rampant illegal logging and poaching, which continue unabated. Only eight tigers are living in their natural habitat in the conservation forest managed by PT Agro Muko, a private plantation company.

There were only six tigers not long ago, aged in their teens and measuring up to 1.5 meters in length. Their numbers rose to eight after two females gave birth to a cub each in the middle of the year. "There could be other tigers not accounted for," general manager of PT Agro Muko, Yazid Ibrahim, told *The Jakarta Post*.

The wildlife habitat managed by PT Agro Muko was designated a conservation area when the company was issued a forest concession and began operations in 1988. The conservation area encompasses seven locations of 2,235 hectares of the total 22,000 hectares of forest concession for oil palm and rubber plantations.

The Muko Muko forest preserve on is on the forests' western flank and the Kerinci Seblat National Park on the eastern flank.

Various species of trees can be found, such as the *sungkai*, *pulai* and mahogany, measuring more than 40 centimeters in diameter and reaching dozens of meters tall. The area is also home to a number of bird species, like the hornbill and turtledove.

The tigers depend totally on prey for food, such as the deer and wild boar which abound in the area.

The agricultural officer of PT Agro Muko, Sukardi, said problems such as poaching and illegal logging threatened the very existence of tigers in the area. At least two tigers are thought to be

killed in the conservation area each year for their body parts, such as skin, teeth and whiskers. The latest poacher was arrested early this year.

Besides rampant illegal logging in Tanahretak, which is located outside the conservation area, the nearby freshwater Lebar Lake, measuring 65 hectares, in which crocodiles live, is also prone to environmental damage.

"Illegal logging methods, such as digging water channels, has gradually drained water from the lake," he said.

He also said that logging activities in various locations had led to conflict between man and tiger, with at least one attack on humans every year. No data is available on the exact number of lives claimed.

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Prices soar for Sumatran tiger bone used in Asian medicines

The Jakarta Post, February 15, 2006

BANGKOK (AP): Prices for Sumatran tiger bones used in traditional Asian medicines have more than tripled in the past two years because of declining numbers of the endangered animals, an environmental group said Wednesday.

Shortages due to tougher law enforcement have also contributed to the price increase from US\$25 per kilogram in 2003 to more than US\$84 per kilogram last year, Britain-based Flora and Fauna International said in a report.

Sumatran tigers, which now number less than 700, are under increasing threat from habitat destruction and trafficking syndicates that sell their bones for traditional medicines.

"It's straight economics," said Debbie Martyr, who prepared the report and works in the Kerinci-Seblat National Park in Indonesia's Sumatra island.

"Tigers are being wiped out in India. They've been almost wiped out in Thailand and parts of Indochina. The last substantial population of tigers may very well be in Sumatra." She said tougher law enforcement measures that led to the seizure of 24 tiger skeletons last year in Taiwan has contributed to the spike in prices.

However, habitat loss from the construction of roads through the Kerinci-Seblat park, as well as the destruction of forests on the edge of the 259,000-square kilometer park, is "the biggest threat" to the endangered animals, she said.

"You once had very large areas of forest adjacent to the park which made access to the park difficult," she said. "Those forests are now being cleared for palm oil plantations. What happens is that you have people coming in contact with wildlife and it becomes a great deal easier to hunt, conduct illegal logging and other things that damage the park," she said.