

Sumatran Tiger Project Report No. 17 & 18: July - December 1999 grant number 1998-0093-059

Update Report

This report is intended to provide an update on project activities from the period July to December 1999. It focuses primarily on activities of the Tiger Conservation Teams. There are three teams, each comprised of a teamleader, 2-3 project staff and one or more PKA rangers. Their objective is to perform rapid census for tigers in various targeted forests. For the past six months they have censused most areas of Lampung Province, the southern most part of Sumatra. This report provides a summary of their field activities.

Another significant achievement for the project during this period has been the development of an agreement between the primary partners of the Sumatran Tiger Project - the Directorate General of Protection and Nature Conservation (Ministry of Forestry, Indonesia) and The Tiger Foundation. Under this five-year cooperative agreement the Sumatran Tiger Project will develop and extend its current operations to several new areas.

The mission of the Sumatran Tiger Project is to support the Indonesian Directorate General of Protection and Nature Conservation (PKA) to secure a future for wild Sumatran tigers. Under the new Memorandum of Understanding the project will extend its geographical coverage and scope of activities, further developing a strong working relationship with the primary wardens of Indonesia's protected areas - the rangers and staff of the Department of Forestry.

Components of the Sumatran Tiger Project are sponsored by the *Save The Tiger Fund*, a special project of the National Fish and Wildlife Foundation with ExxonMobil Corporation (USA); The Tiger Foundation (Canada); South Lakes Wild Animal Park (UK); the Zoological Society of London (UK); 21st Century Tiger Fund at the London Zoo (UK); Dreamworld (Australia); Discovery Asia (Singapore); and the Minnesota Zoo (USA). Other conservation partnerships, past and present, are credited in the project acknowledgements section of this report.

This report is submitted by Ron Tilson, project Director, and is based on activities and internal reports of the following project staff: Bastoni, Sriyanto, Muhamad Yunus, Sumianto, Abdurrohieem and Apriawan. Neil Franklin, in-country technical advisor to the Sumatran Tiger Project, has facilitated preparation.

This is a confidential report to the PKA, the Indonesian Sumatran Tiger Steering Committee, and to the sponsors and conservation partners of the Sumatran Tiger Project. It may not be copied or distributed, or any information contained within the report used for any purposes, without permission of both the Director of the Sumatran Tiger Project and the Director of Conservation of Flora and Wildlife, Directorate General of Protection and Nature Conservation, Manggala Wanabakti, Jakarta, Indonesia.

Executive Summary

The endangered status of the Sumatran tiger (*Panthera tigris sumatrae*) has been well established. The Javan and Bali tigers were lost forever-through ignorance and neglect only a few decades ago. According to the best sources available, there are only 400-500 Sumatran tigers remaining in the wild (*IUCN/SSC CBSG Sumatran Tiger PHVA Report*, 1994; *IUCN Cat Specialist Group Cat Action Plan*, 1996). Poaching is ongoing and uncontrolled, and forest disturbance is continuing to divide these populations into even smaller populations. The smaller the population, the greater it's vulnerable to poaching and severe environmental catastrophes.

In recognition of the tiger's critical situation, the Indonesian Government has prioritized the steps necessary for the species' effective conservation. These steps were formalized in the Ministry of Forestry's (PKA) *Indonesian Sumatran Tiger Conservation Strategy* published in 1994. The *Strategy* addressed four broad categories of recommendations to ensure the long-term survival of Sumatran tigers within their remaining range. One of these addressed the need for field studies to better understand the ecology and conservation needs of wild tigers, the need to census wild tiger populations over their entire range in Sumatra, and the need to establish programs to resolve conflicts between tigers and their human neighbors. It is these aspects of the tiger's conservation that have been addressed over the last four years of the Sumatran Tiger Project.

Conservation Teams - Rapid Assessment of Tiger Status

Introduction

The roles and responsibilities of the Tiger Conservation Teams are wide-ranging and encompass, to some extent, all of the conservation management priorities described in the Indonesian Sumatran Tiger Conservation Strategy of 1994. Rapid assessment of tiger status represents, although a high priority, only one of these many tasks. For this reason the teams have been fully involved in the training and technology transfer activities described in previous sections of this report. They have also focused on surveying remaining potential tiger areas of Lampung province, whenever the socio-political climate has allowed.

The area to be covered by the teams is extensive, and represented by habitats of varying protective status. Surveys have also been carried out in plantations and logging concessions, since in many cases these still represent potential tiger habitat. The current status of land in Lampung province is shown in the graphic below, and is characteristic of the land use pattern in Sumatra in general (see Table 1).

Fig 1: Potential tiger habitat in Lampung Province based on official habitat status.



This has provided valuable data regarding the status and threats of tigers for a complete province, and has shown that the situation outside national park boundaries, in other protected and non-protected forest areas, is very much worse than those within the sanctuary of a well-managed park. In the determination of current tiger status in Lampung the teams have focused on three main factors:

1. Present and historical distribution of tigers
Tiger distribution can be estimated using several techniques with varying levels of reliability. Secondary signs of tiger activity, direct observations by local people and photographs from remote cameras are combined and incorporated into GIS maps. This GIS map provides a graphical representation of tiger distribution in relation to the available habitat. Historical data and interviews of local people adds a further dimension to this, identifying where tigers were once found but now no longer.
2. Potential tiger habitat, forest boundaries and rates of deforestation
Forest is disappearing at an alarming rate in Lampung province, a phenomenon that has accelerated during the recent socio-political upheaval. The team has focused on mapping current forest boundaries, and comparing these to the legal boundaries of protected areas and habitat according to historical satellite images. Information has also been collated regarding the factors behind the observed acceleration in deforestation since 1998.
3. Poaching of tigers and illegal trafficking of tiger body parts
In support of the Tiger Conservation Teams primary role of assessing current tiger status, the teams have assisted in the accumulation of information, and the maintenance of a comprehensive intelligence network, that has provided a

detailed insight into the intensity and nature of the poaching problem in Lampung and across Sumatra.

Table 1: Protected areas in Sumatra by official Indonesian and IUCN categories.

Category	N	% total N	Sum area (km ²)	Mean area (km ²)	SD	% total area
Grand forest park	1	0.4	222	222.0	0	0.3
Hunting park	4	1.7	1,149	287.3	343	1.4
Recreation park	5	2.2	223	44.6	52	0.3
National Park	6	2.6	29,461	4,910.2	4,992	36.6
Nature reserve	9	3.9	567	63.0	76	0.7
Game reserve	13	5.6	5261	404.7	322	6.5
Protection forest	192	83.1	43,689	227.5	308	54.2
Total	231	100.0	80,572	348.8	1,095	100.0

(IUCN 1998)

Tiger Distribution

The only strictly protected areas of significance in Sumatra are the island's six National Parks (Taman Nasional), which represent 6.2% of the island's total area. In Lampung province only 43% (4,950 sq km) of the total protected area network (11,456 sq km) is designated as national park. Approximately 30% (3,393 sq km) is represented by the lower security protection forests and the remainder (3,113 sq km) as highly exploited production forest. However, these large tracts of land represent significant potential habitat for the tiger, and must be thoroughly evaluated in any status assessment of the tiger in Sumatra. Accurate assessment of tiger distribution in these areas is obscured by confusion with historical observations, difficulties in obtaining accurate topographical/boundary maps and the logistical problems of accumulating sufficient field data. It is thus a high priority of the teams to gather this data, and provide means of revising it on a regular basis.

Tiger presence within a region of habitat can be confirmed by the geographical plotting of various secondary signs indicative of the tigers' continued activity. These include paw prints, faeces, scratch marks, prey kills and other visual cues easily identified by the skilled survey team. Direct encounters of tigers, reported by third parties, are often more difficult to confirm though there are a number of interview techniques that can increase the reliability of such information. In all cases the most reliable evidence of continued tiger presence is that resulting from successful photo-capture by infrared activated remote camera. During this past period the teams have focused on accumulating this distribution data for all major forest blocks and forest fragments in the Lampung province. In many cases evidence suggests that in recent times tigers did still exist, but often direct evidence of their continued survival has been more difficult to accumulate.

As of August 1999, 52 sites of potential tiger habitat in Lampung, have been evaluated. Based on interviews with Indonesian Forestry Department staff, local people, and preliminary site surveys we found that only 15 these were intact enough to contain tigers.

Surveys of the 15 sites were carried out by teams of three people each using the methods developed at Way Kambas National Park. Of these sites, signs of tigers were present at six. However, only in two, the national parks, were tigers found in any abundance. By contrast in Way Kambas National Park at least 40 individual tigers have been identified. Signs of known tiger prey species, including Sambar deer (*Cervus unicolor*), Barking deer (*Muntiacus muntjak*), wild pigs (*Sus scrofa*), were observed in nine sites and tiger signs (photographs, scrapes, footprints, urine sprays, or feces) were observed in six locations (Table 2).

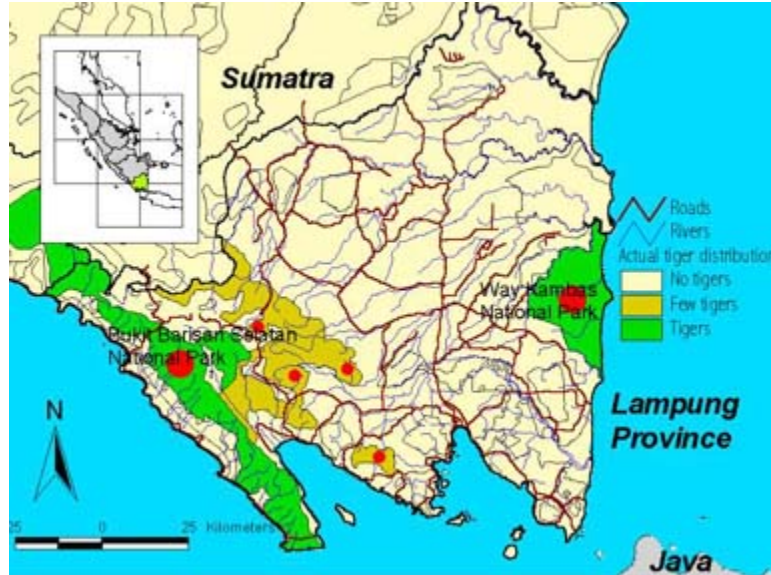
Table 2: Potential tiger habitat and number of sites with tigers and tiger prey in Lampung Province, Sumatra, based on preliminary field evaluations.

Protected area status	Potential tiger habitat		Field observations	
	No. sites	Area (km ²)	No. sites with prey	No. sites with tigers
Protection forest	26	3,033	7	4
Production forest¹	9	1,674	0	0
Production forest—conversion allowed¹	8	1,439	0	0
Nature reserve and tourist area	7	360	0	0
National Park	2	4,950	2	2
TOTAL	52	11,456	9	6

¹ Insufficient survey data available, though preliminary observations have provided no evidence of tigers to-date.

The geographical location of the areas found by the teams to contain tigers are represented in the graphic below. What has become clear during this assessment is that the current distribution of tigers in Lampung is now highly fragmented. This is a result of a number of immediate threats, further outlined in the section to follow. Populations found outside the national parks also appear to be numerically very small. Only the national parks contain populations that are viable without immediate intervention. Evidence collected, however, suggests that the distribution of tigers in Lampung was, in only very recent times, very much more widespread.

Fig 2: Tiger distribution in Lampung based on field surveys (tigers locations in red).



Potential Tiger Habitat and Deforestation

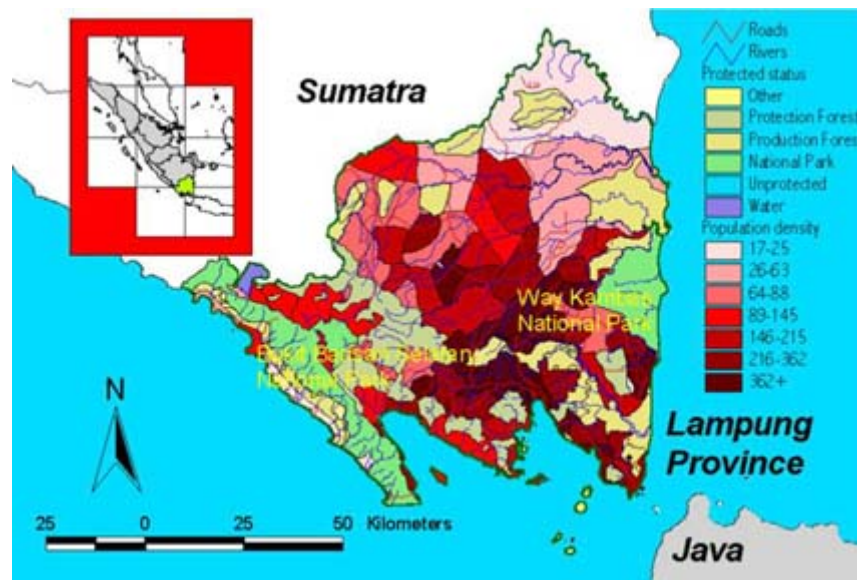
The habitat managed for wildlife protection officially exceeds 17% of Sumatra's total area. However, of its 230 protected areas, 75% are less than 300 square kilometers in size and only 10 (4%) are greater than 1,000 km². These largest ten reserves account for 44% of the total protected area of Sumatra. More than half of Sumatra's total protected area system is not managed primarily for ecosystem protection. Eighty-three percent of the total number and 54% of the total area of the island's protected area system is classified as Protection Forest (Hutan Lindung), forests whose primary function is to control soil erosion and for watershed protection, and from which forest products can be removed. These protection forests, though appearing to provide more than adequate habitat for the tiger, are only very loosely protected, and have experienced considerable pressures on them during the recent economic crisis. The teams have focused on establishing the boundaries of the current available habitat, comparing this with the legal boundaries as recognised on current maps. In addition, the factors behind the recent disturbance of these protected forests have been investigated and habitat ground truthing by teams and more recent satellite imagery incorporated into GIS maps.

Human population density and relationship to protected areas in Lampung, Sumatra

At its simplest the loss of, and disturbance to, protected forests in Lampung can be attributed to a rapidly increasing human population. In Lampung human population growth exceeded 5% per year between 1961 and 1981 and was still 2.7% between 1980 and 1990. None of the protected areas in Lampung are immune from the impact of this population growth. As illustrated in the graphic above, every protected area in Lampung is surrounded by high human population densities. Population densities surround Way Kambas National Park are illustrative of the challenges facing many protected areas in Sumatra. More than half a million live in the first tier of sub-districts (170 villages), a distance encompassing approximately five kilometers from the park border (Nyhus

1999). The population density today ranges from a low of 60 to a high of 700 people/km² in the 27 villages nearest the park. The most intensely inhabited region of Lampung lies between the two national parks, Way Kambas and Bukit Barisan Selatan, ensuring that there is no possibility of decreasing isolation between resident tiger populations. The protected forests provide the buffers around the rapidly expanding human settlements, and have suffered as a consequence.

Fig. 3: Population density of Lampung.



Investigation by the teams suggest the observed massive discrepancy between the legal boundaries of protected forest and the actual habitat recorded by the teams, can be explained by a combination of diminished protective status during the recent socio-economic crisis, in combination with severe drought and resulting fires brought about by El Niño Southern Oscillation (ENSO) events of 1997-98.

In summary the current status of available habitat in Lampung is considerably diminished by the recent intensive disturbance resulting from over-exploitation by surrounding human settlements. Results of surveys, interviews and ground truthing by the teams has shown that the only potentially viable populations of tigers are currently in the two national parks. It is also likely that the pressure on surrounding protected forests will continue in its intensity.

Tiger Poaching and Illegal Trafficking

In recognition of the severe effects on tiger populations of artificial extraction of individuals, the tiger conservation teams have endeavoured to implement the first comprehensive province-wide study of poaching and trafficking. The details of methods used are omitted from this report in order to protect the operators, but a primary component of the study involves the maintenance of an extensive network of informants. Information is collected periodically by a team member, the information verified, and

further tasks assigned. This has proved to be a very powerful method of accumulating significant quantities of reliable data.

It has become clear that poaching and trafficking of tiger body parts is much more widespread and common than previously thought. A minimum number of tigers poached over the period 1992 to 1998 can be constructed from verifiable reports received by the team. A total of 75 tigers are reported to have been hunted in the Lampung area during this time, or an average of 10.7 individuals per year.

The teams have collected considerable data from their informants regarding the modus operandi of poachers, techniques employed, the groups involved, the common trade routes and the current costs of tiger body parts at various stages between poacher and the final market place. It is clear that tiger poaching is a lucrative business, though the real financial rewards achieved by the final retailer greatly outweigh the relatively low compensation paid to the actual poacher. In Table 4 market prices of various tiger body parts are summarised, representing the price that such materials can be obtained from middlemen in Lampung. A higher price is placed on these items in more distant towns such as Jakarta.

Two distinct groups of poachers are identified; the professional poacher and the amateur hunter. The most popular methods of poaching are using shotguns or rifles, wire snare-traps and baited cages. In the last 2 years the use of poisoned (e.g. TIMEX) animal carcasses has become increasingly widespread and common. Poisoning destroys the longevity of the tigers coat, and the trend towards the use of poison appears to be occurring in tandem with the growing realisation that the market price of bones outweighs the value of good quality skins.

A weak currency in comparison to the US dollar has led to a significant increase in the export value of tiger body parts, and this has been recognised in increasingly reckless and intense poaching across the tigers range in Lampung. Even national parks as well protected as Way Kambas have been subject to this phenomenon, as poachers are becoming more prepared to face the risk of capture. This is further exacerbated by weak enforcement in many areas and a poor track record in convicting felons.

Summary

The information summarised above, resulting from the intensive work of the Tiger Conservation Teams in Lampung, has shown that the status of the wild tiger is currently at a precarious point in its history. A combination of severely limited and disturbed habitat, fragmented subpopulations of tigers, poor protection and the severe intensity of poaching have led us to one conclusion; that the future responsibility for the wild tiger in Sumatra rests with the national parks. Only these better protected regions appear to be able to offer the conditions which will promote long term viability of the tiger, and even then it will not be without significant technical support and encouragement.

Preliminary surveys in areas outside of Lampung province have suggested that the situation is no different across much of Sumatra. In the future the tiger may better be

preserved by focusing our efforts on areas, such as national parks, where it is still feasible to provide ideal sanctuary conditions.

Further Development of the Tiger Conservation Team concept

As a result of continuing the rapid assessment of forest areas throughout Lampung, the teams have gained valuable technical experience and have further developed the potential of the Tiger Conservation Team concept. This will serve as the template for future activities in the wider geographical working area outlined in the MoU for the period 2000 onwards. The extended terms of reference for the teams are outlined below. This holistic approach puts them on the front-lines of tiger conservation in Sumatra, allowing them to adaptively respond to tiger conservation needs as these arise.

Orientation and local needs assessment. The team introduces local PHPA and civilian authorities to the plight of the Sumatran tiger and the goal of the Sumatran Tiger Project, which is to secure the tiger's future in Sumatra. While doing this, the team reviews the known status of tigers with local PHPA staff, verifies protected area and habitat boundaries, and learns first-hand what local factors affect tiger conservation. A local "needs" assessment is conducted in collaboration with management staff. During this orientation a field plan is created and surveys begin immediately. Information about the tiger rescue team (how to deal with "problem tigers") is also disseminated during initial meetings.

Forest ranger training and motivation. During the initial orientation forest rangers receive training in basic survey methodology from the team. These park rangers become familiar with standard recording protocols for field observations, understand basic tiger ecology, and gain skills in the accurate annotation of survey maps using GPS and compass.

Ranger team facilitation and equipment provision. Selected ranger personnel can be formed into teams and provided with the basic field equipment to operate effectively in the field. More extensive training takes place at this time to prepare the core ranger teams for field work.

Rapid assessment surveys for tiger status. Prior to the field work the team assesses habitat characteristics by GIS, by maps provided by PHPA, and then conducts ground truthing field trips. Information about the presence or absence of tigers, their prey species, habitat security, and human intrusion is collated. The team records all field data on standardised forms, thus enabling the information to be entered into a standardised database on exiting from the field. The information, once presented in a Geographical Information System (GIS) format, can then be used as the basis for future operational decisions by the project, as well as providing a steady source of information for the park managers and PHPA administration. Data is also gathered for a wide range of other indicator species.

Remote camera verification of tiger presence and prey abundance. Due to the political climate and security situation it has not been possible to use remote camera monitoring in sites outside national parks during this last period. However in the future this will be an important component of the teams work. At selected sites where more thorough

information about tigers is considered important infrared-activated remote cameras and passive trail monitors can be used to document the presence of tigers and their prey. Correlation between tiger density and the encounter frequency of tiger secondary signs can be evaluated. Tiger photographs obtained can also be used in the generation of support and awareness at a provincial governmental level, as has been so effective in Way Kambas National Park.

Village and community awareness. During the periods out of the field the teams are, in rotation, to conduct public awareness sessions in schools, villages and forest-edge communities. Slide presentations are given where appropriate, and media materials be distributed at every opportunity. In the future the teams will also be responsible for surveying local attitudes toward tigers and other wildlife. Assessment of local needs will be carried out to identify where implementation of community programmes could be more effective.

Anti-poaching and protection. Tiger Conservation Teams facilitate the effective operation of PHPA forest rangers in their law enforcement and protection routines. This includes the removal of tiger snares, interception of poachers, documentation of poaching observations, and a rapid response to perceived threats. Apprehension protocols have been made familiar to all team members, and local police commanders are informed and aware of the need for close co-operation through the local forestry department head. In the future it is hoped that the collated information resulting from this will be used to apply pressure on the police and legal system, through the Indonesian Tiger Steering Committee, to ensure prosecution where appropriate.

Intelligence and informant networking. The teams are also responsible for collecting information relating to the poaching and trade of tiger body parts, both overtly and covertly where required. Informant networks, such as that operating successfully in Way Kambas and Bukit Barisan Selatan National Parks, have been initiated, and the information resulting carefully verified and collated. The information will be recorded in secure databases and transferred back to the project headquarters for further action.

Communication and cooperation. The extension of the Tiger Conservation Teams into remoter areas of the tiger's range expands the cooperative base for tiger conservation in Sumatra. One of the outcomes of meeting face-to-face with local PHPA staff is that they become more aware of the Sumatran tiger's situation and are encouraged to provide ongoing information to the project about tiger status in their area. Communication channels are initiated that facilitate this dialog, promoting cooperation between forestry offices of the provinces and with the Sumatran Tiger Project. In this way the team builds a larger constituency for tiger conservation.

Verification and data processing. The Tiger Conservation Teams, whilst facilitating and coordinating ranger teams in their ongoing survey and protection programmes, provide a system for verifying and cross-checking results, observations and sightings. Where survey data provided by the PKA ranger teams lacks reliability the Tiger Conservation

Teams can be deployed to conduct more intensive and vigorous field assessments of tiger status.

Implementation of pilot conservation actions. Now that the political climate has improved the Tiger Conservation Teams will be in the perfect situation to assess where conservation resources can most effectively be implemented. Local conditions and socio-cultural considerations are of such importance, and are so variable in the physically and culturally diverse island of Sumatra, that any conservation action must have a strong basis in order to be effective. As such, when conditions are judged as suitable, pilot models will be developed that tackle some of the immediate conservation problems for the Sumatran tiger. This will include local community involvement, improved protection regimes, intensified intelligence, and other similar schemes. Proposals will be developed where a need is recognised, funds sought, and the programmes implemented and co-ordinated by the Tiger Conservation Teams as they carry out their other responsibilities. In the coming months this approach will provide the opportunity to conduct feasibility studies, preparing the way for more intensive and widespread implementation of tangible community projects.

Training in Remote Camera Monitoring and Census of Javan Tigers in Meru Betiri National Park

English Abstract:

This report outlines Sumatran Tiger Project training activities that were carried out in Meru Betiri National Park (East Java) between the 11th and 21st of October 1999. Operations in this park were initiated following a direct request from the chief of the park, Bapak Indra Arinal, and were supported by the Director of Conservation of Flora and Wildlife, Bapak Ir. Koes Saparjadi.

Meru Betiri represents habitat in which some of the last reports of the supposedly extinct Javan tiger have emanated. More recent sightings by park staff and local people have led to the reemergence of the possibility that the Javan tiger still exists. In support of the need to confirm these suspicions, The Tiger Foundation (by purchasing remote cameras) and the Sumatran Tiger Project agreed to support the national parks own efforts to determine Javan tiger status. The most appropriate contribution that the project could make was identified as training in relevant tiger monitoring and census techniques to the park staff. Since remote camera monitoring was considered to be the most appropriate method available, considerable attention was paid to developing technical knowledge in this discipline, as well as other essential field tools as the GPS receiver and computer based mapping of field observations.

During the period 12 personnel were trained, using a combination of class-based theoretical workshops, field application and a final field orientation to install remote cameras at preliminary sites.

The report below expands on these training activities in detail, provides an overview of the park as potentially suitable habitat for tigers by examining habitat components and

other factors, and also makes several final recommendations based on the information collected during the period.

Among the observations and recommendations made by the Sumatran Tiger Project team are the following:

1. In view of the topography and vegetation types present in the park, the most reliable method by which the presence or absence of Javan tigers can be confirmed is by using infrared activated remote camera systems.
2. The seriousness of the national park management is a considerable asset in the fulfillment of the future Javan tiger census program.
3. Field staff of the park will need to gain a better understanding and familiarity with their park in order to maximize the success of the program. Intruders and exploiters of the park will have to be minimized in order to efficiently carry out the census.
4. Cooperation between all park stakeholders and local people will be necessary in order to implement the census program with success.
5. Some items of basic field equipment would greatly increase the park staff's efficiency in the field.

Community Conservation and Education Program

English Abstract

This report summarizes some of the activities carried out by the local community conservation component of the Sumatran Tiger Project, in both Way Kambas National Park, and as a supporting component of the Tiger Conservation Teams. These activities are considered essential to the long-term success of tiger conservation in Indonesia, and Way Kambas National Park has been used as a model for the development of appropriate techniques. The team is now at the stage of applying these ideas to the local communities existing within the operational areas of the Tiger Conservation Teams. In the report below the methods used are explained in more detail. Leaflets are developed for dissemination in villages in close proximity to tiger range areas. The focus group for this includes the local school children, local education committees and student groups that visit the project site in Way Kambas National Park. Local radio is being used on a regular basis to promote a pride in the Sumatran tiger, national parks and other endangered flora and fauna. To date 4 private radio stations have cooperated with this effort to reach local people across a wider area of rural Sumatra.

The Sumatran Tiger Project has also been closely involved with the Scout youth organisation in Lampung province, focusing particularly on the annual World Scout Day gatherings. This year scout groups camped in Way Kambas during the annual event, and close coordination with the organisation leaders provided an opportunity to educate and familiarise a large group of young people with the concepts of conservation, rarity of the

Sumatran tiger, and pride for national parks. More than 630 people attended this event, and audio-visual presentations, interactive forums and field trips were organised to maximise the opportunity. This complements the series of school presentations and local religious group discussions that have taken place across Lampung, and continue to the present time. As the Tiger Conservation Teams expand their operations there will be even more opportunity to reach a wider cross-section of those people in Sumatra most close to tigers and their habitat.

A Chronology of Tiger-Human Interactions in a Local Fruit Plantation (P.T. Nusantara Tropical Fruit)

M. Yunus, A. Fanani, Maryo

English Abstract

The following report outlines facts obtained from a man interviewed in a village surrounding Way Kambas National Park. This man (Jumingan) reported to have met a tiger while collecting grass, at a location almost 500 metres outside the national park boundary, within the NTF plantation which adjoins the park. The tiger was encountered lying on the ground at the side of a stream, and was reported to be as large as a calf. The tiger appeared in good health though it was not possible to determine the sex of the individual. This report supports several other sightings of tigers in the same location over a three year period.

Report on Tiger Poaching in Way Kambas National Park

English Abstract

This report summarizes a joint investigation into supposed poaching of tigers in Way Kambas National Park by STP and PKA Forestry staff. In this case a tiger, caught on the edge of the park, was being sold by a local person. Further investigation revealed that the animal was actually a leopard cat, however much additional information was collected about actual tiger poaching in the area, those involved, and the current modus operandi of the poachers. The majority of the information collected related to poaching episodes occurring during the 1980 to 1994 period, when it was reported by the interviewee that protection of the park was not as intensive as it is at present. During 1982 the informant reported that he had poached 4 tigers from within the park, selling the stuffed skins for an average price of between 2 and 3 million rupiahs each (dependent upon size of the animal). During the same period it became common knowledge to the local people, that the most intensive hunters within the park were those obvious people with easy access to firearms.

Tiger Survey Report

Sriyanto, Team Leader Staf STP, Santoso, Ali Mashuri, Staf STP, Apriawan, Staf PHPA dan Udung, Staf PLG

English Abstract

This report represents an example of work recently carried out by the Tiger Conservation Teams in Lampung province. Information received by the team related to possible tiger

sightings in a Lampung plantation. During the field surveys no evidence was found that indicated tigers still inhabited the plantation area, however several reports from employees of the company suggested that tigers had been observed on odd occasions in the past. Condition of the habitat, and intensity of disturbance by humans, have created an environment that is unlikely to support any population of tigers now. Other wildlife have also been decimated from the plantation and surrounding forest habitat. Recommendations made by the team included the following; (1) Further surveys should be carried out in adjoining natural habitat in order to confirm the presence or absence of tigers, that could still be occasionally entering the plantation, (2) More intensive coordination should be encouraged between the plantation company and local Forestry Department, in order to ensure that the disturbing influences of the plantation are not allowed to impinge on surrounding natural habitats. Further expansion of the plantation would lead to isolation of several larger forest fragments, and would further restrict the likelihood of migration of tigers into or out of Way Kambas National Park. (3) Close liaison with the plantation company is important in order to increase awareness of the nearby national park. At the moment it is recognised that the plantation serves as a strategic and covert point of entry for poachers and other intruders, into Way Kambas National Park.

Tiger Anti-Poaching Activities

A. Fanani, Maryo, dan M. Yunus (TCU III)

English Abstract

This report represents an example of other important work carried out by the Tiger Conservation Teams. During the last reporting period the Tiger Conservation Teams have continued to support the Sumatran Tiger Project's Forestry Department Tiger Protection Units in Way Kambas National Park. These teams, consisting of forest rangers from the local park staff, are provided with extensive training and then facilitated in the difficult task of protecting Way Kambas from the many threats that it faces. Specifically the teams focus on preventing tiger poaching, though the actual work requires a more comprehensive approach to preventing many destructive activities within the park boundary.

People that are encountered within the park involved in illegal activities are dealt with in different ways by the Tiger Protection Units. A summary of these activities, and the sanctions incurred, is included below:

- Fishing using rod and line; usually local people, they are given a warning and identification details noted for future reference, followed by confiscation of all equipment and accompaniment to the edge of the park.
- Fishing using drag nets or fish traps often 20 to 30 in a particular site; if encountered these people are captured and taken to the park office for further processing by the park management. Fish traps are destroyed
- Fishing using poison; these people work in groups, often stay several nights within the park, before returning home under the cover of darkness with a large

catch of fish. This has happened several times in the last year in Way Kambas. When encountered the intruders are captured and processed in the park office.

- Poaching of songbirds using traps and nets; intruders are captured and processed in the office pending legal sanctions.
- Foraging for gaharu, a valuable internal fungal association found in two species of tropical trees, used in the incense and perfume industries. Extraction requires destruction of the tree, and the value of the resulting commodity is sufficient to entice large numbers of people from far a field. Such intruders are always captured when encountered, and processed legally to the maximum extent possible. There is also considerable overlap between professional gaharu foragers and animal poachers, and very often they will travel together.
- A recommendation made in this report is that the gaharu foragers, aggressive and often in groups of more than eight people, can not be safely apprehended without a greater number of firearms provided to ranger staff.

Project Sponsors and Acknowledgements

The Sumatran Tiger Project is a collaborative conservation effort under the administrative umbrella of the central coordinating committee of the Sumatran Tiger Program. Indonesian members of this committee include the Direktorat Jenderal Perlindungan dan Konservasi Alam (PKA), the Lembaga Ilmu Pengetahuan Indonesia (LIPI), and Taman Safari Indonesia (TSI). We are continually grateful to our Indonesian sponsors Ir. Koes Saporjadi (Director of Nature, Fauna and Flora Conservation, PKA) and Mr. Baringin Hutadjulu (Sub-Directorate of Species Conservation, PKA). We are also thankful to the project counterparts under the previous MoU (1995/99) including Drs. Jansen Manansang (Taman Safari Indonesia) and Dr. Arie Budiman (Head of Research and Development Center for Biology, Indonesian Institute of Sciences).

Many organizations have supported the Sumatran Tiger Project over the period 1995 to present. We deeply appreciate the support of these organizations and everyone's enthusiasm for the project and for tiger conservation in Sumatra:

- Save the Tiger Fund, a special project of the National Fish and Wildlife Foundation in partnership with ExxonMobil Corporation
- Minnesota Zoo Foundation
- Rhinoceros and Tiger Conservation Fund of the U.S. Fish and Wildlife Service
- Zoological Society of London and 21st Century Tiger based at the London Zoo
- South Lakes Wild Animal Park (UK)
- The Tiger Foundation (TTF), Canada
- DreamWorld, Australia

We are grateful to our many generous and considerate supporters, which includes (alphabetically): Fred Bagley (U.S. Fish and Wildlife Service), Connie Braziel and Jon Cieslak (Minnesota Zoo Foundation), Sarah Christie (London Zoo and 21st Century

Tiger), Alexandra Dixon (Zoological Society of London), David Gill (South Lakes Wild Animal Park), Bung Hutabarat (Esso Indonesia), David Phemister (National Fish and Wildlife Foundation), Marco Romero and Christine Reynolds (The Tiger Foundation), Steve Romer (Dreamworld) and John Seidensticker (Chairman of the Save the Tiger Fund). We also appreciate support from British Airways, Jakarta.

In Indonesia the work of the Sumatran Tiger Project is supported by local PKA chiefs and staff of BKSDA II and Taman Nasional Way Kambas offices. The project is particularly grateful to Bp. Harjanto Wahyu Sukotjo for his coordination and assistance in Way Kambas and also to the chief and staff of BKSDA II in Lampung. In the field we are continually assisted by many PHPA support staff, who are both actively involved in field work and enthusiastic about being trained in field methods and helping to train others in the same methods.

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Convention on International Trade in Endangered Species of Wild Fauna and Flora

Forty-second meeting of the Standing Committee

Lisbon (Portugal), 28 September-1 October 1999

Doc. SC.42.10.4

Issues relating to species: Tiger

TECHNICAL MISSIONS

INDONESIA

Tiger conservation issues

Habitat

Indonesia is regarded as having substantial areas of tiger habitat but degradation and encroachment are viewed as major problems by officials and NGOs. Habitat loss is seen as increasing the number of tiger conflict cases and reducing the opportunity for population expansion. For example, even in Way Kambas National Park, where there appears to be a healthy and relatively well protected resident population, field workers are concerned that the genetic viability is being impaired by the small size of the genetic pool and through the lack of links to other isolated populations.

Population studies

The Sumatran Tiger Project, a joint action between the government and NGOs, established camera traps throughout Way Kambas National Park. In a four year period to 1999, the Project acquired extensive photographic records of resident tigers and their prey species. This approach has enabled stripe pattern analysis to be used to differentiate between individuals. Some 37 separate tigers have been identified over the course of the four years.

The geographical spread of the cameras has also allowed global positioning satellite systems to be used to create databases of populations, territories and the distribution of species throughout the Park. Although labour intensive to install and requiring an ongoing manpower commitment to refresh batteries and change camera film, this

exercise has allowed the collection of an extremely impressive range of data. Importantly, the information collected can clearly be seen to be methodical, scientific and accurate. The team **commends** the Project and **recommends** its extension in Indonesia and use by other Parties wherever habitat is deemed suitable.

Conflict

Conflicts between humans, their livestock and tigers are relatively common, especially in Sumatra. There is no government compensation scheme. No response is made to conflict cases occurring in protected areas or national parks since people are not allowed to live or graze livestock there.

Outside such areas, capture and re-location will always be the first line of response. The majority of captured tigers are taken to a major captive-breeding project on the island of Java where 32 male and 29 female adult tigers now live. This facility co-operates with captive-breeding projects elsewhere in the world, especially with large zoos. All captive tigers have been the subjects of DNA profiling.

The captive-breeding project is part of a larger Indonesian Tiger Strategy, established in 1994, which addresses habitat, conservation and conflict issues. Indonesia's CITES Scientific Authority actively participates in Strategy decision-making processes.

Conflict remains a major motivating factor in persecution of tigers, however. Eleven people were killed in one province in Sumatra in 1998 and 6 conflict cases occurred in one Sumatran province in just one month in 1999. It is not uncommon for villagers to respond by attempting to poison the tiger involved.

Field workers note that conflict cases often involve young, healthy male tigers. It appears likely that these young adults are seeking out their own territories, having left the other family members. Unable to find sufficient space within the protected area or national park, they stray into surrounding areas where they encounter humans and their livestock. Researchers believe that such conflict cases are inevitable, given the restricted sizes of available habitat, which do not allow young males to create their own territories. Neither are there any habitat 'corridors' to enable such animals to move elsewhere without posing a threat to surrounding human communities.

Legislation

Indonesia's domestic law, Regulation of the Government of the Republic of Indonesia, Number 8, Year 1999, of the Utilization of Wild Plants and Animal Species, has recently been analysed by the CITES Secretariat and has been judged to enable the country to implement the provisions of the Convention.

Regarding Indonesia's law relating to TM products, it does not take account of the recommendations in Resolution Conf. 9.6 but does make the possession of protected animals and recognisable specimens an offence.

Practical Controls

Indonesia acceded to the Convention on 28 December 1978 and it entered into force on 28 March 1979. It has notified the Secretariat of one Management and one Scientific Authority.

Enforcement staff

Indonesia has a substantial number of Forest Ranger personnel spread throughout its provinces, who are under the control of the Department of Forestry and Nature Conservation (DFNC). These include specialist 'Jagawana' who, together with Forest Police and Investigators, tackle poaching and other forms of wildlife crime. Field units have access to speedboats, pick-up trucks, motorbikes, rifles and revolvers. The total strength of personnel who could potentially be involved in enforcement is intended to be raised to some 15,000 in the near future.

Undercover operations are permitted. DFNC staff appears to enjoy a relatively good working relationship with the Police, Customs and Army. DFNC staff who detain offenders are obliged to pass them over to the Police. The Police will thereafter initiate prosecution procedures. Indonesian Customs officials have made a number of significant seizures of illicit imports and exports. All CITES shipments have to be inspected prior to export.

The team learned, however, that the public does not hold the position of Forest Ranger in particularly high esteem and it appeared that lack of motivation among enforcement staff might be a problem. Senior officials acknowledged that there seems to be evidence of collusion between some staff and illegal traders.

The team was told that when front-line enforcement actions do take place, the judicial process can thereafter be very slow. Where convictions occur, poachers and dealers who are at the beginning of the trade chain seldom receive penalties that act as a deterrent. It also learned that some cases seem to be lost before reaching court, either because of bureaucracy or, it alleged, through corrupt practices by officials.

Illicit trade

The team was told by officials that European and Japanese tourists are targeted by local traders in live mammals and birds. Sale to foreign sailors and fishermen, especially from Thailand, is regarded as commonplace. The illegal capture and sale of orang utans is regarded as a major problem.

A substantial domestic market in exotic pets exists, as does an interest in stuffed and mounted specimens and skins. The Indonesian Government initiated a registration scheme in the early 1990s. By 1993, 68,746 people had registered their possession of 58,657 live specimens and 58,106 dead specimens. Over 1,000 dead tigers were included in these figures.

Domestic interest in tiger skins and mounted tiger specimens, for decorative purposes, remains high and NGOs have noted specimens openly offered for sale in newspaper

advertisements, even though such sales would be unlawful. Prices of IDR 3-5 million for a good quality skin have been quoted on the black market.

Field personnel, investigators and NGOs told the team that intelligence indicates that the disposal of poached animals may well be influenced by geographical considerations. Poachers and dealers with ready access to points of export may smuggle specimens to international routes and markets, whilst others will simply sell illegally obtained animals and parts on domestic markets. It was acknowledged that although tiger bones and penises continue to be exported illegally, there appears to be a ready market for domestic use.

The team was told that Indonesian shamans and priests continue to prize the possession of tiger skins, or pieces of skin, and that possession indicates power.

The team had the opportunity to visit the Pramuka Market in Jakarta that is primarily a bird market. Signs at the entrance to the market emphasized that the sale of protected species was illegal. Despite this, within a short time of their arrival, team members were approached by individuals carrying specimens and were encouraged to enter an area at the rear of the market where a range of animals and birds, including reptiles, slow loris, monkeys, leopard cat kittens, otter cubs, porcupines, parrots and cockatoos were on display. So too was a Javan hawk eagle (CITES Appendix I), even though that particular species was illustrated on signs at the market entrance relating to the most endangered and protected species. Although they did not see them, the team was also offered sun bear and orang utan.

The team noted, though, that the physical layout of Pramuka Market was an excellent example of the difficulties that enforcement staff faces. With its narrow, congested and dark myriad of alleyways, dealers would be difficult to approach unobserved and the sheer number of traders there and animals on sale would require the presence of considerable numbers of enforcement personnel to have any chance of making arrests and seizures. Instead, the team was of the opinion that covert surveillance operations, combined with the capture of dealers and their goods either on their arrival at or departure from the market, would be much more effective. Effective covert operations at such venues would also provide substantial intelligence-gathering opportunities.

The brazen and open approach to team members by traders indicated that enforcement of law is not common.

Traditional medicine

Indonesia's population continues to make considerable use of local traditional medicines, primarily derived from plants. Animal products do also feature among the ingredients, though, particularly in rural provinces, where tiger bones continue to be used in preparations. Tiger meat is also viewed as an effective treatment for rashes and allergies. The eating of tiger muscle tendons is traditionally seen as providing strength. Tiger bones are boiled and medicines prepared that will then be used to treat rheumatism. Whilst the majority of medicines are made domestically, there are also imports from China.

Indonesia also exports some traditional medicine products. There appears to be no data to measure the extent of the use of tiger parts in traditional medicine.

Special Projects

As part of the Sumatran Tiger Project, and funded by NGOs, specialist anti-poaching units have been formed in Way Kambas National Park. Teams of locally recruited personnel, each led by a DFNC staff member, have received extra training and equipment to enable them to undertake targeted patrols of areas known to suffer poaching pressure. Paid more than normal DFNC personnel, to increase their motivation, the patrols also monitor and maintain the camera traps described earlier. One hundred and ten captures of poachers and/or traders took place over the course of one year.

This initiative closely follows the example of the specialist Rhino Units that have been deployed in some national parks to combat poaching and illicit trade. Demand for rhinoceros horn, both for illegal domestic and international markets remains high.

To cover the equivalent size of terrain the Tiger and Rhino Units have a personnel ratio of 1:6 compared with DFNC staffing but have a detection ratio of 6:1. Co-operating closely, the Tiger and Rhino Units also seek to gather intelligence on poachers, dealers and the illicit trade methods and routes. They also work together in the removal of traps located in protected and park areas.

Although the majority of poaching appears to be carried out by local persons, intelligence suggests that more organized professional poachers are also involved. Trapping, using pits and snares, is the usual method and 85 such traps were located by the Way Kambas patrols in one six month period. During that time, three tigers were trapped. Covert surveillance of discovered traps has proved an effective method of arresting poachers.

The Units believe that as many as 20 tigers each year may be poached in one Sumatran province. Where specialist units are not present, poaching is seen by several individuals that the team contacted as a major threat to tiger populations.

The team **commends** the work of these Units who operate in difficult, hazardous and physically demanding terrain. The combination of effective enforcement, crime-intelligence gathering and maintenance of scientific data collection is laudable.

Education and Awareness

Indonesia's Centre for Reproduction of Endangered Wildlife, which also features a safari park within its facility, has worked with the government and NGOs to help raise awareness of conservation issues. The specialist Tiger and Rhino Units also seek to raise awareness among residents in areas surrounding national parks.

Material had been prepared to increase education relating to endangered species ingredients of traditional medicine products. Messages were provided in Chinese, for the benefit of ethnic Chinese populations. Unfortunately, political decisions that prohibited

the display of Chinese in public prevented the material from being used. The team noted, however, that that restriction has very recently been withdrawn.

It seems that Indonesia's internal political difficulties have prevented any significant governmental education or awareness projects. Many of the officials spoken to by the team were eagerly awaiting a period of stability following the elections that were to take place in mid-1999 and expected that it would be possible to then have clearer guidance once the environmental policies of the next government became clear.

Aspects for Improvement

Indonesia appears to have suffered a relatively lengthy period of political difficulties, together with civil unrest in some areas. International media reports also suggest significant corruption at very senior levels of government and that this has led to the over-exploitation of some natural resources. Understandably, such a climate is not conducive to high levels of motivation among government officials and enforcement personnel. The severe financial problems facing the country have also resulted in relatively poor levels of pay, equipment for enforcement and project funding.

That said, the team encountered many dedicated individuals and saw excellent examples of specialized work. There is clearly a base upon which initiatives can be built and expanded.

In particular, the team **recommends** that the concept of the specialist Tiger and Rhino Units should be widely expanded to encompass other areas of the country. It believes, however, that the reliance upon NGO support, management and leadership of these schemes is open to being interpreted as an abdication of governmental responsibility and that this should be addressed.

The team **recommends** that the government work towards raising the status and increasing the authority of DFNC enforcement staff. Specialist units should not only target illegal activities in the field but their role should be expanded further into intelligence gathering and the combating of illicit trade. The team believes that there is scope for such units, with the provision of suitable training and powers, to deal direct with prosecution authorities, thereby removing the potentially unnecessary involvement of the Police. Alternatively, the routine involvement of Police officers in working alongside specialist DFNC staff in combating wildlife crime could be utilized.

There appear to be sufficient grounds to suspect that significant illicit trade of Indonesia's fauna and flora, to domestic and international markets, is taking place. Enforcement authorities require to **evaluate** this trade, it is **suggested** covertly initially, and then take clear and effective action against it. The open nature of the trade noted by the technical team **suggests** that few deterrent factors are operating at present.

Combined with the above recommended enforcement, the team suggests that fresh education and awareness campaigns, targeted at the general public, enforcement authorities and the judiciary, should be conducted.

Indonesia is a major CITES trading State. In common, however, with many other Asian countries its rural populations may well not benefit from, and thus not value, surrounding fauna and flora in a lawful manner. Eco-tourism might be one way of providing benefits.

The team **believes** that a new government in Indonesia has an excellent opportunity, hopefully in combination with a recovering economy, to establish higher priorities for conservation. The country clearly has important populations of tiger, and other species, which require protection and management.

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Indonesia (27 April - 1 May 1999)

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