



BUKIT BARISAN SELATAN
TIGER CONSERVATION PROGRAM:
FROM UNDERSTANDING TO ACTION

A FINAL REPORT
TO
THE NATIONAL FISH AND WILDLIFE FOUNDATION
SAVE THE TIGER FUND
FROM THE
WILDLIFE CONSERVATION SOCIETY

AUGUST 2005

Project #: 2004-0103-013

Grant Amount: \$50,000

Grant Period: March 15, 2004 through June 30, 2005

Dates Covered by report: March 15, 2004 through June 30, 2005

Contacts:

Colin Poole
Director
Asia Program
Wildlife Conservation Society
2300 Southern Boulevard
Bronx, NY 10460
T: 718.741.5885
F: 718.364.4275
E: cpoole@wcs.org

Linde E. T. Ostro, Ph.D.
Director
Foundation Relations
Wildlife Conservation Society
2300 Southern Boulevard
Bronx, NY 10460
T: 718.220.6891
F: 718.364.7963
E: lostro@wcs.org

WCS PROJECT PARTICIPANTS

Project Supervisor: Dr. Noviar Andayani
Project Manager: Untung Wijayanto
Report Prepared By: Antonia Gorog & Donny Gunaryadi

Administration

Frida Mindasari Saanin
Wianasari
Isye Wardeni

Tiger monitoring team

Iswandri Tanjung
Pandu Baroto
Decky Kristiyantono
Rusli Usman, Herwansyah
Susilo
Hagnyo Wandono
Mohammed Zubair
Erwin Willyanto
Adnun Salampessy

Ground survey & GIS

David L.A. Gaveau
Aslan

Wildlife Crimes Unit, Sumatra

Harry Alexander
Dwi Adhiasto
Marihot Manurung
Edi Sofyan
Sunari

WCS CANOPI staff

Didik Purwanto
Edison
Fitri Hendriyani
Mochamad Saleh
Yoki Hadiprakarsa
Anton Nurcahyo
Aslan
Meyner Nusalawo
Maya Prasetyaningrum
Diah Dwiyahreni
Dedi Permadi

PROJECT INTRODUCTION

Bukit Barisan Selatan National Park (BBSNP), in Lampung and Bengkulu provinces of southern Sumatra, Indonesia, is one of a handful of remaining refuges for the Sumatran subspecies of tiger (*Panthera tigris sumatrae*). This park – the third largest protected area on Sumatra at 3,568 km² – is of high conservation value. In addition to supporting a tiger population of an estimated 40-43 individuals, it is also home to many other threatened and ecologically important species, including Sumatran rhinoceros, elephants, sunbears, tapirs, lesser apes, and more than 300 species of bird. Extending over 150 km along the southern tip of the Barisan Mountain Range, Bukit Barisan Selatan National park contains some of the largest blocks of lowland forest remaining on Sumatra and is an important watershed for southwest Sumatra.

Despite the protection status of BBSNP, the park's tiger population is seriously threatened by the depletion of tiger prey in and around densely populated human settlements adjacent to the park; hunting of tigers for commercial sale of their parts; conflict between humans and tigers; deforestation of tiger habitat; and low awareness of the tiger conservation problem among both local communities around the park and authorities responsible for enforcing its protection.

With support from the Save the Tiger Fund and other donors, the Wildlife Conservation Society (WCS) has worked in and around BBSNP since 1998 responding to these threats to tigers. To date, our major tiger conservation focus has been on camera trapping activities to monitor tiger and tiger prey populations throughout the park. Our work was the first to demonstrate through camera trapping that the relative abundance of tigers and their prey is directly related to independently derived density estimates for these animals (O'Brien et al. 2003*). This link provided the necessary basis to use camera trapping as a means to gauge the health of tiger and prey populations.

In addition to monitoring tigers and their prey, we approached the wildlife conservation problem in and around BBSNP via law enforcement. Since 2002 we have deployed Wildlife Crimes Units to (1) gather information on the illegal trade networks that operate in Lampung Province to obtain, transport, and sell tiger and other endangered species products; (2) aid the legal process in prosecuting wildlife crimes suspects; and (3) spread awareness of wildlife protection laws.

WCS is also the coordinator of a multi-year project called CANOPI (Conservation Action Network Program, Indonesia) that involves working in close collaboration with park authorities, local governments, local NGOs, and community groups to protect tigers, elephants, rhinoceros, and other key wildlife and their habitats in the broader Bukit Barisan Selatan Landscape. Activities include: ongoing research and monitoring; a comprehensive capacity development program; strengthening park infrastructure, management, and planning; collaborative management with local government and communities; promoting awareness and sustainable agroforestry practices; and developing sustainable funding for the future.

* O'Brien, T.G., H.T. Wibisono and M.F. Kinnaird. 2003. Crouching Tigers, Hidden Prey: Sumatran Tiger and Prey Populations in a Tropical Forest Landscape. *Animal Conservation*. 47 pp.

PROJECT OBJECTIVES

The goal of this project is to help conserve Sumatran tigers in BBSNP through a combination of population and habitat monitoring, law enforcement, and conservation facilitation as part of CANOPI. Support from the Save the Tiger Fund enabled us to tackle this goal by working towards the following specific objectives over the last year:

- (1) To assist Republic of Indonesia's Department of Forestry (PHKA) staff conduct long-term systematic monitoring of tigers in BBSNP.
- (2) To make informed management decisions based on a better understanding of hunting patterns and sustainability of present hunting levels.
- (3) To strengthen law enforcement with respect to prosecution of poachers.
- (4) To assist government agencies in linking park management and conservation programs with regional planning.

Below we report on the activities and progress made toward each of these objectives.

PROJECT ACTIVITIES & RESULTS

Objective 1: Conduct long-term monitoring of tigers.

Activity 1.1: Camera trapping.

WCS has monitored tigers and their large prey in BBSNP since 1998. Using camera traps laid out in a systematic design, we are able to examine the relative abundances of these animals over time. Camera traps are placed in 10 x 2 km blocks distributed throughout the park, with 20 traps per block and each block surveyed for about a month. With support from the Save the Tiger Fund, we are currently in our fifth cycle of sampling the blocks. In combination with data on deforestation and human population densities, the analysis of data from these five camera-trapping cycles will help us to identify tiger conservation hotspots throughout the park.

Sampling during the grant period was over 2,100 camera trap days in seven forest blocks. The following table shows our camera trapping effort June 2004 through June 2005. Camera trapping effort is notably lower in the past few months because we lost seven camera traps to age and damage. Replacements have been ordered and others were sent out for repair.

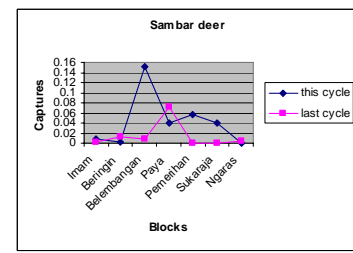
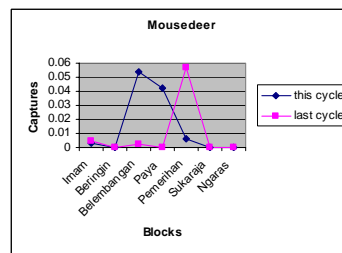
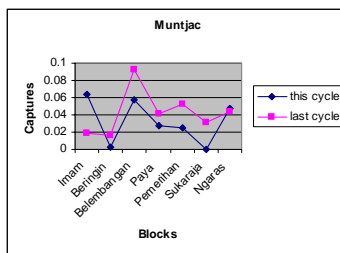
Site	Period	# cam trap days
Tj. Imam	June-July 2004	393.08
P. Beringin	Aug-Sept 2004	437.52
W. Belebangan	Sept-Oct 2004	370.12
W. Paya	Nov-Dec 2004	403.83
W. Pemerihan	Dec 2004-Jan 2005	157.14
Sukaraja	Jan-Feb 2005	191.88
W. Ngaras	May-June 2005	187.95
Total	June 2004-June 2005	2141.52

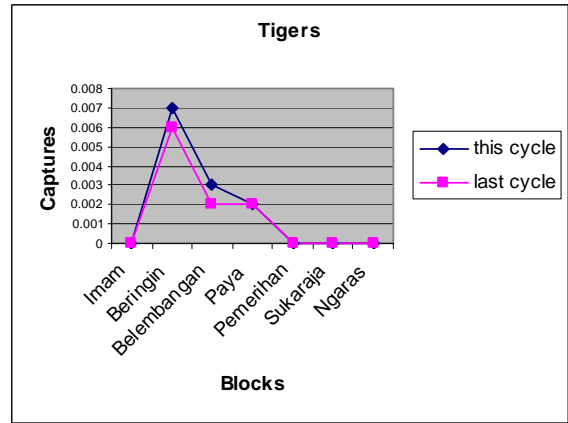
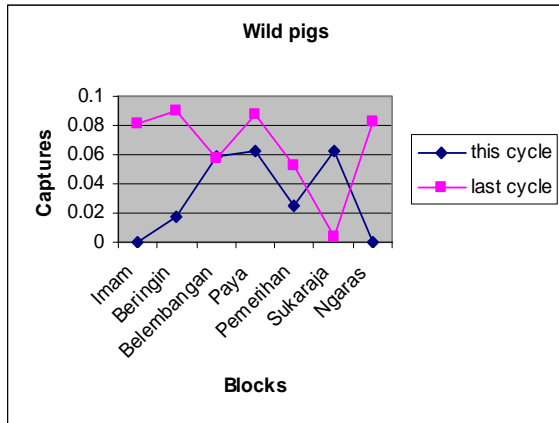
The following table demonstrates both the number of independent camera trapping events (A) and the number of events standardized by camera trap days (B) for tigers and main prey species in each of the forest blocks in the table above. Rows in green are results for the grant period (2004-2005), and rows below in white are results for camera trapping in the same blocks in 2003-2004.

Species	Tj. Imam		P. Beringin		W. Belem-bangan		W. Paya		W. Pemerihan		Sukaraja		W. Ngaras		Total
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
barking deer	25	0.064	1	0.002	21	0.057	11	0.027	4	0.025	0	0.000	9	0.048	71
	8	0.019	8	0.016	40	0.092	20	0.041	54	0.129	15	0.031	16	0.044	161
mouse deer	1	0.003	0	0.000	20	0.054	17	0.042	1	0.006	0	0.000	0	0.000	39
	2	0.005	0	0.000	1	0.002	0	0.000	7	0.017	0	0.000	0	0.000	10
sambar deer	3	0.008	1	0.002	56	0.151	16	0.040	9	0.057	16	0.040	0	0.000	101
	1	0.002	6	0.012	4	0.009	35	0.072	27	0.064	0	0.000	2	0.005	75
wild pigs	0	0.000	8	0.018	22	0.059	25	0.062	4	0.025	25	0.062	0	0.000	84
	35	0.081	45	0.090	25	0.058	42	0.087	22	0.053	2	0.004	30	0.082	201
tigers	0	0.000	3	0.007	1	0.003	1	0.002	0	0.000	0	0.000	0	0.000	5
	0	0.000	3	0.006	0	0.002	1	0.002	4	0.010	0	0.000	0	0.000	8

A = number of independent events; B = number of events/camera trapping days

Preliminary results from a comparison of the two camera trapping cycles presented above show that muntjac and wild pigs abundances decreased in most sites this year relative to last year. Sambar deer were relatively abundant this year compared to last. Mouse deer showed a different pattern, with relatively higher numbers recorded in areas where these animals were rarely “captured” last year, and vice versa. Tigers showed remarkably little difference between years in relative abundance in each sampling block. These results are demonstrated in the simple graphs below:





Comprehensive analyses of camera trapping results from all five cycles of trapping are currently underway. Through these analyses we will examine spatial and temporal changes in tiger and prey relative abundances and their relation to disturbance factors such as hunting, deforestation, and human population densities. Results will be (1) submitted for publication in a scientific journal to reach a wide conservation audience, (2) presented in a technical memorandum for the Indonesian government and forestry department, and (3) presented to local government and forestry officials along with recommendations for a tiger conservation strategy in BBSNP.

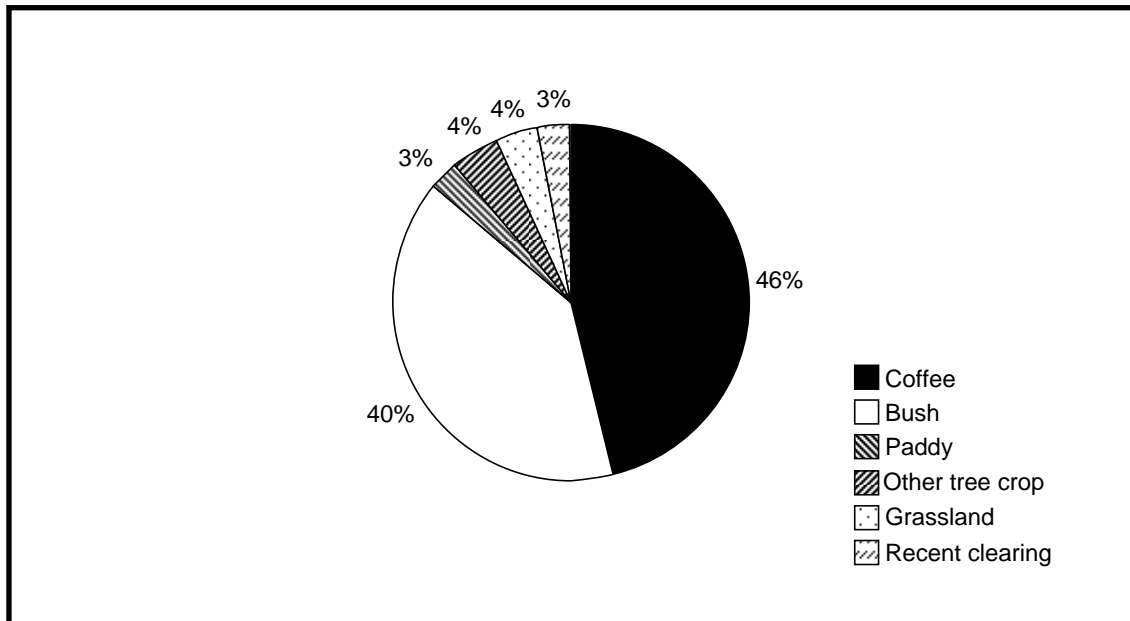
Activity 1.2. Habitat assessment.

Through the examination of satellite imagery, our Landscape Ecology team has been able to investigate patterns and rates of deforestation in and around BBSNP during the last three decades. This work enables us to see encroachment areas within the boundaries of the park. However, in order to develop strategies to address the underlying causes of deforestation we also needed to identify the individual encroachment types and land uses that are driving the deforestation. To meet this data need we carried out ground surveys of major encroachment areas throughout the park, identifying land use and agriculture types as we walked line transects. This work was done jointly with additional support from the Illegal Logging Response Center (IRLC)/EU. The information collected has been analyzed, and the results have important implications for future spatial planning and the development of alternative livelihoods (much of which will be addressed under our CANOPI program; see Objective 4 below).

To identify kinds of encroachment within the boundaries of BBSNP, ground surveys of encroachment areas were conducted jointly with the IRLC/EU from September 2004 to May 2005. Surveys covered approximately 64,820 ha of converted forest within the park boundaries, representing most encroachment areas except for those now represented by damar stands (*Shorea javanica*-dominated agroforest areas), which can be identified through satellite imagery. During the surveys land use and vegetation types were characterized by teams walking line transects, and GPS readings were taken at each transition point between habitats. Teams walked 23 transects, or a total of 344 km. Data on land types collected from the line transects are assumed to represent land types throughout encroachment areas of the park.

Ground surveys conducted indicated that 34,536 ha (53%) of the total encroachment area (excluding *damar*) are under agricultural cultivation. Of this area, over 30,000 ha (or 85%) are planted with coffee. Much of the coffee production is in full sun, a management type of low structural and plant species diversity offering minimal cover and food to wildlife in the park. An estimated 25,997 ha of encroachment within the park are not under current agricultural cultivation, covered instead in shrubs and young secondary growth. The total coffee-growing area within the boundaries of BBSNP represents 16% of the total coffee plantation area of Lampung Province. These data stress the need to stop coffee production within the park and suggest that doing so would reduce the rate of forest loss in the park dramatically.

The figure below shows the percentage of all encroachments (agricultural and non-agricultural) in the park in coffee, bush, rice paddy, tree plantations, grasslands, and recent clearings not yet planted.



Objective 2. To make informed management decisions based on a better understanding of hunting patterns and sustainability of present hunting levels.

Activity 2.1: Hunting study.

Previous research on tigers demonstrated that the stability of tiger populations is closely linked to the abundance of prey. In addition, a study by WCS researchers (O’Brien et al. 2003) showed that populations of important tiger prey in BBSNP, such as sambar deer and wild pigs, are diminished in areas of high human density near forest areas. It is likely that this pattern is a result of heavy hunting near large human settlements, but this has not been examined. Therefore, we facilitated a graduate study to determine hunting patterns and intensities around the park, and to explore the ways in which cultural, social, and economic factors influence hunting patterns.

These data will enable us to target hunting hotspots for awareness and law enforcement activities and to identify socio-economic or other strategies for decreasing hunting of tiger prey.

During February through May 2005 a student, Ferdi Rangkuti, and tiger team members distributed questionnaires to heads of households in 13 villages around the park. They included questions on socio-economic status, hunting, and human-tiger conflict. There were 325 respondents. In addition, secondary data were gathered from the national park office, WWF, local government, and the Rhino Protection Unit.

Mr. Rangkuti is currently conducting quantitative analyses of the hunting and conflict data for his undergraduate thesis. Preliminary results show that hunting of tiger prey species (e.g., deer, mousedeer, muntjak, and wild pigs) is common in all 13 villages surveyed. Hunting methods are diverse, including poisoned bait, capture nets, air rifles, traps, snares, corrals, pits, and even artillery borrowed from army members (though interviewers never observed such weaponry in villages). Hunting was both done in the forest of BBSNP and outside, especially in and around gardens and agricultural areas. Farmers often claimed that they killed deer and pigs because these animals damaged their crops, though some admitted that the primary reason was to obtain the meat for personal consumption or for sale. A preliminary look at the data suggests there may be some correlation between periods of frequent attacks on crops by deer and pigs and heavy hunting of these animals. The study demonstrated that a large proportion of conflict between humans and tigers takes place when tigers kill livestock, such as goats and chickens. However, it also showed that not all farmers are capable of identifying tiger signs, thus, probably many of these kills should not be attributed to tigers. Respondents stated that although conflict with tigers and other wildlife is still an issue that affects their livelihoods, the frequency of such conflict has decreased notably in the last few years.

Objective 3: To strengthen law enforcement with respect to prosecution of poachers.

Activity 3.1: Deploy Wildlife Crimes Unit (WCU).

Wildlife trade is a major threat to protected species in southern Sumatra, with Bandar Lampung (the capital of Lampung Province) functioning as a major hub in national and international wildlife smuggling. Although Indonesia has a comprehensive set of laws meant to protect endangered wildlife, there is poor awareness of these laws among the general public, judges, and attorneys. WCS coordinates a team comprising WCS staff, police, forestry officials, NGOs, and journalists to monitor wildlife trade through undercover operations, assist in legal prosecutions by providing expert evidence and legal advising, and promote awareness of wildlife conservation laws. These activities were ongoing during the project period and included:

- Eight joint patrols with tiger team members to villages around BBSNP to assess human-tiger conflict. Conflict patrols amounted to a total of 192 hours during the project period.
- Thirty-one gold shops (secret hubs of the wildlife trade) monitored in Lampung Province for trade in tiger skins.
- Forty-four routine patrols at markets, bus stations, and seaports to investigate illegal wildlife trade. Wildlife trade patrols amounted to a total of 176 hours during the project period. A total of 40 forest rangers were involved in the patrols.

- Five arrests of illegal wildlife trade suspects.
- Fifteen awareness events conducted in local schools.
- More than 30 articles published concerning wildlife trade and protection in local and national newspapers, in addition to multiple radio and television broadcasts.

WCU investigations during this project period identified three poachers involved in illegal trade of ivory and rhino tusk near Way Kambas National Park and an additional two collectors in Ranau and Kota Agung. One of these cases resulted in the most severe recorded legal repercussions in Indonesia for ivory trade: a six-month prison term and a Rp 500,000 (\$51 US) fine. Results of investigations in gold shops suggested that approximately two pieces of tiger skins were being traded locally every three months. During patrols, a total of 135 live animals were confiscated from those operations, 26 of which were protected species. Among these animals were mousedeer (*Tragulus napu*), siamang (*Symphalagus syndactylus*), cockatoos (*Cacatua cristata*), pigeons (*Goura cristata*), and parrots (*Lorius lori*).

WCU-led awareness and education events reached over 700 students, and the team's extremely productive media campaign reached wide audiences both locally in Lampung Province and nationally. Articles published and other broadcasts during the period include:

- Harimau TNBBS Mati, Kain Jins dan Sandal Ada di Perutnya, **Newsletter WCU**, September 2004. [A dead tiger from BBSNP, jeans material and sandals in its stomach].
- Kisah Gila-Gilaan Kebun Binatang Lampung, **Newsletter WCU**, December 2004. [A crazy story from the Lampung Zoo].
- Hakim Tanyakan Barang Bukti 102 Pipa Gading, **Lampung Post**, 2 January 2005. [Judge asks about 102 elephant tusks held in evidence].
- Atraksi Gajah FWK Dinilai Penyiksaan, **Lampung Post**, 7 January 2005. [FWK elephant show considered torture].
- Selamatkan Harimau Sumatera, **Radar Lampung**, 29 March 2005. [Save the Sumatran tiger]
- WCU – DAUN Roadshow Harimau Sumatera, **Lampung Post**, 29 March 2005. [WCU-DAUN Sumatran tiger roadshow].
- Harimau Di Lampung Puhah 2010, **Kompas**, 29 March 2005. [Tigers in Lampung will be extinct in 2010].
- Konflik Harimau Vs Manusia, Siapa Yang Menjadi Korban?, **Newsletter WCU**, May 2005 [Conflict between tigers and humans, who will be the victim?].
- Konflik Harimau Vs Penduduk Meningkat, **Newsletter WCU**, 2 May 2005. [Conflict between humans and people increasing].
- Stop Buru Harimau, **Lampung Express**, 25 May 2005 [Stop the killing of tigers]
- Macan-Macanan, **Radar Lampung**, 25 May 2005 [Wild cats].
- Penyelamat Satwa Rekrut Sukarelawan, **Lampung Post**, 31 May 2005 [Wildlife conservationists recruit volunteers].
- “Kebun Binatang” Unila Dapat Kijang Baru, **Lampung Post**, 1 June 2005 [The University of Lampung Zoo gets a new deer].
- Kenalkan Harimau Sejak Dini, **Lampung Post**, 3 June 2005 [Introduction to tigers].
- WCU Gelar Tiger Day I, **Lampung Post**, 15 June 2005 [WCU hosts Tiger Day].
- Harimau Sumatera Terancam Puhah, **Lampung Post**, 18 June 2005 [Sumatran tiger threatened with extinction].

- Sumatera Pemasok Terbesar Primata, **Kompas**, 18 June 2005 [Sumatra biggest supplier of primates].
- LSM, Penangkaran Buaya Jangan Jadi Kedok, **Lampung Post**, 20 June 2005 [NGO warns, don't use crocodile breeding as a cover-up].
- Cuma 2 Bulan Penjara Bagi Perajin dan Pemilik Pipa Gading, **Newsletter WCU**, July 2004. [Only two months in jail for ivory dealers].
- Penyelundup Satwa Ubah Jalur Transportasi, **Lampung Post**, 4 July 2005 [Illegal wildlife smugglers change transportation route].
- Perdagangan Satwa Liar Dilindungi Di Lampung Makin Marak, **Media Indonesia**, 4 July 2005 [Trade in protected wildlife in Lampung on the increase].
- Banyak Hewan Mati, Taman Kedaton Dipertanyakan, **Lampung Post**, 6 July 2005 [Lots of animals die, Kedaton Zoo asked to explain].
- TN dan Dishut Diminta Tak Tutup Mata, **Lampung Post**, 7 July 2005 [Indonesian army and Forestry Department asked not to close their eyes].
- **Metro TV**, Tiger Day News, 20 June 2005.
- **RCTI**, Tiger Day News, 20 June 2005.

Objective 4: To assist government agencies in linking park management and conservation programs with regional planning.

Activity 4.1: Conservation facilitation through CANOPI.

Conservation in Indonesia has suffered from a lack of coordination, collaboration, and teamwork among international, national, and local stakeholders. With support from the Critical Ecosystems Partnership Fund (CEPF), WCS is working to build and strengthen partnerships to protect BSNP and the surrounding landscape. We established the CANOPI Program, a network of local NGOs with strong support from local universities, government, and forestry, to address research and training needs across this landscape. In the last year, CANOPI successfully emerged from the organizational-building phase into the implementation phase; research and training activities are underway. Promising collaborative management initiatives have begun in all three districts around the park to tackle issues of boundary delineation and spatial planning. Local governments and their agencies have been extremely receptive to these initiatives. The following partners are now committed to the program:

NGO partners include: WATALA; Yayasan ALAS Indonesia; GARSI (Garuda Sylva); LSPPM (Lembaga Studi dan Pelayanan Penyuluhan Masyarakat); NIPAH; YASADHANA; YBWS (Yayasan Bina Wana Sejahtera); and PRATALA (Panthera Rafflesia). Government partners include: Department of Forestry National Parks (Bukit Barisan Selatan, Kerinci Seblat, and Gunung Leuser National Parks); Department of Forestry Species Conservation (BKSDA); provincial governments in Lampung and Bengkulu; regency governments in Tanggamus; and the Department of Justice. University partners include: University of Lampung and University of Bengkulu.

CANOPI is now fully staffed and has made infrastructure investments to establish a project office maintained by WCS but for use by all project partners. Implementation of the project-by-project partnerships continues through an integrated work plan and budget, and operated through

a sub-grant and sub-contract mechanism. Research activities by the project and supporting projects are already underway. These include: remote sensing/GIS analysis of deforestation and land-use; ecological monitoring of forest and key wildlife species; a continuation study of human-tiger conflict and hunting patterns; park-wide socio-economic livelihood and land tenure perception surveys; rapid-rural appraisal to assist spatial planning; and Sumatra-wide mapping of coffee expansion. Training in awareness-raising strategies has been developed and will be implemented in early July 2005. Following the training, the strategy will be implemented by project partners through the sub-contract mechanism. A plan was developed (to be implemented in September 2005) for land-use planning and economic valuation training linked to the production of local biodiversity action plans. This will be conducted in Bengkulu Province and will include staff of both Bukit Barisan Selatan and Kerinci Seblat national parks. Partners are working to implement participatory planning in all three districts surrounding the park, with an aim to develop and ratify a new spatial and development plan incorporating conservation objectives. In two provinces collaborative advisory boards have already been formed, and in the third district agreement and support has now been secured for the work.

Activity 4.2: Production of technical memorandum

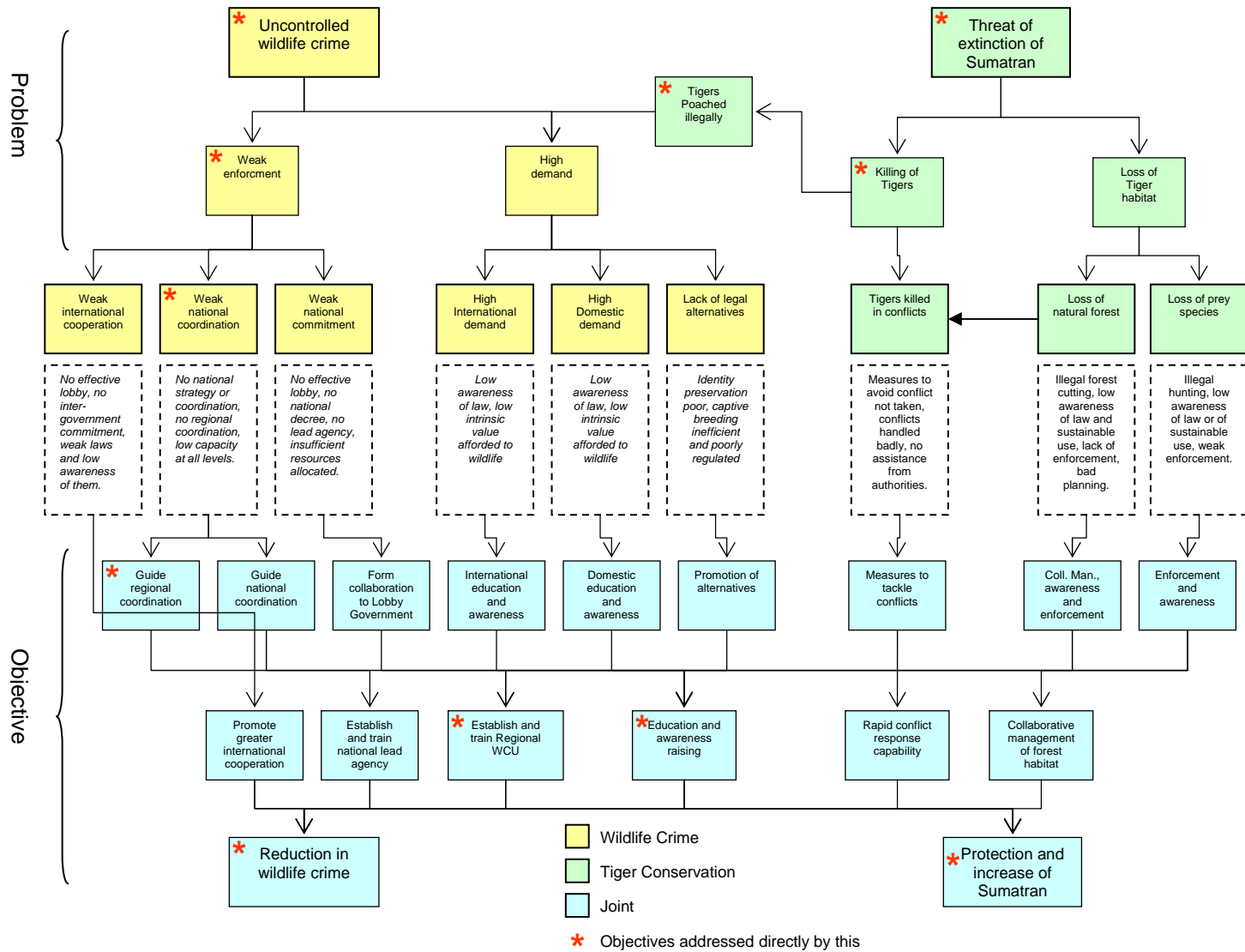
A draft of a technical memorandum describing WCS Indonesia tiger research and conservation activities to date and our strategy for future tiger conservation work was produced and is under revision. We anticipate that the booklet will be ready for distribution to government and non-government stakeholders in tiger conservation in August 2005.

CONCLUSIONS & FUTURE STEPS

Our current approach to tiger conservation in Bukit Barisan Selatan National Park combines monitoring tigers and their prey with deforestation analyses, wildlife crimes investigations, and hunting studies. When evaluated together, these data can help to identify hotspots for tiger conservation in the park. With further socio-economic data gathering and regional planning activities under the CANOPI program, they can also help us to address the root human causes of tiger population declines in the area. To increase our reach, we are also working to raise awareness of tiger conservation issues and wildlife crimes. While we are confident that our current activities are helping to identify tiger conservation problems and to guide law enforcement efforts around BBSNP, we recognize that a larger-scale effort will be needed to protect Sumatran tigers.

We recently reviewed our strategy for tackling wildlife crime and ensuring the conservation of tigers. As a result of this review, we have developed new interrelated strategies that range from building national and regional coordination, authority, and enforcement in fighting wildlife crimes, to addressing the illegal killing of tigers, destruction of habitat, and unsustainable hunting of tiger prey. Coordination and collaboration with other Sumatran tiger conservationists is integral to the strategy, and establishing such partnerships is a major focus of our work in the short term. Most immediately, we are working to: (1) improve the effectiveness of and coordination between law enforcement agencies and civil society groups in Lampung, South Sumatra, Jambi and Bengkulu provinces based on the collaborative model developed by WCS in

Lampung; and (2) improve coordination and information sharing among tiger conservation stakeholders in these four provinces to pool knowledge and resources, and prioritize future work. The problem tree below outlines our analysis and highlights our tiger conservation objectives for the future.



Photographs



Setting camera traps. WCSIP's Tiger Team sets camera traps used to monitor tigers and their prey in Bukit Barisan Selatan National Park. (Credit: WCS Indonesia)



Camera trap data entry. A member of our Tiger Team examines camera trap photos and enters new cam trap data. (Credit: WCS Indonesia)



Camera trap photo. A Sumatran tiger photographed by a camera trap. (Credit: WCS Indonesia)



Tiger conservation awareness. Children participate in a drawing contest during a WCSIP-sponsored Tiger Day to raise awareness of tiger conservation in Lampung Province, Sumatra. (Credit: WCS Indonesia)



Tiger makeup. Tiger Day events included face painting. (Credit: WCS Indonesia)