



Community-based Monitoring and Conservation of Tigers in Cambodia's Most Important Tiger Conservation Units

PROGRAMMATIC REPORT TO
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The Tiger Conservation Program (TCP * see list at end for abbreviations *) recently submitted a programmatic report 2000-2001 ([Ouk et al 2001](#)) that covers many aspects of our project up to the period October 2001. In this report we present more results on monitoring of tiger populations and tiger poaching, and then discuss law enforcement and collaboration with other conservation programs in Cambodia as background to our 2002 proposal for the next phase of our program.

1. A community-based tiger monitoring system

Our community wildlife rangers conduct transect surveys every month, covering forest habitat outside protected areas in 10 districts within Cambodia's three largest tiger conservation units. Most 2-3 person ranger teams are now equipped with handheld GPS units for recording sign; they also fill out data sheets. Rangers (mostly ex-hunters, and mostly illiterate) are increasingly mastering this new technology. They report monthly to their regional Tiger Conservation Office, staffed by a national DFW official and a provincial counterpart. The national officials gather for monthly coordination and management meetings in the capital Phnom Penh, where the data are put into a GIS database at the WPO.

Table 1 shows the results of our community wildlife rangers' monitoring from project start to October 2001. The total number of encounters with tiger, leopard and elephant sign is shown for each region, and encounter rates are expressed as the number of team patrol days per encounter. Tiger and elephants are

most frequently encountered in the Cardamoms region. Most poaching cases are also reported from this region. Leopards are encountered at roughly the same frequency as tigers in northern and eastern Cambodia, but less frequently in the Cardamoms. No leopard poaching cases were reported from the Cardamoms either.

Table 1. TCP Community wildlife ranger monitoring of tigers, leopards, elephants and poaching (May 2000-Oct 2001)

Region	Ranger team patrol days	Encounters (sign + direct observations)			Poaching cases (observed + reported)		
		Tiger	Leopard	Elephant	Tiger	Leopard	Elephant
Cardamoms	471	77	10	125	13	0	26
<i>Encounter rate*</i>		6	47	4	36	N/a	18
Mondulkiri	311	31	29	30	2	2	0
<i>Encounter rate</i>		10	11	10	156	156	N/a
Preah Vihear	292	22	34	44	4	1	0
<i>Encounter rate</i>		13	9	7	73	292	N/a
Total Cambodia	1,074	130	73	199	20	3	26
<i>Encounter rate</i>		8	14	5	54	358	41

* *Encounter rate = number of team patrol days per encounter*

However, it is difficult to distinguish tiger and leopard sign. Recent biological surveys in Cambodia by other conservation programs have not been able to classify most large cat sign they encountered. Still, some did find distinctive tiger sign sufficient to allow a comparison of encounter rates between surveys in eastern Cambodia and our ranger data from the region (Table 2). The encounter rate for tigers (every ten patrol days) is roughly equivalent to other survey results. Our elephant encounter rate is lower, indicating that in this region elephants are increasingly confined to small protected areas of habitat.

Table 2. Comparison of TCP tiger, leopard and elephant sign encounter rates with other survey efforts in eastern Cambodia

Survey	Time period	Survey days	Encounter rate (survey days per each sign or direct observation)		
			Tiger	Leopard	Elephant
TCP Mondulkiri community wildlife rangers	Aug 2000-Oct 2001	311	10	11	10
Virachey NP ¹	Jan-Jun 2001	56	7	*	3
NE Mondulkiri ²	April 2000	13	7	7	1
NW Mondulkiri ³	May-Jun 2000	34	0	34	2
S Mondulkiri ⁴	Mar-May 2001	40	20	**	1.5

- *During this survey 32 big cat signs were recorded, but unable to distinguish between leopard and tiger. A further eight signs were definitely ascribed to tiger.
- ** During this survey several sets of large felid tracks under 100 mm in total length were not ascribed to species. Track sets and camera trap photos confirmed the presence of two tigers in part of the survey area.

References

1. Seng Teak. 2001. Surveys of Tigers and other Large Mammals in Virachey National Park (2000-2001). WWF Cambodia Conservation Program, Phnom Penh, Cambodia.

2. Long, B., Swan, S.R. and Kry Masphal. 2000. Biological surveys in Northeast Mondulkiri, Cambodia. FFI Indochina Programme and Wildlife Protection Office, Dept of Forestry and Wildlife, Phnom Penh, Cambodia.
3. Timmins, R.J. and Ou Rattana. In prep. A [Preliminary] field survey to assess the feasibility of the conservation of Tigers in Mondulkiri or A survey to determine the potential for Tiger conservation in Phnom Prich Wildlife Sanctuary and other areas of western and northern Mondulkiri, Cambodia. WWF Indochina Program, Dec 2000 review draft. No tiger sign was detected during this survey.
4. Walston, J., Davidson, P. and Men Soriyun. 2001. A wildlife survey in southern Mondulkiri province, Cambodia. WCS Society Conservation Program, Phnom Penh, Cambodia.

2. Tiger poaching continues

A December 13 Reuters report on the poaching data gathered by our network of community wildlife rangers appeared widely in the national and international press (see [example](#) on our website from the New York Times, and [complete list](#) of poaching incidents). Poaching of tigers, elephants, and other rare large mammals is difficult to detect, and there are few figures available from tiger range by which to judge the scale of illegal offtake. Our documentation of 20 tigers and 26 elephants killed in a 1.5 year period from Cambodia's largest Tiger Conservation Units is cause for serious concern. We do feel certain that we have reduced tiger poaching by local villagers in the TCUs (the best of them now working for us as rangers). Our interview survey data and ranger reports also indicates that poaching levels overall have declined since the anarchic early 1990s. Now our intelligence indicates that the main culprits are roving teams of professional hunters and corrupt members of the police and the military. Our rangers have told the regional offices that they feel powerless to influence these people as they have local members of their community, and indeed fear for their safety if they tried to act against them alone. For example, in August 2001 the ranger team from the Thmar Baing district, Cardamom mountains region, reported the existence of a team of hunters in the Areng valley area north of Chamna village. These men had come in from the neighboring province to the north, Pursat. They had set tiger grenade traps, and were formidably armed with weapons including B40 and B45 rockets. They left a threatening letter along a main trail posted on a tree saying, "If anyone wants to try to arrest us, please come, we welcome you."

3. Elephant and Tiger Conservation Workshop

On June 22, 2001, the Dept of Forestry and Wildlife and the US Fish and Wildlife Service co-hosted the Elephant and Tiger Conservation Workshop in Phnom Penh. The workshop was well attended by all the major Cambodian and international stakeholders in the conservation of these two species ([agenda](#) and [participants list](#) on the website; paper copy of presentations in the mail). The purpose of the workshop was to share information for a complete overview of all recent activity, and identify priority areas and actions for tiger and elephant conservation.

The Wildlife Conservation Society presented results from a year's worth of camera trap surveys in northern and eastern Cambodia which detected tigers at low frequency relative to other large mammals. Our rangers' encounter rates with tiger sign are also lower than we expected from the results of our late 1990s interview surveys. However tigers are still widely present in the TCUs, and the prey base is relatively abundant in comparison to other areas in Southeast Asia. The prospects for rapid recovery of tiger populations is good if poaching can be controlled.

Two key conclusions emerged from the workshop: confirmation of our program areas as the most important large habitat blocks for these two species in Cambodia, and the need for increased emphasis on law enforcement to protect remaining tiger and elephant populations from poaching and illegal trade.

4. Preparation of a new wildlife conservation law

The intense pressure on wildlife populations in SE Asia due to poaching and illegal trade remains one of the major challenges for conservation in the region. The situation in Cambodia is no different. Although the actual distribution and number of significant species has not been well documented, initial reports have

revealed that populations have declined in recent years due to illegal poaching and trade. Most reports have concluded that a major problem in controlling wildlife trade in Cambodia is the lack of clear policies and explicit legislation to protect wildlife both at the national and local levels. In fact, there has never been a law enacted in Cambodia to regulate and conserve wildlife and although Cambodia signed CITES in 1997 it still has not been ratified by the National Assembly.

Some prior legislation contains minor provisions on wildlife issues, but they fail to address several key issues or provide the Forest Administration with authority or incentives necessary for adequate enforcement. Until a wildlife law is enacted there may continue to be a lack of consistency on procedures and jurisdiction governing wildlife. In the present system, there is no consensus between the relevant ministries on wildlife management and enforcement and practices in each province vary based on political power rather than uniform policies. A law approved by the National Assembly is the proper mechanism to set policy and provide guidance to all the ministries and provinces. The real challenge to implement the law lies in the ability to disseminate it and provide training and support at the provincial and local level.

■ Todd Sigaty, WCS Consultant, Draft Wildlife Law Committee report

A new wildlife law for Cambodia was drafted in 2001. Sun Hean was a member of the government team involved in the process. In May 2001 the Dept of Forestry and Wildlife hosted a workshop to circulate the draft and receive comments ([workshop agenda](#)). Between May and November, the May draft wildlife law was substantially revised based on workshop comments and by adding the Ministry of Environment to the working group. The new draft is currently in DFW, and will soon be forwarded to MAFF. It will undergo extensive review in MAFF and will not be forwarded to the Council of Ministers until the new forestry law is passed by the National Assembly, anticipated sometime in 2002(?). It will be somewhere between 1 and 2 years before a new wildlife law is actually passed by the National Assembly. For this reason, the forestry law contains a section on wildlife, and [this section](#) will be the basis for wildlife law enforcement during the transition period.

The new protected species list is now in DFW and will soon be forwarded to MAFF, which will then issue it as a Prakas or decree. The important thing to note is that all the large mammals are protected, except barking deer and wild pig. Sambar were deemed scattered enough to warrant protected status. In the meantime, it is imperative that the tiger project facilitates an increase in wildlife law enforcement under the current system, which can be selectively emphasized to be consistent with the evolution of the new laws.

5. Collaboration with other conservation organizations

In the Koh Kong region, tiger project monitoring is already being integrated with law enforcement operations of the DFW/Conservation International Cardamom Conservation Project. CI is in the process of supporting the tiger project directly, such as arranging for provision of radios and cameras to tiger project rangers, and planning further training. DFW/CI are developing a long-term management plan for the entire Cardamom Protected Forest and buffer area, including long term funding. It is anticipated that funding and management of the wildlife ranger program will be fully integrated into this program within a couple of years. The tiger project cooperated with the FFI/WPO elephant survey this year and will cooperate and coordinate with next year's anticipated activities.

In Preah Vihear, the Wildlife Conservation Society is initiating a multi-year Global Environmental Facility project "Conservation Areas through Landscape Management" (CALM) in the Northern Plains of Cambodia. WCS is currently establishing an office in Preah Vihear. Over the past year, WCS and the tiger project have closely collaborated. All tiger project rangers and staff have received training from WCS and participated in WCS wildlife surveys. WCS and the tiger project are committed to continue to work closely together, including specifically wildlife monitoring and wildlife law enforcement. It is anticipated that the long-term role of and funding for the wildlife ranger program will be developed during the course of the GEF project.

In Southwest Mondulkiri, WCS is working within the Samling Logging Concession under a grant from the World Bank for a pilot project for Biodiversity Conservation in Managed Forests. WCS is currently establishing an office in Mondulkiri. Over the past year, WCS has collaborated with the tiger project on several surveys, and provided training. WCS and the tiger project have committed to work closely together during implementation of the pilot project, which includes wildlife law enforcement.

In Northwest Mondulkiri, WWF has initiated a multi-year GEF for the Phnom Prich Wildlife Sanctuary and surrounding buffer. The tiger project has provided information to WWF and participated in meetings and workshops related to Mondulkiri planning. The tiger project will collaborate with the WWF project as it is developed and implemented.

In Eastern Mondulkiri, DFW is planning to initiate the Community-based management of the Mondulkiri Protected forest proposal next year, funded for 24 months with a grant for \$827,236 from the International Tropical Timber Organization. The tiger project rangers currently monitor the area and the Mondulkiri region TCO will undoubtedly have a role in the ITTO project. The ITTO project will result in a long-term management plan for eastern Mondulkiri.

Clearly, the long-term future of various aspects of the tiger project in Mondulkiri, including long term funding, will be determined over the next couple of years through implementation of the three major projects discussed above. All of these projects will to some extent be interconnected if there is to be true landscape-scale conservation in Mondulkiri. Currently, the tiger project is the only conservation project operating full time on the ground within the areas of all three projects.

The tiger project cooperated with the FFI and WWF sponsored elephant surveys in Mondulkiri this year and will continue to cooperate and coordinate with activities anticipated for next year.

The tiger project is currently working with WildAid to determine the most effective way to employ the Wilderness Protection Mobile Unit, which employs five DFW officers, seven military police, and one WildAid coordinator. The Unit is well equipped and trained to operate countrywide. The mission of the Unit is to stop wildlife trafficking throughout Cambodia. All three TCO regional offices are considering plans for calling in the mobile unit for selected tough cases, in collaboration with the wildlife law enforcement structures that will be operating in the regions. The mobile unit could be particularly effective in dealing with the border crossing wildlife markets: Anches, Preah Vihear Temple, and Bos Sboe in Preah Vihear, and Dak Dam and Keo Sema in Mondulkiri. Since these wildlife markets involve the military, a national independent team collaborating with the district police is likely to be more effective than district police acting alone—the military is just too well entrenched and powerful at the border crossings. For example, wives of military personnel are involved in operating the Anches border market. To date, the Provincial government by itself has not been able to completely shut down these wildlife markets.

The tiger project has been collaborating with Save Cambodia's Wildlife to develop and implement a non-formal conservation education program at the district level throughout Cambodia. This project has now been partially funded and will soon be operational.

Key to abbreviations

AECP	Asian Elephant Conservation Program (under FWS)
CAT	Cat Action Treasury
CALM	Conservation Areas through Landscape Management (within GEF)
CI	Conservation International
DFW	Dept. of Forestry and Wildlife (within MAFF)
FFI	Fauna and Flora International
FWS	US Fish and Wildlife Service
GEF	Global Environment Facility (World Bank)
GIS	Geographical Information System
GPS	Global Positioning System
HQ	headquarters

ITTO	International Tropical Timber Organization
KK	Koh Kong province region (Cardamoms), Cambodia
MAFF	Ministry of Agriculture, Forests and Fisheries (Govt of Cambodia)
MK	Mondulkiri province region, Cambodia
PP	Phnom Penh
PV	Preah Vihear province region, Cambodia
RTF	Rhino and Tiger Fund (under FWS)
STF	Save the Tiger Fund
TCO	Tiger Conservation Office (field offices of TCP)
TCP	Tiger Conservation Program
TCU	Tiger Conservation Unit (large block of habitat for tigers identified by global analysis)
UMN	University of Minnesota
WCS	Wildlife Conservation Society Cambodia Program
WPO	Wildlife Protection Office (within DFW)
WWF	World Wide Fund for Nature Cambodia Program