



**CAMBODIA COMMUNITY WILDLIFE RANGER  
TIGER AND ELEPHANT CONSERVATION PROGRAM  
FINAL REPORT May 1, 2003-August 31, 2005**

**NFWF Save the Tiger Fund:**

Grant #2003-0087-009 (Spent May 1, 2003 to May 31, 2004)

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## **LIST OF ACRONYMS**

AECF	Asian Elephant Conservation Fund (USFWS)
BPAMP	Biodiversity and Protected Areas Management Project (MOE)
CALM	Conservation Areas through Landscape Management (Northern Plains)
CAT	Cat Action Treasury
CI	Conservation International
CITES	Convention on the International Trade in Endangered Species
CWRP	Community Wildlife Ranger Program
DFW	Department of Forestry and Wildlife (now FA)
FA	Forestry Administration (formerly DWF)
FFI	Fauna and Flora International
GIS	Geographical Information System
GTF	Global Tiger Forum
GPS	Global Positioning System
HQ	Headquarters Office
ITTO	International Tropical Timber Organization
MAFF	Ministry of Agriculture, Forestry and Fisheries
MER	Managed Elephant Range
MIKE	Monitoring Illegal Killing of Elephants (CITES Program)
MoE	Ministry of Environment
NFWF	National Fish and Wildlife Foundation
NGO	Non Governmental Organization
NRPG	Natural Resources Protection Group (National NGO)
RTCF	Rhino and Tiger Conservaton Fund (USFWS administered)
STF	Save the Tiger Fund (NFWA administered)
SWA	Srepok Wilderness Area (Mondulkiri Province)
SWEC	South West Elephant Corridor (Cardamom Mountains)
USFWS	US Fish and Wildlife Service
UTM	Universal Transverse Mercator
WPO	Wildlife Protection Office
WCS	Wildlife Conservation Society
WWF	World Wide Fund for Nature / World Wildlife Fund

## **INTRODUCTION AND SCOPE**

What is now called the Cambodia Community Wildlife Ranger Program was initiated in 1998 with an interview survey of hunters and has been continuously evolving since. See Summary Program History section of this report for a detailed chronology. All previous program reports are listed in that section and can be seen on the CAT website. This report is the final program report for the period May 1, 2003-December, 2005, covering an STF grant, an RTF grant and an AEF grant for the 2003-2004 period and an RTF grant and an AEF grant for the 2004-2005 period. The grant numbers and dates within which actual grant expenditures took place are on the cover page of this report. Ranger operations ceased in July 2005 and all 2004-2005 grant funds were spent by August 31. However, HQ and international staff continued to work without pay through December to close down the project in an orderly fashion, place the rangers in other projects, and prepare the final report.

The most recent prior program report was submitted to the NFWF and USFWS in December 2003. It was the final report for the 2002-2003 grants and an interim progress report for the first six months of the 2003-2004 grants. During the second six months of the 2003-2004 grants, new STF and RTCF and AECF grant applications were submitted to continue the program in 2004-2005. STF, after five consecutive years of funding, declined to fund the program for another year, due in major part to failure to obtain other funding sources.

This resulted in a major re-evaluation and restructuring of the program at the very time the program would have been preparing the final 2004-2005 report. The final report for the 2003-2004 grants and the interim progress report for the 2004-2005 grants were not overlooked; it was determined that it would be more meaningful to prepare one final report for the entire period, since sustainability of the program was a key issue for both NFWF and USFWS and the future of the program was not decided until well into 2005.

Over the period there were continuously evolving changes to the long term strategy as new partnerships were formed and sustainable funding options explored to enable continuation as an independent program as well as integration into other NGO- supported government programs. A judgment call was made that the final report would be more meaningful to the donors if it was deferred until it was clear as to how all those developments would play out. Since new NFWA or USFWS grants for 2005-2006 are not being requested, this report will not only be the final report for the past two grant year cycles, but also the final overview report on the entire eight year program.

## **SUMMARY PROGRAM HISTORY: 1998-2005**

### **1998: Interview survey of local hunters and provincial officials**

- Funded by \$15,000 grant from Taiwan Council of Agriculture to CAT.
- Employed Wildlife Protection Office (WPO) Deputy Director and 5 recent graduates from Royal University of Agriculture.
- Interviewed 153 hunters and 156 district and province officials in 13 provinces.
- Preliminary survey results presented in “The Distribution of Tiger, Leopard, Elephant and Wild Cattle in Cambodia, Interim CAT/WPO Report; July 1998”.

- Detailed results presented in “National Status Survey for Tigers in Cambodia”, published in Spring 1999 Cat News.
- “Status of the Tiger and its Conservation in Cambodia”, by Sun Hean, Masters Thesis, University of Minnesota, published September 2000. Based on 1998 Interview Survey and further wildlife trade investigations in 1999.

#### **1999: Provincial government workshops and 2nd interview survey of hunters**

- Funded by \$65,000 grant from STF to CAT.
- Employed 6 WPO employees and one international advisor.
- Conducted 6 province workshops attended by 209 officials to present results of 1998 survey and gained province-level input on conservation strategy.
- Interviewed an additional 71 hunters in 6 provinces to determine feasibility of recruiting hunters as community wildlife rangers.
- “Results of Second Interview Survey of Hunters” by WPO staff, published in Khmer, with English introduction by Hunter Weiler.
- Project staff organized logistics for and featured in documentary film “Search for the Kouprey”, produced by Bill Kurtis Productions for Investigative Reports Series, A&E, January 1998.

#### **2000-2001: Regional offices established & rangers recruited**

- Funded for 2000-2001 by \$90,980 grant from STF, \$36,450 grant from USFWS RTCF, and \$16,100 co-funding from University of Minnesota & ESRI.
- Established wildlife offices in Preah Vihear (Northern Plains), Mondulkiri (Eastern Plains), and Koh Kong (Cardamom Mountains).
- Each regional office managed by a WPO officer and Provincial Forestry Office counterpart, with overall national program coordination provided by two WPO Phnom Penh HQ officers and one international advisor.
- Recruited 32 community wildlife rangers from the hunters interviewed in the 1998 and 1999 surveys.
- Technical training provided by University of Minnesota staff
- Established computerized GIS system to manage data
- Managed network of rangers to monitor wildlife status and distribution, and illegal hunting activities
- Participated in biodiversity surveys in collaboration with conservation NGO’s FFI, WWF, and WCS
- Collaborated with law enforcement officials to reduce illegal hunting
- Conducted conservation awareness activities with local officials and villagers

- Prepared “Community-based Monitoring and Conservation of Tigers in Cambodia’s Most Important Tiger conservation Units”, Final Report to STF and USFWS for the period June 2000-May 2001, submitted November 2001.
- Project staff and rangers organized logistics for and featured in documentary film “Lost World of the Khmer Rouge”, produced by Becker Entertainment for Journeys of the Ends of the Earth Series, Discovery International, January 2001.

#### **2001-2002: Tiger Program continues in three regions**

- Funded by a \$96,000 grant from STF to CAT.
- Continued core mission of wildlife monitoring, law enforcement, and conservation awareness in three regions employing over 30 rangers
- Integrated CWRP rangers in the Samling Logging Concession area in south west Mondulkiri into the WCS/FA Seima Biodiversity Conservation Area Program in late 2002.
- Focused remaining Mondulkiri rangers on the new Mondulkirki Protected Forest in eastern Mondulkiri Province, the largest protected area in Cambodia.
- Prepared “Cambodia Tiger Conservation Project Community Wildlife Ranger Program Report 2001-2002”, final report to STF and USFWS, submitted December 2002.

#### **2002-2003: Elephants added to tigers as 2nd flagship; law enforcement initiated**

- Funded by a \$50,000 grant from STF, a \$54,533 grant from the USFWS AECF, and a \$36,355 grant from the USFWS RTCF to CAT.
- With the addition of AECF funding, the flagship species of the program became both tiger and elephant
- Increased law enforcement component through formal agreements with provincial police chiefs In Preah Vihear and Mondulkiri in July 2002.
- In August and September, 2002, several police officers informally recruited and equipped in Mondulkiri and Preah Vihear as a pilot test. Police initially operated separately from ranger teams.
- Integrated all Preah Vihear WPO staff, Provincial staff and community rangers into WCS/government Conservation Areas through Landscape Management Program in January 2003.
- Prepared “Cambodia Community Wildlife Ranger Program”, final Program Report (March 1, 2002- April 31, 2003) and interim progress report (May 1, 2003-October 31, 2003) to STF and USFWS, submitted December 2003.
- Project staff and rangers organized logistics for and featured in documentary film “Snakes on the Menu”, produced by Popular Arts Entertainment for the Jeff Corwin Experience Series, Animal Planet, January 2003.

- Project staff and rangers organized logistics for and featured in documentary film “Body Jars”, produced by Becker Entertainment for Riddles of the Dead Series, National Geographic International, and February 2003.

#### **May 1, 2003-May 31, 2004: Anti-poaching operations strengthened**

- Funded by a \$45,000 grant from STF, a \$40,000 grant from the USFWS AECF and a \$35,048 grant from the USFWS RTCF to CAT.
- June-August 2003 strategically realigned Cardamoms ranger deployment by eliminating ranger team at O Soam on the north side of the Cardamoms and adding team at Kamlot on the southern end. Ten rangers total.
- August 2003 added two rangers and eight district police officers in Mondulkiri and begin highly effective joint police and ranger patrols. Ten rangers and eight police employed.
- Interim Progress report submitted in December 2003. This final report submitted in November 2005, combined with final report for 2004-2005 grants.
- Independent audit of the effectiveness of 21 elephant conservation projects in 10 Asian counties (Jepson & Canney, 2003) gave CAT Cambodia program top score in Cambodia and one of the strongest project ratings in Asia.

#### **June 1, 2004-August 31, 2005: Ranger Integration into other regional programs**

- Funded by a \$46,000 grant from USFWS RTCF and a \$74,000 grant from USFWS AECF to CAT.
- CITES MIKE program established and two major training sessions held
- Cambodia joins the Global Tiger Forum
- CWRP instrumental in global update of Tiger Landscape Maps
- Mondulkiri ranger teams participate in joint training with WCS & WWF and seven rangers integrated into WWF/FA Srepok Wilderness Project.
- Koh Kong rangers begin integration with CI/FA Cardamoms Conservation Program, and FFI/FA Managed Elephant Range Project.
- Final report for the 2004-2005 grants submitted in January 2006, combined with final report for 2003-2004 grants.

### **KEY OBJECTIVES**

**The 2003-2004 grants proposal**, “Cambodia Tiger Conservation Project/ Community Wildlife Ranger Program”, had three main objectives:

- Strengthen the government capacity to enforce the new forestry law adopted by the government on August 31, 2002. This law includes a chapter on wildlife protection.
- Strengthen the government capacity to monitor and manage tiger and elephant populations through additional training in field survey and data analysis techniques;



- Increase awareness on the importance of endangered species conservation within the communities in our program areas by continuing to hold village conservation workshops.

The STF Council approved the grant on the following additional two conditions:

1. Coordinate mechanics of the training program with WCS and WildAid.
2. Aggressively pursue matching and/or alternative funding or partnerships to build sustainability for the future of this project.

**The 2004-2005 grants proposal**, “Cambodia Community Wildlife Ranger Program” originally had the same three basic objectives as the 2003-2004 grants but added district police to ranger patrols in the Cardamoms. STF declined funding, largely due to the failure of the project to meet the above condition 2 of the previous grant. The proposal was then at first revised to entirely drop the Cardamoms region and continue only in Mondulkiri. The USFWS approved this revised proposal. Subsequently the WPO/CWRP was assigned the lead to organize the Cambodia CITES MIKE program, with MIKE sites identified in the Cardamoms and Mondulkiri. A grant modification request was submitted to AECF for additional funding to continue ranger patrols in the Cardamoms, but without adding police. This modification was approved. The final three objectives for 2004-2005 were:

- Strengthen wildlife law enforcement by continuing joint ranger-district police patrols in the Mondulkiri Protected Forest.
- Strengthen the capacity to monitor key mammal populations through continued monthly patrols in Mondulkiri and the Cardamoms, with emphasis on tiger, elephant, wild water buffalo, Eld’s deer, gaur and banteng.
- Increase awareness on the importance of endangered species conservation within the communities in our program areas by continuing to hold a variety of local level conservation workshops.

### **Wildlife monitoring, anti-poaching & conservation awareness**

The two sets of grants covered the two year continuation of a single evolving 8-year program with the same three basic objectives, worded slightly differently for each grant cycle. This report is therefore organized to cover a single set of objectives over time for both grant periods. Although there was no STF funding for the second year of this reporting period, the activities funded by STF in previous years continued into the final year of the project, and are therefore appropriately addressed in a final report formally submitted to both the USFWS and the NFWF covering two sets of grants for two years.

## **MANAGEMENT**

### **Organization**

The Community Wildlife Ranger Program (CWRP) was organized into a Phnom Penh HQ Office and two regional offices located in Koh Kong and Mondulkiri. (See Appendix 1, Organization Chart.)

Koh Kong Rangers normally operated in two-man teams, and were based in villages. In the 2003-2004 grant period, there were ten rangers managed by a WPO Officer and a

Forestry Administration (FA) Officer based in the Province capital. Due to a budget reduction, in the 2004-2005 period the Koh Kong region was reduced to eight rangers managed by a single FA Officer based in the District Capital. In Monduliri, ten rangers and eight police were employed through most of the 2003-2005 period. Rangers and police conducted joint patrols. They were managed by two WPO officials based in the province capital. Rangers in both regions generally patrolled for 15 days a month in the dry season and 10 days per month in the wet season. Patrol routes varied from month to month depending on conditions.

Regional managers returned to Phnom Penh each month with a financial report, an activity report, and wildlife monitoring data. The data was entered into a GIS. The monthly reports were translated into English and monthly data maps produced. Monthly staff meetings were held in Phnom Penh, at which the previous month's activities were evaluated and the next month's activities and budget planned. This assured that HQ and the field were jointly continuously evaluating the program and making necessary adjustments. A notable accomplishment of the CWRP was the preparation and distribution of a monthly report in both Khmer and English almost every month for five consecutive years.

### **Personnel and capacity building**

The FA/CAT Community Wildlife Ranger Program (CWRP) was carried out in Cambodia from May 2000 to July 2005, following interview surveys conducted in 1998 and 1999. There were from 34 to 45 staff working for the program; the number of staff changed from year to year as adjusted to evolving budgets, objectives and activities. For the fiscal year of 2004-2005, it had 34 staff including one American Grant Administrator in USA, one CAT Country Director in Cambodia, and 32 Cambodian staff. (See Appendix 2: Staff List.)

Since the program started, it has significantly contributed to development of the capacity-building of Cambodian staff, including Management Teams in Phnom Penh, Monduliri, Koh Kong and Preah Vihear sites, as well as Rangers and Police in Preah Vihear, Monduliri and Koh Kong. The staff's capacity was developed through the fulfillment of their duties for the program and other related governmental works; and their participation in various international and national conferences, workshops, meetings, documentary film projects training courses, and advanced degree programs abroad. As a result, many of them have been promoted within the government and/or seconded to major NGO-funded programs.

#### **Key WPO/FA staff**

*Sun Hean* worked for the Wildlife Protection Office (WPO) of Forestry Administration (FA) from 1993 until September 2001, and was promoted to Deputy Chief of WPO in 1997. He was tiger research leader for CWRP in 1998. From October 1998 to October 2000, he received a scholarship for his MSc in conservation biology at the University of Minnesota. He was CWRP Program Manager from May 2000 to September 2001, after which he was appointed Chief of International Cooperation Office, Ministry of Agriculture, Forestry and Fisheries.

*Sin Polin* was CWRP Preah Vihear Manager from May 2000 until February 2002. When the CWRP Preah Vihear Site was integrated into WCS's Conservation through Landscape Management (CALM) program in 2002, he became a Preah Vihear- based CALM Component Manager. And in his Forestry Administration government job, he was promoted to be Chief of Kampong Sralau Triage in Chhep District in 2002. In 2005 he was transferred back to WPO, and in late 2005-early 2006 he was working with local communities in Kampong Thom Province on a WCS-supported Bengal Florican conservation project.

*Heng Kimchhay* was a CWRP Field staff based in Phnom Penh from May 2000 to March 2001. He was then seconded as Law Enforcement Officer and Wildlife Specialist for WildAid from April 2001 to Apr 2005. He became a Management Assessment Officer for Conservation International in May 2005, and was subsequently promoted to Deputy Manager, Central Cardamoms Protected Forest-Conservation Program.

*Roth Bunthoeun* was a CWRP Field staff and Training officer from April 2001 to May 2002, and since then he has served as National Primate Program Officer for Flora and Fauna International.

*Keo Omaliss* replaced Sun Hean as CWRP program Manager, after graduating from his MSc in wildlife ecology from the United Kingdom. He was promoted to Deputy Chief of WPO in 2002. Eventually, he left the project when he gained a scholarship for his PhD in Ecology and Conservation at University of East Anglia of the United Kingdom in late 2003. He will finish his PhD study in late 2007. His PhD work on the Giant Ibis has included several seasons of field work in Preah Vihear.

*Ouk Kimsan* was CWRP's Program Coordinator between May 2000 and July 2003. In September 2003, he gained a scholarship for his MSc in Environmental Management and Development at the University of Tokyo in Japan. He completed his MSc, which included field work in Mondulkiri, in September 2005 and returned to Cambodia. In November he was selected by Conservation International and the Forestry Administration to be Manager, Central Cardamoms Protected Forest-Conservation Program.

*Kry Masphal* was CWRP's Mondulkiri Manager from May 2000 to September 2003. From October 2003, he has served as a Project Officer for Birdlife International, developing a community based conservation program in Stung Treng Province. He has received a scholarship for a master's degree in biology in South Korea, beginning in February 2006.

*Chheang Dany* replaced Keo Omaliss and has served as CWRP's Program Manager since October 2003 through 2005. He was promoted to Deputy Chief of WPO in November 2004, and has continuously advised the WPO Director and the FA Director on complex national biodiversity issues. He is serving as the WPO Project Manager of the FFI-supported elephant density survey in the Cardamom Mountains during late 2005-early 2006.

*Uch Seiha* was CWRP's Koh Kong Manager from May 2000 to April 2004. In late 2004, he became a Deputy Chief of Bakorng Triage of Forestry Administration in Seam Reap province.

*Yeav Chhunlak* was CWRP's Koh Kong Provincial Coordinator from May 2000 to May 2004. He became CWRP's Koh Kong Manager in August 2004. He was promoted to be a Deputy Chief of Andung Teuk Division of Forestry Administration in July 2003. He is serving as a Field Officer on the FFI-supported elephant density survey in the Cardamom Mountains during late 2005-early 2006.

*Pak Vong Somethy* was CWRP's Mondulkiri Manager between August 2003 and April 2004 when Kry Masphal left the project. He is currently the Chief of FA Bokeo Division, Ratanakiri Province.

*Prum Sovanna* became CWRP's Mondulkiri Manager in May 2004 when Pak Vong Somethy left the project. Sovanna was promoted to Deputy Chief of FA Koh Nhek Division, Mondulkiri Province in July 2003. During late 2005-early 2006 he is serving as Field Coordinator for the FFI-supported elephant density survey in the Cardamom Mountains.

*Leng Chivin* was seconded to the CWRP from October 2004 through June 2005 as CITES MIKE Training Coordinator, after which he was promoted to Deputy Director, Watershed Management and GIS/Remote Sensing Office.

#### International staff

*Kristin Nowell*, CAT's USA Director, co-founded the community ranger program with Sun Hean, and has continuously provided grant support to the program since.

*Hunter Weiler*, CAT Cambodia Program Director continuously worked with the CWRP on all aspects of the program from 1998 through 2005. Hunter received a Gold Medal from Prime Minister Hun Sen in May 2004 for his outstanding contributions to wildlife conservation and forest sector reform.

*Dr. David Smith, Pete Cutter and Perry Nacionales* from the University of Minnesota provided field and computer training during the early stages of the program. Pete returned to Cambodia in 2004-2005 on contract to MOE, and helped integrate CWRP into a national GIS data base.

*Sandrine Pantel* was recruited in October 2002 and provided training in GIS, data analysis, and computer operations. She then accepted a position with WCS in June 2004, but in that position continued to provide some support to CWRP. Sandrine moved to Malaysia in July 2005 to accompany her partner, who took a position there with WWF.

*Julia Chase Grey* came to Cambodia during June and July 2005 on contract to CWRP to provide mapping and data analysis support for the preparation of this report and additional technical training for staff. In August she proceeded to South Africa and participated in a successful leopard camera trapping project as part of her Phd research.

#### **Final closeout interviews with rangers and police of CWRP**

On 9-10<sup>th</sup> July, 2005, Prum Sovanna (CWRP MK Manager), and Thac Phoeun (Community Liaison Officer), held a meeting and interview with 9 Rangers and 3 Police in Mondulkiri. The meeting was mainly to officially inform the staff about the completion of CWRP activities at the end of July 2005; appreciation to all staff for their sacrifice for the program, and the integration plan of CWRP into the WWF/FA Srepok Wilderness Area Project effective from August 1, 2005.

In Koh Kong, on 22th July, Nong Divan (HQ Administration Officer), Julia Chase Grey (Volunteer Research Associate) and Yeav Chhunlak (CWRP KK Manager), held a meeting with 6 rangers in Andoung Teuk commune in Koh Kong. The meeting was to officially inform the staff about the completion of CWRP activities at the end of July 2005.

After each meeting ended, interviews were made with all rangers and police and the following issues were raised during the interviews:

#### *Strengths and weaknesses of CWRP*

One of the main strong points of CWRP was that former hunters were employed to be rangers; therefore they knew very well where hunting activities mainly took place and who the illegal hunters in the area were. The police cooperation with the rangers helped the patrol team to carry out law enforcement more easily in the field. Based on their past experiences as hunters and police, the team could easily access a wide range of forest habitats; identify areas where tigers, elephants, and other wildlife species existed and identify tracks of wildlife. The presence of CWRP rangers every month in the forest made it more difficult for poachers to carry out illegal hunting freely in the area. However, the main weak point was that there was a lack of equipment, especially transportation, for field staff to carry out their jobs, particularly, to transport confiscated illegal specimens to the office. In Koh Kong, a lack of police in the patrol team to carry out anti-poaching operations considerably reduced the effectiveness of the program activities in the Cardamoms.

#### *Level of understanding on wildlife conservation importance*

Since the rangers came to work for the program, they have discovered that wildlife is a national property that everybody should help to properly maintain and conserve for the next generations. If there is no forest, wildlife do not have a habitat to live in. The forest would not also function well without wildlife. Wildlife could attract tourists to come to visit the province, and provide income. (This could only occur if wildlife numbers increase and poaching pressures decrease so that wildlife can be easily viewed.)

#### *Wildlife conservation field skills gained from the program*

The rangers have gained some technical field skills such as map usage to locate areas on the ground; tracks identification; GPS usage; datasheet recording; field report writing; and enforcement form completion.

#### *Future works to be done after the program finished*

As CWRP ends, rangers plan to go back home either to continue their farming or to look for other jobs such as motorbike taxi drivers and construction workers, but not hunting. If any conservation organization offers them a job as ranger or police with an appropriate wage, they would agree to work for it. However, if there are no more jobs as rangers or police, they would not commit illegal hunting again, instead, they would continue to encourage neighbors to help protect wildlife. (As discussed in detail in the Partnerships section of this report, many community rangers have been or are in the process of being placed in other NGO/WPO regional programs, where they will continue to build on the wildlife conservation achievements of the CWRP.)

### *Achievement of CWRP during its operations in Cambodia*

Since the program started there have been a number of achievements. Ex-hunters became rangers, and closely cooperated with police to carry out anti-poaching activities. Illegal hunting and logging activities were reduced. Villagers gained an understanding that wildlife is a national property and that commercial hunting of protected species is against the law. Many villagers are now involved in wildlife conservation activities and some wildlife populations are on the increase. The rangers estimate that about 9 tigers and 20-30 elephants remain in the area they patrol in Mondulkiri, and 10-20 tigers and 15-25 elephants in the area they patrol in the Koh Kong region. These populations could expand and stabilize if conservation activities continue.

### **TRAINING**

Per the following sections, CWRP did not strictly meet the STF 2003-2004 grant condition to coordinate training of the training programs with WCS and WildAid. However, CWRP did coordinate training with Conservation International during the 2003-2004 period, and during the 2004-2005 grant period conducted three major training sessions in collaboration with WCS/ WWF, and the CITES MIKE Bangkok Sub Regional Support Office, thus fully meeting the intent of the STF training condition, albeit a year later than directed. The delay was not due to lack of effort by CWRP management, but was a result of the difficulty of organizing inter-organizational training in Cambodia.

#### **Mondolkiri police initial training**

Each police recruited in August 2003 received initially a one-day training by the CWRP Regional Manager on law enforcement covering the following points:

- Project objectives in relation to police tasks: crack down on all commercial wildlife trading and hunting activities and destroy hunting equipment.
- Identification of targeted species using the book “Mammals of Cambodia” (Men Soriyun *et al* 2000). Specific attention is given to primate species because the police have difficulties in distinguishing among them.
- Presentation and explanation of the section on wildlife of the Forestry Law and the Ministry of Agriculture, Forestry and Fisheries (MAFF) Wildlife Protection Act which provide a list of species to protect.
- Use of Global Positioning System (GPS) and Radios
- Communication techniques (particularly how to provide accurate wildlife and poaching information)
- Report writing
- Directives to follow including CWRP rules and Cambodian laws (MAFF, Forestry and Police).

Then the CWRP rangers also continuously trained the police during patrols on track identification, data collection, and other aspects of field wildlife conservation. The original plan was to have rangers and police patrol independently, but joint patrols were

so successful that they became the Standard Operating Procedure. Each two-man ranger team was almost always accompanied by at least one district police officer.

### **Cardamom ranger training**

Conservation International trainer Chris Kleronomos invited the CAT/WPO Rangers to attend basic ranger training at CI/FA Thmar Bang Field HQ in the Cardamom Mountains, along with CI/FA Cardamom Rangers, FFI/MOE Samkos and Aural Wildlife Sanctuary Rangers, and FFI/FA Mondulkiri Elephant Monitors. There were enough trainees, so that two sessions of 10 days each were held in December 2003. Originally the training was to include a law enforcement section, but the WildAid trainer (Mark Bowman) wanted that done separately at the Bokor National Park Training Center in February. The training was put together on very short notice.

At the first session, the CWRP Provincial Forestry Department Co-manager and four CWRP rangers were scheduled to attend, but two rangers were in the forest and couldn't be contacted. Of the CWRP rangers that did show up, two rangers left early because their wives got sick and send messages on consecutive days by motorbike drivers requesting that they return home. The PFO Co-manager found the PT training very tough and had trouble keeping up and Chris told him he could leave if he didn't like it. But the PFO toughed it out and was proud that he and the remaining two CWRP rangers completed the training, which they all thought was valuable. They also informed CWRP HQ that Chris was a fine trainer.

At the second session, the CWRP WPO Manager and three CWRP rangers attended. (Another ranger had resigned to move to another province and hadn't been replaced yet.) A few days into the training, one of the CI rangers was dismissed from the course, apparently because he was older and could not keep up with the PT (running) between class sessions. All the other rangers were upset by this and nominated the CWRP WPO manager (the only trainee who spoke English) as spokesman to talk to Chris. A confrontation occurred due to an unfortunate cultural misunderstanding, and the entire CWRP trainee group returned home. In conclusion, only three of the nine CWRP trainees completed the basic ranger course. Fifty-one trainees from the other organizations completed the training, with no drop outs. A number of lessons were learned from the incident, which were applied in developing the following training sessions.

### **CITES MIKE training**

The WPO/FA/CAT community wildlife ranger program was responsible for organizing the CITES MIKE Law Enforcement Monitoring (LEM) Training courses in Cambodia. In September 2004, the program employed Leng Chivin with a nine-month contract to work as CITES MIKE Training Coordinator effective from October 2004. There were two CITES MIKE training courses conducted in Cambodia.

The 1<sup>st</sup> CITES MIKE LEM Training Course on "Training for Trainers" was held from 16-22 January, 2005 at the WCS/FA Seima Biodiversity Conservation Area HQ in Mondulkiri province. The course was supervised by Dr. David Lawson; MIKE Southeast Asia Subregional Support Officer (SSO), Chheang Dany; Deputy Chief of WPO, and Dr. Antony Lynam; WCS Asia Program. There were 11 participants in the training, three of

whom were from CWRP's management team (including Nong Divan, Prum Sovanna, and Yeav Chhunlak). The purpose of the course was to prepare ten Cambodian government staff for training law enforcement field staff at the two MIKE sites, Mondulkiri and Cardamom Mountains. These staff members were selected to participate in the workshop by the Wildlife Protection Office & Forestry Administration, which coordinate the MIKE program for the government of Cambodia. The workshop familiarized participants with the training program content which included the purpose and objectives of the MIKE program, status of the Asian elephant, practical field navigation techniques, procedures for reporting patrol activities and elephant observations, and human-elephant conflict assessment. (See accompanying report for details.)

The 2<sup>nd</sup> CITES MIKE LEM Training Course on "Enforcement field staff training" was held in May 1-7, 2005 at Seima Biodiversity Conservation Area HQ in Mondulkiri province. The training was held to impart technical skills in law enforcement monitoring to technical staff of the Cambodian MIKE Sites in Mondulkiri and Cardamom. Twenty-four field staff of the WPO and Ministry of Environment, and two observers participated in the training. Out of the twenty four, there were 9 CWRP rangers; 7 from Mondulkiri and 2 from Koh Kong. The workshop was taught by the Cambodian trainers with assistance of Dr. David Lawson, MIKE Southeast Asia SSO; and Dr Tony Lynam, WCS, Asia Program. Topics included were the status of Asian elephants, practical field navigation techniques, and procedures for reporting patrol activities, elephant observations and human elephant conflict (HEC). (See accompanying report for details.)

### **Mondulkiri ranger and police advanced joint training**

Cambodia's Eastern Plains contain extensive dry forests that support a diversity of threatened wildlife. Recognizing the importance of these forests, FA and WWF Cambodia Conservation Program recently initiated a project to strictly protect the part of Mondulkiri Protected Forest known as Srepok Wilderness Area (SWA) through the establishment of several ranger outposts manned by both police and rangers. In order to further upgrade law enforcement capacity at the site of the WWF/FA Srepok Wilderness Area (SWA), a basic ranger training workshop was held on 10-15<sup>th</sup> May 2005 at the Mereuch Field HQ Station. Thirty staff from FA, SWA and CWRP participated in the training in which 10 rangers and 6 police were from the CWRP. Tony Lynam, WCS was lead trainer, supported by Khmer trainers from the FA WWF, WCS, and CWRP programs. The training provided capacity building for 6 CWRP rangers for integration into the WWF/FA SWA program beginning August 1, 2005. (See accompanying report for details.)



## EQUIPMENT

### Major equipment owned by WPO/CWRP August 2005

	Truck	Motorbike	Camera	GPS	Computer	Radio
Mondulkiri		6	4	7	1 desktop	8
Koh Kong		1		5	1 desktop	2
Headquarters	1	1	1	1	1 desktop, 1 laptop	
<b>Total</b>	<b>1</b>	<b>8</b>	<b>5</b>	<b>13</b>	<b>3</b>	<b>10</b>

This equipment is being integrated into other WPO programs. Three additional computers were provided by the CITES MIKE Program Bangkok Office, as well as several GPS's, and this equipment will be re-allocated during the ongoing restructuring of the Cambodia MIKE Program.

## CONSERVATION AWARENESS ACTIVITIES

CWRP regional staff conducted monthly conservation awareness informal discussions with provincial and district officials in both MK and KK, and rangers and police carried out similar activities at the village level and with persons encountered in the forest. It is difficult to quantify this because formal conservation awareness workshops were not organized, but the cumulative impact of five years of this kind of activity every month has undoubtedly raised conservation awareness significantly in both regions. Although CWRP had originally planned formal workshops as a regular part of the program, that concept was never implemented due to budget limitations, logistical constraints, staff capacity limitations and a higher priority placed on patrolling and monitoring in the forest.

At the national and international level, the CAT program and personnel have received extensive coverage in books, magazines, newsletters, newspapers and documentary films. See the CAT website for numerous examples. Most recently, Sun Hean and Hunter Weiler are quoted in the 2005 book *Black Market: Inside the Endangered Species Trade in Asia*, by Ben Davies. As with the village level activities, the media coverage is difficult to quantify, but cumulatively has reached hundreds of thousands of people all over the world.

## ANTI-POACHING OPERATIONS

### **Snare removal**

Table 5: Number of snares removed for each CWRP Region, May 2003-June 2005.

	Mondulkiri	Koh Kong	Total
Snares removed	<b>66</b>	<b>693</b>	<b>759</b>

In Koh Kong, CWRP cooperated with WildAid/FA law enforcement teams and in Mondulkiri, CWRP worked with the local police. Snare removal can be highly dangerous as evidenced by the killing of an NRPG ranger involved in snare removal in the Cardamoms this year, as detailed in a later section of this report.

Snaring is a far greater problem in the Cardamoms than in Mondulkiri. The dense evergreen forests there enable poachers to successfully focus their efforts on the few game trails, whereas in Mondulkiri the open deciduous forests allow virtually unrestricted movement by large mammals.

### **Gun Confiscations**

Twenty- eight guns were confiscated (all of these confiscated in Mondulkiri) including CKC semi-automatic rifles and AK47 assault rifles. These were confiscated from villagers, local hunters and even from police officers that were using their guns illegally to hunt wild species. The fact that CWRP enlisted police and confiscated guns, including police guns illegally used, is strong evidence of the effectiveness of CWRP's law enforcement activities.

### **No hunting contracts**

When hunters were discovered carrying out an illegal activity, CWRP asked them to sign a contract stating that they understand the new wildlife law and they would stop carrying out poaching activities. Within the CWRP overall project a total of 32 contracts of agreement to stop hunting, trading and borrowing guns were made from May 2003 to June 2005 in Mondulkiri. (See table 3 for details) These contracts were only made in Mondulkiri, since CWRP did not receive requested funding to set up a police program in Koh Kong patterned on the successful Mondulkiri model. In Mondulkiri, when CWRP made "no-hunting" contracts with police, they also attached a "stop providing guns" clause, since some police rent out their guns to civilian hunters for a share of the harvest.

*Table 6: Number of contracts made in Mondulkiri per category from May 2003 to June 2005*

	No-hunting	No-trading	No Borrowing Guns	Other	Total
Mondulkiri	<b>24</b>	<b>5</b>	<b>1</b>	<b>1 No Fishing 1 No Forest Encroachment</b>	<b>32</b>

### **Arrest and conviction of Yor Ngon**

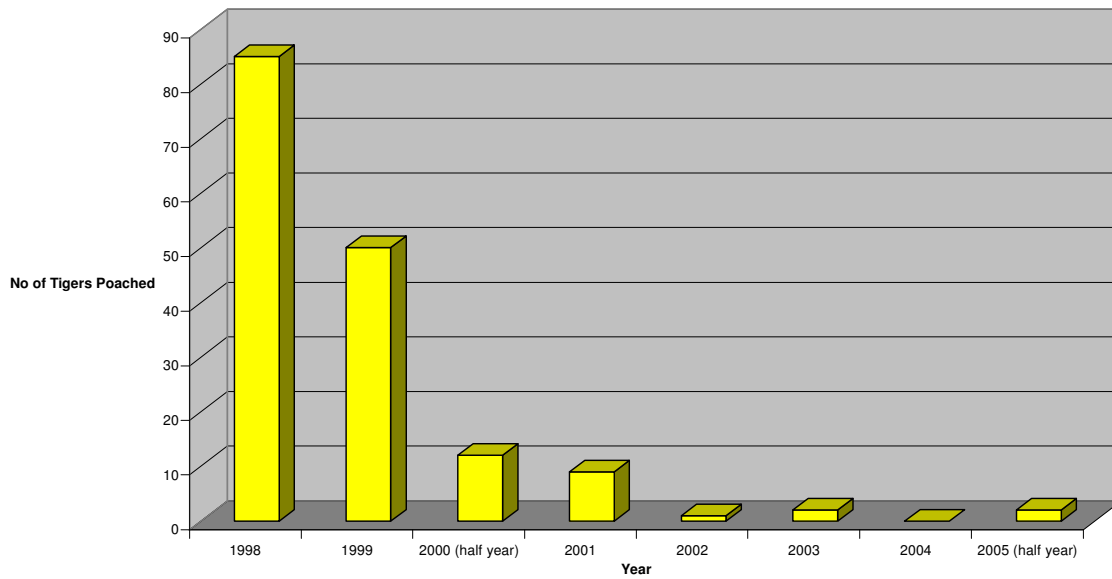
Yor Ngon was interviewed in 1999 by the CWRP project and identified as probably the most prolific large mammal hunter in Cambodia. He hunted all over the country and claims to have killed at least 19 tigers, 40 leopards, 30 elephants, 43 bears and more than 500 gaur and banteng in his career. CWRP had informed government officials and NGOs about his activities in Preah Vihear, Mondulkiri and Koh Kong. In 2004 he was detained by a WWF/FA team in northeastern Cambodia and signed a no re-offence contract (Lic 2004.), but in March 2005 he was arrested by a WildAid/FA team in the Cardamoms transporting 25 bear jaws and 82 bear paws and claws. The court sentenced him 7 years in prison. This is believed to be the first significant jail sentence in Cambodia for a wildlife poacher. Actual arrests and convictions for any kind of wildlife offense are very rare in Cambodia due to total system ineffectiveness. The reasons are complex, and detailed discussion is beyond the scope of this report. A recent exhaustive study on the problem in the Cardamoms by CI evaluated 557 patrol records of possible offences and

231 FA case files, and came up with 95 separate recommendations grouped under 11 headings (Claridge *et al.* 2005).

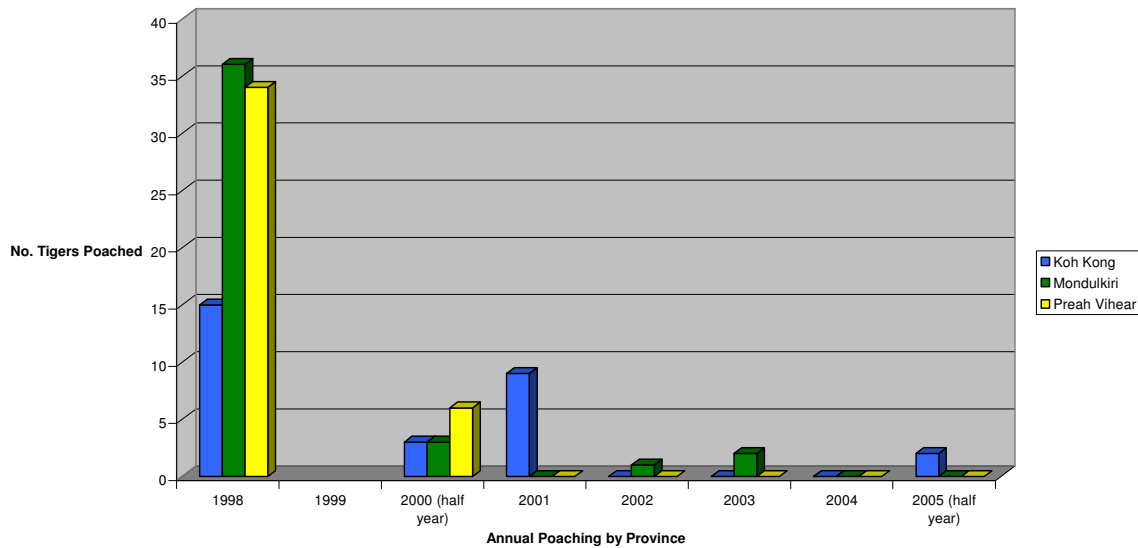
## POACHING ACTIVITIES

### Tiger poaching graphs & tables

Graph 1: Tigers reported killed in Cambodia from 1998 – 2005



Graph 2: Tigers reported killed from 1998 - 2005 by province



\* The number of tigers reported poached in 1999 is taken from the results of a wildlife trade survey undertaken in 1999 that did not gather data by province but from wildlife markets. Therefore, for Graph 2 and Table 1, no data on tiger poaching by province is available for 1999. Before 1999 little data existed on the numbers of tigers killed in Cambodia, therefore the figure for 1998 is based on an estimation of tigers poached in Cambodia from Sun Hean's Phd thesis (2000) on wildlife trade.

*Table 1: Summary of tigers killed from 1998 to 2005 by province*

	Koh Kong	Mondulkiri	Preah Vihear	Total
<b>1998</b>	15	36	34	85
<b>1999</b>				50
<b>2000 (half year)</b>	3	3	6	12
<b>2001</b>	9	0	0	9
<b>2002</b>	0	1	0	1
<b>2003</b>	0	2	0	2
<b>2004</b>	0	0	0	0
<b>2005 (half year)</b>	2	0	0	2

*Table 2: Details of tigers reported killed from May 2003 to June 2005*

Month	Province	District	Species	Number	Description
August 2003	Koh Kong	Areng	Tiger		Local people reported that villagers from Thmor Bang took approximately 9 kg tiger bone and sold it to a trader in Chipat.
Jan 2005	Koh Kong	Chipat	Tiger	1	Three people killed a tiger and its bones and skin were sold to wildlife traders in Chipat.
May 2005	Koh Kong	Chipat	Tiger	1	An illegal hunter, living in Kamlout village of Chipat commune, trapped a tiger at Soun Bei area in Trapearng Thmor. The trapped tiger was then killed and taken away by other unidentified offender.

Overall, the preceding tables and graphs show a dramatic drop in tiger poaching in every region and countrywide from a total of 85 tigers poached in 1998 to just 2 poached in 2005 (although this second figure only represents half a year of CWRP field data, no tiger kills have been reported during the second half of 2005 from other organizations working

in the three regions). This large drop in the number of tigers poached annually is likely the result of a final rapid crash in tiger numbers due to years of heavy hunting pressure rather than a significant increase in the effectiveness of conservation measures, since actual poaching activity levels have not significantly decreased during the period in most areas of the country.

The following photo is an instructive metaphor for what happened to Cambodia's tigers in the 1990's. The photo below was taken by Uch Seiha in September 1997 while he was conducting field research for his university degree. A hunter was driving his motorbike about 10 kilometers from his home at Bor Nork Village, Krakor District, Pursat Province. The area is on the northeastern edge of the Cardamom Mountains landscape. The hunter encountered the tiger and shot several times with an M16 rifle, hitting the tiger once in the head. The tiger charged and fell dead a meter away from the hunter. The tiger was subsequently sold to a wildlife trader in neighboring Battambang Province for about \$2400. In the nine years since, no Cambodian or foreign researcher has obtained a single photo of a tiger, dead or alive, anywhere in the Cardamom Mountains, despite extensive camera trapping and surveys supported by CAT, FFI, WildAid and CI.

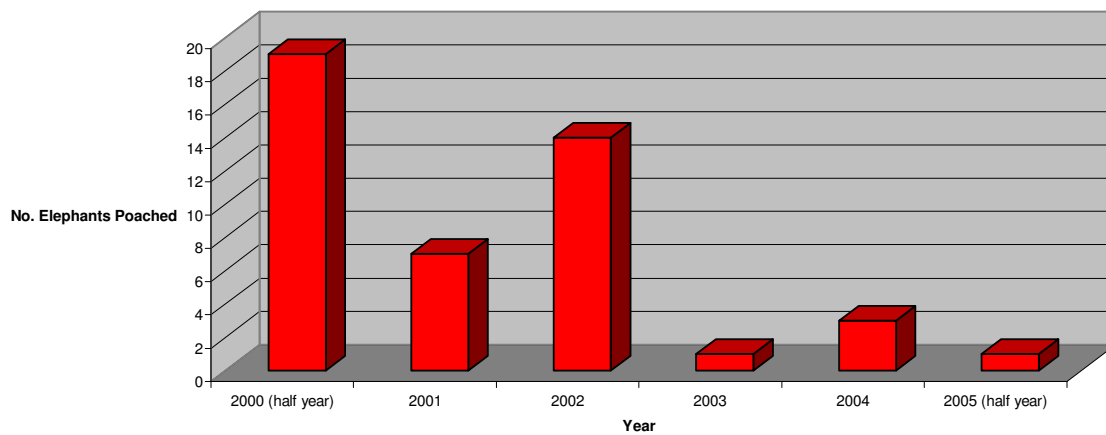
In other areas of Cambodia, tigers used to be as equally easy to locate and kill in the past and difficult to find in the present. In 1957, an American hunter traveled to Chhep District in Preah Vihear with French and Cambodian associates to shoot a tiger. Tigers were so common that only five days were planned for this effort. A banteng was shot for bait a day after setting up camp. That night a tiger found the banteng and fed. The following night the tiger was shot when it returned to feed on the banteng again (Engle 1981). By contrast in the contemporary period, despite extensive monitoring by the WCS/WPO program for the past several years, not a single confirmed tiger record has been obtained in Chhep District.

The explanation for this lies in an analysis of the preceding graphs and tables. There is no formal data on tiger poaching prior to 1998. However, it is likely that the high levels of tiger kills shown for 1998 & 1999 were occurring every year beginning by 1990, which is when a rapid increase in poaching pressure across the species range occurred from Siberia to India as tiger poaching became a worldwide rather than local phenomenon. (Kenney et al. 1995) Furthermore, in 1989, the Vietnamese army withdrew from Cambodia, opening up vast areas of countryside to uncontrolled hunting. The Vietnamese occupation had established tiger trade links between Cambodia and China, which continued after the occupation. In *The Long-term Effects of Tiger Poaching on Population Viability*, (Kenney et al. 1995), modeling showed that as poaching continues over time, the probability of population extinction increases sigmoidally. The rapid decrease in number of tigers poached countrywide in Cambodia after 1998 is most likely due to a crash in tiger populations resulting from over a decade of high levels of poaching. Cambodia's remaining low numbers of tigers are relics of this crash and in severe danger of extinction over the next decade.

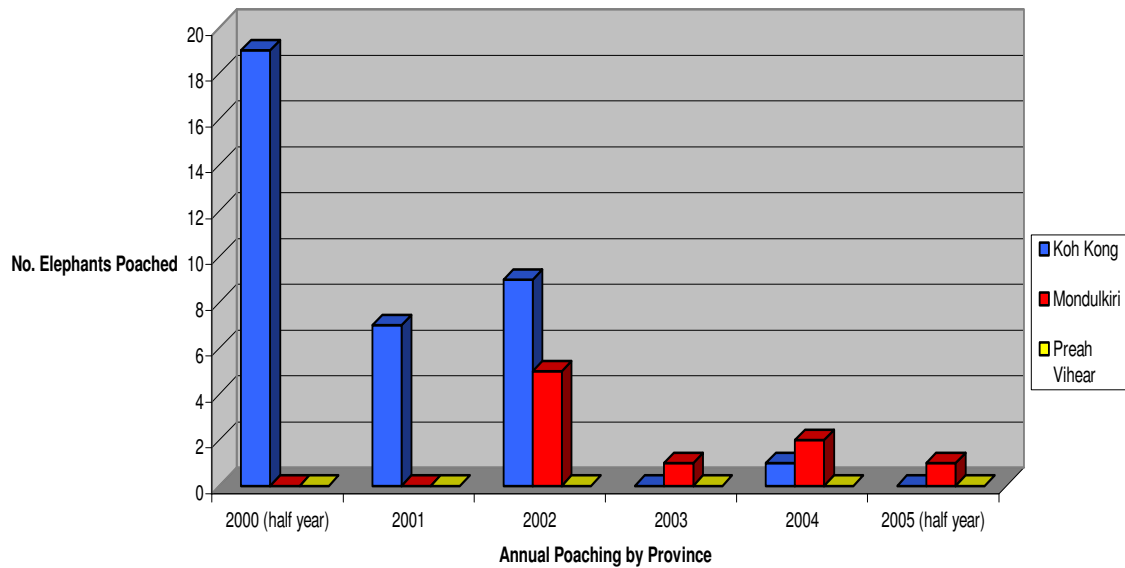


## Elephant poaching graphs & tables and analysis

*Graph 3: Elephants reported killed in Cambodia from 2000 – 2005*



*Graph 4: Elephants reported killed from 2000 – 2005 by province*



*Table 3: Poaching summary of elephants from 2000 to 2005*

	Koh Kong	Mondulkiri	Preah Vihear	Total
<b>2000 (half year)</b>	19	0	0	19
<b>2001</b>	7	0	0	7
<b>2002</b>	9	5	0	14
<b>2003</b>	0	1	0	1
<b>2004</b>	1	2	0	3
<b>2005 (half year)</b>	0	1	0	1

*Table 4: Details of elephants reported killed from May 2003 to June 2005.*

Month	Province	District	Species	Number	Description
June 2003	Mondulkiri	Pich Roda	Elephant	1	An elephant was killed near the Vietnam border. Rangers were informed of the killing in August 2003 and undertook an investigation. The elephant was a young wild elephant and had been killed by a gun. Its tusks had been removed by hunters.
Oct 2004	Mondulkiri	Koh Nhek	Elephant	1	Koh Nhek rangers and policemen found parts of an elephant skeleton in Norng Kileuk. The elephant had been killed 10 days before.
Feb 2004	Mondulkiri	Pich Roda	Elephant	1	Adult female accidentally died during radio collaring attempt by FFI/FA/CWRP
Sep 2004	Koh Kong	Thmar Bang	Elephant	1	Young male elephant killed for meat by Kong Vuthy gang. Reported by NRPG.
May 2005	Mondulkiri	Koh Nhek	Elephant	1	Adult female shot by local hunter in Phnom Prich Wildlife Sanctuary. Reported by WWF.

The preceding graphs and tables show that the number of elephants reported killed dropped significantly from 19 in 2000 to 1 in 2005. This is likely due to a combination of increased wildlife enforcement activities in the region and a decrease in elephant numbers due to high poaching levels in prior years.

### **Kong Vuthy gang activities**

Other organization report two elephant kills that CWRP was not aware of at the time. WWF reports that one elephant was confirmed killed in Mondulkiri in Phnom Prich Wildlife Sanctuary in 2005, and in the Cardamoms, NRPG reports that one elephant was killed by the Kong Vuthy gang in September 2004. Kong Vuthy was fired from CWRP in April 2003 for failing to carry out any field patrols for two consecutive months. He subsequently formed a gang that still operates in the Cardamoms. The gang currently has 9 members and has been involved in kidnapping, armed robbery, illegal logging and wildlife poaching. The gang has friends and relatives with the police and military, which



supply guns, ammunition, mines, radios, etc. Numerous attempts to arrest Kong Vuth or negotiate his surrender over the past few years have all failed.

### **Killing of NRPG and MoE rangers**

Natural Resources Protection Group is a small national NGO that primarily carries out snare removal operations in the Cardamoms with a five-man field team consisting of three community rangers and two unarmed district police. They remove 5000 to 6000 snares per month, and estimate that there are anywhere from 50,000 to 70,000 snares placed in the Cardamoms during any given month. In September the NRPG snare removal team was followed by a gang of poachers, who shot up the NRPG team camp about midnight and killed one ranger. Five suspects were subsequently arrested, but later released due to insufficient evidence after a major wildlife trader who hired the poachers allegedly paid the court \$5000.

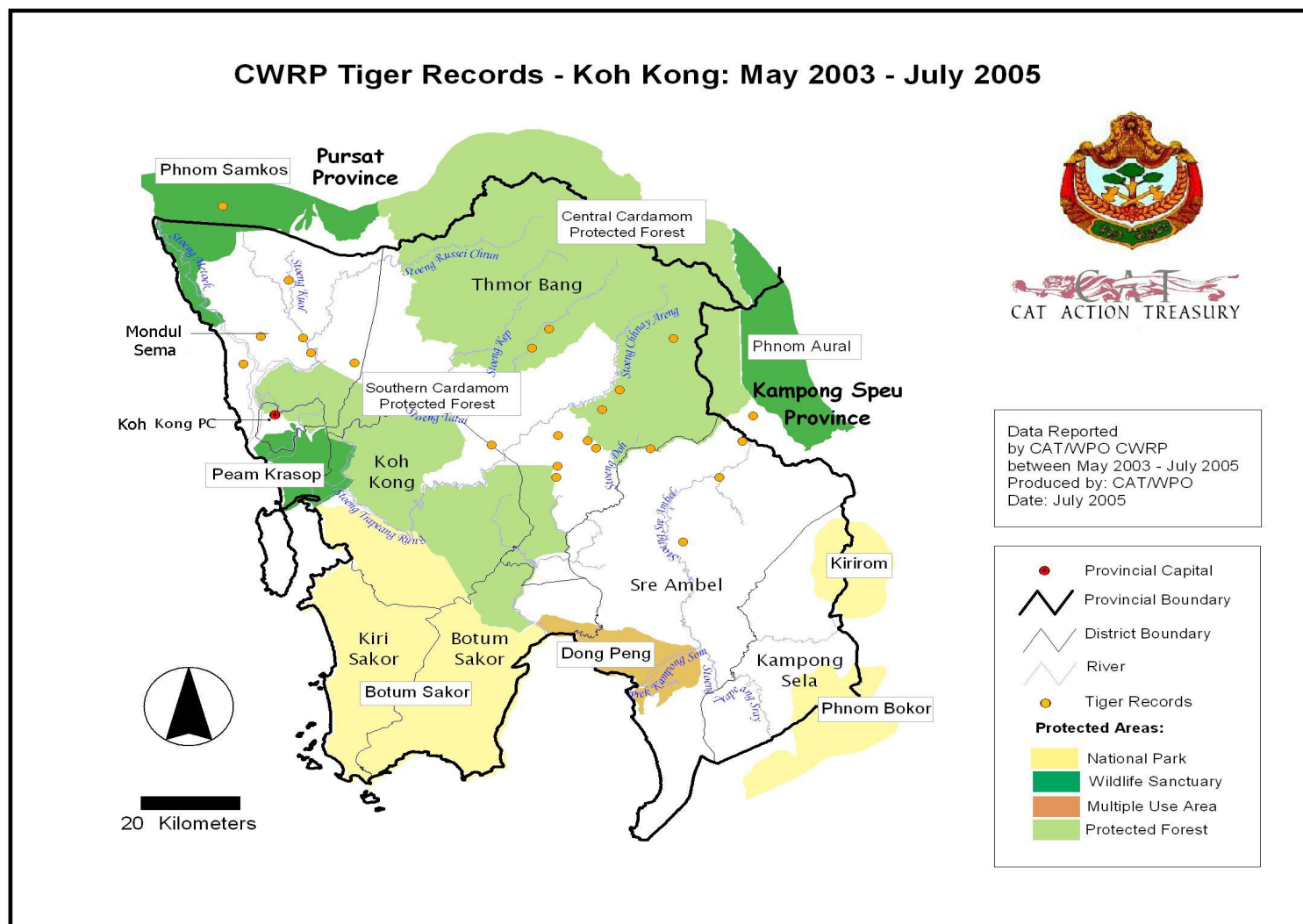
The NRPG rangers, the five suspects, and the wildlife trader all live in Chipat, which is also the base for two CWRP rangers. Chipat is the largest wildlife trading center in the Cardamoms and it is estimated that over 80% of adult men and women in Chipat are involved in the wildlife trade. The two tigers snared in the Cardamoms in 2005 were both sold to traders in Chipat. NGO-supported FA law enforcement efforts over the past two years have had little impact on the wildlife trade in Chipat (Chut & Simms 2005).

Furthermore, later in September 2005 in another area of the Cardamoms, a gang raided an MOE ranger outpost in Phnom Aural Wildlife Sanctuary and killed two rangers and critically injured a villager living at the ranger station, and escaped with weapons, motorbikes, radios and GPS's and other equipment. Subsequently five of ten suspects were arrested.

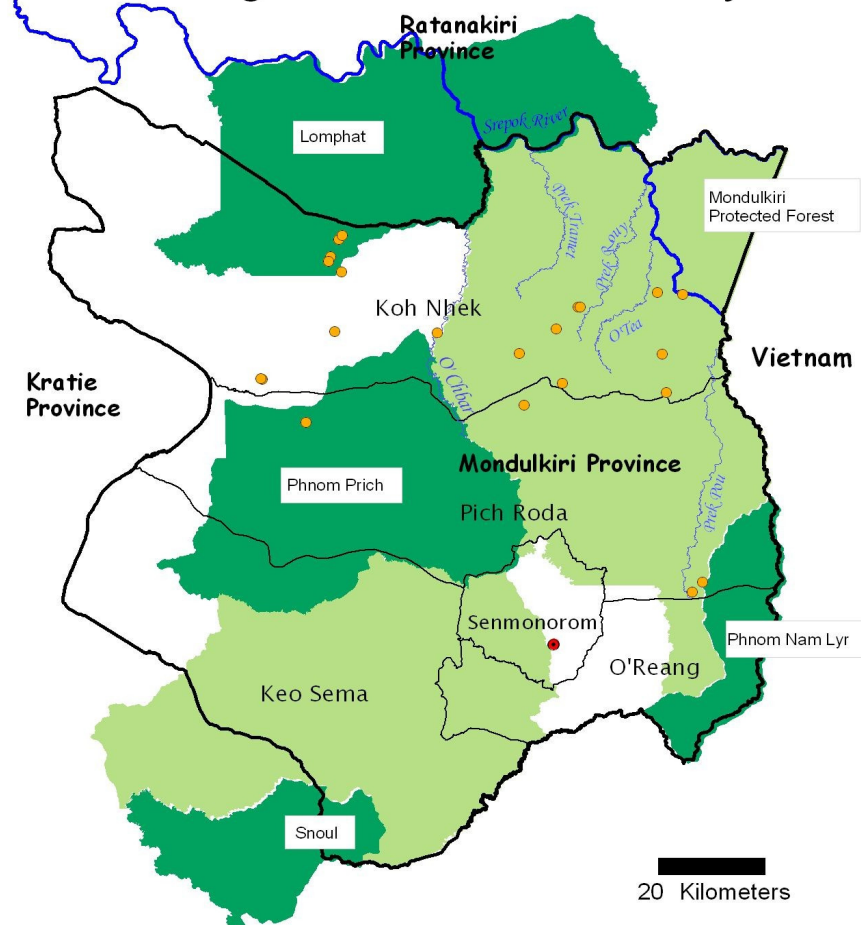
The incidents have had a demoralizing effect on all MoE, FA and Community Rangers in the Cardamoms. Both NRPG and MoE Phnom Aural rangers suspended field operations for months after the shootings. CI-sponsored Community Rangers continue to patrol, but only near their villages and fields.

## WILDLIFE MONITORING RESULTS

### Tiger monitoring maps



# CWRP Tiger Records - Monduliri: May 2003 - July 2005



**CAT**  
CAT ACTION TREASURY



Sources Data Reported  
by CAT/WPO CWRP  
between May 2003 - July 2005  
Prepared by CAT/WPO  
Date: July 2005

- Main River
- Provincial Boundary
- District Boundary
- Provincial Capital
- Tiger Location Records
- Protected Forest
- Wildlife Sanctuary

Maps 1 and 2 present CWRP tiger records for Mondulkiri and the Cardamoms at the detailed province scale for the two years of the grants reporting period. Cambodia tiger conservation and survey landscapes are now well defined geographically; however, much less can be said about numbers of tigers, age and sex ratios, population viability, home range size, and prey ratios. This is due to the fact that Cambodia's tigers are now found at low densities scattered over large areas of difficult habitat. In this situation, all that can be reasonably done is to monitor presence-absence and distribution. (Monitoring Tigers and Their Prey, Karanth and Nichols, 2002) No individual or organization in Cambodia is currently carrying out systematic tiger-specific scientific field research at this time, although all organizations carrying out field work record tiger data when they find it.

In an attempt to gather more detailed information on a specific area, CWRP conducted a camera trap survey in late 2003/early 2004 in Mondul Seima District of the Cardamoms. The area selected had the highest concentration of track records of any area monitored by CWRP in either the Cardamoms or Mondulkiri. Twice the team set six camera-traps for one month where our rangers previously recorded tiger tracks. Unfortunately, no picture of tiger was taken by any camera-trap although the rangers recorded few tiger tracks about three month old in the survey area. (FFI, CI and WildAid supported projects have also conducted camera trap surveys in the Cardamoms, but to date not a single camera trap photo of a tiger has been obtained anywhere in the Cardamom Mountains.) The table below summarizes the results obtained from the CWRP Cardamom Mountains camera-trap survey. (For map and further details see accompanying report.)

Table: Species Recorded by Camera-Trap tiger survey in Cardamom Mountains

Camera ID	First Phase	Second Phase
Tiger	0	0
Pig-tailed macaque	0	4
Asian dhole	0	1
Asiatic black bear	1	0
Malay sunbear	0	2
Common palm civet	2	0
Wild boar	5	29
Lesser mouse deer	0	1
Sambar deer	4	14
Red Muntjac	5	21
Humans (non-survey members)	18	0

Regarding numerical estimates, the rangers themselves, as noted in the 2005 closeout interviews section of this report, estimated that there were about 9 tigers remaining in the portion of Mondulkiri they monitored and about 10-20 in the portion of the Cardamoms

they monitored. In 2004 WWF, WCS and CAT international scientists involved in tiger conservation, in responding to the Tiger Conservation Unit update questionnaire sent out by STF, WWF & WCS, estimated 5-20 tigers in the Eastern Plains/Virachey region and 5-20 for the Cardamoms. (1-10 was estimated for the Northern Plains.) The estimates of both the rangers and the international scientists were in the same order of magnitude and probably are a reasonable approximation of current tiger numbers. That having been said, both estimates are informed speculation based on first hand knowledge of the subject regions. They are not based on any scientific methodology, and there is insufficient data to make any kind of systematic quantitative estimate.

### **Cambodia tiger conservation landscapes review**

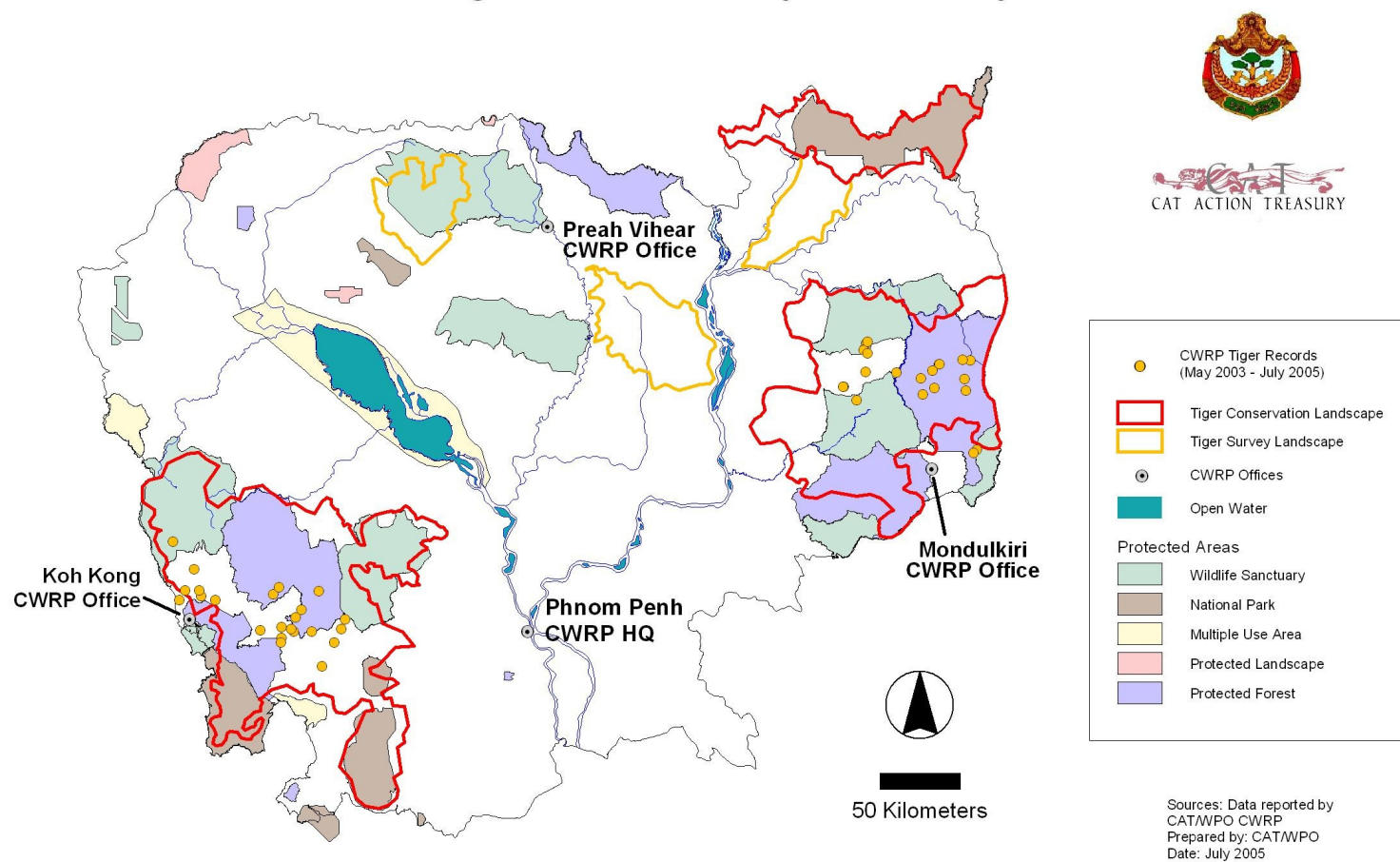
In early 2005, STF, WWF & WCS sent out draft maps of range-wide tiger landscapes, developed from the data submitted by Cambodia and the other 12 range countries in early 2004. This was part of the process for setting priorities for tiger conservation over the next ten years.

In response to the draft maps, CAT collaborated with WWF, WCS, WildAid, FFI and CI to combine all Cambodia tiger records and prepare a revised Cambodia Tiger Landscapes map. The map and explanatory document were drafted by Pete Cutter, MOE Biodiversity and Protected Areas Management Project. STF, WWF and WCS responded with a letter (Appendix 3) characterizing the effort as an example of tiger conservation at its best, and is attaching the document as Appendix 6 to the final range-wide report, which will be distributed in Spring of 2006.

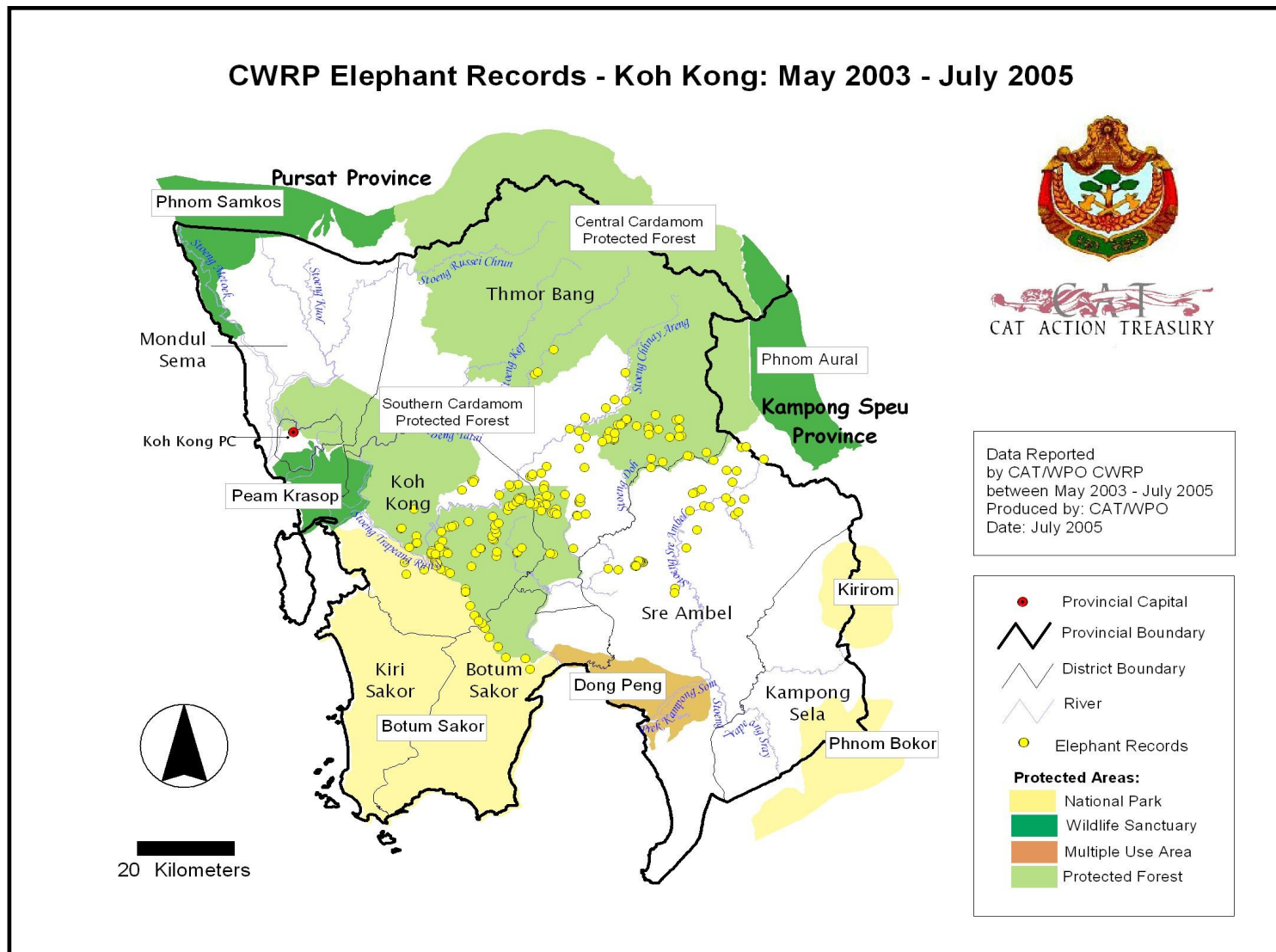
Map 5 below shows CWRP data for the past two years on a country-wide map to show the recent CWRP data in the overall context of the Cambodia tiger conservation landscapes that were developed in the collaborative effort. These maps clearly show that CWRP has been monitoring the two largest and most important tiger conservation landscapes in Cambodia for the past five years (Cardamom's and Eastern Plains). CWRP selected these two regions to monitor in 2000, based on the hunter interview surveys of 1998 and 1999. Monitoring data from all organizations since then has thus validated the use of hunter interviews as a major input into selection of priority landscapes for conservation.

The tiger survey and conservation landscapes shown on Map 5 are the most accurate current depiction of tiger distribution in Cambodia, since this is the first time that tiger data from all organizations has been combined. Considering the documented confusion and uncertainty in the past regarding Cambodia tiger status, agreement by all the conservation organizations on the landscapes shown on Map 5 represents a significant conservation milestone. CWRP played a major role in the process and provided a large proportion of the total data.

## CWRP Tiger Records: May 2003 - July 2005

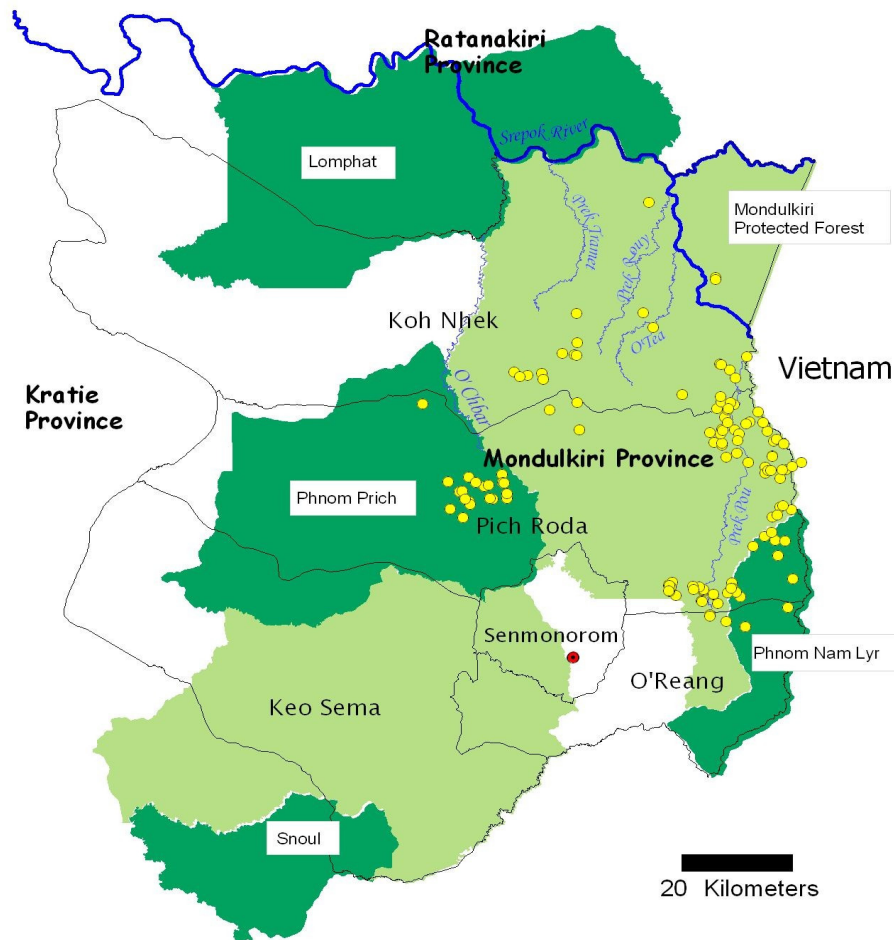


## Elephant monitoring maps

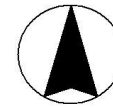




## CWRP Elephant Records - Mondulkiri: May 2003 - July 2005



CAT  
CAT ACTION TREASURY



Data Reported  
by CAT/WPO CWRP  
between May 2003 - July 2005  
Prepared by CAT/WPO  
Date: July 2005

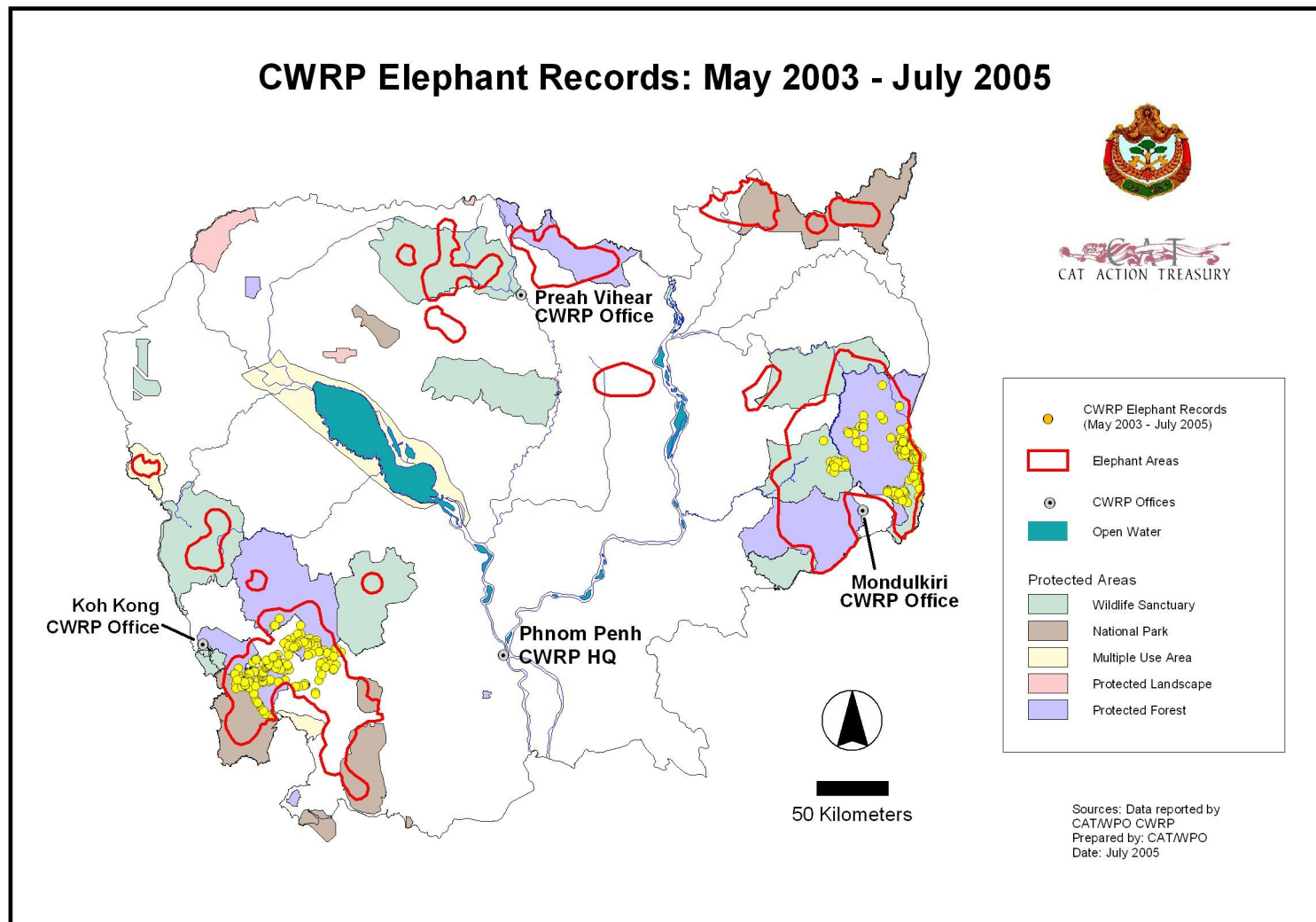
- Main River
- Provincial Boundary
- District Boundary
- Provincial Capital
- Elephant Location Records
- Protected Forest
- Wildlife Sanctuary



Maps 4 & 5 present CWRP elephant records for the Mondulkiri and Cardamoms regions at the detailed province scale for the two years of the grants reporting period. As with tiger, elephant distribution in Cambodia is now well known geographically, but much less can be said about home range requirements, herd size, age and sex structure, population trends, etc (Blake and Hedges 2004.) CWRP rangers acting as guides supported FFI in a USFWS AECF satellite telemetry project to determine home range and habitat of an elephant in Mondulkiri. After a female unfortunately died during a collaring operation, a young male was subsequently darted and collared. Unfortunately the collar became detached after only a few months. During the study the elephant stayed in a very small home range, and there was speculation that he was raiding crops in the area. A full FFI report will be published in early 2006 "Home Range and Habitat Selection of an Asian Elephant in Mondulkiri, Cambodia". Currently two other technical studies on elephant are underway in Cambodia. WCS is conducting genetic dung surveys in Mondulkiri and FFI is conducting an elephant density survey in the Cardamoms. CWRP ex-rangers and WPO ex-CWRP staff are participating in the FFI survey, and ex-CWRP rangers are involved in the WCS survey.

Regarding speculation on elephant numbers in Cambodia, the CWRP rangers collectively estimated, during their 2005 closeout interviews, 20-30 elephants remained in CWRP-patrolled areas of Mondulkiri and 15-25 in CWRP patrolled-areas of the Cardamoms. Western and Khmer scientists have no science based estimates, but informally speculate that something like 50 to 100 elephants may be present in each of the two regions. The rangers estimate may be on the low side since they only monitored portions of the key elephant range in each of the two regions and their estimates are for those areas, whereas the scientists are basing a possible higher number on the entire known and documented range. Hopefully the ongoing studies will result in more definitive population estimates.

## Review of country-wide status



Map 6 presents the CWRP data in the context of all the elephant areas confirmed in Cambodia using records data from all organizations. The map clearly demonstrates that Mondulkiri and the Cardamoms are the largest and most important elephant landscapes in Cambodia.

### **CITES MIKE PROGRAM implementation**

Per the training section of this report, CWRP had the lead within WPO to coordinate the development and implementation of the CITES MIKE program in Cambodia. MIKE sites were identified, personnel from all relevant organizations trained, and sophisticated computers and GPS's were provided. The MIKE program is currently being re-evaluated and restructured. MIKE is a government, not an NGO program, but in Cambodia, the due to the phasing out of the CWRP project, the government has no funds to follow through and continue the program. Both the Bangkok-based MIKE Sub Regional Support Officer and Cambodia FA are evaluating options for continuation of the successful CWRP initiation of the Cambodia MIKE Program.

### **Tiger prey status**

Wild Pig, Muntjac, Sambar are regularly detected by CWRP and all other organizations working in the Cardamoms and form the primary tiger prey base there. Gaur and Serow are also present but less common and more unevenly distributed.

In Mondulkiri, Wild Pig, Muntjac, Sambar, Gaur and Banteng are all commonly recorded and collectively comprise the regional prey base. CWRP, WWF/FA & WCS/FA all report that prey species are less wary of people now and are more commonly seen, even along roads. This is likely a result of the significant reduction in the number of guns present in the region. Wildlife is becoming more habituated to people now that encounters don't result in gunfire, and the actual number of animals is increasing due to less poaching. CWRP data on the prey species has been incorporated with the data from all other organizations, and this year for the first time there are detailed Cambodia distribution maps for most of the major prey species, prepared by the BPAM project.

### **Status of other notable large mammals**

Much has been written in both the popular and scientific literature about some of the less common and more unusual mammals purported to possibly be present in Cambodia. There is much contradictory speculation. CWRP has carefully investigated all these species and here presents an accurate current summary. These species are addressed by CWRP because all of them could be considered as tiger prey and all are charismatic and of interest to segments of the scientific community and public.

Kouprey, a member of the wild cattle family, was designated the National Animal by King Sihanouk in the 1960's and re-so designated by the Cambodian government in 2004. No confirmed sightings have been reported since the mid-1980's, although a few fresh horn trophies turned up in wildlife markets on the Thai border into the early 1990's. It is likely that the Kouprey is extinct, although anecdotal 2<sup>nd</sup> and 3<sup>rd</sup> hand anecdotal reports of sightings of relic individuals continue to generate excitement and speculation and calls for emergency surveys. Such speculation will undoubtedly continue for at least another 50 years.

Water Buffalo living in a wild state have been confirmed multiple times in Monduliri, on both sides of the Srepok River near the Vietnam border. Evidence consists of tracks, actual sightings by CWRP and other project rangers, and camera trap photos obtained by the CWRP/WCS expedition and by the WWF SWA project. Simon Hedges, Chair of the IUCN Asian Wild Cattle and Buffaloes Specialist group, after reviewing several photos, has indicated to CAT, WWF, and WCS that these buffalo are likely feral rather than truly wild stock, but their conservation importance is still quite high. Genetic analysis is desirable, and currently underway from a set of horns from a female that was apparently killed by a tiger in November 2005. There are no other wild-living buffalo reliably reported from anywhere else in Cambodia.

Khating Vor (*Pseudonovibos spiralis*) was first scientifically described in 1994 based on six sets of horns obtained from wildlife markets in Vietnam and Cambodia. It was listed by IUCN as endangered. All evidence to date has been from horns obtained from wildlife markets in Vietnam and Cambodia. It was initially unclear on whether the animal should be listed in the goat, cattle, or antelope category. A raging international debate on the existence of the animal erupted in 2000 and continued for a couple years (Brant *et al.* 2001). Numerous scientific articles have been written, much has appeared in the popular press, and there have been several documentary films and radio talk shows on the topic. At this writing there is no final agreement among all the scientists, and IUCN has taken no further action until more information is in. However, informally the debate seems to be going to those who maintain that the animal never existed and the horns were crafted by locals from domestic cattle and buffalo horns. All specimens tested to date for DNA have been proven to be domestic cattle or buffalo. The twists and grooves of the horns have been shown to be mechanically produced. It appears this animal never existed, but the debate will probably continue until every set of horns in every collection is tested for DNA.

Javan Rhinoceros has only been documented once in Cambodia in the entire 20<sup>th</sup> century, through a photograph of a rhino shot in 1930 in an area between the Monduliri border and the Mekong River. (Poole and Duckworth 2005) Numerous wildlife surveys throughout Cambodia since 2000 have uncovered not a trace of a rhino anywhere.

Eld's deer populations have now been confirmed from multiple locations in the Northern and Eastern Plains of Cambodia. There are numerous camera trap pictures and sightings by rangers and scientists are not uncommon. Conservation potential for long term survival and expansion of Eld's deer populations is high. Hunter Weiler, CWRP International Advisor, has given presentations for the past two years to the Eld's deer Interest Group annual meetings held in Thailand, and also gave an Eld's deer presentation to the 25<sup>th</sup> Annual Wildlife Seminar at Kasetsart University in Bangkok in December 2004. Chheang Dany also gave a presentation on large mammals in Preah Vihear at the Seminar.

After the Seminar, officials of the Royal Forestry Department and Kasetsart University faculty took Hunter and Dany to Hai Kha Khang Wildlife Sanctuary for a tour and for discussions on future Trans-boundary conservation collaboration between Cambodia and Thailand. Thailand is interested in working with Cambodia on captive breeding of Eld's deer for reintroduction into the wild in Thailand, and expansion of Cambodian wild populations into Thailand in the Tri-border area.

## **GLOBAL TIGER FORUM PARTICIPATION**

Cambodia had been communicating with Global Tiger Forum since 2000, when Hunter Weiler summarized Cambodia tiger status in a June, 2000 article in GTF News. A follow up article, Progress of tiger conservation in Cambodia, by Hunter Weiler and Sandrine Pantel, was published in the June 2004 GTF News.

Kry Masphal, CWRP Mondul Kiri Manager, attended training at the Wildlife Institute of India from November 2002 through January 2003, thanks to the interventions of S.C. Dey of the Global Tiger Forum and Fred Bagley of the USFWS. Funding was provided by USFWS through GTF.

Hunter Weiler and Sun Hean also worked closely with S.C. Dey to achieve Cambodia membership in GTF. S.C. Dey, Secretary General of the Global Tiger Forum, visited Cambodia in February 2003 for discussion of various aspects of tiger conservation in Cambodia and the prospect of Government of Cambodia joining the GTF. In November 2002 he had written Cambodia about joining GTF, following which the main stumbling block became the inability of Cambodia to afford the \$1,000 membership fee. In March 2003, the British Embassy in Phnom Penh agreed to pay the first year's membership. However, Cambodia then decided it would be inappropriate for Cambodia to join without a firm commitment of several years membership funding. In May 2004, International Fund for Animal Welfare agreed to fund Cambodia membership in GTF for four years. In October 2004, Cambodia officially agreed to join. In November 2004, Sun Hean, Chheang Dany, and Hunter Weiler attended the 3<sup>rd</sup> General Assembly of the Global Tiger Forum in Hanoi, marking the beginning of Cambodia participation in GTF as a full active member.

## **PARTNERSHIPS**

The concept of community rangers was developed at a time when the government had no capacity to monitor wildlife and carry out conservation activities at the local level. CWRP program policy has been to integrate personnel and activities into evolving large regional NGO supported government projects at the appropriate time. The situation is quite different in each of the three regions monitored by CWRP, so the integration process has been somewhat uneven over a several year period, but overall quite successful. Taking into account all factors, 2005 was determined to be the final year that CWRP would function as an independent program.

### **Northern Plains/Preah Vihear: WCS & ITTO**

The Tiger Conservation Project (TCP) identified the Northern Plains as a priority area for large mammal conservation based on interviews of local officials and hunters in 1998 & 1999. TCP opened a CWRP office in 2000 in Preah Vihear, hired rangers, and initiated wildlife monitoring. When the Wildlife Conservation Society team came to the Northern Plains in 2001, they carried out surveys with the support and involvement of CWRP and reached the same conclusions on priority areas, biggest threats and priority conservation interventions.

Subsequently, CWRP worked closely with the WCS Cambodia Program in sharing information and participating in joint wildlife surveys. Work undertaken independently and jointly between CWRP and WCS led directly to the development of the program

entitled “Establishing ‘Conservation Areas through Landscape Management’ (CALM)”, which is executed by MAFF with WCS support, to further the above and other activities.

A long term plan for conservation and a strategy of financial sustainability was developed for CALM, and WCS acquired several years of initial funding. Therefore, CALM assumed full responsibility for the continuation of activities of the CWRP in Preah Vihear on January 1, 2003, including the continued employment of the Wildlife Protection Office Regional Coordinator, Provincial Counterpart, and ranger staff. As of December 2005, many former CWRP staff are still working on the CALM project.

Dany and Hunter met with Thai officials several times in 2004 to develop the proposal: *Management of the Emerald Triangle Protected Forests Complex to Promote Cooperation for Transboundary Biodiversity Conservation between Thailand, Cambodia and Laos*. The International Tropical Timber Organization (ITTO) approved the proposal in December 2004, funded at \$688,208 for two years. Implementing details are being worked out and field work will begin in 2006. The proposal was developed to be fully complementary to the CALM project, and will be implemented in collaboration with CALM.

#### **Eastern Plains/Mondulkiri: WCS & WWF**

CWRP opened a Mondulkiri Office in 2000 and initiated monitoring by community rangers. Subsequently, the CWRP worked closely with the WCS to survey and monitor the Samling logging concession, which led to the establishment of the DFW/WCS Southern Mondulkiri Conservation Project, which now has over 30 full time FA-managed staff on the ground implementing a wide range of activities. Three CWRP rangers in this area were transferred to this project to enhance management efficiency in late 2002. The logging company subsequently pulled out, and the concession area has been re-designated the Seima Biodiversity Conservation Area. Protected Forest designation is pending. WCS has made a long term commitment to the area and has obtained substantial multi-year funding. Tiger records continue to be obtained in three sections of the landscape, and elephant density surveys are underway.

After 2002, CWRP focused on the new protected forest in eastern Mondulkiri. The CWRP continuously shared information with WWF, which developed the Srepok Wilderness Area Project in late 2003-early 2004. Joint ranger patrols were initiated as the SWA Project became operational, and by mid-2005, seven CWRP rangers had been integrated into the SWA Project. The transition required the CWRP rangers to change from part-time rangers based in villages to full time rangers working from outposts constructed in the field, but to date the transition has been successful. WWF has made a long term commitment to the project and has obtained substantial multi-year funding. On November 29, 2005, a camera trap photo was taken of a large male tiger in the SWA, the first tiger photo taken anywhere in the entire Mondulkiri Protected Forest. Elephant sign continues to be regularly recorded.

#### **Cardamom Mountains/Koh Kong: CI, WildAid & FFI**

The Cardamoms has been the most problematic of the three regions CWRP has worked in, due to difficult terrain, dense vegetation cover, high levels of deeply entrenched illegal logging, land grabbing and poaching activities, and multiple complex overlapping NGO

supported conservation programs. The CWRP rangers conducted their last field patrols in July 2005. As discussed previously, in September 2005 an NRPG community ranger was killed by poachers in the Cardamoms and two MOE rangers were killed in adjacent Phnom Aural Wildlife Sanctuary. As of December 2005, none of the eight ex-CWRP rangers in the Cardamoms have yet been placed with other NGO-supported FA programs.

CWRP has shared information over the past several years with the CI/FA Cardamom Conservation Program (CCP) and WildAid/DFW Southwest Elephant Corridor Program (SWEC, and CWRP rangers sometimes participated in joint patrols to remove snares, etc. The CWRP has also provided extensive data and maps on wildlife distribution and poaching activities for use in planning and managing the CCP and SWEC.

The CCP manages the Central Cardamoms Protected Forest through evolving law enforcement, wildlife research and community development projects. Three former CWRP government staff currently now work in the CCP. Ouk Kimsan manages the FA program element, with Heng Kimchhay as his Deputy. Ros Lim works with the local community projects. The CCP currently supports community rangers which are selected and managed by commune councils. The CCP is considering employing the two ex-CWRP rangers from Areng. The remaining six ex-CWRP Rangers in the Cardamoms are not based in communes where the CCP is operating.

SWEC Program has mobile Law Enforcement Mobile teams consisting of DWF Rangers and military Police based in four locations along the new main road to Koh Kong. The teams primarily focus on stopping land encroachment along the new road. SWEC also has a program to relocate villagers from the forest to a model agricultural project near the new road. Both Heng Kimchhay and Ros Lim worked for this program before moving over to the CI program. The SWEC does not have a regular wildlife monitoring component, and has to date not been interested in employing ex-CWRP Community rangers.

CWRP is also shared information over the past few years with the FFI/DFW project to designate a Managed Elephant Range (MER) in the Cardamom mountains area. CWRP rangers and government staff have participated in FFI-supported field surveys for elephant and also for the Siamese Crocodile. Beginning in December 2005, an FFI/FA elephant density survey of the Cardamoms was initiated, supported by an AECF grant to FFI. The survey will last five months. The CCP and SWEC programs are participating. Three former CWRP officials have key roles: Chheang Dany is Project Officer, Prum Sovanna is Field Coordinator, and Yeav Chhunlak is one of three Field Officers leading survey teams. Some ex-CWRP rangers are being employed during survey activities in their areas.

## **SUMMARY AND CONCLUSIONS**

The CWRP has helped define the most important large mammal conservation landscapes in Cambodia, beginning with the interview survey of local hunters and government officials in 1998, when little was known after 27 years of civil strife. The program monitored tigers, elephants and other large mammals monthly in the most important regions from 2000 to mid-2005 by employing local hunters, built conservation management capacity in the Wildlife Protection Office, developed awareness of Cambodia's wildlife at the local, national and international level, reduced poaching

levels, and helped regional multi-year biodiversity conservation projects supported by international NGO's to get established. In 2005, CWRP played a major role in bringing together all Cambodia organizations to produce a map and report for STF depicting the current status of tigers and its impact on priorities for conservation in Cambodia for the next ten years as part of a range wide assessment conducted by STF, WWF & WCS.

Although the program formally ended in 2005, program rangers and WPO personnel continue to further CWRP goals through biodiversity conservation work in the Cardamom Mountains, Northern Plains, Eastern Plains and Phnom Penh HQ by secondments to WCS, WWF, FFFI, CI and WildAid supported programs, assignment to important government positions, and graduate study abroad. The CWRP legacy is extensive in geographic scope and long term capacity building over time.

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