

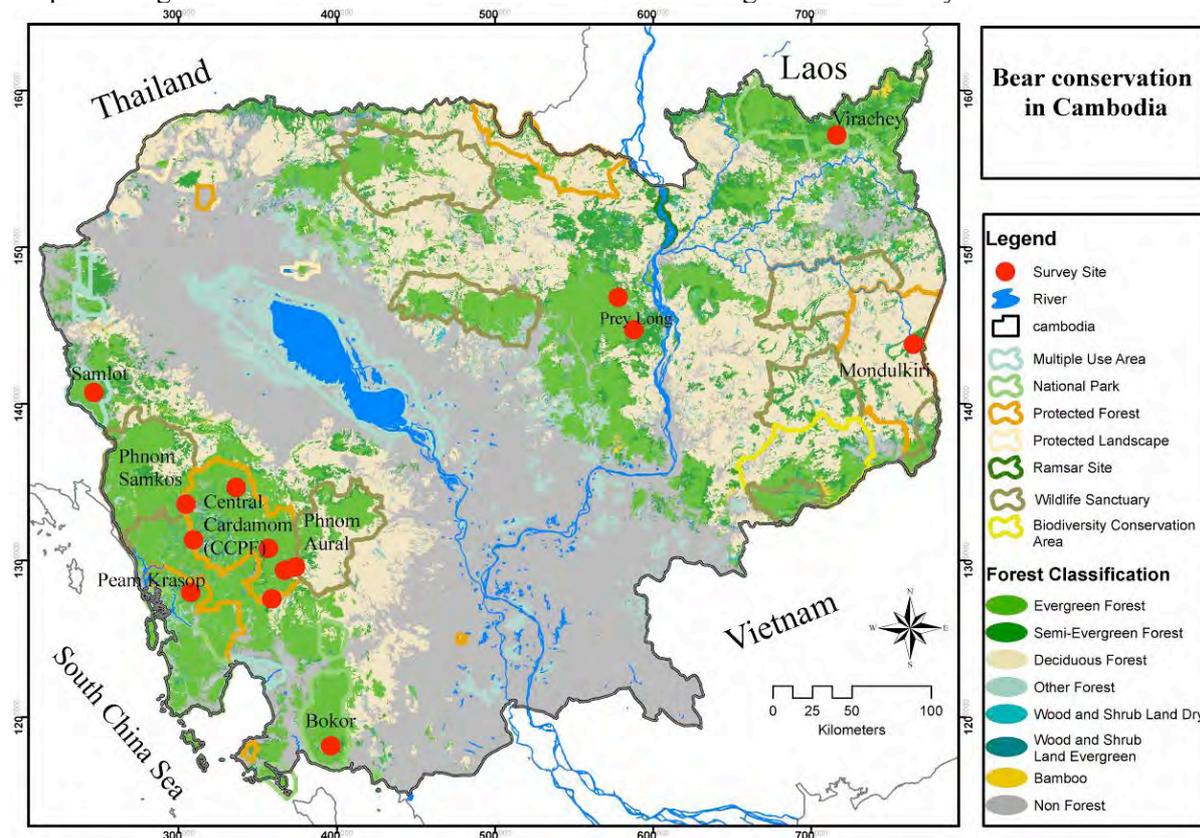
This year has been a busy one for the Conservation International (CI) bear research and conservation team. Following the project described in the proposal several activities were completed during the project period:

1. Surveyed bear signs at important sites throughout Cambodia, including refresh training rangers from different protected areas who joined the 2007 track and sign training course, and training of new rangers in these field methods.
2. Launched national awareness campaign about bears in Cambodia and the issues with their conservation.
3. Awareness and training sessions about bears and their conservation at local communities within the Central Cardamom Protected Forest (CCPF). This is focusing on primary school children.
4. Developed a system for monitoring bears in the CCPF. These methods have been integrated into an overall wildlife monitoring system for this area, which is being carried out by a field team trained in these methods.

Bear Sign Surveys and Ranger Training

Seven areas within Cambodia have now been surveyed by the team, see map and table. At each site (apart from Prey Long which is not a protected area and lacks a management system) the team has been working with rangers who participated in the track and sign training in 2007, and other rangers who learned the field methods during the surveys.

Map showing sites in Cambodia where team has carried out sign transect surveys since 2006.



Of the surveyed sites, Virachay National Park showed the highest number of signs per hectare, and also the highest number of fruit trees, suggesting that this area has a relative high abundance of bears. Prey Long is the only surveyed site which is not under formal protection. This area showed high abundance of food sources, but very low numbers of actual bear signs. The hunting pressure in this area is extensive and likely the reason for the relative low number of bear signs. Several of the sites surveyed may incorporate the use of track and sign surveys into existing or planned monitoring programs, which over time can be used to determine trends about the status of bears at the sites, and guide conservation activities. We will make our survey findings available to design the management of all sites in a report, which will also include information on threat levels for each site, so that this information can be used to guide the conservation actions of protected areas staff.

Area	All bear signs/ha	Claw marks/ha	All food sources/ha	Fruit trees/ha
Central Cardamom Protected Forest (evergreen hill forest)	16.30	11.4	110	67.5
Bokor National Park (evergreen hill forest)	16.36	16.15	52.99	206.35
Mondulkiri Protected Forest (dry deciduous forest)	12.65	10.33	21.65	9.33
Samlaut Multiple Use Area (deciduous/semi-evergreen forest)	13.3	12.76	25.91	3.0
Prey Long Forest Estate (lowland deciduous/evergreen forest)	6.4	5.5	102.5	27.5
South West Elephant Corridor (Lowland dry evergreen forest)	10.58	9.57	181.7	83.8
Virachey National Park (hill evergreen forest)	45.84	37.46	192.11	133.98



Left: transect signs survey in evergreen forest. Right: Transect sign survey in deciduous forest.



Left: Rangers measuring scratch mark.
Right: Scratch mark on tree.

National Awareness Campaign

In collaboration with Free the Bears Foundation, we produced a 40 minute documentary about bears in Cambodia. This program was shown on national TV as part of an environmental program series supported by CI. The program aired five times over six days. The program was well received by the government Forestry Administration, who has received several copies and is distributing them to high-level government officials. The show is conducted in the Khmer language and no English version exists. The original plan was for the project to produce posters about Cambodian bears and their conservation to be distributed in towns and local communities throughout the country. However, similar posters were recently produced by another initiative, and we are therefore helping with distributing these posters instead. We are in the process of publishing an article about bears in a popular national magazine. The article will be published in June 2008. A newspaper article (a shorter version of the magazine article) will also soon be published. Both articles will be published in the Khmer language. See attached documents for English versions of the articles.

Education and Awareness of School Children in CCPF

The bear team has carried out a training and awareness campaign about bears and their environment at primary schools in and around the Central Cardamom Protected Forest (CCPF). They have visited five schools where they held sessions for students in grades five to seven (age 12 to 15). Each session included approximately 30 students. The students were taught about bears and their behavior, their environment and threats. Questions, discussions and games were used for the educational outreach efforts. Notebooks with information and photos of bears were given to the students, as well as posters and stationary. The education sessions were a success at each of the schools; the children were very interested and understood the need to protect their natural environments and wildlife. Hopefully these students will spread the word to friends and family members and help change the attitude of the local communities towards the use and protection of the wildlife and other natural resources.

Photos below: Training and awareness of school children in CCPF in bear biology and conservation.





Monitoring Bears in the CCPF

CI is working with the Cambodian government to manage the 400,000 hectare Central Cardamom Protected Forest (CCPF), one of the largest intact forest areas in Asia. A series of general conservation activities are in place, such as 'no hunting' incentive agreements with local communities, community rangers and law enforcement patrols. To assess whether these activities have a positive impact on the biodiversity of the CCPF, a biological monitoring team has been trained to regularly collect biological data on selected indicator species. The two species of bears are directly targeted for hunting and trade in the area. As the bears indicate the hunting with large cable snares and guns, and as their signs are readily visible, they have been selected as one of the indicator groups.

Twenty, two kilometer transects will be walked twice a year at randomly selected sites in the southern part of the CCPF. This will create a large amount of track and sign data for bears and other wildlife in the area, and will help guide the adaptive management of the area. The team consists of four people from the local communities, and four demobilized soldiers (who used to work as part of the law enforcement team in CCPF). By selecting team members from these two groups we ensure that the team has good knowledge of the forests and wildlife, as well as the authority of government staff. Furthermore it strengthens the relationship and ensures good communication between local people and the management of the site, which is a great advance for the overall project. The team has been trained in all fieldwork, from map reading and GPS use to survey techniques for bear sign surveys and gibbon vocalization surveys. At the moment we only have a team for the southern part of the CCPF, but as this framework is showing clear success, the CCPF project is planning on expanding and training more teams to collect data from the northern part of the CCPF as well.



Left: Two monitoring team members labeling permanent transect. Right: Monitoring team members planning for transect location.



Left: Monitoring team members removing snares encountered on transects. Right: Monitoring team after finalizing initial training in fieldwork.

Ongoing and Future Activities

The bear research team will continue to survey sites in Cambodia with confirmed presence of bears. They will visit additional sites in the dry forest of the eastern province of Mondulkiri and northern province of Preah Vihear. We will work with the management staff of the different protected areas to incorporate the sign survey methods into their research and monitoring activities to produce data which can be used to monitor the general trend of bear populations in Cambodia. We will establish a national database to collect and maintain the information and produce regular reports.

The proposed release of captive bears into the wild is delayed as the preparation phase is taking longer than anticipated. We need to undertake extensive surveys to find the most suitable release site (we are working on this), which has appropriate food abundance, limited competition from resident bears, and good protection from hunting and habitat destruction. We also need to establish an appropriate soft release program and ensure that captive bears with the highest chance for success are chosen for the release. We will continue to work with Free the Bears on this, and hopefully get to do the first actually release in Cambodia within a year or two.