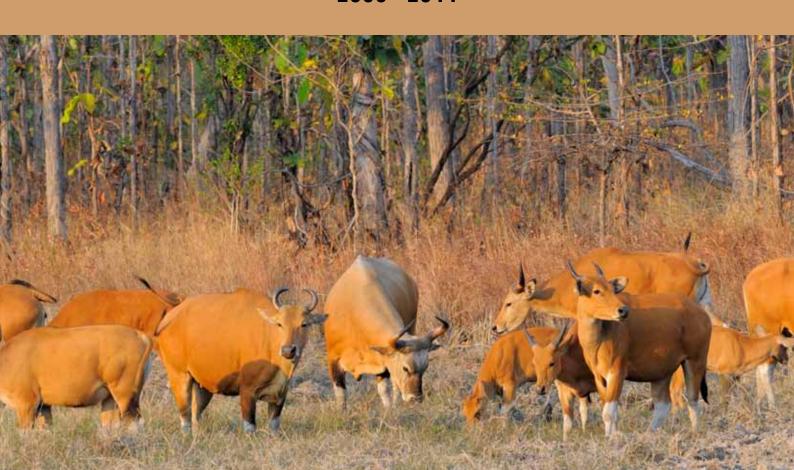


LAW ENFORCEMENT AGAINST FOREST CRIME IN THE EASTERN PLAINS OF CAMBODIA 2006 - 2011



Eastern Plains Landscape Vision

To preserve the natural heritage of the Eastern Plains Landscape, ensuring protected habitat connectivity, and providing environmental services and sustainable livelihoods for local communities.

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CHAPTER INTRODUCTION

The Eastern Plains Landscape (EPL) is located in Mondulkiri Province of eastern Cambodia and lies at the core of the Lower Mekong Dry Forest Ecoregion. It is recognized as one of the 200 most important areas for global biodiversity by WWF. The two major protected areas of the landscape, Mondulkiri Protected Forest (MPF) and Phnom Prich Wildlife Sanctuary (PPWS), contain a large diversity of habitats ranging from hilly evergreen to open dry dipterocarp forest. These two protected areas are part of a larger complex that includes Lomphat Wildlife Sanctuary and Seima Protected Forest in Cambodia and Yok Don National Park in Vietnam (Figure 2).

These protected areas are home to many critically endangered or endangered species including Asian elephant (Elephas maximus), Indo-Chinese tiger (Panthera tigris corbetti), banteng (Bos javanicus), Siamese crocodile (Crocodylus siamensis) and Eld's deer (Cervus eldii). The landscape also shelters endangered water birds like the giant ibis (Thaumatibis gigantea) and white winged duck (Cairina scutulata).

The rich biodiversity of the landscape is under threat due to uncontrolled logging, hunting, land clearing, and other unsustainable uses of natural resources. The on-going granting of large concessions within the protected areas, mining and hydropower development create additional serious threats to both forest and wildlife. Species like the kouprey (*Bos sauveli*), Cambodia's national animal, have already gone extinct, and tiger, wild water buffalo and Eld's Deer are threatened with extinction from the landscape in the near future unless immediate action is taken.

WWF works in collaboration with the Cambodian government for the protection of wild animals and their habitat in MPF and PPWS. WWF is providing financial and technical support to the relevant Government agencies in implementation of law enforcement as well as community livelihood projects, ecotourism and biological research.

The current document shows the results and achievements of the WWF-supported government enforcement teams working in the landscape over a six year period. The document also highlights the challenges faced and possible solutions.



Figure 1: Dry forest in the Eastern Plains Landscape © WWF-Cambodia / Nick Cox

PROTECTED AREA COMPLEX IN THE EASTERN PLAINS LANDSCAPE

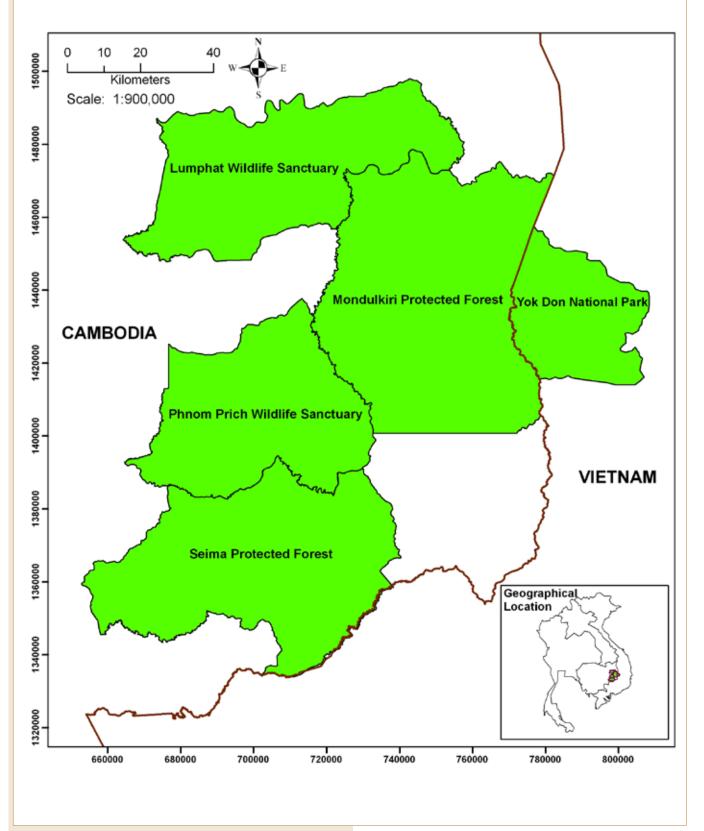


Figure 2: Protected area complex in the Eastern Plains Landscape

2 EPL ENFORCEMENT TEAMS

WWF has been actively providing support for enforcement activities in the landscape since early 2006. Currently, WWF is supporting all three enforcement teams in the landscape, i.e. MPF Enforcement Team, PPWS Enforcement Team and the Mobile Enforcement Unit. The MPF and PPWS together cover 43% of the area of Mondulkiri Province.

MPF Enforcement Team: Mondulkiri Protected Forest was established in 2002 under a Prime Ministerial sub decree. MPF is managed by the Department of Wildlife and Biodiversity under the Ministry of Agriculture, Forestry & Fisheries. It is one of the largest Protected Forests in Cambodia with an area of 372,971 ha. There are six ranger stations and two sub-stations within MPF. The MPF enforcement team comprises six patrol teams based at these six ranger stations. As of April 2012, the team has 15 rangers consisting of representatives from local communities, provincial police and the Forestry Administration (Figure 3). The MPF enforcement activities are overseen by the MPF Manager who represents the Forestry Administration (FA).



Figure 3: Mondulkiri Protected Forest patrol team © Keo Sopheak / WWF-Cambodia

PPWS Enforcement Team: The Phnom Prich Wildlife Sanctuary is contiguous with Mondulkiri Protected Forest. Originally designated as a reserve forest by King Sihanouk in 1962 as a refuge for kouprey (Bos sauveli), PPWS was later established as a Wildlife Sanctuary by royal decree in 1993. PPWS covers 222,500 ha across two districts; Koh Nhek and Keo Seima. The sanctuary is managed by the General Department Administration for Nature Conservation Protection (GDANCP) under the Ministry Environment (MoE). The sanctuary has ranger stations and two sub-stations with 45 rangers in total (Figure 4). The enforcement team of the sanctuary is overseen by the Director who represents GDANCP and two Deputy Directors of PPWS who represent the Provincial Department of Environment.

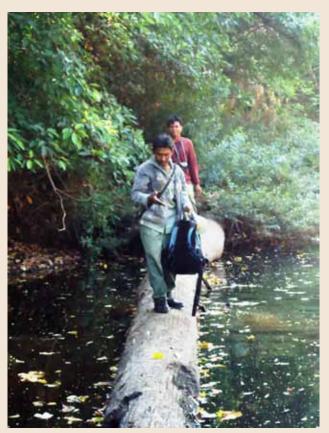


Figure 4: Phnom Prich Wildlife Sanctuary patrol team © WWF-Cambodia / Rohit Singh

Mobile Enforcement Unit: The Mobile Enforcement Unit (MEU) was established in March 2009 to control illegal activities outside the protected areas across Mondulkiri Province. The MEU was started as a joint enforcement team involving Ministry of Environment (MoE) and Forestry Administration (FA) staff. However, this combination had jurisdictional problems and so, since January 2011, the MEU has been made up of a joint team of two Provincial Police and two Forestry Administration staff (Figure 5). The MEU is responsible for monitoring international border transit points, checking restaurants and local district markets as well as gathering intelligence on wildlife and forest crime. It has been highly effective in responding to tip offs of illegal wildlife and logging activity within the province.



Figure 5: Mobile Enforcement Unit © WWF-Cambodia / Rohit Singh

CHAPTER COMMUNITY INVOLVEMENT

Community Forestry has gradually developed, in Cambodia, since the mid 1990s. This gave communities the right to benefit from sustainably managing their own natural resources – construction timber, fuel wood, medicinal plants etc – whilst also bringing biodiversity benefits. These Community Forests, of which there are over 400 nation-wide, are all outside of Protected Areas.

In 2006, legal provision was made allowing communities to apply to create a Community Forest

inside the Protected Areas. There are three principal categories (Figure 6).

Community Conservation Forest (CCF): CCFs are legally recognised forested areas within the boundaries of protected forests established through the authority of the Forestry Administration. As of April 2012, there are three proposed CCFs inside Mondulkiri Protected Forest and these are already being regularly monitored by local community patrol teams.

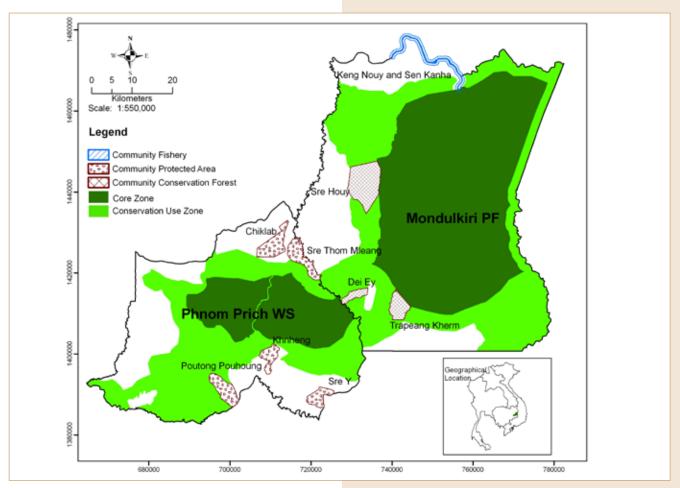


Figure 6: Community Conservation Forests, Community Protected Areas and Community Fisheries in the Eastern Plains Landscape

Community Protected Area (CPA): The CPAs are legally recognised forest areas inside Wildlife Sanctuaries and National Parks. CPAs are recognised by the Ministry of Environment and four have already been approved inside PPWS and one is under consideration.

Community Fisheries (CFi): Community Fisheries are a legal way of managing fish resources inside the protected forest through regular monitoring. There are two community fisheries located along the Serepok River in Mondulkiri Protected Forest. Both these areas have already been approved by the Ministry of Agriculture, Forestry & Fisheries.

Community Patrol Teams: The Community patrol teams consist of local communities which monitor the legally recognised Community Conservation Forests, Community Protected Areas, and Community Fisheries. Currently the EPL has 34 community patrol teams covering 22,931 ha forest areas under the CCF and CPAs (Table 1).

These community patrol teams regularly monitor all CCFs and CPAs. Most of the community patrol team members are ex-hunters or traders and they know the forest very well. The community patrol teams use MOMS (Management Oriented Monitoring System) to record information on illegal activities and wildlife in their forest.

Each community patrol team conducts a monthly patrol meeting to develop patrol plans and patrol strategies for the CCFs, CPAs and CFis. During the meeting each community patrol team leader reports monthly results and develops strategic plans for the following month. The results of community patrol activities are also shared with local concerned authorities such as the commune council, commune police and local Forestry

Administration and Ministry of Environment staff. On average, each community patrol spends 11 days and 5 nights per month in the forest doing patrols.

Patrol results of community patrol teams:

With WWF help, the teams were established in 2010 and much of that first year was spent in training and capacity building on patrolling techniques and data recording. However in 2011, the patrol teams already recorded 68 cases of illegal activities, out of which 45 cases were forwarded to concerned enforcement agencies (Forestry Administration and Ministry of Environment). The enforcement agencies subsequently acted on 80% of this information received from community patrol teams (Figure 7).



Figure 7: Community patrolling © WWF-Cambodia / Sey Touch

Table 1: Community Protected Forests, Community Protected Areas and Community Fisheries in EPL

S. No.	CCFs, CPAs and CFi	Area (ha)	Patrol teams	Legal status (as of April 2012)
1	Community Conservation Forest Krang Rapuk - Dei Ey (est. in 2007)	1,164	2 patrol teams each with 5 members	Waiting for MAFF approval
2	Community Conservation Forest O'Nglav - Sre Houy (est. in 2007)	5,346	4 patrol teams each with 4 members	Waiting for MAFF approval
3	Community Conservation Forest Trapeang Kherm - Putang village (est. in 2007)	2,449	4 patrol teams each with 5 members	Waiting for MAFF approval
4	Community Protected Area Srethom Mleang (est. in 2004)	3,000	4 patrol teams each with 5 members	Approved by MoE
5	Community Protected Area Poutong- Pouhoung (est. in 2008)	2,953	4 patrol teams each with 5 members	Approved by MoE
6	Community Protected Area Khnheng (est. in 2005)	1,734	4 patrol teams each with 5 members	Approved by MoE
7	Community Protected Area Sre Y (est. in 2009)	1,777	4 patrol teams each with 5 members	Approved by MoE
8	Community Protected Area Chiklab (est. in est. 2012)	2,989	4 patrol teams each with 5 members	Waiting for approval from MoE
9	Community Fisheries Keng Nouy (est. in 2009)	332	2 teams with 4 members in each	Approved by MAFF
10	Community Fisheries Sen Kanha (est. in 2009)	1,187	2 teams with 4 members in each	Approved by MAFF

4 CRIME PREVENTION AND MONITORING

Managers of the protected areas need regular information on the health of the park, the status of wildlife, and the incidence of any illegal activities. This information underpins implementation of the protected area management plans and also helps in patrol planning. In turn, regular and systematic patrolling is the best way of gathering this information.

CHAPTER

Patrolling in the forest is the most important part of the monitoring carried out by the enforcement teams working in the landscape. Whilst on patrol the rangers collect information on key species, their



Figure 8: Different types of patrolling in the Eastern Plains Landscape Motorbike and foot patrol © WWF-Cambodia / Rohit Singh Boat patrol © Keo Sopheak / WWF-Cambodia Elephant patrol © WWF-Cambodia / Chan Vanna

habitat and human activities in the park using a combination of Global Positioning System (GPS) equipment and standardized reporting sheets. Patrolling also helps in preventing illegal activities as the visible presence of enforcement rangers in the forest acts as a strong deterrent to those involved.

The enforcement teams in EPL conduct four types of patrol i.e. vehicle patrol, boat patrol, elephant patrol and foot patrol (Figure 8). During the dry season, the majority of the patrols are done on motorbikes whilst, during the monsoon, elephants are used for patrolling purposes.





Patrol Planning: Each Protected Area team conducts a monthly patrol planning meeting. Information from different sources is used for patrol planning i.e. reviewing patrol block coverage, patrol routes etc as well as information received from the communities or informants to ensure that, over a given period of time, the whole of the Protected Area has been patrolled and that hotspots of illegal activity are prioritised.

Patrol schedule: All the enforcement teams follow a monthly schedule of 16 days and 10 nights patrolling in the forest. These are split across four patrols that follow a 5 day, 3 day, 5 day, 3 day pattern. In addition, each team spends 7 days stationed at their outpost.

Informants: The use of informants is a parallel initiative. There are currently 8 members of the public, most of them ex-wildlife traders or hunters, who provide information to the enforcement teams. The informants live in villages around the forest and the nearest town and provide information on illegal

forest activities. The provision of information from the public is still in its very early stages. It is estimated that a further 10 people would be needed to receive information from across the province.

Monitoring systems and databases: Two complementary monitoring systems are used across the landscape to record comprehensive information on wildlife and law enforcement. A technical system (MIST) is used by rangers whilst a simpler system (MOMS) is used by communities, as detailed below.

Management Information System (MIST):

The MIST system is a computer management tool that is used for measuring the patrol effort and patrol effectiveness of rangers whilst monitoring the key species and threats to their survival. MIST has become a standard conservation tool since having been developed for the Uganda Wildlife Authority in 1998. It is now used widely in Cambodia and was introduced to MPF and PPWS in 2007. Under the MIST system, the two protected areas are divided into 11 management zones and each management

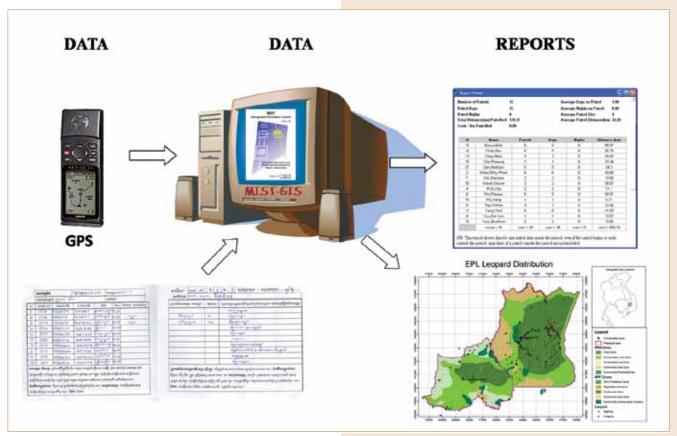


Figure 9: How MIST works

zone is sub-divided into patrol blocks (each 5km x 5km). Each of these management zones is monitored by a designated team of enforcement rangers (Figure 9 & 10).

Management Oriented Monitoring System

(MOMS): The Management Oriented Monitoring System allows the direct involvement of local communities through establishment of a community based biodiversity monitoring system that promotes community participation in designing a monitoring process, undertaking data collection and recording and analyzing the results. It is a simple and cost effective approach that requires the filling of standardized forms and was first developed in Southern Africa for community managed conservation areas. MOMS system was launched in both the protected areas of EPL in 2007.

The MOMS system is designed for situations where GPS, computers and other resources are not available. This makes it ideal for the 34 Community Patrol teams who work in the community protected forests/protected areas of MPF and PPWS and it continues to provide invaluable information.

Wildlife Crime Database (WCD): The Protected Area Law and Forestry Law of Cambodia offer three types of legal action against forest and wildlife offences i.e. written warning, fines and court cases. The law also allows sanctions to become stronger for repeat offenders. However, in the past, neither the Provincial level Forestry Administration nor Department of Environment had a system for recording crimes and repeat offenders which made it difficult to track what legal action had been taken, and against whom, for forest and wildlife crime offences. To address this issue the Wildlife Crime Database was created in 2011 to manage the information on legal actions taken by FA and DoE against offenders in the Mondulkiri Province. The database is now managed by the provincial FA and DoE.

Informant Monitoring Tool (IMT): The Informant Monitoring Tool is designed to store all the information gathered by informants as a means of measuring their effectiveness. The tool has details of all informants, their target areas, information received from them and incentive provided to them. It also records the outcomes of the actions taken by law enforcement agencies, based on the information provided.

Other Monitoring tools: Beside the above mentioned monitoring systems, a database for recording the results of vehicle checks and a photo camera trap images database are maintained.



Figure 10: Phnom Prich Wildlife Sanctuary rangers recording patrol data © WWF-Cambodia / Rohit Singh

TRAINING AND CHAPTER CHAPTER CAPACITY BUILDING

Qualified, competent and committed staff is the key to successful protected area management. Therefore, one of the major priorities of WWF is to build capacity of government counterparts and community members working in the project. Detailed training needs assessments are undertaken through discussions with Protected Area managers, team leaders, rangers and personal observation to track the needs of enforcement personnel. This has meant that, in addition to the basic training needs that are covered through successive refresher trainings, more advanced and specific training has been made available to key staff. Details of some of these courses are shown in Table 2.

Many general training programmes have been conducted for enforcement team members over the past five years. Examples of some of these, conducted since 2010, are given below.

Forestry law training: A five-day training workshop was conducted on wildlife crime detection, prevention and prosecution in collaboration with the Forestry Administration Cantonment of Mondulkiri from 28th April to 2nd May, 2010. Twenty enforcement officers from Forestry Administration and the Provincial Police took part and this gave them an opportunity to find answers to the day-to-day problems they encountered in dealing with wildlife crime. Existing techniques and procedures for successful wildlife crime prosecution were reviewed and suggestions put forward on how to improve wildlife crime conviction rates in the Province (Figure 11 & 12).



Figure 11: Forestry Law training in 2010 © WWF-Cambodia / Rohit Singh



Figure 12: Forestry Law training in 2010 © WWF-Cambodia / Rohit Singh

Protected Area Law training: A two-day legal training was conducted from 1st to 2nd June, 2010. Twenty participants from Lumphat Wildlife Sanctuary, Phnom Nam Lyr Wildlife Sanctuary, Phnom Prich Wildlife Sanctuary and the Department of Environment were trained on the range of offences and penalties detailed under the Protected Area Law (2008). The training also included law enforcement procedures, patrolling techniques, court hearing procedures and the implementation of court decisions (Figure 13 & 14).



Figure 13: Protected Area Law training in 2010 © WWF-Cambodia / Rohit Singh

First Aid Training: A three-day first aid training course was provided to the enforcement rangers working in Mondulkiri Protected Forest and Phnom Prich Wildlife Sanctuary. More than 30 rangers from Department of Environment, Forestry Administration, Provincial Police and the local communities were trained on first aid techniques ranging from general first aid to dealing with gunshot wounds (Figure 15).



Figure 15: First Aid training
© WWF-Cambodia / Rohit Singh



Figure 14: Field rangers getting hands on training on court case procedures

© WWF-Cambodia/ Rohit Singh

Other Training: Besides the technical enforcement training, several basic training courses were conducted on wildlife rescue and release. Basic photographic training was also provided to all field rangers to improve the photo documentation of illegal activities. Quarterly refresher training was provided on MIST data recording, GPS use and map reading (Figure 16).



Figure 16: Refresher ranger training © WWF-Cambodia / Rohit Singh

Table 2: Training provided to government counterparts and key staff working in the Eastern Plains Landscape

Training Course	Year	Attended by
Patrolling protocols training	2006	Protected Area & Protected Forest rangers
Protected Area management training, South Africa	2006	Senior Project Officer, MPF
Wildlife Management training, Namibia	2007	Senior Project Officer, MPF
Eco-tourism orientation, Nepal	2008	Senior Project Officer, MPF
Patrolling protocols training	2010	Protected Area & Protected Forest rangers
Forestry Law Training, Sen Monorom	2010	MPF Manager
Photographic documentation of illegal activities	2010	Protected Area & Protected Forest rangers
Protected Area law training, Sen Monorom	2010	PPWS Deputy Director, Protected Area & Protected Forest rangers
First Aid training	2010	MPF Manager, Protected Area & Protected Forest rangers
Regional Enforcement Workshop, Vietnam	2010	Mobile Team Leader, MIST data assistant
Patrolling protocols training	2011	Protected Area & Protected Forest rangers
ARREST Programme, Cambodia	2011	Mobile team member
International Conference on Watershed management, Vietnam	2011	MPF Manager
MIST, GPS and map reading, Sen Monorom	2011	MPF Manager, PPWS Director, PPWS Deputy Director, Mobile Team Leader, Mobile team members
Role of Intelligence gathering in Enforcement	2011	MPF Manager, PPWS Director, PPWS Deputy Director, Mobile Team Leader, Mobile team members
Trans-Boundary Timber trade workshop, Thailand	2011	MPF Manager
Regional SMART patrol training, Thailand	2012	MPF Manager, MPF Research team leader
GPS use, map reading and MIST data recording training	Quarterly	Protected Area & Protected Forest rangers

CHAPTER 6 PATROL RESULTS

Wildlife species encountered by the patrol team: During patrols, the teams record data on key species of the landscape. This includes indirect and direct evidence. (Figure 18-20)

Key species encountered-direct sightings:

During 2006-2011, rangers sighted a large variety of wildlife species (Annex 1). The key species were Asian elephant (*Elephas maximus*), banteng

(Bos javanicus), gaur (Bos gaurus), Eld's deer (Cervus eldii), leopard (Panthera pardus) and Sun bear (Ursus malayanus). Direct sightings of all species can be recorded in the MIST database.

Key species – Indirect evidence: The patrol teams found much indirect evidence of the key wildlife species. The teams encountered footprints of Asian elephant (*Elephas maximus*), banteng

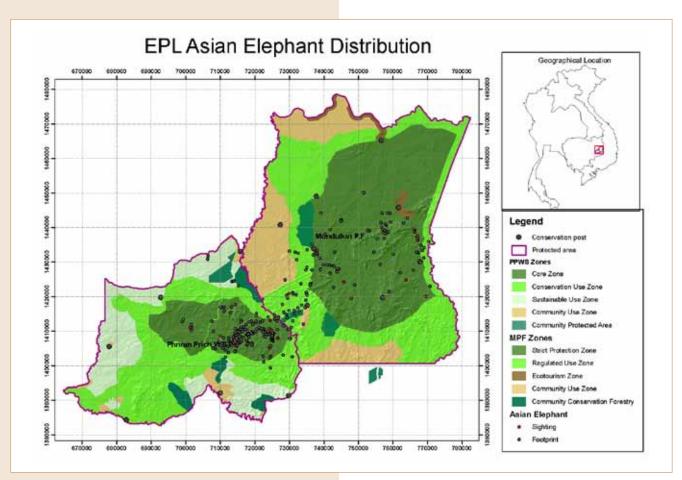


Figure 18: Direct & Indirect Evidence of Asian elephant

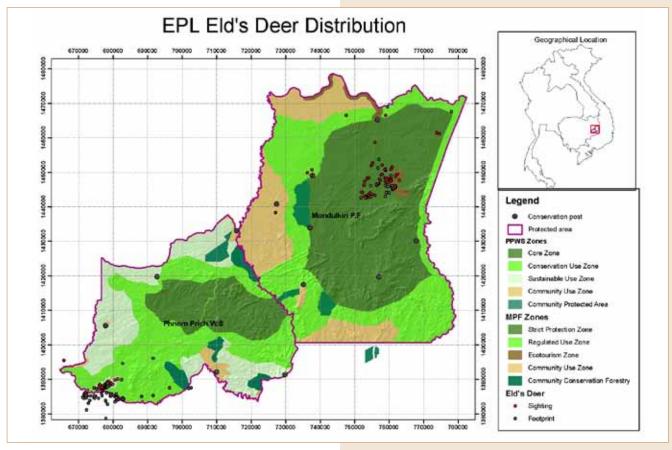


Figure 19: Direct & Indirect Evidence of Eld's deer

(Bos javanicus) and gaur (Bos gaurus) in both protected areas (Figure 18-20). Leopard (Panthera pardus) footprints were also recorded regularly in both protected areas.

Evidence of banteng presence was encountered everywhere in the landscape, particularly in the core zones of both protected areas. The patrol team recorded up to 26 individuals in one herd in the core zone of MPF. The elephant population was restricted to the core zone of PPWS and parts of MPF's core zone although it is known that elephants pass between the two using a forest corridor. The patrol teams recorded two separate major populations of Eld's deer. These occur near the Mereuch headquarters of MPF and around Sre Khtong in PPWS.



Figure 20: Patrol rangers recording data on indirect evidence © WWF-Cambodia / Rohit Singh

Box 1: Tigers in the landscape

Tiger footprints were sighted regularly in the core zone of MPF in 2006 and 2007. One female tiger was photographed near Mereuch headquarters of MPF in 2007 (Figure 21). Since then, no further photographic evidence of tiger presence has been recorded in the landscape. There were occasional reports of tiger sightings from local communities but this information is unverified.

A reliable report on tiger presence was made by one of the most experienced rangers from PPWS who photographed and obtained a plaster cast of a tiger foot print in the core zone of PPWS in October 2010 (Figure 22). This suggests that, if tigers still exist in the landscape, they do so in extremely low numbers.



Figure 22: Tiger foodprint recorded in core zone of Phnom Prich Wildlife Sanctuary © WWF-Cambodia / Meo Samorn



Figure 21: Tiger photographed in the core zone of Mondulkiri Protected Forest ${\circledcirc}$ FA / WWF-Cambodia

Patrol Effort:

Mondulkiri Protected Forest: There has been a gradual increase in patrolling effort since 2006 and, from January 2010, the number of patrol days and patrol nights has increased significantly. The reason for this can be attributed to the better management and motivation of rangers. However, there was a significant decrease in patrol effort towards the end of 2011 reflecting the low number of rangers – when rangers left but were not replaced (Figure 23). This issue is being addressed. The MPF patrol team has done 5,497 day patrol and 1,929 night patrols from 2006 to 2011. This represents a very good response in terms of the number of day patrols however there is still a long way to go before we meet the target of 3,000 night patrols.

Phnom Prich Wildlife Sanctuary: There was a significant improvement in the patrolling effort of the patrolling teams after January 2010 as a result of better management. There was also a significant increase in night patrols; the team did 366 night patrols from July to December 2011- the maximum since the implementation of the MIST system in the landscape. Overall, the team has done 3,351 day patrol and 1,133 night patrols from 2007 to 2011 (Figure 24). In terms of patrol effort i.e. patrol days, patrol nights and patrol distance, PPWS patrol team have done a moderate job. However the quality of patrolling needs to be improved with more time spent inside the forest, more foot patrols and significantly improved action against forest and wildlife offenders.

Mobile Enforcement Unit (MEU): The MEU is tasked with controlling illegal activities outside of the protected areas. The team monitors trade routes, trade centres, local markets and shops. The team also acts on tip-offs from the informants and information received on the wildlife crime hotline number. On average, the MEU conducts 25 day patrols

and 10 night patrols every month i.e. 300 patrol days and 120 patrol nights per year.

At least once per month, the team inspected all major markets in the five districts of Mondulkiri Province, i.e. Keo Seima, Koh Nhek, Sen Monorom, Picharda and Oreang.

Mondulkiri Province shares a long border with Vietnam. There are three formal international border check points (Dak Dam, Keo Seima, Busra) but, in reality, there are many other places where the border can be crossed without being detected. This easy accessibility and the potential for huge profits have made timber and wildlife trade a lucrative business in the area. One of the major activities of the MEU is to control illegal trans-boundary trade. In order to achieve this goal, the team regularly checks vehicles about to cross the border and makes regular visits to the border areas. The team also has informants working along the border to provide regular information on illegal activities.

There are three major waterfalls in the province at Busra, Sen Monorom and Romaneo. These are popular tourist destinations for local as well as international tourists. Some food stalls at these tourist sites sell wild meat and wildlife articles. The MEU has made regular visits to these tourist sites, particularly on weekends when tourist inflow is high, to close down this trade.

Threats to the biodiversity of the area

Illegal logging: There are four major high value timber species found in the EPL; Thnong (Pterocarpus macrocarpus), Beng (Afzelia xylocarpa), Neang Noun (Dalbergia bariensis) and Krinoung (Dalbergia cochinchinensis). Illegal extraction of these luxury timber species is one of the major threats to the biodiversity of the landscape. It not only removes the species in question but causes habitat destruction during the process of felling and

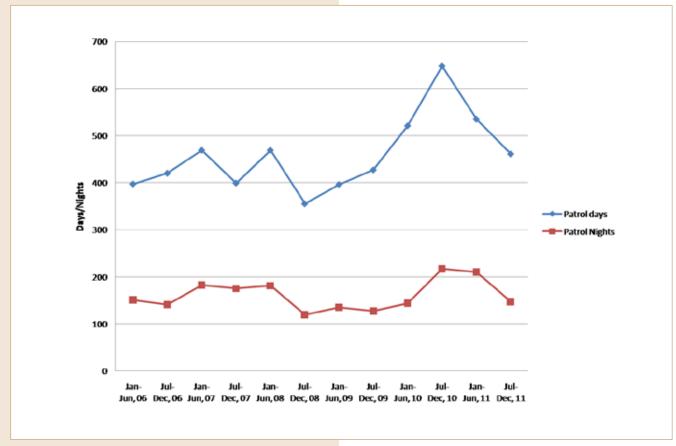


Figure 23: Patrol results (Patrol days & patrol nights) of Mondulkiri Protected Forest rangers

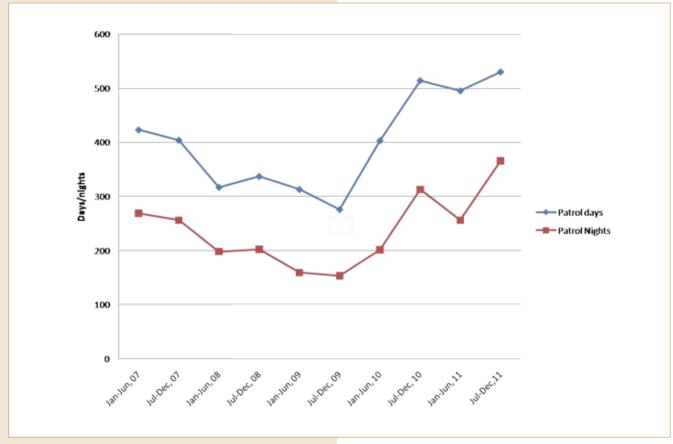


Figure 24: Patrol results (Patrol days & patrol nights) of Phnom Prich Wildlife Sanctuary rangers

transporting the timber. It also makes the forest more easily accessible for poachers thanks to the creation of new tracks. This is despite Cambodia's Forestry Law of 2003 and Protected Area Law of 2008, which makes the cutting and transport of luxury timber species strictly prohibited. The suspects involved in such activities may face imprisonment and/or fines.

Even though there are several border police and army outposts along the border with Vietnam, adjoining Yok Don National Park, this remains a very porous border. It is extremely difficult to control the illegal trade especially if the relevant border authorities do not see this as their role, or indeed, if they are profiting from it.

There has been significant progress and success under the enforcement programme with legal action taken against the logging when encountered (Figure 25 &26). In all, the three enforcement teams have confiscated 133 chainsaws and more than 350m³ of luxury timber since 2006 (Table 3 & 4).

Table 3: Details of luxury timber confiscated in EPL (2006-2011)

Species	Volume (m³) *
Beng (Afzelia xylocarpa)	21.79
Thnong (Pterocarpus macrocarpus)	292.341
Neang Noun (Dalbergia bariensis)	44.41

^{*} Data gathered from Forestry Administration Cantonment, Mondulkiri and PPWS Director

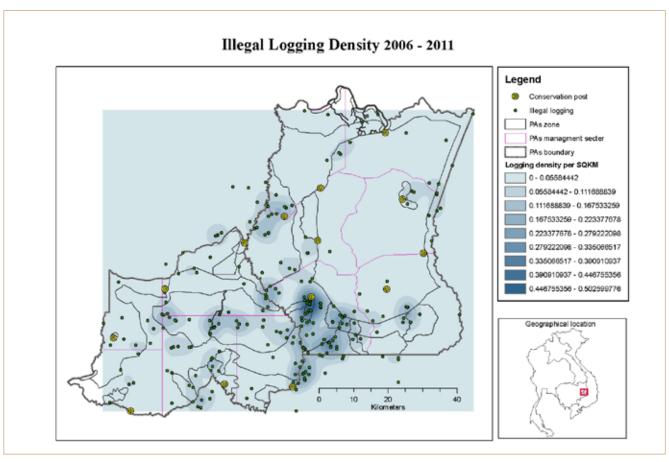


Figure 25: Action against illegal logging activities







Figure 26: Enforcement against illegal logging in the Eastern Plains Landscape © WWF-Cambodia / Rohit Singh

Poaching and wildlife trade: Whilst habitat destruction poses the greatest threat to the landscape, poaching and the trade in wildlife species is a significant problem. Wild animals are hunted to fulfill the demands of local markets as well as the international trade, primarily to Vietnam. Commercially important species like tigers, both sun and black bears, elephants, leopards and pangolins tend to be harvested opportunistically due to very low densities. However, common species such as red muntjac, wild pig, elongated tortoise, Bengal and water monitors, porcupines and various civet species are harvested in large numbers by poachers to supply the wild meat markets (Table 4 & 5, Figure 27).

A few wildlife species are harvested for the pet trade but this is not common. According to the Forestry Law and Protected Area Law of Cambodia, only common species can be kept as pets and only with due approval from the concerned ministries. The MEU is responsible for curbing such illegal activities. The team has rescued leopard cats, storks and peafowl from illegal captivity (Table 6 & Figure 28). Those animals which were fit for release were returned to the wild while others were sent to the Phnom Tamao wildlife rescue centre near Phnom Penh.

Table 4: Hunting and logging equipment confiscated in the EPL (2006-2011)

Equipment	Numbers	
Wire snares	1,783	
Guns	4	
Bow and arrow	30	
Slingshot	100	
Chainsaws	133	

Table 5: Wildlife articles confiscated in EPL (2006-2011)

Wildlife articles	Volume	
Ivory	45 kg	
Wild meat	1,230 kg	
Leopard Skin	1	
Dead Sun Bear Cub	2	
Dead Giant Squirrel	2	
Dead Pygmy Loris	25	
Serow head trophy	2	
Leopard Skull	1	
Muntjac trophies	10	
Sambar trophies	2	
Dead Green Peafowl	1	
Porcupine Stomach	40	
Burmese Python Skin	1	
Sambar Penis	1	
Porcupine quills	33	
Banteng head trophy	6	
Leopard bones	8 kg	
Hog Badger	1	
Wild Water Buffalo trophy	1	
Gaur	1	









Figure 27: Enforcement against wildlife poaching and trade © Snares: WWF-Cambodia / Rohit Singh © Banteng and wild pig: Keo Sopheak/ WWF-Cambodia

Table 6: Wildlife rescued in EPL (2006-2011)

Species	Number	Purpose
Bengal Monitor (Varanus bengalensis)	77	Wild meat
Water Monitor (Varanus salvator)	17	Wild meat
Burmese Python (Python molurus)	10	Skin and meat
Elongated Tortoise (Indotestudo elongata)	77	Meat
Lesser Adjutant (Leptoptilos javanicus)	1	Pet
Green Peafowl (Pavo muticus)	3	Pet
Sunda Pangolin (Manis javanica)	3	Trade
Long-tailed Macaque (Macaca fascicularis)	15	Pet
Southern Pig-tailed Macaque (Macaca nemestrina)	10	Pet
East Asian (or Malayan) Porcupine (Hystrix brachyura)	5	For farms in Vietnam
Civet Species (Paradoxurus sp)	27	For farms in Vietnam
Pygmy Loris (Nycticebus pygmaeus)	5	Traditional medicine
Red Junglefowl (Gallus gallus)	1	Pet
Wild Pig (Sus scrofa)	1	Pet
Wooly-necked Stork (Ciconia epicopus)	4	Pet
Leopard Cat (Prionailurus bengalensis)	5	Pet









Figure 28: Wildlife rescue in the Eastern Plains Landscape © Rohit Singh / WWF-Cambodia

Box 2: Wildlife poaching and trade

Elephant poaching: The latest census results show that the two protected areas have a combined population of 100-175 elephants. However both camera trap images and direct observation show that there are very few tuskers (i.e. adult males with big tusks) in the landscape. This could be attributed to the selective killing of tuskers for ivory during the civil war. As a result the landscape did not represent an attractive goal for poachers. However, since 2010 there has been an increase in ivory demand all over Asia. This has been reflected in the wider Eastern plain landscape where two cases of elephant poaching were reported over a time span of only two months in July and August 2010 (1 in Mondulkiri Protected Forest and 1 in Seima Protected Forest). The team also confiscated 45 kg of domestic elephant ivory in June 2010.

Porcupine poaching: There has been observed an increase in the porcupine trade in the landscape in the year 2011. The cost of a wild female porcupine has increased to up to USD 800 in the local market. Enforcement teams have confiscated 150 snares specifically designed for trapping porcupines, and rescued 5 porcupines in the year 2011. The reason for this increase is due to the rising demand for wild female porcupines from porcupine farms in Vietnam.

Civet poaching: Enforcement teams also observed an increase in civet poaching in the area, likely due to the increased demand for live civets for civet farms in Vietnam. Enforcement teams have confiscated 27 civets since 2006, out of which 22 were confiscated in 2011 alone. In at least three cases, animals were confiscated near the international border.



Figure 29: Confiscated ivory © Keo Sopheak / WWF-Cambodia

Box 3: Well planned operation led to confiscation of leopard skin and bones

In a joint operation, the Mobile Enforcement Unit and MPF enforcement team confiscated a leopard skin and bones on 11th August, 2011. This was the first ever leopard skin seizure in the landscape.

The team received a tip-off on 9th August that a local poacher was looking for buyers to sell wildlife articles on the outskirts of Mondulkiri Protected Forest. The team asked one of their most reliable informants to approach the poacher. The informant met the poacher on the morning of 10th August and told the poacher that he knew someone who dealt with wildlife trade. He informed the poacher that he could help him get in touch with the trader but demanded a cut of the profits of 10%. On the morning of August 11th, one of the enforcement team members was contacted by the poacher through the informant and the 'deal' was fixed for USD 600. An advance of USD 100 was given to the poacher. After that the poacher agreed to deliver the skin and bones to the nearest town. Around 19:00 hrs on 11th August, the poacher came to deliver the wildlife articles along with one of his partners. The team was already waiting for them; arrested them and recovered one leopard skin and 8 kg of leopard bones. This operation was the first of its kind where the team went undercover for the operation. In the end, this well-planned operation led to the arrest of a well-established wildlife trader.



Figure 30: Suspects with confiscated leopard skin © WWF-Cambodia / Rohit Singh

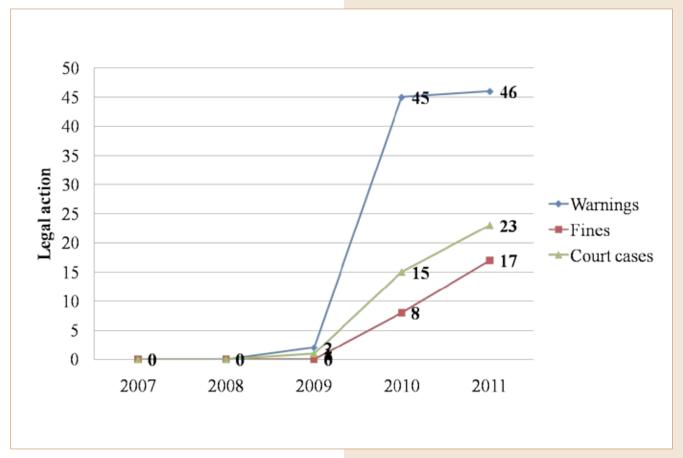


Figure 31: Legal action taken against forest and wildlife crime

Legal action: During any enforcement work, it is important that proper legal action is taken against the offenders. Several studies have shown that lack of legal action or low conviction rates act as an incentive for wildlife offenders rather than a deterrent.

In the Cambodian context, legal action is especially important because the law becomes tougher if the wildlife offender repeats their crime. Previously, not many court cases were filed by the enforcement agencies. However, since 2010 due to the improvement in knowledge of the legal procedures by theenforcement teams, there has been a significant increase in legal action concerning wildlife and forest offences (Figure 31).

In the case of PPWS, the first court case since the start of the project was filed in June 2010. Another first for the PPWS landscape was the arrest of four offenders for illegal mining activities inside the protected area.

7 SAY NO TO WILD MEAT AND ILLEGAL WOOD CAMPAIGN

Wildlife crime is a multidimensional issue. It is not only about the poachers and traders but also about the consumers who create the demand for wildlife products. To control wildlife trade, it is important to stop the supply but also critical to cut the demand for wildlife products.

Reports from the local informant network as well as from tourists suggested that most restaurants in the provincial capital of Sen Monorom were serving wild meat. Mondulkiri Protected Forest, Phnom Prich Wildlife Sanctuary and some other less well monitored adjoining areas like Lumphat Wildlife Sanctuary and Phnom Nam Lyr Wildlife Sanctuary were identified as the source for many of these illegal wildlife goods.

To address the demand issues, the team ran a campaign on the wild meat and illegal wood trade happening across the province. The campaign focused on promoting strict law enforcement, encouraging the reporting of wildlife crime and also on creating awareness amongst buyers, sellers and suppliers about what was, and what was not, legal.



Figure 32: Government authorities and school children launching the campaign © Tony Maling / WWF-Cambodia

The campaign showed WWF that there was a strong interest among tourists and local people to report wildlife crime, but there was no clear mechanism for doing so and so any reporting had tended to be purely opportunistic – such as meeting a staff member to whom information would then be passed.

These encouraging results demonstrated the strong potential for involving the local communities and visitors to help disrupt the supply-side of wildlife crime.

Launch of the Campaign: The campaign was launched on 26th April, 2010 by H. E. Heng Samnang, Deputy Provincial Governor of Mondulkiri. The campaign was jointly supported by the Forestry Administration, Department of Environment, Department of Tourism and other stakeholders.

The campaign focussed on encouraging restaurants in Sen Monorom to stop serving wild meat and customers to stop asking for it. There are both legal and moral arguments attached to this issue - not only are the selling and consuming of wildlife a crime, but they also put the amazing natural heritage of Cambodia at risk. The campaign made the clear link between consumers' choices and the over-exploitation of plants and animals that threaten the integrity and biodiversity of Cambodia's protected areas (Figure 32).

Activities under the campaign:

Wildlife Crime hotline number: The provincial wildlife crime hotline was initiated to allow interested parties to call in with confidential information on wildlife offences. Posters, t-shirts, stickers and signboards saying 'Say no to wild meat and illegal wood', and 'Help stop wildlife crime' were placed in high-visibility public areas



Figure 33: Deputy Provincial Governor H.E. Heng Samnang inaugurating wildlife crime hotline number © Tony Maling / WWF-Cambodia

Wildlife Crime Hotline 012 404 143

in Sen Monorom including restaurants, hotels, shops, markets and schools to draw the attention of potential wild meat consumers, tourists and other travellers to the issue. All the posters display the wildlife crime hotline number (Figure 33).

At the beginning, the team received several calls fromotherprovinces regarding illegal forest and wildlife activities. This falls outside the provincial jurisdiction and so, whenever possible, the information was forwarded to the national hotline number managed by the Forestry Administration. A total of 31 calls have been received on the hotline number since April 2010, out of which 26 resulted in the successful confiscation of timber and wildlife. Numbers would have been higher but due to technical problems, no calls were received on the hotline number from July to September, 2010 (Figure 34).

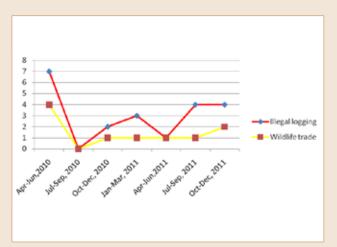


Figure 34: Information received on the wildlife crime hotline



Figure 35: Community Patrol teams handing over confiscated chainsaw

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Legal awareness: The campaign not only focused on wildlife enforcement, but also on awareness of the law among the communities living in and around the forest. The enforcement team works together with the Community Extension Team (CET) of WWF to promote awareness of Protected Area and Forestry Law. Four awareness-raising meetings were held with the communities in the Pucherry, Memong, Dei Ey and Krangtes areas. Beside these major meetings, several informal meetings were held with local communities to build trust between the enforcement team and local communities (Figure 35).

Working with Restaurant owners: In order to discourage restaurants in Sen Monorom from serving wild meat and customers from asking for it, guidelines for environmentally-friendly restaurants and hotels have been developed by the Ministry of Tourism. The Ministry has the authority to inspect and award restaurants and hotels with certificates if they comply with the Guidelines. This public recognition helps reduce supply and demand for wildlife products (Figure 36).



Figure 36: Workshop with Restaurant owners © WWF-Cambodia / Rohit Singh



© WWF-Cambodia / Rohit Singh

Monitoring of restaurants: Under the campaign, a workshop was also organised on 25th June, 2010 in collaboration with the Department of Tourism, Forestry Administration and Department of Environment. The objective of the workshop was to give the very clear message to restaurant owners that serving of wild meat is illegal and that, if they continued doing this, they may lose their license.

This has been followed up by the MEU who make regular inspection visits to local markets and restaurants (Figure 37) and the team has confiscated 380 kg of wild meat from restaurants and local markets between 2009-2011. However, it is difficult to say categorically that wild meat trade has significantly decreased in the province but, judging from information received from local communities and informants, it does seem to have been reduced or, at the very least, to have been made more difficult.



Figure 37: Mobile Enforcement Unit activities to control the illegal wild meat © WWF-Cambodia / Rohit Singh

O FIELD CHALLENGESCHAPTER **O AND WAYS FORWARD**

Insufficient staff: Currently, the landscape has 60 rangers (of which WWF are supporting 40) looking after almost 6,000 km² of forest whereas there would ideally be 88 rangers for effective monitoring. With this limited number of field rangers, continuously monitoring each and every patrol block is difficult. It is therefore critical that staffing levels in the forest are raised to the required level.

Weak judiciary: Although the team filed a record number of court cases and helped perform a record number of arrests, more than 75% of the accused were released on bail within six months. High potential profits make wildlife and forest crime an attractive option especially whilst risk of punishment is low.

Under the Cambodian Forestry Law and Protected Area Law, forest and wildlife crimes are listed as criminal offences. This means the Criminal Procedure Code needs to be followed for these offences. Unfortunately there are very few judicial police (those police with the power to arrest and file court cases), and their knowledge of the Criminal Procedure Code (CrPC) is limited. The court cases that are filed by the enforcement teams are therefore often not strong enough to get convictions. The team gets negligible technical or legal support from the judiciary and from the courts, which makes it more difficult to achieve convictions. There is an urgent need for comprehensive training on CrPC to judicial police and for improving coordination with provincial judicial authorities.

Weak law: Strong law can create strong deterrents. The Forestry Law and Protected Area Law of Cambodia however do not have strong enough sanctions to achieve this goal. In addition, loopholes in these laws provide criminals the means to escape punishment. Some of these loopholes are:

- Lack of clear definitions the law offers different penalties for hunting and for trading wildlife. Similarly, there are different penalties for logging trees and then for transporting them. For example hunting of endangered/rare species and logging of luxury timber trees are serious offences under the national legislation of Cambodia and accused should be arrested and sent to prison. By comparison, in the case of trading in any of these species, the offender can only be given a financial punishment. Due to the unclear definition of hunting/logging and trading, most of the criminals get away with lower trading charges.
- No clear guidelines for calculation of punitive fines according to the Forestry Law a transitional fine should be two to three times of the market value of the confiscated goods i.e. timber and wild meat. However there is no way of determining the market value of the protected species of plants and animals (since, in principle, there should be no market for them). Therefore, in most cases, market value is just an arbitrary figure proposed by the judicial police and generally this is too low to create a disincentive for criminals.

- The law does not provide strong enough protection for endangered species. For example, rearing of endangered species is prohibited under Article 96 but the suspect can only be charged with a transitional fine and can't be sent to prison unless they repeat offend.
- Outdated species list Sixteen species, including tigers, are currently listed as endangered under the law but at least one of these (Javan rhino) is already extinct and the status of several others uncertain. The current conservation list reflects neither the population status of Cambodia flora and fauna nor the internationally recognized status of Cambodia species as prepared by the IUCN.

The national government is in the process of developing a new Wildlife Protection law in which, hopefully, all these issues will be addressed.

Involvement of influential people in illegal activities: It is well known that influential people, both inside and outside of government service are involved in illegal activities. Lowranking enforcement officers are frequently afraid of taking action against these influential people. WWF experience with enforcement rangers shows that, given full support and backing, they are able to do so simply by following the law. This has recently resulted in the arrest of some soldiers and a court case against a senior government official. Critical to the success of such operations is strong coordination and resourcing from government officials in MoE and FA and clear directives from the national level to require and support such action.

Governance: Good governance is a major hurdle in law implementation. Some individuals tasked with protecting the forests are involved in illegal activities. This demotivates the rangers and the community and reduces people's faith in the authorities' commitment.

Low capacity: Wildlife conservation is still relatively new to Cambodia. Most of the enforcement officers do not have enough capacity to combat the level of organized wildlife crime that is encountered in Cambodia. Capacity building is urgently required both for staff working in the projects as well as for other staff working in the province. Training programmes need to be organized with special reference to professionalising the ranger community, basic ranger skills, dealing with offenders, intelligence gathering and court case filing. There is also an urgent need for training on wild meat identification.

Trans-boundary trade: The enforcement team confiscated more than 1000 luxury timber logs since 2010¹. These seizures probably represent only a fraction of the illegal trade in the area. For long term biodiversity conservation in the area, a better and detailed understanding of the wildlife and timber trade network is needed in more detail, especially regarding the cross-border trade between Cambodia and Vietnam. In addition to the ground level response, this issue also needs to be addressed, at a political level, by the two governments.

Improve quality of patrol: Most rangers are now doing the expected 16 days of patrol each month, in line with the target set in 2010. Since then, it has become clear that it is equally important to improve the quality of patrol (as seen by rate of detection and response to illegal activities) rather than only achieving the target number of patrol days.

Improve informant base: The informant base has improved during the last two years, and there are now eight full-time informants providing regular information on illegal wildlife and timber trade in the Province. However, wildlife and timber trade are complex and organized criminal operations — without proper information flow, they are difficult to control. Enforcement actions would therefore benefit from a further ten informants at crucial trade points such as Busra, Keo Seima, Dak Dam, Koh Nhek and Lumphat. This will help give coverage over the entire Province.

Building community trust: Local communities living around the protected areas are aware of many of the illegal activities occurring in the area. They can provide vital information to the enforcement team. However, some of them are afraid of doing so; while others think that the enforcement team will not take action. It is therefore important to build confidence and trust among the community. Though the Community Extension team and the Enforcement teams have worked very closely in the past two years to resolve this issue, a lot remains to be done.

Annex 1: Major species encountered by the patrol teams in EPL (2006-2011)

	Species	National conservation designation	IUCN status			
Mam	Mammals					
1	Indo-Chinese Tiger (Panthera tigris corbetii)	Endangered	Endangered			
2	Asian Elephant (Elephas maximus)	Endangered	Endangered			
3	Banteng (Bos javanicus)	Rare	Endangered			
4	Gaur (Bos gaurus)	Rare	Vulnerable			
5	Eld's Deer (Cervus eldii)	Endangered	Endangered			
6	Leopard (Panthera pardus)	Rare	Least Concern			
7	Sambar (Cervus unicolor)	Common	Least Concern			
8	Red Muntjac (Muntiacus muntjak)	Common	Least Concern			
9	Sun Bear (Ursus malayanus)	Rare	Data Deficient			
10	Dhole (Cuon alpinus)	Rare	Endangered			
11	Wild Pig (Sus scrofa)	Common	Least Concern			
12	Golden Jackal (Canis aureus)	Common	Least Concern			
13	Black-shanked Duoc Langur (Pygathrix nigripes)	Rare	Endangered			
14	Yellow-cheeked Gibbon (Hylobates gabriellae)	Rare	Endangered			
15	Pig-tailed Macaque (Macaca nemestrina)	Common	Vulnerable			
16	Stump-tailed Macaque (Macaca arctoides)	Rare	Vulnerable			
17	Long-tailed Macaque (Macaca fascicularis)	Common	Least Concern			
18	Large Indian Civet (Viverra zibetha)	Common	Near Threatened			
19	Siamese Hare (Lepus peguensis)	Common	Least Concern			
20	Wild Water Buffalo (Bubalus arnee)	Endangered	Endangered			
21	Silvered Langur (Trachypithecus cristatus)	Common	Endangered			
22	Oriental Small-clawed Otter (Aonyx cinerea.)	Common	Vulnerable			
23	Crab-eating Mongoose (Herpestes urva)	Common	Least Concern			

	Species	National conservation designation	IUCN status		
Birds					
24	Giant Ibis (Pseudibis gigantea)	Endangered	Critically Endangered		
25	Green Peafowl (Pavo muticus)	Rare	Vulnerable		
26	Bengal Florican (Houbaropsis bengalensis)	Rare	Endangered		
27	Red Headed Vulture (Sarcogyps calvus)	Rare	Critically Endangered		
28	Slender Billed Vulture (Gyps tenuirostris)	Rare	Critically Endangered		
29	Crested Serpent Eagle (Spilornis cheela)	Common	Least Concern		
30	Lesser Adjutant Stork (Leptoptilos javanicus)	Rare	Vulnerable		
31	White-winged Duck (Cairina scutulata)	Endangered	Endangered		
32	Siamese Fireback (Lophura diardi)	Common	Least Concern		
33	Silver Pheasant (Lophura nycthemera)	Common	Least Concern		
34	Woolly-necked Stork (Ciconia epicopus)	Common	Least Concern		
35	White-shouldered Ibis (Pseudibis davisoni)	Endangered	Critically Endangered		
36	Sarus Crane (Grus antigone)	Rare	Vulnerable		
37	Oriental Pied Hornbill (Anthracoceros albirostris)	Common	Least Concern		
38	Red-wattled Lapwing (Vanellus indicus)	Common	Least Concern		
39	Black-necked Stork (Ephippiorhychus asiaticus)	Endangered	Near Threatened		
40	Chinese Francolin (Francolinus pintadeanus)	Common	Least Concern		
41	Great Hornbill (Buceros bicornis)	Rare	Near Threatened		
42	Cattle Egret (Bubulcus ibis)	Common	Least Concern		
43	Great Egret (Casmerodius albus)	Common	Least Concern		
Reptiles					
44	Bengal Monitor Lizard (Varanus bengalensis)	Least Concern	Common		
45	Common Water Monitor (Varanus salvator)	Common	Least Concern		
46	Siamese Crocodile (Crocodylus siamensis)	Rare	Endangered		
47	Elongated Tortoise (Indotestudo elongata)	Common	Endangered		
48	Indian Rock Python (Python molurus)	Common	Near Threatened		

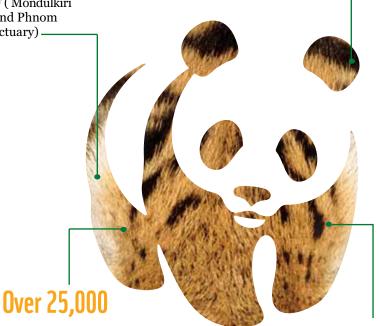
Eastern Plains Landscape in numbers:

Nearly 6,000 square kilometers

of protected areas in Cambodia supported by WWF (Mondulkiri Protected Forest and Phnom Prich Wildlife Sanctuary) -

One of the world's 200

most biologically important areas. It is one of the largest stretches of continuous dry and semi evergreen forest in Southeast Asia



local community members of 11 ethnic groups living in and around protected areas in the Eastern Plains Landscape depend on forest resources

The world largest banteng population occurs in Eastern Plains Landscape with number estimated at 2700-5700 individuals



To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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