

Cambodia Tiger Action Plan 2011 – 2022

(Provisional Interim 1st Draft, March 2011)



Forestry Administration



Provisional Interim 1st Draft, March 2011

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Tigers & their Conservation in Cambodia

The Tiger in Cambodia: 1954 -1993

During the 1950's, Charles Wharton conducted an ecological study of the Kouprey Bos sauveli in Northern Cambodia, and observed herds of Eld's Deer *Cervus eldii*, Gaur *Bos gaurus*, Banteng *Bos javanicus*, and Wild Water Buffalo *Bubalus bubalis* in such numbers that he compared the area to the game lands of East Africa. Tigers and leopards resided in areas of dense forest and emerged at night to hunt prey in the open forest. (Wharton 1957).

Through the 1960's, Cambodia was an internationally famous big game hunting destination (Engle 1981). A licensed hunter could shoot 14 heads of protected animals during the December-May period, including Bull Asian Elephant, Gaur, Banteng and Wild Water Buffalo. Tigers and Leopard were so common they could be shot year round (Cambodia Ministere De L'Information 1960.)

For example, in 1957 an American trophy 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 discovered the banteng and fed. The following night the tiger was shot when it returned to feed on the banteng again (Engle 1981).

Beginning in 1970, over 30 years of civil unrest put an end to sports hunting, and also drastically reduced the number of wild animals in Cambodia. During the period of unrest, various armed forces were based in and moved about the most remote areas. Extensive hunting was conducted for meat and the international trade. Industrial scale logging was carried out.

The beginning of modern countrywide conservation in Cambodia: 1994 -1997

Conservation formally began on 1st November 1994, when King Sihanouk signed a Royal Decree creating 23 protected areas around the country covering 33,000

km². A five-page Tiger Action Plan (TAP) was prepared that year, noting that nothing was being done on the ground due to a lack of trained personnel and funding.

The TAP described a 1994 visit to wildlife markets in Phnom Penh and Poipet on the Thai border (Sabu 1994) that found 18 Tiger skins. Based on estimated turnover reported by the traders of 10 to 16 skins per month, it appeared that 100 to 200 Tigers a year were being exported from Cambodia, since about 1990.

Most of the Tigers were brought in by soldiers posted to remote areas in the Northern Plains and Cardamom Mountains. Skins sold for \$150 to \$1,200, depending on their condition; bones sold for c. \$100/kg. Live Tigers (presumably cubs) were regularly brought to the traders and sold to Thailand for about \$2,500 each.

1st Cambodia-wide survey of Wildlife Trade: 1999

In a 1999 attempt to assess this trade more accurately, a survey of 24 Cambodian wildlife markets and 12 international checkpoints was carried out by Cambodian Wildlife Protection Office (Sun hean 2000) Eight live, wild caught tigers, 36 tiger skins, 5 kg of tiger bone, 6 tiger skulls, 43 tiger canine teeth, more than 50 tiger claws, and 1 tiger penis were observed in trade during the 14-week survey.

Data were obtained on where tiger parts are sold, trade routes, and prices paid. Phnom Penh and Poipet were the largest markets. Tiger skins usually went through Poipet to Thailand for decoration, and Tiger bones and other parts usually went through Phnom Penh to Vietnam & China for medicinal purposes

Initial identification of Cambodia Tiger Conservation Units: 1998 -1999

The first systematic countrywide assessment of status and distribution of Tiger and prey was carried out in 1998 by the Forestry Administration's Wildlife Protection Office, currently Department of Wildlife

and Biodiversity. 153 hunters and 156 district and province officials in 13 forested provinces were interviewed (Weiler et al. 1998 & Nowell et al 1999).

In 1999, the results of the survey were presented at six provincial workshops attended by 209 provincial officials to obtain province-level input on a conservation strategy. The surveys and workshops determined that the best remaining Tiger Conservation Units (TCU) were the Northern Plains, Cardamom Mountains, and Eastern Plains. Three regional offices were established by the Wildlife Protection Office which managed a Tiger and prey monitoring network of community rangers from 2000 to 2005.

The WPO projects were funded by the Taiwan Council of Agriculture, CAT Action Treasury, University of Minnesota, Save the Tiger Fund and US Fish and Wildlife Service Tiger Fund.

Other NGO-supported conservation projects were also developed in all three TCUs during this period and many have continued and evolved to present. Save the Tiger Fund and USFWS provided co-funding to MOE, WWF, WCS, CI, WildAid, Birdlife International and PRC for Tiger-specific projects. From 1997-2010, a total of 15 Save the Tiger Fund Grants and 17 USFWS Tiger Fund Grants supported tiger conservation in Cambodia.

First national consensus estimate of Cambodia Tiger Population: 2004

Several NGOs working on tiger conservation held a meeting in 2004 to review all available tiger data for the Global Tiger Conservation Landscape delineation exercise (Sanderson *et al.* 2006). Tiger records from a range of methodologies including camera traps and field surveys by biologists and community wildlife rangers were analyzed, resulting in an estimated 5 to 20 tigers Eastern Plains TCU, 5 to 20 tigers Cardamoms TCU and 1 to 10 tigers Northern Plains TCU, for an estimated Cambodia total of 11 to 50 tigers in 2004. That assessment is still the basis for the IUCN 2010 CITES Red List estimate of 11 to 50 tigers in Cambodia, with a notation that the total may now be less than 30.

Cambodia joins the Global Tiger Forum: 2004

In October 2004, Cambodia officially joined GTF. In November 2004, a Cambodia Delegation attended the

3rd General Assembly of the Global Tiger Forum in Hanoi, marking the beginning of Cambodia participation in GTF as a full active member.

Revision of Tiger Conservation Units: 2005

In response to the Save the Tiger Fund-led 2005 global Tiger Conservation Landscape (TCL) review and update, the Wildlife Protection Office initiated and supported supplementary analysis of TCUs/TCLs).

A broad consortium of Tiger experts, field biologists, policy-makers, and conservation organizations were gathered together to review all relevant information, which produced a single Cambodia consensus TCL map and document, published as Appendix 6 in the final TCL document (Weiler et al 2006).

Revised TCLs were identified in the Cardamom Mountain Range evergreen forest, Eastern Plains dry forest, and Virachey National Park mountainous evergreen forest (as part of the Southern Annamites Cambodia/Laos/Vietnam Trans-boundary TCL.) These were the only areas in Cambodia with evidence that some Tigers remained at that time.

The survival of Tiger in these landscapes was severely threatened, due primarily to poaching for the international trade, prey hunting and habitat loss. The Northern Plains TCU was not included in the revised TCL identification because there was no confirmed evidence that any Tigers remained after 2003, and extensive land clearing and post-conflict re-settlements had greatly reduced the extent and quality of much of that TCL habitat.

Cambodia Tiger Profile: 2010

In early 2010, MOE, FA, CI, Wildlife Alliance, WWF & WCS were contacted by DWB requesting all confirmed Tiger records from 2005-2009 from all protected forests and protected areas in the Northern Plains, Cardamom Mountains, Eastern Plains, and Virachey landscapes. The data was for updating the Cambodia Tiger Status for the Global Tiger Initiative and a baseline for preparing the Cambodia National Tiger Action Plan.

The resulting *Cambodia Profile* was published in *Avoiding the Unthinkable: What will it cost to Prevent Tigers Becoming Extinct in the Wild?* J. Walston K.U. Karanth, and E.J. Stokes. 2010, prepared for the World Bank GTI by WCS. The purpose of the report is to help both donors and Tiger range states prioritize Tiger

Conservation areas and activities. It was submitted to World Bank in late March. The *Cambodia Profile* concludes that:

- Only a few scattered individual tigers remain in Cambodia, based on the analysis of all confirmed tiger records from all organizations in Cambodia from 2005 – 2010.
- There is no evidence of a resident breeding population anywhere in Cambodia & therefore no Source Site for Tiger recovery.
- The Eastern Plains Landscape is the best Potential Source Site for tiger recovery in Cambodia, through translocation & reintroduction of wild tigers from other sites.

Global Tiger Initiative Cambodia National Consultation, 25 May - 4 June 2010

A. Key points from End of Mission Note

The 25 participants represented MAFF, the Ministries of Environment (MoE), Planning (MoP), Economy and Finance (MEF); the World Bank Cambodia, WCS, WWF, Conservation International, Wildlife Alliance and PRCF (People Resources and Conservation Foundation).

There is significant activity and interest in the GTI process and it is being used to push the debate on tiger conservation in Cambodia. Beyond the mission consultation on the 25th there have been a number of other government-led consultations and meetings, which is partly why the 25th was so well attended.

There is strong government-NGO interaction in Cambodia and it was heartening to see a healthy discussion combining scientific data, objective analysis, and the Real Politik of getting things through the system in the country.

B. Tiger status and Tiger Conservation Landscapes in Cambodia

The *Cambodia Profile* was presented. There was a general discussion of the latest reviews of wild tigers in Cambodia and the group generally agreed on some key facts that were important in order for the process to proceed onto what conservation action was necessary.

The consultation participants reached a consensus that there is no evidence that a resident breeding population of Tigers remains in any Tiger Conservation Landscape (TCL) in Cambodia. Only a few scattered individual Tigers remain, likely less than 10 country wide and less than 5 in the Eastern Plains. However, DNA analysis of carnivore scat located by scent dog surveys was still pending, so no formal population estimate update was prepared.

The Eastern Plains Landscape (EPL) was identified as the best potential source site for eventual tiger re-introduction, which is of sufficient size and quality to support a breeding population embedded in a larger block of habitat that will enable tiger dispersal and repopulation of the larger landscape.

The consultation was a major milestone and significant turning point for Cambodia tiger conservation. The consultation outcomes became the basis for the Cambodia National Tiger Recovery Priorities and the subsequent confirmation of the Eastern Plains as the priority Tiger Recovery Landscape.

International Tiger Forum, St. Petersburg, Russia, November 2010

The Cambodia Delegation consisted of 5 high-level officials from the Ministry of Agriculture, Forestry and Fisheries, Forestry Administration & Department of Wildlife and Biodiversity, the Cambodia Tiger Project International Advisor and the WWF Cambodia Director.

Global Tiger Recovery Program was endorsed in St. Petersburg by the governments of all 13 Tiger Range Countries

Cambodia National Tiger Recovery Priorities, as summarized in the GTRP:

1. Secure at least one inviolate Potential Tiger Source Site, free from habitat conversion and human interference
2. Increase capacity and effectiveness of law enforcement agencies in wildlife and habitat conservation
3. Integrate habitat management into landscape plans

4. Implement consistent tiger and key prey monitoring protocols in Potential Source Sites
5. Strengthen trans-boundary collaboration with neighboring countries to reduce wildlife poaching and cross-border illegal activities.

As the Global Tiger Recovery Program was being endorsed in St. Petersburg by the governments of all 13 Tiger Range Countries, on November 23 in Phnom Penh, Forestry Administration spokesman Thun Sarath announced: (Cambodia Daily, November 24, 2010)

On November 23 in Phnom Penh, Forestry Administration spokesman Thun Sarath announced that: (Cambodia Daily, 24/ 11/ 2010)

- Cambodia plans to establish a protected tiger habitat which will likely be located in the Eastern Plains Region around the Mondulkiri Protected Forest Area
- Cambodia's National Tiger Action Plan will be based on the recovery program presented at St. Petersburg.
- Prime Minister Hun Sen has approved in principle
- The first thing will be to identify the boundary of the protected tiger habitat

Cambodia Tiger Landscapes Stakeholders Consultation, December 2010

Transitioning from NTRP to CTAP

To identify the and map the Tiger Recovery Site, the next step in the process was to convene the Directors, or their designated representative, of all 13 Protected Forests and Protected Areas in the Cardamom Mountains, Northern Plains, Southern Annamite Mountains and Eastern Plains landscapes.

These landscapes represent historic tiger range in Cambodia, and a full review was necessary before confirming a Tiger Recovery Landscape and identifying an inviolate potential Tiger source site within that landscape. The Consultation lasted two full days, with 54 key officials participating (40 from the field & 14 from Phnom Penh HQ).

- Global and Cambodia Tiger status was presented to the group.

- Each landscape unit representative gave a summary presentation on the status of tiger, prey, conservation status and threats.
- The National Tiger Recovery Priority objectives were presented
- The representatives were divided into 3 landscape working groups to develop recommendations for the Cambodia Tiger Action Plan.

Summary of key general conservation points made by field representatives

- Environmental education is important for local communities and for other stakeholders to change their attitudes and behavior regarding conservation and to understand protected forest and protected area benefits for their livelihoods and impacts of their activities.
- Local community livelihood upgrades through activities such as sustainable agriculture, agricultural land improvement and tourism development community are necessary in order to increase income that can help reduce pressure on protected forest and protected area and to contribute to conservation.
- Participatory Land Use Planning (PLUP) and protected forest/protected area boundary demarcation are important to suppress forestland cutting and to reduce conflicts, especially clear boundary demarcation between community land and protected forest/protected area.
- Community organizing is a foundation to ensure sustainable natural resource uses and help to prevent forestland clearing.
- Research, survey and monitoring is important for managing protected forest and nature protected area by helping increasing knowledge, improving data flow and decision making, especially regarding ungulate species density estimates for tiger recovery and presence of tiger present and other key wildlife.
- Law enforcement strengthening and governance has been helping reduce wildlife and forest crimes remarkably through patrolling inside and outside protected forest and nature protected areas and by collaborating with relevant parties and developing local information sharing network.

- Significant challenges are Hydropower dam construction, Mineral exploration, Newcomers, Road improvements, Hunting, Forestland clearing & plantation development.

Landscape Discussion Group results

Cardamom Mountains Landscape

Threats & challenges

- No clear research
- Educating and disseminating tiger conservation
- Cooperation and law enforcement with associated institutions is still limited
- Conservation understanding is limited (especially wildlife and tiger)
- Local people's poverty
- National and international needs
- Development needs
- Lack of human resources, finance and materials

Recommendations on draft of national tiger recovery program

- CTAP should focus on next five years; then review and revise
- Restudy wildlife presence and habitat status thoroughly
- Protect and conserve through limiting access

Northern Plains Landscape

Threats & Challenges

- Insufficient patrol force
- Insufficient means and materials
- Finance
- Human resources
- Limited cooperation
- Newcomers and population growth
- Limited education and dissemination
- Associated institutions (competency); suppressing participation
- Some illegal crime committed by powerful people
- Decrease in habitat (forest crime, agri-industry and mine business)
- Market needs
- Local infrastructure

Recommendations

- CTAP should focus on next five years; then review and revise
- Create special law for conservation area
- Law enforcement officials shall have clear cadre
- Increase ungulate species through breeding prevention
- Held meeting once per 3 or 6 months
- Organize an agreement to prevent wildlife crime and across border forest

Eastern plains & Southern Annamites Landscapes

Threats & Challenges

- Lack of officers, and knowledge is limited
- Many snares and explosives (remain from war)
- Limited participation from local authorities and communities
- Limited education and dissemination, and poverty
- Limited law enforcement equipment
- Forest disturbance by humans
 1. Luxury wood harvest,
 2. Resin tapping,
 3. Wildlife snaring
- Local middlemen active in wildlife trade
- Limited communication with neighboring countries

Recommendations

Source Site

- Map of tiger sanctuary is acknowledged by local and national authorities
- Disseminate from national to local levels

Law enforcement

- Form informant group
- Update MIST to local and national levels

Monitoring

- Train the trainers
- Develop sampling strategy

Trans-boundary

- Encourage active participation by the relevant border competencies

Indochinese Tiger Overview

Sub-species genesis

Based on genetic analysis, Luo *et al.* (2004) identified *P. t. corbetti* (Indochinese Tiger) as the likely ancestral Tiger population, with the radiation into other subspecies taking place 72,000–108,000 years ago.

Of all the Tiger subspecies, *P. t. corbetti* showed the highest genetic diversity in microsatellite alleles, indicating a fairly stable evolutionary history, and alleles found in other subspecies were almost always a subset of those found in *P. t. corbetti*.

Until recently, mainland Southeast Asia tigers in Myanmar, Thailand, Malaysia, Laos, Cambodia & Vietnam were considered as a single subspecies, *Panthera tigris corbetti* (Indochina Tiger)

In 2004, the tigers of Peninsular Malaysia were recognized as a new subspecies, *Panthera tigris jacksoni*, (Malayan Tiger) when a genetic analysis found that they are distinct in mtDNA and microsatellite sequences from tigers of northern Indochina, *P. t. corbetti* (Luo *et al.*, 2004).

Based on DNA, two subspecies are currently provisionally accepted by IUCN on the Cites Red List: *Panthera tigris corbetti* (Northern Indochinese Tiger) and *P. tigris jacksoni* (Southern Indochinese or Malayan tiger). However, some specialists note that there is no morphological basis for this division.

Mazak and Groves (2006) found no clear morphological differences (in cranial measurements or pelage characteristics) between tigers from Peninsular Malaysia and those elsewhere in Indochina, and argue for inclusion in *P. t. corbetti*.

P. t. jacksoni is *provisionally accepted* by IUCN. The geographic division between *P. t. jacksoni* and *P. t. corbetti* is unclear as tiger populations in northern Malaysia are contiguous with those in southern Thailand (T. Lynam 2008).

On a regional scale, the 2 proposed subspecies are effectively managed as separate conservation units: Malayan Peninsula (south of the Isthmus of Kra) and

the remainder of mainland Southeast Asia (Myanmar, Thailand, Laos, Cambodia & Vietnam).

Dinerstein *et al.* (1997) argued that a taxonomic approach to tiger conservation would seek to conserve only genetic variation, but that an ecological-based approach was needed to account for behavioral, demographic and ecological variation across tiger range. Sanderson *et al.* (2006) grouped tigers by biome (habitat type) and six bioregions that have some congruence with recognized subspecies: Indian sub-continent, Indochina, Peninsular Malaysia, Sumatra, Russian Far East, and China/Korea.

This distinction has important implications for Tiger re-introduction, in that depending on interpretation, the availability of tigers for translocation from and to particular sites could be severely constrained.

(This section based on IUCN 2010 Red List tiger analysis and a 2010 report by Lynam.)

Current Tiger Status in Southeast Asia

A century ago, tigers (*Panthera tigris* Linnaeus, 1758) were so common in parts of Southeast Asia as to be considered pests, and governments sponsored their killing. Habitat loss and fragmentation, market-driven poaching and loss of prey have since led to the disappearance of Indochinese tigers from most their former range.

Despite 15 years of dedicated tiger conservation funding, the future for the subspecies appears grim, unless very focused efforts can be applied to stabilize and recover subpopulations. Evaluating where to place conservation efforts should consider the vulnerability (likelihood of extinction) and irreplaceability. (likelihood that an area contributes uniquely to regional conservation) of tiger subpopulations. (Lynam 2010)

There are only 6 Source Sites (confirmed to have resident breeding populations of tigers) in all of Southeast Asia: 2 in Thailand, 1 in Laos & 3 in Malaysia. There are no proven Source Sites in Myanmar, Vietnam & Cambodia. (Lynam 2010)

Cambodia Wildlife law & enforcement

The Tiger is fully protected by the Cambodia Wildlife Protection Act, 2007. Moreover, the Forestry Law, 2002 prohibits hunting, killing, trading or exporting of

Tiger. Any individual convicted of such an offence can be punished by 5-10 years in prison and confiscation of all evidence. These regulations are enforced in Cambodia, as the following incident demonstrates.

Yor Ngon was interviewed in 1999 by the CAT/WPO Tiger 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

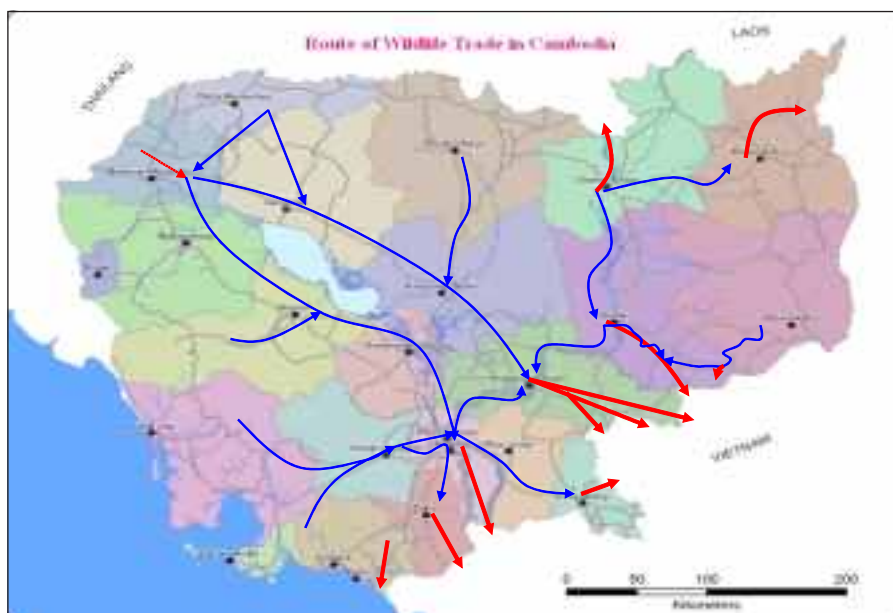


Figure 1 Source sites and potential source sites in the range of the Indochinese tiger.

Map 1. Source Sites and Potential Source Sites in the Range of the Indochinese Tiger



Map 2. Regional Tiger Trade routes



Map 3. Cambodia Wildlife Trade routes

about his activities in the Eastern Plains, Northern Plains and Cardamom Mountains.

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 have been the first significant jail sentence in Cambodia for a wildlife poacher. Unfortunately the improved law enforcement evolved too late to prevent the crash of Tiger populations in Cambodia.

The National Rapid Wildlife Rescue Team

The Project started in 2001 with Technical and financial support by Wildlife Alliance. The Team is comprised of 4 Forestry Administration Officer & 8 Military Police.

FA officials

- lead operational team
- implement forest law
- court communication
- file cases
- care and release of live wildlife

Military Police

- cooperative force
- ensure team security
- apprehend perpetrators



- help take care of and release live wildlife

Illegal wildlife transportation methods

- by car
- transfer from one car to another
- change car number plate
- use modern cars
- by bus
- by boat across border

Illegal wildlife inventory

- Kept in many houses
- Kept hidden in forest
- Kept underground

Challenges

- Law enforcement is limited with poor people
- In Some cases, prosecutor does not permit an operation
- Border access operation is complicated (geography and situation)
- Several crimes happen at the same time but different places
- Information received from informant is not clear

Conclusions

- Illegal wildlife trading in Cambodia today threatens many wildlife species
- Wildlife crimes have changed from major scale to small one, causing difficulty to follow up, monitor and crackdown



Photo 1. The Rapid Wildlife Rescue Team confiscates a tiger skin from a home in Phnom Penh after receiving a tip. This is the only known confiscation of a tiger skin in Cambodia from 1997 to 2011.

Improvements

- Shall form information exchange system within region; ASEAN WEN
- Facilitate and ensure financial sustainability for monitoring and law enforcement
- Increase national and international cooperation to suppress and crack down on wildlife crimes generally.

Results -2001-2010

Rescued 43,463 individual Live Wildlife
 Confiscated 21,062 individual dead wildlife specimens
 Confiscated 6,788 kg of wildlife meat, bones & skins
 Apprehended 2,171 wildlife traders
 Collected \$98,471 in fines

Tiger poaching trend analysis

The photo above is an instructive metaphor for what happened to Cambodia's tigers in the 1990's. The photo below was taken by Uch Seiha, currently a Forestry Administration official, 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 time 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.

Tiger poaching numbers were obtained primarily from the WPO Community Wildlife Ranger Patrols. The Chart shows 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 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.

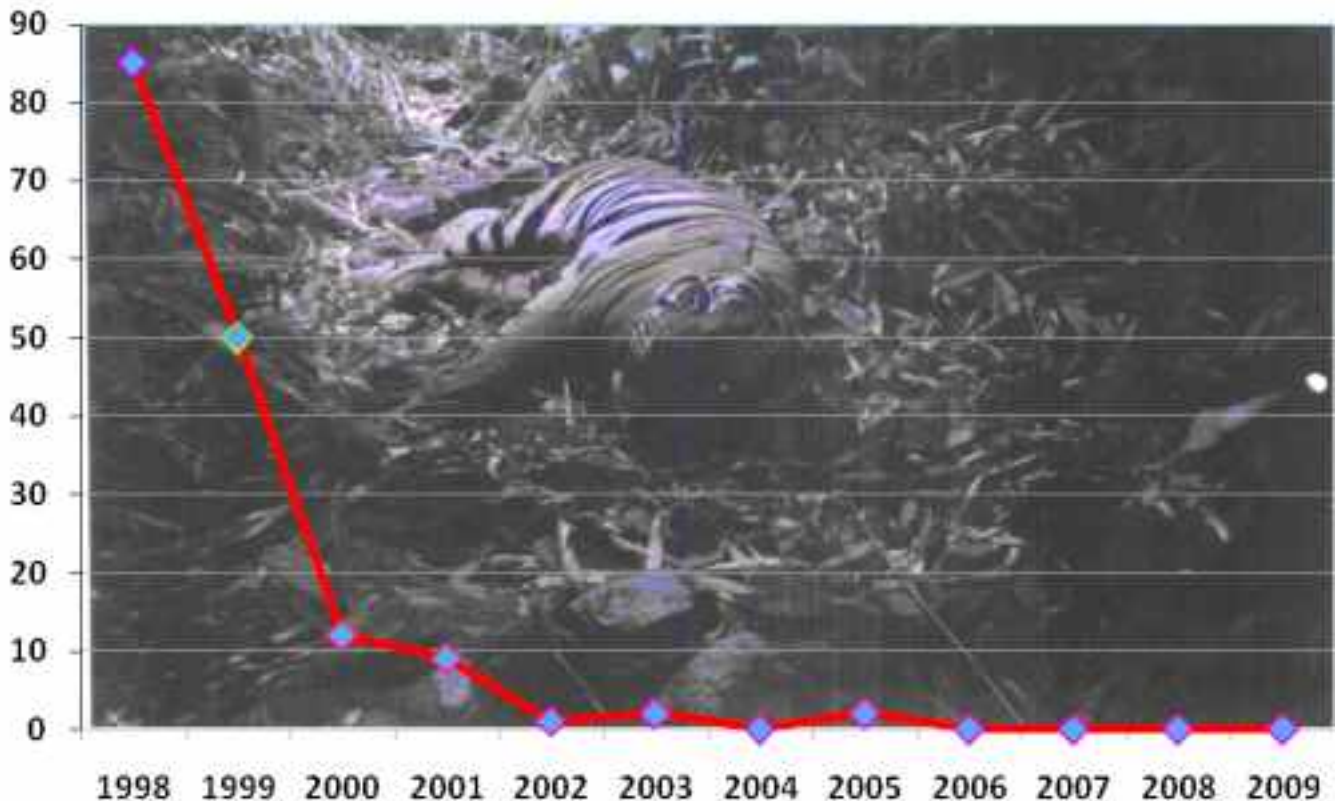


Photo 1. Cambodia Known Tiger Poaching Totals 1997-2010

The explanation for this lies in an analysis of the chart context. 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 extinction is now imminent.

Summary of 2011 tiger status by landscape

National Parks and Wildlife Sanctuaries are managed by Department of Nature Protection and Wildlife Sanctuaries, General Department for Administration of Nature Conservation and Protection, Ministry of Environment. (DNPWS)

Protected Forests are managed by Department of Wildlife and Biodiversity, Forestry Administration, Ministry of Agriculture, Forests and Fisheries. (DWB)

- **Central Cardamoms PF & Southern Cardamoms PF:** No confirmed Tiger records since 2005.

- **Botum Sokor NP and Phnom Samkos WS:** No confirmed records since 2005.
- **Phnom Aural WS:** Sets of Tiger tracks were measured and photographed in 2008 by the Manager of the Kampong Chhnang Sector of Phnom Aural WS.
- **Bokor National Park:** In 2004, a female Tiger with a missing right front paw from a snare was photographed near the garbage dump. Due to her injury she was unable to capture normal prey.
- **No photo of a Tiger**, dead or alive, has since been obtained since anywhere in the Cardamoms TCL, despite extensive camera trapping by 5 NGOs and 2 Government Ministries.

Northern Plains Landscape (*After the 2005 Tiger Conservation Landscape revision, this geographic landscape was no longer considered a Cambodia TCL.*)

- **Kulen Promtep WS & Preah Vihear PF:** No confirmed records since 2003. Only one camera trap photo ever obtained in the Northern Plains, in Kulen Promtep WS, 2001. Supporting NGO: WCS.

Southern Annamites Cambodia / Laos / Vietnam Transboundary TCL

- **Virachey NP:** 3940 camera trap nights in 2000-2001 produced 3 pictures of one individual Tiger (WWF). Tiger tracks reported by VNP Rangers in two locations in 2006 and one location in 2008. A Border Police Officer reported to VNP Rangers that he saw a Tiger in Veun Sai District in 2008. Supporting NGOs: Conservation International, POH KAO des Tigres et des Hommes, Save Cambodia's Wildlife.

Cardamom Mountains Tiger Conservation Landscape (TCL)

TCL Landscape Unit	Management responsibility	Size (km ²)	Supporting NGO
Botum Sokor NP	DNPWS	1,769	WA
Central Cardamoms PF	DWB	4,013	CI
Phnom Aural WS	DNPWS	2,538	None
Phnom Samkos WS	DNPWS	3,338	FFI
Southern Cardamoms PF	DWB	1,442	WA
Bokor NP	DNPWS	1,580	WA
Total km²		11,343	

Eastern Plains Tiger Conservation Landscape

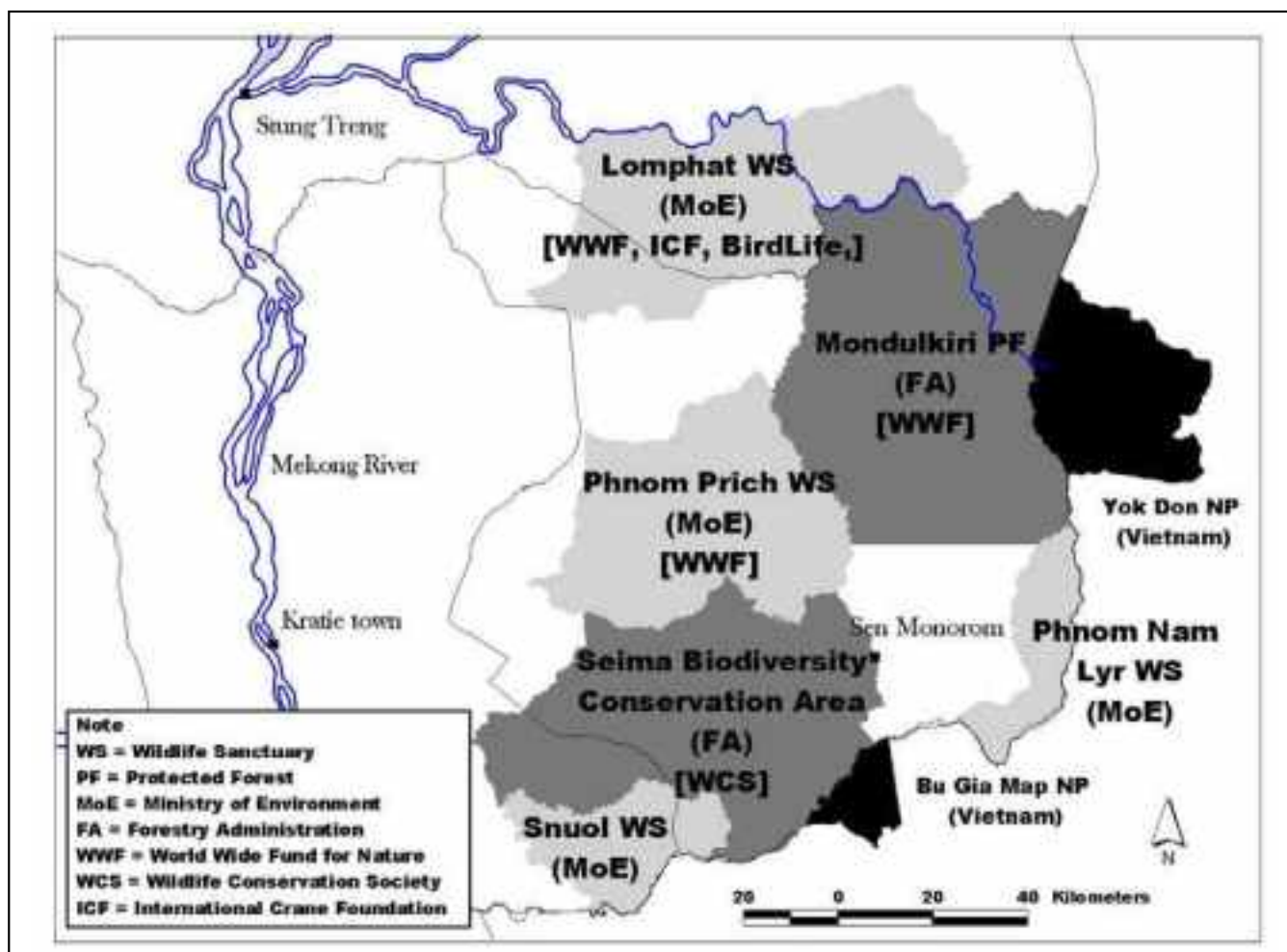
TCL Landscape Unit	Management responsibility	Size (km ²)	Supporting NGO
Lomphat WS	DNPWS	2,500	PRC, Birdlife
Mondulkiri PF	DWB	4,300	WWF
Oyadav PF	DWB	1,000	None
Phnom Prich WS	DNPWS	2,220	WWF
Seima PF	DWB	3,050	WCS
Total km²			

- **Lomphat Wildlife Sanctuary:** Photo of Tiger obtained in 2005 in western LWS. Tiger tracks found in western LWS in 2009. Casts made of the tracks (PRC & Freeland). Tiger tracks found west of the boundary of LWS in 2010; measured and photographed.
- **Phnom Prich Wildlife Sanctuary:** No photos ever obtained, despite years of extensive camera trapping continuing to present. Tiger Detection Dog Surveys were in conducted in 2009-2010, but only Leopard scat has been identified to date through DNA analysis. Tiger racks were

measured and photographed by trained rangers in 2010 (WWF).

- **Mondulkiri Protected Forest:** The first Tiger photo taken in the Mondulkiri Protected Forest was obtained in November/December 2005. A second picture of a Tiger in the same area was taken about 10 days later. In 2007, a third Tiger pictures were taken in the same general area. None have been obtained in the MPF since, despite extensive and continuing efforts.

Tiger Detection Dog Surveys were in conducted in



Map 4. Eastern Plains Tiger Recovery Landscape management units status

2009-2010. 201 Carnivore scat were located and are currently undergoing DNA analysis. (WWF)

1. 13 specimens were initially recorded as possible tiger scat, but DNA analysis has been completed and all are leopard
 2. 178 specimens were initially recorded as probably leopard scat; DNA analysis currently underway
 3. 10 specimens were initially recorded as probable wild dog scat. DNA analysis currently underway.
- **Seima Protected Forest:** Eight camera trap pictures obtained of at least three different Tigers in 2003. None have been obtained since, despite extensive and continuing efforts. Casts of confirmed Tiger tracks were made in 2007. Tiger Detection Dog Surveys were conducted in 2009-2010, but no Tiger scat was found. (WCS).
 - **Oyadav Protected Forest:** No surveys or management for past two years. No tiger records from initial 6-month survey in 2006 and monthly monitoring 2007-2008.

Why Restore Cambodia Tigers?

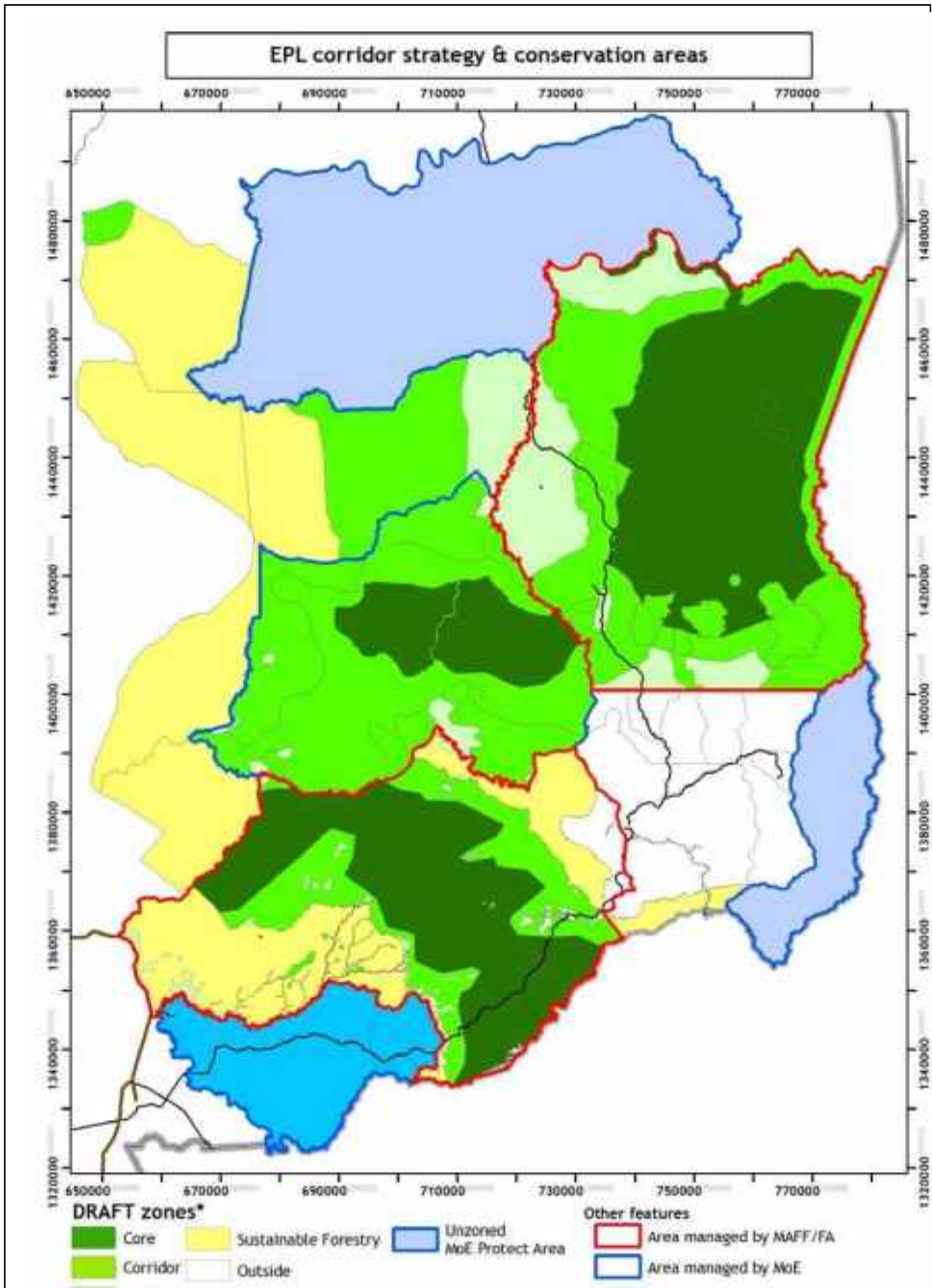
Although Tigers are extremely vulnerable or even extinct in Cambodia's Eastern Plains, the site is irreplaceable for tigers because it represents the only

large (>10 000 km) block of dry forest habitat available in the region, and therefore meets the criteria for conservation efforts because it contributes uniquely to regional conservation of tiger subpopulations. (Lynum 2010) The Eastern Plains were classified as Global Priority in the 2005 TCL revision. A reintroduction program is the only option to recover tigers there. Therefore Cambodia's contribution to the Global Tiger Recovery Program is to restore this landscape.

In conclusion, despite the current dire state of the tiger, the Eastern Plains TCL has the best potential in Indochina for Tiger reintroduction, due to a large area of suitable habitat within in a mosaic of interconnected Tiger permeable protected areas and forests under intensive long-term government management with strong NGO technical and financial support.

Effective on the ground law enforcement and monitoring have been established on the Eastern Plains TCL with strong long-term support by conservation NGOs. Evidence that prey species have stopped declining and are possibly increasing in eastern Cambodia is starting to emerge. The National and Provincial governments are strongly committed to conservation in this region.

Conservation activities should be continued and expanded to lay the groundwork for reintroduction of Tigers.



Map 5. Eastern Plains Tiger Recovery Corridors & core zones

The inviolate Tiger Recovery Source Site is proposed within the core of the Mondulkiri Protected Forest.

Tiger Prey & habitat of the Eastern Plains Landscape photo portfolio



Photo 4. Wild Pigs



Photo 5. Elds deer



Photo 6. Banteng



Photo 8. Scent dog Tiger Survey in MPF



Photo 9. Gaur



Photo 10. Tiger, MPF proposed Tiger Recovery Site, 2005

Further Details of the NTRP/CTAP below will be developed after this 1st draft is reviewed, discussed at the National Stakeholders Workshop, revised, approved and published.

Cambodia Tiger Strategy & Action Plan

Cambodia Vision, Goal & Strategy

Cambodia's long-term goal by 2022 is to restore and conserve at least one defined, delimited and inviolate Tiger Source Site within a well defined Tiger Conservation Landscape that is tiger permeable and can potentially hold at least 50 tigers.

Objective 1

Secure at least one inviolate Potential Tiger Source Site, free from habitat conversion and human interference

Activities

- Identification of suitable source site for eventual re-introduction of wild tigers
- Clear mandate for management of the source site for tiger recovery
- Designation of tiger source site
- Demarcate boundary of inviolate areas for tiger conservation

Outcomes

- Establish potential tiger source site
- Develop management plan for recovery of wild tigers in source site

Objective 2

Increase capacity and effectiveness of law enforcement agencies in wildlife and habitat conservation

Activities

- Recruit and train law enforcement officers in wildlife conservation, conservation ethics, legal statutes, law enforcement & investigation and MIST
- Training for judiciary in legal statutes
- Necessary field equipment and transportation, sufficient budget for maintaining and operational activities

- Adequate management infrastructure (e.g. patrol stations and patrol routes)
- Frequency and efficiency of regular patrols monitor illegal activity within the source site and protected areas in the broader landscape
- Strict monitoring of law enforcement operations using MIST and full integration of monitoring into conservation area management

Outcomes

- Reduced environmental crimes that threaten tiger and tiger prey
- Strengthened enforcement and implementation of national wildlife and forestry legislations to protect tigers and its prey.

Objective 3

Integrating habitat management into landscape plans

Activities:

- Conduct an assessment of suitable tiger habitats in the potential source sites
- If needed create artificial micro-habitat for tiger and its prey species
- Integrate legal designations of tiger source sites through consultation with relevant stakeholders, capacity building, and coordination
- Awareness raising-program for the tiger source site

Outcomes

- Science-based tiger conservation objectives are fully considered and integrated with conservation planning working group and other relevant agencies

Objective 4

Implement consistent tiger and key prey monitoring protocols in Potential Source Site

Activities

- Establish and train tiger research and monitoring teams
- Establish a baseline for tiger and key prey species within the tiger source sites
- Establish Adopt and implement tiger and prey monitoring protocols in the tiger source sites

Outcomes

- Standardized indicators of key prey and tiger recovery provided on regular basis
- Indicators fully integrated into management planning and resource allocation

Objective 5

Strengthen trans-boundary collaboration with neighboring countries to reduce wildlife poaching and cross-border illegal activities

Activities

- Set up collaboration mechanism to combat illegal trans-boundary activities driven by international demand for wildlife products
- Establish and train law enforcement team
- Conduct annual coordination meetings for exchange of experiences on law enforcement patrol activities

Outcomes

- Increased number of anti-poaching patrols along the border
- Increased communication between key agencies in the Cambodia and neighboring countries as well as CITES Interpol and NGOs, concerning the wildlife trade, routes and intelligence

Policy

- Designate an inviolate Potential Tiger Source Site in the Eastern Plains Landscape
- Inter-ministerial cooperation and coordination to ensure sustainable management of land-use across the Eastern Plains Tiger Conservation Landscape.
- Trans-boundary agreement between Cambodia and neighboring countries on combating wildlife crime across the border.
- Review of existing wildlife laws governing

penalties for poaching and trade in species of high commercial value

Capacity

Need to improve technical skills (patrolling, investigation, monitoring, reporting) in enforcement agencies and community to monitor and manage conservation areas and community managed areas.

- Scientific skills, resources and personnel needed within FA, GDANCP, relevant stakeholders, and education system to conduct biological monitoring of tigers and prey.
- Increased operational resources, including infrastructure and transport, for effective patrolling and monitoring.
- Greater awareness of the threats to tiger survival and improved perception of the conservation value of tigers in local communities.

Stakeholders

- Policy makers
- Government agencies at national and provincial level
- Community representatives and organizations,
- Local and international NGOs
- Development agencies and financing institutions

Performance Indicators

- Formal documentation designating Potential Tiger Source Site.
- Number of trained and equipped law enforcement staff dedicated to Source Site and Conservation Landscape.
- Documentation that law enforcement monitoring is fully integrated into management planning.
- Documentation that standardized annual tiger and prey monitoring protocols are implemented.
- Documentation of trans-boundary collaboration in controlling cross-border illegal activities.

Costs

- All major conservation management activities in Cambodia are currently supported by NGOs and/or international donors
- Continued strong financial support from the international community will be essential for restoring Tigers to the country.

- Government agencies have greatly improved their capacity for conservation management, and have initiated preparation of a National Tiger Action Plan
- The government plans to work closely with conservation NGOs and donors to develop long-term costs and sustainable funding of effective Tiger conservation

Financing Options

- International Development Agencies: ADB and JICA implement regional development projects and could facilitate trans-boundary activities of the NTRP.
- GEF: Complimentary to potential GEF-5 biodiversity priority areas and activities.
- International NGOs: Currently supporting FA and GDANCP within the landscape.
- REDD: Sustainable financing opportunities are being investigated in the landscape and have the potential to contribute to conservation area management in the long-term.
- Tourism: Increased revenues from well managed and appropriate tourism development.
- National budget: in kind institutional support from the government.

Transboundary Collaboration

- Collaboration with Thailand, Laos and Vietnam to control Trans-boundary wildlife trade

- Potential Trans-boundary Tiger conservation activities in collaboration with Vietnam for the Cambodia Eastern Plains and Yok Don National Park. and other Vietnam Protected Areas bordering the Cambodia Eastern Plains Tiger Conservation Landscape.
- Encourage and participate in GTI Regional Workshop on Transboundary Tiger Conservation Landscapes.

Strategy for long term restoration of tiger populations in key landscapes

- Evaluation of possible translocation of wild Tigers from Source Sites in other countries
- Consideration of the Tiger Sub-species issue in relation to potential sources of Tigers for translocation
- Evaluation of captive tiger breeding, re-wilding & re-introduction
- Encourage and participate in GTI Regional Workshop on translocation, reintroduction and rehabilitation of tigers

Phnom Tamao Wildlife Rescue Center

- Key role to recovery, save and care wildlife confiscated from perpetrators and from hunting. , Contributes to education, tourism, research, and science.