CEPF FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	Conservation International
Project Title:	Research and Conservation Action for Tortoises and Freshwater Turtles in Indo-China
Date of Report:	February 21, 2013
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CEPF Region: IndoBurma Hotspot

Strategic Direction: 1. Safeguard priority globally threatened species in Indochina by mitigating major threats

Grant Amount: US $95,259.00

Project Dates: 1 November 2009 to 31 October 2012

Implementation Partners for this Project (please explain the level of involvement for each partner): Local communities surrounding the four project sites were key beneficiaries and partners, as were commune chiefs and the Fisheries Administration (FiA) and Forestry Administration (FA)—both of which sit within the Ministry of Agriculture, Forestry and Fisheries (MAFF).

Conservation International also supported the Flora and Fauna International (FFI)-led M.Sc. program in Biodiversity Conservation since its inception, with staff acting as External Sensors, marking exams, assisting with oral exams, and providing technical and financial support for student theses. This project continued that support for M.Sc. students. The Conservation International Cambodia Turtle Team (CI-CTT) also partnered with WWF-Cambodia on the initial study of the Mekong River in 2007 when the first *Pelochelys cantorii* were captured. We continued that partnership to ensure that our activities complemented the WWF activities in the area. We co-authored a paper on this species with WWF and continued to share ideas about headstarting and nest protection/incentive programs with WWF (who has a similar incentive scheme for Giant Ibis protection).

We also engaged the Asian Turtle Program (ATP), a regionally focused program of the Cleveland Metroparks Zoo/Cleveland Zoological Society. Based in Vietnam, the ATP has been working on the conservation of tortoise and freshwater turtle (TFT) in the region for nearly 10 years. ATP experts include a member of the IUCN TFT Specialist Group steering committee and former regional TFT coordinator for the Wildlife Conservation Society, and an experienced conservation biologist with a postgraduate degree earned working on TFT conservation in Vietnam, and experience working in a range of Asian countries. The ATP helped provide links from our work in Cambodia to lessons learned in Vietnam; in addition reports and data for the project will be collated by the ATP for submission to CEPF.

In addition, many of those involved in the project's execution were members of the IUCN/SSC Tortoise & Freshwater Turtle Specialist Group. A global network of 237 scientists and conservationists focused on TFT biology and conservation action in 102 nations, this represented a major resource of expertise, information and support which the teams were able to draw upon.

Conservation Impacts

Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.

The project focused on acquiring more information, engaging communities and implementing conservation actions to impact the following species that were identified as priority species for CEPF investment under Strategic Directions 1.1 and 1.2:

1. Asiatic softshell turtle *Amyda cartilaginea*
2. Indochinese box turtle (recently split into 3 separate species (Stuart & Parham, 2004)):
2a. *Cuora galbinifrons*
2b. *Cuora picturata*
2c. *Cuora bourreti*
3. Yellow-headed temple turtle *Heosemys annandalii*
4. Impressed Tortoise *Manouria impressa*
5. Asian giant softshell turtle *Pelochelys cantorii*

Project activities for *Pelochelys cantorii*, including setting up a visitor center, developing ecotourism, community nest protection and headstarting, took place along the mid-reaches of the Cambodian section of the Mekong River in Kratie, within the Mekong River Priority Corridor, supporting local communities and thus meeting objectives under Strategic Direction 2.1.

Please summarize the overall results/impact of your project.

This project improved the conservation outlook for several of Indo-Burma's most threatened tortoise and freshwater turtle species. We began by surveying areas of remaining forested areas across Cambodia to look for *Cuora galbinifrons*, *C. bourreti*, *C. picturata* (all CR) and other highly threatened turtles. Research in Ratanakiri and Mondulkiri found only scarce evidence of *Cuora bouretti*, and unfortunately habitat degradation was so severe, that we suspected this species was likely to go extinct, and elected with CEPF permission to dedicate CEPF resources more towards *Pelochelys cantorii* protection—which is why many of the activities reported here support this particular species over the others.

We identified four priority sites for outreach, awareness and community support for conservation: Kratie, the Cardamoms Mountains, the Tonle Sap Lake and the Coastal zone. In Kratie, along the river towards Steng Treng, CI built the Mekong Turtle Conservation Center in 2011 at a historical site called the 100-Pillar Pagoda**.** This program increased income for local participants and gave us a location to test a headstarting program, which seems to have significant promise as early evidence suggests that young headstarted turtles are better able to survive nest poaching andother predators. Over 2,000 hatchlings emerged from the protected nests during the period of the CEPF grant. The community nest protection program for *Pelochelys cantorii* resulted in 103nests protected by the local community. We also linked visitation to the Mekong Turtle Center to River Dolphin tourism, working with a Cambodian tour operator. Through the Center, we were able to share the results and understandings obtained from our conservation efforts with some 3,000 tourists visiting the center in its first year (a number we expect to continue to grow).

The Tonle Sap Lake is of interest for freshwater species because it floods from 500,000ha to over 1.5M ha annually, inundating grasslands and forest and providing feeding and breeding grounds for aquatic fauna including freshwater turtles. The study area for CEPF turtle work included Boeng Chmar core zone and three villages in the Kampong Prak area.

The coastal area is in Koh Kong Province, and it included three villages- Koh Andeth, Tatai Krome, and Prack Popel—most of the area was adjacent to but some overlapped with the Peam Krasop Wildlife Sactuary. The habitat is composed of wetlands, salt marshes. The village areas were include because of turtle poaching pressure, especially during the wet season.

Our work in the Tonle Sap and coastal flooded forest regions of Cambodia allowed us to expand conservation actions for *Heosemys annandalii* (EN), *Amyda cartilaginea* (VU), *Batagur affinis* (CR) and other threatened turtle species across the country. Community ranger programs were set up in both locations, creating local employment and strengthening livelihoods. This work helped improve protection of adults and nests from illegal exploitation, and we were able to lay the foundation for increased recruitment into the population. We also replanted nearly 100 hectares of flooded forest in the Tonle Sap and patrolled these areas as part of habitat protection efforts funded by the MacArthur and Manna Foundations.

The Cardamom Mountains of Cambodia were also selected as an important site for protecting *Manouria impressa* (VU). Working with government, CI ensured that turtle and tortoise species in the Central Cardamoms Protected Forest (CCPF) are now recognized as priority species for protection. We also included *Manouria impressa*, *Heosemys annandalii*, *Heosemys grandis* and *A. cartilaginea* in CCPF community agreements so that people would protect turtle habitats and avoid poaching. We engaged the O'Som and other CCPF communities in incentive agreements linking agricultural development to protection of turtles and their habitats.

CI's turtle team (comprised of 4 people) also participated in CITIES conventions and IUCN congresses, successfully arguing for *Cyclamens atripon* to be listed as Vulnerable in the IUCN Redlist and protected under CITIES Appendix II. Release and rehabilitation protocols for animals confiscated from illegal trade were also developed to train Fisheries Administration and Forestry Administration rangers. These rangers then were able to assist with protection enforcement, monitor releases, and increase local awareness about turtle biology and conservation.

Information generated about turtle species and conservation was widely communicated. Four hundred students in coastal areas, the Tonle Sap, CCPF, and nesting beaches along the Mekong River in Kratie were engaged. Pre- and post-education testing revealed that rangers and students learned how to identify turtles, and learned about the intrinsic value and ecosystem function of turtles and tortoises. And we have seen a marked decrease in the number of turtle carcasses/evidence of poaching, as well as increased exponentially the number of turtle nest sites and hatchlings discovered as reported more below.

Planned Long-term Impacts - 3+ years:

1- TFT will be better protected directly as a result of project activities increasing knowledge on conservation of *Manouria impressa, Cuora bouretti, Pelochelys cantorii* and *Heosemys annandalii*.

2- The development of the Cambodian Turtle Team as TFT research conservationists and environmental educators will be one of the single largest steps forward made in chelonian conservation in Southeast Asia to date, providing a solid base for regionally led conservation initiatives in the future.

3- Awareness activities will result in a better understanding of the importance and need for TFT conservation. The provision of information to national, provincial and protected area wildlife managers and decision makers and the improved legal protection of selected species will increase protection of these CEPF priority species throughout Cambodia.

4- The attitudes of local communities to TFT will be changed through a better understanding of their importance.

5- Sustainable conservation of CEPF priority species that form the core of this proposal will be secured, including *Heosemys annandalii*, *Cuora bourreti*, *Manouria impressa*, *Pelochelys cantorii*, and *Amyda cartilaginea*.

6- Sustainable management of the largest known breeding population of P. cantorii in IndBurma.

7- Improvements to TFT protection under national laws in Cambodia through making recommendations to improve legislation and species' national red list status based on findings of our activities.

Actual Progress toward Long-term Impacts at Completion:

1- TFT is better protected as a result of our activities:

Community engagement has been a significant achievement of our work. In the CCPF, conservation agreements with communities in O'Som trained people to identify and ensured they agreed to protect *Manouria impressa* and *Heosemys annandalii*. Thousands of tortoise snares and turtle bait-hooks were collected by the community rangers, and several *Manouria impressa* were confiscated. Now that this program is in place, the community will continue their patrols through other funding sources. In addition, a field guide to turtles and tortoises of Cambodia will soon be published which can be used by the FA, FiA rangers and local community to identify each species clearly and ensure suitable releasing takes place for each species.

CEPF-funded activities also trained FiA and local community rangers at the Tonle Sap. The rangers will conduct ongoing regular patrols (also supporting by additional funding) to crack down on illegal activities harmful to turtles such as illegal fishing and forest cutting. One dry season pond and two channels are now protected through patrols by the local community. About 100 hectares of surrounding flooded forest are also now protected in the dry season, safeguarding critical TFT habitat. These activities will be sustained through on-going programmatic support committed to by CI, communities, FiA, and FA. The headstart program for hatchlings from the protected nests has promising results. 2,000 hatchlings have been either protected in their nests, with 200 raised in the center since 2011 for eight months, before releasing back to their natural habitat in order to increase the survival rate. Early results show that eight months is an optimal time to nurture hatchlings in the center, as we will then be releasing them during a season with relatively high food availability. Based on our experiences, at least two veterinary visits should be conducted before the turtles are released.

2- Development of the Cambodian Turtle Team as TFT researcher conservationists and environmental educators:

Through the implementation of this project, four young researchers were able to apply their skills as turtle experts, translating information about research on species importance into educational and training materials—including training for government agencies, community leaders and students. Their growth also included exposure internationally and nationally as national experts on TFT. The CTT participated in the Conservation of Asian Tortoise and Freshwater Turtle Workshop in Singapore to review the TFT conservation status of all Cambodian species and for other countries in Asia. As a result, all representatives of the CITES committee agreed to list all *Cyclemys* species into CITES Appendix II. The team also attended the TFTSG meeting in Singapore and Malaysia to propose the update of *Pelochelys cantorii*, *Heosemys gandris*, and *Heosemys anandalii* into Critically Endangered (*P. cantorii*) and Endangered (*Heosemys* spp.). And they have helped develop the first guide for TFS in the country. The local community are also becoming educators- the four people employed by

the MTTC share information with visitors—part of the heritage and pride of having one of the last remaining populations of *Cycelmys*.

In terms of long term impacts, the lead member of the Cambodian Turtle Team, Sitha Som, was accepted to undertake an MSc in Environmental Conservation in the University of Wellington, New Zealand, based on papers published and research conducted during the CEPF program activities. Sitha started the course in February 2013 and, when he returns, he will continue to work as the Team Leader for the Cambodian Turtle Team and will use this expanded experience to ensure programmatic success into the future. Yoeung Sun, who was working for the team is now managing it, focusing on the Meekong giant Softshell Turtle program, and Sokhorn is working on turtle and habitat conservation in the Tonle Sap Lake. These three are now members of the IUCN Tortoise and Freshwater Turtle Specialist Group, and are the go-to turtle experts in Cambodia. They have been hired to work with WWF, the World Bank-funded Nakai Nam Theun 2 dam in Laos, and other small projects in Cambodia

3- Awareness activities result in a better understanding of the importance and need for TFT conservation:

Through this project, presentations on turtle species identification were given to the FA and FiA rangers. We did an evaluation of the presentation effectiveness by giving a pre- and post-presentation test. The result was that rangers were able to correctly identify all turtle/tortoise species. The presentation also included release recommendations. CI also built stronger communications between the local community and FA and FiA rangers in order to increase enforcement of habitat protection and stop poaching to reduce threats—allowing for clearer guidelines and opportunities to change behaviors. Another key result was that even though national listing of turtle species was delayed by the government, FiA and FA agreed to still include turtles as an important species, effectively allowing for stricter protection despite the delay in recognizing them specifically in national wildlife and fisheries laws. Training was provided to 16 schools with 400 students grades 5-6 at the Tonle Sap and Tatai Krom Coastal area and along the Mekong River in Kratie. Turtle posters and board games were delivered during the training. We did a similar pre- and post-presentation test, asking questions to see how well students learned. Turtle/tortoise species and conservation concepts were well remembered and understood. We have also revamped our communications materials to describe the Kratie work, and have developed a website to draw attention from potential tourists, educators, and other audiences (http://www.mekongturtle.com/nest.html)

4- The attitudes of local communities to TFT are changed through a better understanding of their importance:

Through this work, the local community has been working in conservation for over three years, with notable changes in attitudes. At the beginning of the project, turtles and tortoises were commonly eaten by most people. Through our efforts, they are now releasing them back into the wild or bringing them to the center: to date, 20 turtles representing eight species have been brought to the center. Recognition of their importance and value has risen, with the younger generation now aware of how they support ecosystem function and can bring in revenue through tourism and nest protection. The creation of the MTTC also provided an education place for students and tourists alike. Additionally, it provides job opportunity to four local people working at the center as ticket sellers and guardians. The Center will continue to be funded through tourism, and CI will help fill in the gap as tourism grows by helping via fundraising, as we perceive that behavior change is best perceived through both education as well as livelihood opportunities—creating behavior change critical for the long term survival of TFTs.

5- Sustainable conservation of CEPF priority species secured, including *Heosemys annandalii*, *Cuora bourreti*, *Manouria impressa*, *Pelochelys cantorii*, and *Amyda cartilaginea*:

As mentioned, we removed *Cuora boureti* from consideration after discovering that remaining populations were not likely to be viable. *Impressa* and *Heosemys annadalii* are considered priority species for law enforcement nationally and are included in the conservation agreements/community engagement work in the CCPF, Veun Sai, Tonle Sap and coastal areas due to our efforts explaining the importance of these species. Habitat protection in Tonle Sap, Veun Sai and CCPF is secured through other funded projects in the same areas as previously mentioned. Staff and communities can now identify and protect turtles and we can continue to focus on managing critical habitat areas for multiple priority species. Through the combination of all of CI's efforts, both those funded through CEPF, and the remainder of CIs portfolio, *Heosemys annandalii, Manouria impressa, Pelochelys cantorii*, and *Amyda cartilaginea* will be protected in the longer term.

6- Sustainable management of the largest known breeding population of *P. cantorii* in Indo-Burma:

The nesting beach along the Mekong River in Kratie supports the largest population of *P. cantorii* in Cambodia and is possibly the largest breeding site in all of Southeast Asia. The Mekong Turtle Conservation Center offers educational opportunities for community members and tourists, and contains incubation and small ponds for the headstart program which can continue with very small amounts of funding (ultimately, generated solely from tourism we anticipate). The center also generates income for people. The center's website also recently went live to draw attention from researchers, students, and tourists: http://www.mekongturtle.com.

7- Improvements to TFT protection under national laws in Cambodia:

CI made recommendations to improve legislation and species' national red list status as planned. We worked closely with FA and FiA to encourage them to include all turtle and tortoise species into the national protected list, but the government plans are to update species status in three to five years. However, through the discussion, the enforcement team (Forestry Administration, Fisheries Administration, and CI) agreed to consider all turtle species to be protected in the interim, which is an important accomplishment we can credit to CI's educational and enforcement efforts. erewrwr

Planned Short-term Impacts 1 to 3 years (as stated in the approved proposal):

1- Key populations of CEPF TFT priority species will be identified and better protected in Cambodia

2- Through increased awareness of local communities and government agencies, TFT will be better protected at focus sites and more generally across the region.

3- National teams will have received significant training and experience in developing and maintaining species focused conservation projects through a variety of methods.

4- *Pelochelys cantorii, Amyda cartilaginea*
- Nesting beaches for *Pelochelys cantorii* will be protected along the Mekong River through community support

5- Community patrols will be established at key sites
- Turtle monitoring will assess the feasibility of headstarting
- A headstarting facility will be built (with other funds) and linked to ecotourism and dolphin-

watching on the Mekong River

6- *Manouria impressa*
- Community incentive agreements will link to habitat and wildlife conservation at key sites
- Turtle monitoring will assess the success of the agreements and the effectiveness of releases of confiscated animals
- TFT conservation will be included in the Cardamoms Management Plan, to be funded by a Trust Fund

7- *Heosemys annandalii, Amyda cartilaginea*
- Community patrols will be established at key sites in the coastal zone and Tonle Sap
- Environmental education will ensure that communities are more aware of the law and of the importance of maintaining flooded forest habitat
- Turtle conservation will be integrated into conservation agreements and communities will benefit from TFT conservation
- During the course of the project an exchange visit will be made to project areas Vietnam to ensure that fair and unbiased assessment of projects and their impacts will be made.

Actual Progress toward Short-term Impacts at Completion:

1- Key populations of CEPF TFT priority species identified and better protected in Cambodia:

Initial exploration of potential TFT sites resulted in the selection of four areas where we engaged in conservation and community engagement, including engaging FA rangers who now frequently patrol these areas. Tonle Sap, Kratie and CCPF are priority areas for CI engagement, and will continue to be for the long term, allowing for critical habitat for freshwater turtle species, including *Heosemys annadalii* and *Amyda cartilaginea*. FiA and community rangers engage in patrols to prevent poaching and to protect habitat.

2- Increased awareness of local communities and government agencies resulted in better protection of TFT at focus sites and more generally across the region:

Local communities we engaged now have better knowledge about freshwater turtle and tortoise species biology, ecology and overall importance as part of Cambodia's natural and national heritage. From our observations, people can now identify the confiscated turtle and tortoise species accurately and are able to select suitable release sites on their own. FA and FiA rangers communicated with our team well, helping to identify species and recommending the areas for releasing. Decisions about where to release the confiscated turtles and tortoises are now based on both avoiding threat pressure and selecting appropriate habitat types.

3- National teams received significant training and experience in developing and maintaining species focused conservation projects through a variety of methods:

All FA and FiA rangers were trained in freshwater turtle and tortoise species identification and how to release them. Materials included powerpoints and we also developed a training manual so that they can have a permanent resource. The CI turtle team also now checks ranger reports through tracking their patrols using GPS and photo points, where data is collected at the end of each month to allow for adaptive management of enforcement patrols.

4- *Pelochelys cantorii, Amyda cartilaginea* nesting beaches protected along the Mekong River through community support:

The project supported the local community to protect 52 nests of *P. cantorii* in 2012, which was more than double the number found in 2011 (22 nests) and 2010 (18). There were over 1,400 hatchlings released back into the river from headstarting facility in 2012 alone. This is after prior releasing of over 1100 total for years 2011, 2010, and 2009. In early 2013, 40

hatchlings have already been raised in the center as part of the headstarting program. The number of nests of *P. cantorii* increased steadily over the years of the grant (18 were found in 2010, 22 in 2011 and 52 in 2012).

The increased number of turtle nests recorded we suspect is largely because of the incentive program—which over time engaged more people, who were then finding more and more nesting sites. We do think however, that without an incentive program and our education program, no new nests would have been protected on surrounding islands so no protection would have taken place. In future work, we want to compare control areas to incentive agreement and education only areas to see how populations recover—so that we can see how various interventions impact turtle nesting site protection. We also expect that real behavior change and non-payment incentives need to be done via education with young people (which CEPF also supported).

5- Community patrols established at key sites and headstarting and ecotourism pilot tested:

A Fisheries Community Committee was established at Tonle Sap to manage natural resources for three villages. Nine community rangers do regular patrols in these villages to protect the dry season ponds, channels, and flooded forest, which is home to *H. annadalii* and other endangered species. In the CCPF, there are 24 community rangers patrolling regularly for 15 days per month to remove tortoise snares and turtle bait-hooks (the latter target *A. cartilaginea*) and to protect habitats for the TFT. At the nesting beach of *P. cantorii* along Mekong River, the local community guards the nests. The headstarting facility within the Mekong Turtle Conservation Center has received over 3,000 visitors so far. The center is linked to the nearby WWF dolphin-watching site and works closely with a local tour operator (Cambodian Rural Development) to increase ecotourism opportunities for local communities through homestays and village tours.

6- *Manouria impressa* protected via community incentive agreements and by including TFT conservation in the Cardamoms Management Plan:

Manouria impressa and *Heosemy grandis* are included in the incentive agreements and Management Plan for the CCPF. Community rangers are paid $5 for each confiscated turtle/tortoise and $0.025 per tortoise snare or hook removed. Three *M. impressa* were confiscated and provided to CI by the community rangers, who released them back into the wild. All turtle species are included in the targets for the CCPF project implementation plan. The CCPF turtle conservation activities are effectively linked to law enforcement team and community engagement.

7- *Heosemys annandalii, Amyda cartilaginea* protected via community patrols, environmental education, and conservation agreements:

24 local community rangers and five FiA rangers do regular patrols in the CCPF for 15 days per month or 180 days annually. Turtle awareness programming was integrated into pre-existing night shows, where the Tonle Sap Team welcomed villages to participate from the floating villages. Three schools received training courses on turtle species and three presentations on species identification were given to the FiA, community rangers and local community at Tonle Sap.

Please provide the following information where relevant:

Species Conserved: *Manouria impressa, Indotestudo elongate, Heosemys grandis, Heosemys annandalii, Cuora amboinensis, Cyclemys atripons, Malayemys subtrijuga, Siebenrockiella crassicollis, Pelochelys cantorii, and Amyda cartilaginea.*

Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives.

International and national recognition of TFT species in Cambodia is a significant accomplishment which could not have happened without support from CEPF. CI's work engaged communities and set up new law enforcement efforts to protect critical TFT habitat sites across the country. CEPF funding has allowed us to get a foothold on turtle conservation, and our on-going work in these areas can now build in the lessons we have learned and turtle protection interventions to ensure that they are sustained into the future.

A key challenge was changing behaviors, which required a significant amount of time invested on the ground. Another was tracking the effectiveness of our work as it was difficult to establish a clear baseline. Finally, law enforcement and staying on top of poaching/habitat clearing remains a difficult challenge. There are tremendous pressures on turtles and their habitats, driven by people's needs to survive and thrive. It is quite apparent that additional livelihood opportunities, such as ecotourism, need to be explored more aggressively moving forward, including not just tourism to the center, but visiting villages, and overnights, growing programs like those supported by Rural Cambodia Development.

Were there any unexpected impacts (positive or negative)?

One unexpected result of this work was that word got out that we were a turtle rehabilitation center, so people started turning up with pet turtles/tortoises to either ask questions or leave them with the center. Cambodian people believe also that releasing a turtle back to the wild at the 100-Pillar pagoda brings them luck. The center is well known in the area now as the rescue facility for turtles and tortoises, which further increases education and awareness of Cambodians about turtles. We also had a disease problem among the headstarting turtles, but this was successfully treated. The exponential increase in turtle nests and hatchlings protected, as well as growing numbers of snares confiscated, can be perceived as programmatic successes—although with caution as it could be that we are now just more aware of the numbers of individuals or more accurately assessing potential needs for species conservation.

Project Components

Project Components*: Please report on results by project component. Reporting should reference specific products/deliverables from the approved project design and other relevant information.*

Component 1 Planned:
Core populations of priority tortoise and freshwater turtle species identified

Component 1 Actual at Completion:
1.1. Two field surveys for *Cuora picturata* in suitable evergreen forest habitat conducted within the Cambodian Annamites (one in Ratanakiri in the vicinity of Virachey N.P, and one in eastern Mondulkiri as planned.

Component 2 Planned:
Community support gained for tortoise and freshwater turtle species conservation

Component 2 Actual at Completion:
2.1. Initial community meetings and one follow up meeting were held in core communities in the Tonle Sap, Coastal zone, Mekong river and O'Som as planned.

2.2. School education programs were conducted annually on turtle conservation in 16 schools impacting 400 students grades 5 – 6, exceeding the planned amount of two schools per

year. At least one conservation agreement annually in the Cardamoms linking to *Manouria impressa* conservation as planned, but no conservation agreements in place in either the Tonle Sap or coastal zones—over the years, we have become concerned about the longer term sustainability of this methodology and prefer instead to now pursue livelihood alternatives as incentives.

Component 3 Planned:
Improved conservation status of priority tortoise and freshwater turtle species and their habitat

Component 3 Actual at Completion:
3.1. Provided annual community incentives for nest protection (by hatchling and by nest) for *Pelochelys cantorii* nesting beaches on the Mekong river, reducing known turtle nest exploitation by we estimate, approximately 75% as intended.

3.2. Employed 11 community rangers to protect flooded forest habitat in the core zone of the Tonle Sap (our target was 10).

3.3. CI worked closely with FA and FiA to try to include all turtle and tortoise species into the national protected list as planned, but the government instead wants to update these species status in three to five years. However, through the discussion with both government agencies, the enforcement teams consider all turtle species to be protected.

3.4. All representatives of the CITES committee agreed to list all *Cyclemys* species into CITES Appendix II. And CI also proposed the update of *Pelochelys cantorii*, *Heosemys gandris*, and *Heosemys anandalii* into Critically Endangered and Endangered—both of which were planned activities.

3.5. Education activities linking habitat protection to improved food security was provided annually in 16 schools impacting 400 students grades 5 – 6, exceeding the planned amount of two schools per year.

3.6. Long term financing via a trust fund for CCPF (planned) is still in progress, ecotourism development took place in Kratie and is beginning to provide revenue to offset operations, and new livelihood opportunities such as fish processing and aquaculture activities in the Tonle Sap are bringing in new revenue as incentives to minimize habitat destruction and poaching.

Were any components unrealized? If so, how has this affected the overall impact of the project?

The budget needed to the huge opportunities presented to expand community engagement, enforcement and nest protection, was unfortunately not able to be stretched quite far enough to cover all of the payment, education and outreach activities we desired to implement. Also, the growing costs of the nest protection, Mekong Center staff, and other activities were beyond project funding—which remains a problem we are trying to address. We also lost a staff person in the middle of the project and the lead near the end of the project was also promoted, so our internal expertise on TFTs is not as robust as it was at the beginning of the project.

However, all components were delivered with the exception of the trust fund/long term financing, The trust fund was delayed due to a change from including the entire Cardamom landscape, to focus just on the CCPF—requiring development of a new business plan which is now completed.

Please describe and submit (electronically if possible) any tools, products, or methodologies that resulted from this project or contributed to the results.

- A website was created to promote *P. cantorii* conservation in Cambodia: http://www.mekongturtle.com
- Five posters for turtle education produced in 2011
- Turtle notebooks produced
- Souvenir gift of wooden turtle produced to sell in MTCC
- Several newsletters were released quarterly
- Training manual for rangers produced
- We will share the turtle guide when ready.

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

According to our observations of the center, well-managed turtle facilities need close attention on water system management and should be located close to a water sourcein order to readily supply the center's needs. Construction of large ponds should consider the location and availability of groundwater.
Centers should have sufficient food sources for feeding, and/or create artificial fish tanks to raise fish for feeding turtles. Staff should be trained about fish raising technique to implement the project.

One of the biggest lessons learned was the benefit of linking in turtle conservation interventions with other site programs and projects—to allow for low cost investments that capture multiple species, engage communities, and allow for lessons learned to be shared across sites within government agencies. Another key lesson was how to translate identification and release information into guidelines/directions that could be consistently applied to help government and community rangers do their work on the ground. The CI team also learned new skills including headstarting care and disease treatment, and incubation needs in the case *of P. cantorii*. The value of working closely with the monks where possible was another key lesson--taking advantage of traditions and lore around the spiritual value of turtles. Religious priorities are much more likely to change behaviors than other drivers, particularly when the needs to eat and clear lands are so strong.

Project Design Process: (aspects of the project design that contributed to its success/shortcomings)

Along the way, various elements of the work were tweaked to make improvements. In the case of the CCPF incentive agreements, we needed to respond to timber clearing pressures for a hydro-power plant, and in the case of Kratie, we needed to change from paying for hatchlings as well as nests protected (to avoid people moving nests to double-count them for more funds). A positive aspect of design also included a gradual means of dissemination of results, and through multiple media (presentations, lectures, posters), and through multiple presenters/representatives to allow for larger ownership over content.

The intention of sharing lessons learned/exchanges with Vietnam proved to be too ambitious within the scope and scale of this project, although exchanges still took place across Cambodia through the agencies and CI staff experiences.

Project Implementation: (aspects of the project execution that contributed to its success/shortcomings)

Staff was a bit shorthanded, which made implementation difficult as mentioned. However, we were able to increase communication and reliance on FiA, FA and other NGOs to ensure oversight of day-to- day conservation and patrolling activities taking place in each of the sites. The linkage between turtle priority species and community conservation agreements in the CCPF was a success because it allowed for all FA and community rangers, as well as the CI community engagement team, to monitor habitat quality and poaching as part of other monitoring activities—including turtles in a broader monitoring program. Another element of success was building cooperation with local authorities and school directors to promote species and conservation education. In many cases, none of this type of curriculum had been taught before, engaging for the first time students and also teachers.

Other lessons learned relevant to conservation community:

A communication network between turtle facilities should be created to exchange and share experiences.

Additional Funding

Provide details of any additional funding that supported this project and any funding secured for the project, organization, or the region, as a result of the CEPF investment in this project.

Donor	Type of Funding*	Amount	Notes
Manna Foundation	Project co-financing	11,845	Turtle center work
Manna Foundation	Grantee and partner leveraging	200,000	Tonle sap work
Turtle Conservation Fund	Grantee and partner leveraging	5,000	
U.S. Fish and Wildlife Service	Project co-financing	32,287	

***Additional funding should be reported using the following categories:**

- ***A*** *Project co-financing (Other donors or your organization contribute to the direct costs of this project)*
- ***B*** *Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF funded project.)*
- ***C*** *Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results.

The biggest challenge is in securing long term financing for all sites, which is a problem for all conservation activities in Cambodia. The government is slow to pick up the costs of this work, and does not pay its rangers enough money for monitoring/enforcement, so these costs, and those required to pay for community incentive programs, are borne by conservation NGOS. This model is not sustainable, nor will it allow for us to sustain current results for the turtle work. As

mentioned in the original proposal, the idea of a trust fund for the Cardamoms (on-going), as well as increasing tourism visitation to the center and ecotourism in the villages around turtle sites, needs to be implemented. CI is seeking funding for this work. Other livelihood alternatives may also be possible, which are being explored through other CI projects, including tree resins, fish processing and aquaculture---means which allow for income generation as well as reduced pressure on critical habitats.

Summarize any unplanned sustainability or replicability achieved.

N/A

Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

As mentioned in our proposal, TFT (and in fact all wildlife) conservation has the potential to impact customary use by local communities. Yet, this reduction in use is essential in some cases and places if species are to avoid extinction. We found in our CEPF work that there were large numbers of people still consuming turtle meat and eggs, and selling them, but that there were other options for critical protein/food intake —with the exception of some very poor indigenous populations, who need to eat what they can find. In these cases, we decided the best bet was to prioritize nest protection/incentive agreements.

Generally, we found that people were willing to stop poaching and degrading habitats with even small financial incentives. This does raise the question again however, about overall project sustainability, as true behavior change needs to take place so that once incentives are removed, desired conservation action remains. As planned, we gathered socio-economic data about communities, and asked them their preferences for livelihood development opportunities—which is part of the conservation agreements and how we ultimately began to look for partners working on ecotourism in poor villages near turtle habitat. Traditional consumption practices, can be countered through discussions with monks—reminding people of the fact that turtles are sacred and cannot be eaten.

Additional Comments/Recommendations

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

Please include your full contact details below:

Name: Tracy Farrell
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*****If your grant has an end date other than JUNE 30, please complete the tables on the following pages*****

Performance Tracking Report Addendum

CEPF Global Targets

(Enter Grant Term)

Provide a numerical amount and brief description of the results achieved by your grant.
Please respond to only those questions that are relevant to your project.

Project Results	Is this question relevant?	If yes, provide your numerical response for results achieved during the annual period.	Provide your numerical response for project from inception of CEPF support to date.	Describe the principal results achieved from 1 July, 2012 to 31 October, 2012 (Attach annexes if necessary)
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.	Yes.	~50 ha improved management	~50 ha improved management	Please also include name of the protected area(s). If more than one, please include the number of hectares strengthened for each one. Our work helped improve management of the western corner of CCPF.
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?	N/A			Please also include name of the protected area. If more than one, please include the number of hectares strengthened for each one.
3. Did your project strengthen biodiversity conservation and/or natural resources management inside a key biodiversity area identified in the CEPF ecosystem profile? If so, please indicate how many hectares.	Yes	~75ha improved biodiversity conservation	~75ha improved biodiversity conservation	Our work strengthened biodiversity conservation in coastal area and in Kratie—both are KBAs. The area covered by Kratie, is approximately 45 ha, with the remainder in the coastal area.
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.	Yes	~100ha improved mgt outside Pas.	~100ha improve mgt. outside Pas.	Areas included Tonle Sap, Kratie, and coastal zone. None of which are protected. Approximately 45 ha of that was Kratie, another 35ha of Tonle Sap, and the remainder was coastal zone villages.
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1below.	No			THE BENEFITS INCLUDED INCREASED ENVIRONMENTAL AWARENESS, AND SOME INCOME AS MENTIONED IN THE REPORT FOR THOSE 4 PEOPLE WORKING AT THE MTCC, but other than that, benefits of this project were for species protection.

If you answered yes to question 5, please complete the following table

Table 1. Socioeconomic Benefits to Target Communities

Please complete this table if your project provided concrete socioeconomic benefits to local communities. List the name of each community in column one. In the subsequent columns under Community Characteristics and Nature of Socioeconomic Benefit, place an X in all relevant boxes. In the bottom row, provide the totals of the Xs for each column.

Name of Community	Community Characteristics								Nature of Socioeconomic Benefit												
									Increased Income due to:												
	Small landowners	Subsistence economy	Indigenous/ ethnic peoples	Pastoralists/nomadic peoples	Recent migrants	Urban communities	Communities falling below the poverty rate	Other	Adoption of sustainable natural resources management practices	Ecotourism revenues	Park management activities	Payment for environmental services	Increased food security due to the adoption of sustainable fishing, hunting, or agricultural practices	More secure access to water resources	Improved tenure in land or other natural resource due to titling, reduction of colonization, etc.	Reduced risk of natural disasters (fires, landslides, flooding, etc)	More secure sources of energy	Increased access to public services, such as education, health, or credit	Improved use of traditional knowledge for environmental management	More participatory decision-making due to strengthened civil society and governance.	Other
Total																					

If you marked "Other", please provide detail on the nature of the Community Characteristic and Socioeconomic Benefit: