

CEPF Final Project Completion Report

Organization Legal Name:	Indo-Myanmar Conservation
Project Title:	Securing Endangered Tortoises and Freshwater Turtles in the Indo-Burma Region
Grant Number:	64643
CEPF Region:	Indo-Burma II
Strategic Direction:	1 Safeguard priority globally threatened species by mitigating major threats
Grant Amount:	\$150,000.00
Project Dates:	November 01, 2014 - October 31, 2017
Date of Report:	January 16, 2018

Implementation Partners

List each partner and explain how they were involved in the project

The Centre for Natural Resources and Environmental Studies (CRES), Hanoi University - cooperated on eDNA for *Cuora zhoui* and *Mauremys annamensis*, *Cuora zhoui* surveys and some aspects of *Rafetus swinhoei* research.

The Turtle Survival Alliance (TSA), USA, was a partner for the eDNA project and provided some technical support during the early phase of the project.

The Biodiversity Conservation Agency (BCA) of the Ministry of Nature Resource and the Environment (MoNRE) has been a critical partner during this project period. A formal MoU was developed and signed in November 2016 for the cooperative development of a Tortoise and Freshwater Turtle (TFT) conservation plan for Vietnam. We have also worked together on the development of the species recovery action plans for *Rafetus swinhoei* and *Mauremys annamensis*. As well as regular meetings we also organised a site visit with MoNRE to the provinces of Quang Ngai and Phu Yen to discuss the development of the *Mauremys annamensis* conservation project with the local authorities.

Southern Institute of Ecology (SIE), Ho Chi Minh, Vietnam, we are working together to develop plans for a SHCA for *Mauremys annamensis* in partnership with SIE.

Education for Nature Vietnam (ENV), Hanoi, Vietnam, we exchanged information on trade related to the project sites.

Conservation Impacts

Summarize the overall impact of your project, describing how your project has contributed to the implementation of the CEPF ecosystem profile

The project has had a number of significant impacts that have directly benefited the conservation of our target priority species as well as other threatened TFT in Vietnam. We have worked with MoNRE to develop the TFT conservation plan for Vietnam which has been a significant output that will have a long-lasting contribution to many species. This will be achieved through the improvement in conservation action by wildlife protection authorities throughout the country and clear priorities and required actions being laid out for priority species.

The identification of two additional sites which appear to support Swinhoe's Softshell Turtle (*Rafetus swinhoei*) brings new hope to this, the world's rarest turtle species, providing options for conservation breeding within Vietnam. More work is required to confirm beyond doubt the species identification, secure the sites and work with the authorities to bring the animals together in a suitable breeding environment.

For the Vietnamese Pond Turtle (*Rafetus swinhoei*) the protection of suitable natural habitat is a great challenge to the long-term survival and viability of wild populations. Although believed to be almost extirpated throughout its range the species is breeding well in captivity and a reintroduction could re-establish populations. The inclusion of areas of Binh Son District, Quang Ngai Province, as 'conservation area' within the provincial land management plan is progress towards this.

Our work at the local level for awareness as well nationally and internationally through television and other media has raised the profile of TFT conservation within Vietnam. Although difficult to quantify this has had a benefit to conservation efforts.

Planned Long-term Impacts - 3+ years (as stated in the approved proposal)

Impact Description	Impact Summary
Wild populations for <i>Cuora zhoui</i> will be identified (a species for which no known populations are currently known), allowing an in situ habitat conservation project to be initiated.	With the support of local communities, lake owners and the authorities it is possible that <i>Rafetus swinhoei</i> could survive in suitable habitat in Northern Vietnam. At present, it seems likely that the local community use of Dong Mo Lake will continue. We now have an excellent relationship within the community, particularly with the fishermen and lake owner which will support the insitu conservation. Furthermore, the fully protected status of the species under Decree 160/2013 ND-CP and involvement of FPD, Fisheries and MoNRE in <i>Rafetus swinhoei</i> conservation is benefiting the species conservation.
Confirmation of additional <i>Rafetus swinhoei</i> individuals will allow for a long term species recovery plan for the species to be established.	During 2016, we had reports of a large softshell turtle at one of our sites on the outskirts of Hanoi, a part time local counterpart was hired as part of the project. Following the reports, the ATP team has made 122 days of observation at the lake during 2017. This has resulted in photographs of a large softshell turtle which we believe to be a <i>Rafetus swinhoei</i> , although photographs are not conclusive. We are continuing to

	<p>work at the site to confirm the species identity. This is a significant achievement, with additional animals of the species needed if a recover program is to be possible. The finding will provide additional options for conservation breeding of the species which could ultimately result in the species recovery. As of October 2017, a third draft of the TFT conservation plan for Vietnam has been developed and distributed to authorities in Vietnam for review. As part of the first draft of this conservation plan detailed sections were included on Rafetus swinhoei, Mauremys annamensis and Cuora galbinifrons.</p>
<p>Identification and protection of Mauremys annamensis habitat will allow animals successfully bred in captivity to be released as part of a coordinated species recovery plan. wild populations for Cuora Zhoui will be identified, a species for which no known populations are currently known.</p>	<p>For Mauremys annamensis, the including of the 3 Lakes Area in Binh Son District, Quang Ngai province, within the provincial land management plan as a conservation area is an important step toward establishing habitat necessary for insitu conservation. Despite this the area continues to be degraded with habitat continuing to be lost to agriculture and forestry activities, as the area is not designated as protected, the FPD have not undertaken enforcement or protection activities. Any trap removal or protection has been initiated by the ATP. In the short term, we have had limited impacts for annamensis habitat protection. In the long term if the current degradation continues, little will remain of the site. We are however working on a national and provincial level to promote government interest in protecting the site in Quang Ngai and Phu Yen. In the long term, 2-5 year, we hope this will result in protected habitat recognised. Through interview surveys for Cuora Zhoui, we did identified a number of sites of interest in Bac Kan province. Although the high economic value of this species means it has been heavily exploited.</p>
<p>The continuation of work by The ATP of IMC will further develop a strong National team with leadership and project management skills to maintain and expand TFT conservation in Vietnam into The future.</p>	<p>The majority of the staff now implementing and managing ATP/IMC activates have come from students who have participated in the field skills training course before working with IMC/ATP. We have now developed a strong national team who are able to undertake the project activities effectively. The national team are now known by and able to work closely with the Vietnamese authorities. This good working relationship will allow for improved cooperation that will result in more effective conservation.</p>
<p>Two global and National priority Tortoise and freshwater Turtle (TFT) species for conservation, Rafetus swinhoei and Mauremys annamensis, will be better protected as a result of improved site based monitoring, local and</p>	<p>Addressing the lack of protected habitat for the species is critical for Mauremys annamensis, without this the species is likely to disappear in the wild. The authorities are now considering two sites for the species, in Quang</p>

National wildlife protection authority focus.	Ngai province and Phu Yen Province. In the long term, we expect habitat will be protected for the species allowing the reintroduction of captive bred animals. This need has been stressed during workshops and meetings. For Rafetus swinhoei monitoring of sites will continue, with the AT/IMC supporting this. Long term, we hope to see some government support for monitoring and protection. Currently no protected habitat exists for the species, a secure protected habitat would be need for species recovery, especially if breeding can take place.
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Planned Short-term Impacts - 1 to 3 years (as stated in the approved proposal)

Impact Description	Impact Summary
Improvements will be made to The protection of TFT in Vietnam and The region through local, National and regional awareness to priorities for conservation.	The improvements in awareness to priority TFT and their protection has been achieved. On a national level, we have worked regularly with MoNRE and other agencies including FPD and Fisheries to provide information on priority TFT. This has been done through meeting and translation of Vietnamese documents into Vietnamese language. The National workshop in November 2016 was well attended and had two full days of presentations and discussions cover TFT species and conservation needs. As well as producing over 40 press releases in both English and Vietnamese language for our website and Facebook posts we have had multiple stories picked up by the national and international media. This includes over seven televisions pieces, including with VTV4, Hanoi Television, VTC16 and over eight news articles in newspapers including the LA Times, Vietnam News, Tin Tuc News, Tien Phong News, and Nhan Dan News.
priority sites for The Vietnamese Pond Turtle (<i>Mauremys annamensis</i>) and potential sites for reintroduction will be better protected through awareness and support of local wildlife protection authorities.	Although we are more aware of sites and threats within them the protection of the sites has been limited as they do not occur within any protected areas and are under local household management. This means in the short-term protection has been limited. FPD and local police are aware of the protected status of <i>Mauremys annamensis</i> and have responded to threats to the species directly, such as reports of trade of hunting attempts but have been reluctant to respond to habitat degradation, despite formal communications related to the loss of wetland in Binh Son district, Quang Ngai province.
protection and recovery of <i>R.swinhoei</i> and <i>M.annamensis</i> will be facilitated through The developments of species recovery plans.	Meetings and the national workshop for the species development of the National TFT Conservation Plan has really pushed the need for TFT conservation with authorities in Vietnam. This has been achieved through

	<p>the regular meetings with key agencies and experts, the national workshop in November 2016 and the reviewing process for draft of the conservation plan. We have also worked to develop the Rafetus swinhoei and Mauremys annamensis species recovery action plans.</p>
<p>Rafetus swinhoei and Mauremys annamensis in captivity will benefit from The collection of detailed environmental data from known wild localities for The species.</p>	<p>Environmental data was collected for water and air temperatures at two sites, one for Rafetus swinhoei and one for Mauremys annamensis. In the short term the data collection did provide additional presence at the sites.</p>
<p>Swinhoe’s Softshell Turtle (Rafetus swinhoei) will be better protected in Vietnam through Identification of sites where The species survives and either protection of sites or development of an appropriate plan to bring animals together for conservation breeding.</p>	<p>With additional sites identified it is likely animals can now be brought together in Vietnam at a single location. Sexing of the animals is required, if male and female animals are available this would allow for controlled breeding activities to start for the species which could then recover.</p>
<p>The capacity for research and conservation of TFT in Vietnam will be Increased through developing The network of conservation practitioners between IMC/ATP, National universities and students in Vietnam and our international partners.</p>	<p>Training activities and meetings have gone a long way to developing partnerships and improving the capacity for research and conservation nationally. The annuals field skills training course was held in Cuc Phuong National Park each year for between 10 and 16 students. We have supported 14 student research projects, both national and international students and we have collaborated with universities to undertake lectures and awareness activities. We have strong links to the universities and collaboration on projects means we have solid partnerships. Increasingly we are participating in joint research and conservation activities with other institutions, such as SIE, ZSL or CRES</p>
<p>The distribution of C.zhoui in Vietnam will be more clearly defined/understood.</p>	<p>Through interview surveys information was collected for a range of potential provinces for Cuora zhoui in northern Vietnam. Interviews in Tuyen Quang, Bac Kan, and Quang Ninh did have reports of high value animals that could potentially be Cuora zhoui, particular in Bac Kan province. Through monitoring the online trade and as a result of information passed onto us from other private keepers of the species we did also see several Cuora zhoui offered for sale in Vietnam. Although the validity of these reports is not known. The long-term outlook for Cuora zhoui is not positive. An extremely high value species the hunting and trade pressure on this species is significant. If wild populations are identified they would almost certainly suffer poaching pressure. The best hope for this species likely lays with breeding and long-term management in captivity.</p>

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

Short term impacts we have achieved most of the objectives.

Both *Rafetus swinhoei* and *Mauremys annamensis* has benefited from improved protection through greater awareness of the species by both local and national authorities, enforcement training has been undertaken for six provinces which have been identified as priorities for these two species. Training include a review of survey findings and available information for the provinces, with site visits to priority habitat for the focal species. We have worked to develop a 'National Tortoise and Freshwater Turtle Conservation Plan', which also included numerous meetings and a national workshop with participants from multiple provinces and agencies within Vietnam important for TFT conservation. This plan has now undergone final review by national authorities in Vietnam and will be released in 2018. within this broader TFT conservation plan both *Rafetus swinhoei* and *Mauremys annamensis* have both specifically been mentioned as priorities.

Habitat protection for both species has had mixed results. For *Rafetus swinhoei*, in the short term we have seen significant improvements. In Dong Mo Lake a 17ha no fish zone has been created in an area where the turtle is frequently seen surfacing and an artificial nesting beach has been constructed on an island. Fishermen working on the lake have signed no hunter agreements for turtles, with signing witnessed by FPD and local Police. In addition, the monitoring of the water levels, the dam and the nets in place has prevent turtles accessing the dam. challenges have been faced, a hunting attempt for *Rafetus* in 2016 was a very close call, but a quick response by the ATP, police and FPD was also followed up with additional community activities which improved awareness in this community. However, as is the case in any habitat surrounded by large human population, risks will still remain for the species as long as it is in a wild environment.

One of the most significant short-term impacts for *Rafetus swinhoei* has been the identification of two sites in northern Vietnam with very strong evidence that the species survives. At one site a large softshell turtle, we believe to be *Rafetus*, has been photographed by staff from a distance. While at the second site staff have observed a large turtle, they believe to be *Rafetus*.

For *Mauremys annamensis* the protection of habitat has been more challenging, the species does not occur in any known protected area, with the sites we monitor all under local household ownership and management. All sites for the species throughout its range are badly degraded, highly fragmented, remnant wetlands. When direct threats to the species, e.g. trapping, have been witnessed the local police and FPD have responded. However, degradation and loss of habitat reported has not received any response despite formal letters. Without protection of habitat within a Species Habitat Conservation Area (SHCA) or nature reserve the survival of a population of *Mauremys annamensis* in the wild is unlikely. We have made progress in Quang Ngai province, with the area of Binh Son district now recorded in proposed land management plan for the province as a conservation area. We also had an architectural firm develop a design plan for a semi-wild conservation breeding centre with areas for habitat restoration.

For *Cuora zhoui* a clearer understanding of the potential distribution of the species has been better identified, although it's occurrence in the wild has not been confirmed. EDNA at the sights did not provide any results for the species.

Environmental data from one for each of the focal species was collected throughout the project period. This has been reviewed and initial summaries made, this will shortly be made available for those who would benefit from this information on the species.

In regards the long-term impacts of the project:



We have made significant achievements during this project period. Most notably are that both of the target priority species for this project, *Rafetus swinhoei* and *Mauremys annamensis* being better protected in Vietnam. We have created an environment and interest within national and local government in which TFT are now considered critical for conservation. Not all of these changes are from the activities of IMC/ATP but also from the overall changing awareness and focus of government agencies in Vietnam which we have helped facilitate.

The site based monitoring of priority TFT species in Vietnam has been improved, this, as mentioned for the short-term impacts, has been more successful for *Rafetus swinhoei*. Importantly two additional sites for *Rafetus swinhoei* have been identified, with a large softshell turtle photographed at one site. This development is critical to the long-term plans for the species recovery. Progress in developing interest within national and local government to establish protected habitat for *Mauremys annamensis* has been made with the authorities are now aware of the strong need for this.

A challenge still remains for *Cuora zhoui*, as the species extreme rarity makes confirmation of populations and conservation highly challenging. A number of possible localities for the species have been identified through interview surveys, but for a long-term impact we need to have solid sites to work for conservation of the species.

Within Vietnam a strong team both within the ATP, as well as independently or with other organisation or within government, now exists and continues to be developed. In the long-term it is this national support for conservation of TFT that is going to make the difference, making conservation of these priority species a reality.

Were there any unexpected impacts (positive or negative)?

An unexpected positive impact of our work has been the interest in TFT conservation by a lake owner for historical *Rafetus swinhoei* habitat in northern Vietnam. The lake owner has met with us on a number of occasions to discuss options for conservation of the species. They had become aware of us through the conservation work with have done both nationally and locally. We plan to see how this relationship could be developed in 2018 and beyond to secure habitat for the species.

Project Components and Products/Deliverables

Describe the results from each product/deliverable:

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
1	Core populations of priority tortoise and freshwater turtle species identified	1.1	eDNA surveys conducted for Rafetus swinhoi in northern Vietnam to collect samples to be transferred to the USA for analysis.	During the project period, 20 days were spent collecting 109 water samples were collected from nine lakes in northern Vietnam for eDNA analysis. Of these 73 samples were processed in the USA. With Dong Mo Lake, the only known confirmed lake for the species, samples were collected from across the water body to increase the probability of positive results, and samples were also collected on two occasions when the turtle was observed surfacing by the field team. However, all of the Dong Mo samples came back negative, with the water volume of the lake at 110 mil m3 we believe the dilution factor is impacting the results.
1	Core populations of priority tortoise and freshwater turtle species identified	1.2	Surveys conducted for Cuora zhoui in northern Vietnam with eDNA samples collected and transferred to Centre for Resources and Environmental Studies (CRES).	We were unable to locate any population of the Zhou's Box Turtle in the wild even though we conducted in total 253 interviews, including those collected by previous projects, in three provinces, Bac Kan, Quang Ninh, and Tuyen Quang Provinces, and processed 31 water samples from Bac Kan Province. A number of sites were identified for where high valued turtles were described although often descriptions were not clear enough to differentiate between <i>Mauremys mutica</i> , <i>Cuora trifasciata</i> and <i>Cuora zhoui</i> .
2	Sub-grant too the Turtle Survival Alliance (TSA) for analysis of environmental DNA (eDNA) samples	2.1	IMC monitoring of the sub-grant made to Turtle Survival Alliance (TSA). Regular Email communication will monitor progress with bi-annual update reports on samples collected and results	A database of eDNA sample collections was maintained throughout the project with collection dates, locations and GPS coordinates. Through regular email communication with Dr Goldberg we have kept updated on progress of samples as well as discussed changes to the collecting, processing and storage of samples. Upon completion of the project Dr Goldberg has provided a table of results from samples run.

			obtained/progress in analysis.	
2	Sub-grant too the Turtle Survival Alliance (TSA) for analysis of environmental DNA (eDNA) samples	2.2	eDNA analysis of 16 sites/lakes to determine presence or absence of Rafetus swinhoi. DNA will be extract from filters using a qiashredder/D Neasy method (Goldberg et al. 2011) and analysis made using a species-specific quantitative PCR assay.	During the project period 109 water samples were collected from nine lakes for eDNA analysis, of these 73 samples were processed in the USA. Samples were filtered either at the site or in the Hanoi office with papers dried and transferred to Dr Goldberg at Washington State University in the USA. Unfortunately, no positive result samples came back to indicate animals at new sites, furthermore we did not get positive results from Dong Mo Lake where Rafetus swinhoi has been seen regularly. We believe this is to do with dilution factor in such large water bodies. We did get positive results for DNA from the rice sac used in the attempted capture of the Dong Mo Turtle in March 2015, confirming it was a Rafetus that they had almost captured.
3	Community support gain for tortoise and freshwater turtle species conservation	3.1	Five community activities held annually around Mauremys annamensis habitat in central Vietnam. Village tannoy announcements, community football matches and Youth Union exhibits. Short press releases and reports produced on key activities.	Two community activities were completed for Mauremys annamensis in central Vietnam including Mauremys Volleyball match at Binh Khuong commune and Mauremys football matches at Binh Minh commune. Those activities had attracted over 600 local people's attention with 193 local people pledged not to harm or hunt the Vietnamese Pond Turtle as well as others wildlife.
3	Community	3.2	Five	14 community activities were completed for Rafetus

	support gain for tortoise and freshwater turtle species conservation		community activities held annually around Rafetus swinhoi habitat in northern Vietnam. Village tannoy announcements, community football matches. Short press releases and reports produced on key activities.	swinhoi in northern Vietnam over the cost of three years. The communities activities included Annual community football matches, traditional boat races, local radio announcements, mid-autumn festivals, and Annual no-hunting agreements. Approx. 15,000 local people of two communes, Kim Son and Yen Bai, participated in those activities.
3	Community support gain for tortoise and freshwater turtle species conservation	3.3	School programs conducted in seven schools annually in priority areas for Mauremys annamensis. Will include school library expansion and trailing of conservation club projects at one school. Short press releases and reports produced on key activities.	<p>School programmes were held in May 2016 for Ly Tu Trong secondary school, Dien Ban town, Quang Nam province. 635 students of all 17 classes from grade 6 to 9 have involved. In October 2017, three secondary schools Binh Son District, Quang Ngai Province for 36 classes and 1,249 student, the schools received about 70 books about nature and conservation for their libraries. By covering four school years during the programme it means that all students have participated in the lesson plan without having to run the activity annually.</p> <p>On the 1st November 2015, a presentation was made for Xuan Mai Forestry College, a 'Tortoise and Freshwater Turtle Conservation Workshop' organised by the students Green for Future Club. Nearly 400 students from various Faculties attended, the majority of them studying Environmental and Natural Resource Management. Many of these students are the future Forest Protection Department (FPD) staff, working as rangers or scientific staff responsible for protecting Vietnam's wildlife. Both Mauremys annamensis and Rafetus swinhoi were highlighted during the event.</p>
3	Community support gain for tortoise and freshwater turtle species	3.4	School programs conducted in priority areas for Rafetus	In November 2015, the Rafetus school programme was held in Co Dong Secondary School for 50 students as part of an education exchange program with staff from Bengkulu University, Indonesia.

	conservation		swinhoi. Will include school library expansion and trailing of conservation club projects at one schools for 3 schools. Short press releases and reports produced on key activities.	In January 2016, the school program was implemented for 5 secondary schools in Yen Bai District, Son Dong, Co Dong, Kim Son of Son Tay Districts of Hanoi for 1,308 students of 40 classes of 6th to 9th grades. While in September 2017, the Rafetus programme was held in 5 secondary schools around Dong Mo Lake for a total of 1,051 students of 6th-7th grade.
3	Community support gain for tortoise and freshwater turtle species conservation	3.5	Promotion of priority species through media involvement. VTV filming for M.annamensis in central Vietnam. Rafetus revisited, television piece on developments in conservation since 2008. Two short television pieces developed for airing nationally	<p>A number of media pieces have been aired nationally and internationally related to our TFT conservation efforts, including:</p> <p>April and May 2015, filming took for an international documentary, 'Turtle Hero', focused on TFT conservation globally with Rafetus a focal species for Vietnam.</p> <p>May 2015, filmed with the VTV4 Expat living program (VTV4- Vietnam) in Thanh Hoa province. The documentary was aired on VTV4 in October 2015.</p> <p>May 2015, Hanoi TV made a report about Rafetus swinhoi conservation in Vietnam. The report was showed on Hanoi TV on 23rd May.</p> <p>January 2016, Radio interview with BBC World Service/World Update on the death of Vietnam's sacred turtle (Hoan Kiem Turtle) highlight the significant impact of this death to conservation.</p> <p>June 2016, VTC16 filming at the Turtle Conservation Centre, Cuc Phuong National Park, about work of the centre, efforts were made to highlight Mauremys annamensis conservation activities in Vietnam.</p> <p>August 2016, the First ever video Rafetus swinhoi in the wild was released at the TSA conference, New Orleans, USA, and on ATP Facebook page became popular, more than 32,000 people reached the post.</p> <p>May 2017, the Third Dong Mo boat race was filmed by</p>

				Hanoi Television, Channel 1, aired on 22nd May 2017.
4	Improved conservation status of priority tortoise and freshwater turtle species and their habitat	4.1	Community patrol teams established at priority <i>Mauremys annamensis</i> habitat for 3 sites.	<p>Three part time counterparts have been employed in Binh Son District of Quang Ngai province to monitored the proposed site of the <i>Mauremys annamensis</i> Species Habitat Conservation Area (SHCA) around the approximate 135ha site. A local ATP staff member has also been based in Quang Ngai province and made regular visits to the site for patrols and data collection.</p> <p>In January 2015 staff found aquatic traps that appeared to have been placed for aquatic turtles in shallow water while collecting data from temperature data loggers in the site. The land owner believed to have set the traps was visited by the team along with a commune police officer and they agreed to remove the traps.</p>
4	Improved conservation status of priority tortoise and freshwater turtle species and their habitat	4.2	Community patrol teams established at priority <i>Rafetus swinhoei</i> habitat for 4 sites.	<p>Local patrol teams were hired at 4 focal sites for <i>Rafetus swinhoei</i>. These included a full-time staff member at Dong Mo Lake, Hanoi, and 3 part time staff at Xuan Khanh Lake (Son Tay district, Hanoi), Minh Quan Lake (Tran Yen district, Yen Bai Province) and Sen Lake Area (Yen Dinh district, Thanh Hoa Province).</p> <p>An additional part time staff member was hired in December 2014 for Dong Bai Lake in Ky Son District, Hoa Binh Province following interview reports for a possible large softshell turtle.</p> <p>Local counterparts continue to be an effective way to monitor sites, in March 2015, the local counterpart in Dong Mo received reports of an opportunistic <i>Rafetus</i> hunting attempt by people from Yen Bai commune, Ba Vi district. The report was credible and further investigation found a 130kg (estimated) turtle had been placed in a rice sac before it was able to escape. Community activities in the commune were increased following the incident. It also highlights the continued threat to the species in the wild despite a strong local presence.</p> <p>Three sets of hook lines set for smaller softshell turtles (<i>Pelodiscus sinensis</i>) were removed from Dong Mo during the project period. This was done by the local counterpart and fishermen on the lake who voluntarily collected the hook lines.</p>
4	Improved conservation	4.3	Strengthen capacity of	In July 2015, a two-day training course was held for Phu Yen FPD, Fishery Department and Environmental Police in

	status of priority tortoise and freshwater turtle species and their habitat		local wildlife authorities in central Vietnam for <i>Mauremys annamensis</i> with site visits to priority habitat. 60 rangers and wildlife protection officials from 3 sites/province s involved in training.	<p>Tuy Hoa city with 19 participants attending. During training a review of results from ATP surveys in the province was given by the ATP with presentations also on turtle ID, reptile ID, overview law & legislation on wildlife protection and rescue of turtles after confiscations. The training highlighted key endemic species for prioritized conservation in Phu Yen province, include Vietnamese Pond turtle (<i>Mauremys annamensis</i>) and Vietnamese box turtle (<i>Cuora picturata</i>), The second day included a field trip to De Ca Special Use Forest, <i>Cuora picturata</i> habitat, and nearby possible <i>Mauremys annamensis</i> habitat.</p> <p>In November 2017, the ATP presented on TFT and reptiles for a law enforcement training course aimed at law enforcement officers in Quang Ninh and Lang Son province in northern Vietnam and Guangxi, China. Important areas in the wildlife trade which significantly impacts <i>Mauremys annamensis</i> amongst other species. The training, "Strengthening law enforcement capacity to combat illegal wildlife trade" was organised by WCS Vietnam.</p>
4	Improved conservation status of priority tortoise and freshwater turtle species and their habitat	4.4	Strengthen capacity of local wildlife authorities in northern Vietnam for <i>Rafetus swinhoei</i> with site visits to priority habitat. 60 rangers and wildlife protection officials from 3 sites/province s involved in training.	Law enforcement training was conducted for three provinces (Thanh Hoa, Ninh Binh and Yen Bai) to strengthen protection of endangered TFT but also covered other rare reptiles of Vietnam, with 54 participants in total. As well as workshop presentations sites visits were also made to priority <i>Rafetus swinhoei</i> habitat in Thanh Hoa province. For training in Ninh Binh province the rangers were also brought to the Turtle Conservation Centre (TCC) with an introduction to <i>Mauremys annamensis</i> .
4	Improved conservation status of priority tortoise and freshwater turtle species and their habitat	4.5	Improved habitat for <i>Rafetus swinhoei</i> at Dong Mo Lake, nesting sand bank	Throughout the project we have worked to improve the habitat for <i>Rafetus swinhoei</i> in Dong Mo Lake. In January 2015, an artificial sand bank was built on a small island in the Lake. The 50m ² sand bank has a 5m wide sand ramp leading to it. In May 2015, during the dry season low water level the ramp was extended.

			<p>construction (220m²), no-fishing Zone (17ha) and no-hunting agreement.</p>	<p>In February 2015, the ATP staff worked with local fishermen to place markers for a 19ha no fishing zone in Dong Mo lake, 17ha around around the location the turtle is most frequently seen and a 2ha around the nesting beach. On at least two occasions the ropes marking the zones were cut and required repairing.</p> <p>In January 2016, a 7.85 ha island with a 0.42 ha pond was rented in Dong Mo with the intention of developing a semi-wild area.</p> <p>Each year, 2015, 2016 and 2017 between 28 and 47 fishermen have been involved in signing no-hunting agreements for turtles in the lake, the signing events also involve local police and PFD. Presentations are made highlighting the no-fishing zone and harmful fishing techniques.</p> <p>In October 2017 we installed a new 160m long 25m high net before the dam in Dong Mo, with Typhoon Doksuri causing serious flooding with water rising to over 1.5m above the top of the dam, the turtle was observed in the lake following the flooding.</p>
4	Improved conservation status of priority tortoise and freshwater turtle species and their habitat	4.6	<p>Conservation of priority turtle species promoted with national authorities through regular meetings. We will work with the relevant authorities to promote CITES uplisting of <i>Mauremys annamensis</i> from appendix II too appendix I.</p>	<p>Regular meetings were held throughout the project period. From February 2015 we started meeting with BCA of MoNRE to discuss priority species, <i>Mauremys annamensis</i>, <i>Rafetus swinhoei</i>, <i>Cuora cyclornata</i>, and <i>Cuora zhoui</i>. Introductions were made with updated on the ATP's main projects (<i>Rafetus</i> and <i>Mauremys</i>). A cooperative agreement was made to work on the development of a National TFT conservation planning workshop. For <i>Rafetus</i> the outline for a species recovery action plan was made, with the need for activities including a National workshop, trapping, eDNA, breeding program and additional surveys and habitat protection. For <i>Mauremys</i> conservation: trade and farming throughout the country needs enforcing and monitoring and habitat needs securing in central Vietnam</p> <p>In June and July 2015, the ATP worked with WCS, IUCN and CITES Vietnam to prepare documents for the uplisting of <i>Cuora galbinifrons</i> and <i>Mauremys annamensis</i> to be but forward by Vietnam CITES CoP. Twenty-eighth meeting of the Animals Committee Tel Aviv (Israel), 30 August-4 September 2015. During periodic review, several speakers supported Viet Nam's recommendation</p>

				to move <i>C. galbinifrons</i> and <i>M. annamensis</i> from Appendix II to Appendix I. Both applications were unsuccessful at that time.
4	Improved conservation status of priority tortoise and freshwater turtle species and their habitat	4.7	Species recovery plans created for <i>Rafetus swinhoi</i> and <i>Mauremys annamensis</i> and adopted by Ministry of Natural Resources and the Environment (MoNRE) as part of their National Biodiversity Strategy and Action Plans (NBSAP).	<p>In December 2014 the first international workshop on <i>Rafetus swinhoi</i> was held in Hanoi, Vietnam with 12 participants. The workshop focused on key actions for protection and cooperation on conservation for <i>Rafetus</i> individuals in China and Vietnam.</p> <p>In July 2016, following multiple meetings in April and May a MoU between IMC and MoNRE was finalised to support development of a TFT Conservation Plan in Vietnam 1st November 2016, signed 3-year MoU between IMC and VEA/MoNRE including responsibilities on parties on TFT national workshop, <i>Rafetus swinhoi</i> and <i>Mauremys annamensis</i> Species Recovery Plan development</p> <p>28th - 30th November 2016, National Workshop to develop a Tortoise and Freshwater Turtle Conservation Plan for Vietnam. The workshop presents findings from recent research on the status, distribution and threats of Vietnam's 25 native TFT species and to discuss key actions required for protection of critical species as part of a comprehensive conservation plan over the next 15 years</p> <p>through 2017 the conservation plan went through three draft prior to final submission in October 2017</p>
4	Improved conservation status of priority tortoise and freshwater turtle species and their habitat	4.8	Habitat monitoring and environmental data collection for known <i>M.annamensis</i> and <i>R.swinhoi</i> sites.	<p>The habitat monitoring and collection of environmental data continued throughout the project, with 3 part time staff hired for each project with an additional full time local staff member for <i>Rafetus swinhoi</i>. Some noticeable activity during this period include the first ever wild video footage of <i>Rafetus swinhoi</i> captured in March 2016 by the local staff. A special short film was made by the ATP for this and released. in September 2016 a <i>Rafetus</i> local counterpart training with four staff from four sites.</p> <p>In January 2017, reports of a large turtle from a lake identified as a possible site for <i>Rafeuts</i>. 126 days of observations were made during eight months. With 13 observations of a large turtle. Including photographs in May 2017 of a large softshell turtle, although the species cannot be confirmed. eDNA has been continued post project period with these samples. worked on eDNA to try and confirm the species.</p>

				<p>An opportunistic hunting attempt of a large turtle from the Lake in March 2015 was fortunately unsuccessful and quickly reported through local staff. This highlights the continued threat at the site.</p> <p>For <i>Mauremys annamensis</i> traps were found in January 2015 and reports made on these and habitat disturbance to the authorities.</p>
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Please describe and submit any tools, products, or methodologies that resulted from this project or contributed to the results.

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:

- Project Design Process (*aspects of the project design that contributed to its success/shortcomings*)
- Project Implementation (*aspects of the project execution that contributed to its success/shortcomings*)
- Describe any other lessons learned relevant to the conservation community

The team has been comfortable with the implementation of this project as the majority of our staff have worked for years with us and are familiar with what is required to get tasks completed on time. We have also taken the opportunity to have staff participate in training programs where possible to ensure they continue to learn new skills.

Sustainability / Replication

Summarize the success or challenges in ensuring the project will be sustained or replicated, including any unplanned activities that are likely to result in increased sustainability or replicability.

The improved relationship with our government partners through implementing this project, in particular the development of the TFT conservation plan, mean we have the opportunity to work closely on important issues in the future. As part of the MoU with MoNRE we will start to implement some of the activities from the conservation plan. Along with the potential new finding of additional sites for *Rafetus swinhoei* mean we have a very stronger project base upon which to develop activities for the coming years.

Safeguards

If not listed as a separate Project Component and described above, summarize the implementation of any required action related to social, environmental, or pest management safeguards

With *Rafetus swinhoei* being so rare at Dong Mo Lake, where the main restrictions would have applied, there has really been no negative impact on the local community result from this project. The lake is privately rented and managed, the restriction on electro-fishing and long hook lines for softshell turtles has been implemented by the lake owner to protect his fish stock. The signing of no-hunting agreements by the local fishermen has no real impact as the species is so rare, with possibly only one animal in the lake. For the no fishing one, this is a small area and as had been seen with the use of no fishing zones within commercial fisheries they can have a positive effect on fish stocks. With the attempted hunting incident of the *Rafetus swinhoei* from Dong Mo Lake, the police and FPD were notified and did visit those involved to notify them of the legal protection of the species under Decree 160/2013/ND-CP, following the legal procedure for Vietnam.

Additional Comments/Recommendations

Use this space to provide any further comments or recommendations in relation to your project or CEPF

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 CEPF investment

Total additional funding (US\$)

\$190,250.00

Type of funding

Please provide a breakdown of additional funding (counterpart funding and in-kind) by source, categorizing each contribution into one of 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)*

A Project Co-financing



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.

1. Please include your full contact details (Name, Organization, Mailing address, Telephone number, E-mail address) below

Mr Timothy McCormack, Indo-Myanmar Conservation (IMC) Asian Turtle Program (ATP), 1806 CT1, C14 Bac Ha Building, To Huu Street, Nam Tu Liem District, Hanoi, Vietnam