

# PHILIPPINE FRESHWATER TURTLE CONSERVATION PROGRAM (PFTCP)



## 2012 Annual Report



By



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Puerto Princesa City, Palawan, Philippines

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# 2012 ANNUAL REPORT



**COUNTRY:** PHILIPPINES

**PROGRAM TITLE:** PHILIPPINE FRESHWATER TURTLE CONSERVATION PROGRAM (PFTCP)

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**PROGRAM SITE:** Philippines

**PHILIPPINE PROGRAM COOPERATORS:**

Department of Environment and Natural Resources (DENR)  
Protected Areas and Wildlife Bureau (PAWB)  
Palawan Wildlife Rescue and Conservation Center (PWRCC)  
Palawan Council for Sustainable Development Staff (PCSDS)  
Provincial Government of Palawan  
City Government of Puerto Princesa  
Municipal Governments of Narra, Roxas, Dumarán, and Taytay  
Concerned agencies and authorities

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## ACRONYMS and ABBREVIATIONS

Barangay	Filipino term for village
CE	Conservation Education
CENRO	Community Environment and Natural Resources Office(r)
CI	Conservation International
CRF	Chelonian Research Foundation
DENR	Department of Environment and Natural Resources
EAZA	European Association of Zoos & Aquaria Shellshock Campaign
ELAC	Environmental Legal Assistance Center
IEC	Information Education Campaign
ENRO	Environmental Natural Resources Office
IP	Indigenous People
IUCN	International Union for Conservation of Nature and Natural Resources or World Conservation Union
KFI	Katala Foundation, Inc.
KIEBC	Katala Institute for Ecology and Biodiversity Conservation
LGU	Local Government Unit
LPF	Loro Parque Fundación
MOA	Memorandum of Agreement
NCIP	National Commission of Indigenous People
NGO	Non-Governmental Organization
NEZS	North of England Zoological Society
OP	Ocean Park
PASu	Protected Area Superintendent
PAWB	Protected Areas and Wildlife Bureau
PAWVI	Philippine Association of Wildlife Veterinarians Inc.
PCCP	Philippine Cockatoo Conservation Program
PCP	Pawikan Conservation Program
PCSD(S)	Palawan Council for Sustainable Development (Staff)
PENRO	Provincial Environment and Natural Resources Office
PFTCP	Philippine Freshwater Turtle Conservation Program
PNP	Philippine National Police
PO	Peoples Organization
PPDO	Provincial Planning and Development Office
PPSRN	Puerto Princesa Subterranean River National Park
PWRCC	Palawan Wildlife Rescue and Conservation Centre
SEP	Special Environmental Plan
TCF	Turtle Conservation Fund
TFTSG	Tortoise and Freshwater Turtle Specialist Group
TSA	Turtle Survival Alliance
USFWS	United States Fish and Wildlife Service
WCSP	Wildlife Conservation Society of the Philippines
WPU	Western Philippines University
ZGAP	Zoologische Gesellschaft für Arten- und Populationsschutz

# PHILIPPINE FRESHWATER TURTLE CONSERVATION PROGRAM

## Background Information

On 26 December 2006, DENR-PAWB and Katala Foundation Inc. (KFI) entered into a Memorandum of Agreement for the implementation of the “Philippine Freshwater Turtle Conservation Program” (PFTCP). The said program has the following objectives:

1. **Conservation** of Philippine freshwater turtle populations and their habitats, particularly but not restricted to Puerto Princesa City, Narra, Dumaran Island, and Rizal
  - 1.1. Establishment and development of facilities for conservation breeding / captive management / rescue of threatened freshwater turtle species.
  - 1.2. Provision of assistance in identifying areas / habitats of freshwater turtle for priority protection as well as in implementing conservation and protection measures and sustainable development of identified priority areas.
  - 1.3. Provision of assistance in wildlife law enforcement and information dissemination.
  - 1.4. Conduct of experimental soft release of turned-over / donated / confiscated and captive bred freshwater turtles.
2. Conduct of scientific **research** on the biology and management of Philippine freshwater turtles and their habitats, and socio economic frame conditions leading to threats and strategies for conservation, such as, among others studies / researches:
  - 2.1. Research on biology such as but not limited to breeding, population dynamics, feeding ecology, synecology, diseases, threats, taxonomy, captive management, veterinary medical procedures, and behavior, among others.
  - 2.2. Habitat conservation and restoration techniques.
3. **Education** and **capacitating** stakeholders of PFTCP on natural resource management and conservation; rehabilitation/restoration of species habitats, and environmental awareness by:
  - 3.1. Conducting environmental education on the status and threats of Philippine freshwater turtle species for key stakeholders like poachers, buyers, traders, decision makers, law enforcers, in and out of school youth, local communities, academe and local government units, among others;
  - 3.2. Capacitating local communities concerned on turtle conservation, including pre and post release activities for the species in their respective areas;
  - 3.3. Disseminating information on Philippine freshwater turtles and related conservation / protection issues through multi media, including publications and distribution of research outputs/results generated from this undertaking;
  - 3.4. Establishing a Center in Narra, Palawan as venue for biodiversity education and research.

## Highlights of Accomplishments 2012

The highlights are in line with the objectives of PFTCP and the work plan for 2012.

### **1. Conservation of Philippine freshwater turtle populations and their habitats**

#### **1.1. Captive management**

Since August 2007 the Katala Institute for Ecology and Biodiversity Conservation (KIEBC) in Antipuluan, Narra, Palawan is holding the only range country assurance colony of the critically endangered Philippine Forest Turtle *Siebenrockiella leytensis*. Furthermore, the facilities hold specimens of all other Palawan native freshwater turtle like the Southeast Asian Box Turtle *Cuora amboinensis*, the Asian Leaf Turtle *Cyclemys dentata* and the Malayan Softshell Turtle *Dogania subplana*.

In 2012, we had a total of 38 eggs and 15 hatchlings of *C. amboinensis*, and an additional two *C. amboinensis* had been turned over to KIEBC. We had two clutches with 2 eggs each of *C. dentata* in May. The first clutch was laid in the water and eggs had cracks and the 2<sup>nd</sup> clutch was properly deposited but eggs proved to be infertile.

Since March 2012 we conduct supervised mating experiment with *S. leytensis* and introduce a male to a female for only a limited time. We observed several mating during the course of the year and a total of three eggs were deposited but none was viable.

We had one fatality of *S. leytensis* on January 4, 2012 and five cases of shell rot; three of which were severe and needed antibiotic treatment. The death of the *S. leytensis* was the third within 30 days and since we feared some contagious disease, we requested Dr. Lim to facilitate necropsy on 10 January 2012. This was granted and PAWB veterinarian Dr. Rizza A. Salinas visited our facilities from 18-20 January. She conducted necropsy of three turtles (Plate 1). The necropsy of the three did not show a uniform pattern although all had lesions that were suggestive of a systemic infection. We provided Doc Rizza with the history of the dead turtles and she facilitated the histopathology of tissue samples that were taken. Results from the histopathology revealed among other that all three turtles had fatty degeneration of the liver and widespread proliferation of Kupffer cells which might be the result of obesity and breakdown of toxic matter, respectively. In June, we received the results of a heavy metal analysis of our deep well water that we had sent out in April. Values for nickel did overshoot the national standards for drinking water.



**Plate 1: Necropsy of *S. leytensis* by Doc Rizza assisted by Angel and Diverlie. ©SSchoppe**

To avoid any kind of stress caused by intraspecific aggression (even adult females cannot be kept together) in the future, KFI management decided to built six additional enclosures in a KIEBC extension in Puerto Princesa City. This would provide each of the 26 *S. leytensis* with an individual enclosure and would allow proper veterinary care / regular injections for turtles with health problems. KFI's decision found the approval of DENR-PAWB and PCSDS. The new enclosures were financed with donations that were generated through the donation platform [www.betterplace.org](http://www.betterplace.org). Construction was finished in February and five *S. leytensis* (#70, 6, 27, 34, 11) were transferred to the facilities in PPC, leaving us with 21 *S. leytensis* in KIEBC Narra (Plate 2). Since we only have 20 *S. leytensis* enclosures connected to the water filter system, we isolated one male first in a quarantine cell and then starting Aug. 23, in a large enclosure together with *C. dentata*. The females with severe shell rot (6, 27, 34) that had been transferred to PPC, reacted positive to the new enclosures; old wounds healed and so far no new shell rot occurred. As a positive output from keeping individuals separate, we had no major incidents of diseases between May and August, just a small abscess at base of tail of # 44, minor shell rot spots in # 47, # 29, and # 36.

Semi-annual deworming was conducted in February and November.

As of December 31, the assurance colony held 26 *S. leytensis*, 72 *C. amboinensis*, 9 *C. dentata*, and 1 *D. subplana*.

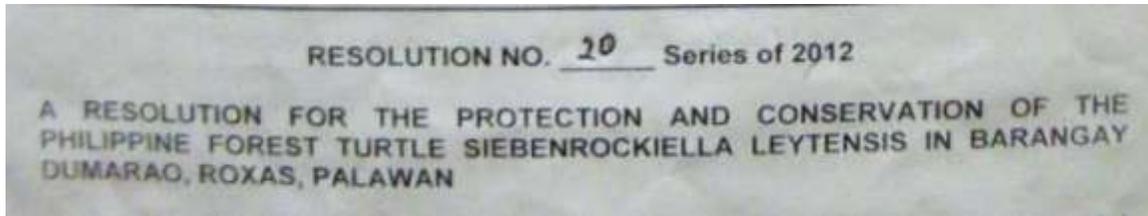


**Plate 2: Layout and construction process of the new enclosures in Puerto Princesa City (top and center). Turtle #70 and #11 enjoying the new home.**

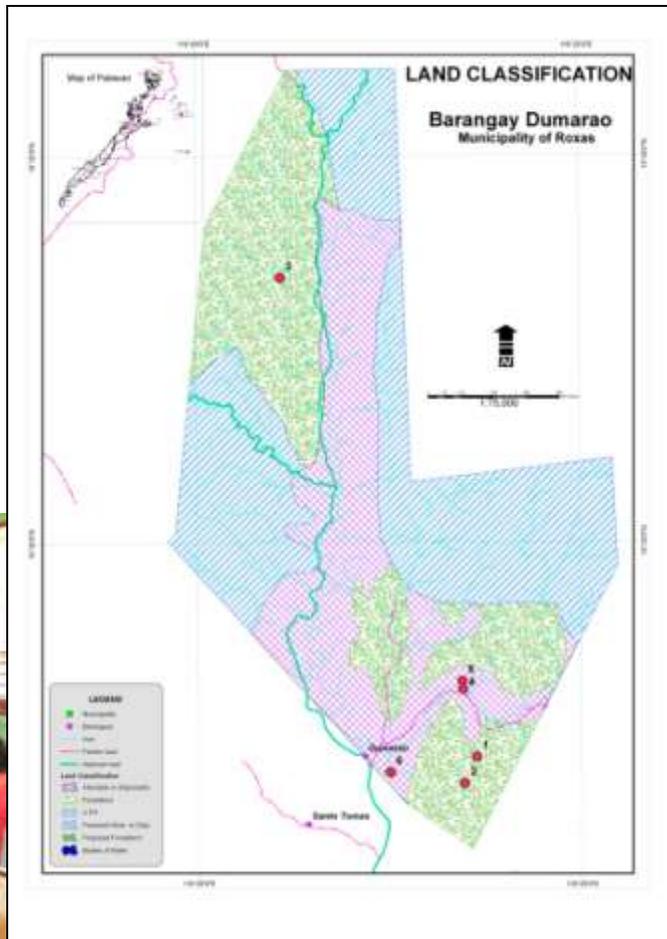
## 1.2. Assistance in identifying areas/habitats for in-situ conservation.

The Provincial Government of Palawan had been informed during several occasions about the conservation status of the Palawan Forest Turtle. As a reaction they had expressed their interest of having at least one protected area for the species in the Province.

The barangay council of Dumarao, Roxas – one of PFTCP’s research sites for *S. leytensis* - expressed their interest in establishing a protected area for turtle through the issuance of barangay resolution No. 20-2012.



In early 2012, KFI had proposed to foreign funding agencies for related conservation measures. Then in June, the proposal “From nearing extinction to flagship species – the endemic Palawan Forest Turtle *Siebenrockiella leytensis*” was approved by Ocean Park Conservation Foundation Hong Kong. Agreement was signed on August 17. One of the main objectives of this project is to lobby for the establishment of a protected area in Barangay Dumarao, Roxas. During the 2<sup>nd</sup> half of 2012, a series of meetings with the local government of Dumarao, with community members, private land owners, with DENR CENRO and other concerned agencies have been conducted to identify potential areas for a protected turtle habitat in the area (Plate 3). Five locations have been suggested. Initial trapping and visual encounter surveys to confirm the existence of the target species in the potential sites have been conducted. Geographic locations of sites have been taken and plotted on land classification maps to assess their feasibility as protected areas. Land classified as “Alienable or Disposable (A&D)” is not feasible for a protected area since the land will sooner or later undergo development. A protected area should be in “Forestland = Timberland” area. The various kinds of protected areas and related legislations have been explored with private land owners, the DENR and the PCSDS. In case a private property would be declared protected area this would be best as Critical Habitat under PCSD while barangay property would be first declared through a local resolution and ordinance as Local Protected Area. In both cases a management committees would be established. By the end of the year, the number of potential areas was reduced to two: one privately owned area and one barangay property; both Timberland-classified. For early 2013 more intensive turtle surveys in both of these areas are scheduled. Final decision on which area will be endorsed by the barangay is expected for the first quarter of 2013.



**Plate 3: During the Dumarao Barangay council meeting on 6 July 2012 the options for establishing a protected area were discussed (left). Potential protected areas and other land marks have been plotted on a land classification (right).**

The proposal “Critical habitat management on Dumarán Island” was approved by the Philippine Tropical Forest Conservation Foundation in July and started in September. The project builds on initiatives of KFI involving experimental reforestation and small scale rehabilitation of the buffer zone of the protected area in Barangay Santo Tomas, Dumarán. The project addresses the fact that the remaining forest patches of Dumarán Island are of vital importance as watershed and wildlife habitat for Dumareños. Accordingly, the main objective of the project is the conservation of the remaining low land forest ecosystem on Dumarán Island. Dumarán Island harbors the only known island population of the Palawan Forest Turtle. Turtle surveys are scheduled for early 2013.

### **1.3. Wildlife law enforcement and information dissemination**

On 28 April 2012, KFI was part of a historical moment in the Philippines. Eighteen hatchlings of *S. leytensis* that had been confiscated at the Hong Kong International Airport on 8 February were returned to Palawan (Plate 4). They had been smuggled by a Chinese national. This represented the first ever repatriation of wildlife back to the country. The turtle babies were turned over to KFI for quarantine and later release. On June 14, the same Chinese smuggler

was caught again with 43 hatchling/juvenile *S. leytensis* and other wildlife in HK and got six weeks imprisonment. These turtles were also repatriated and turned over to KFI upon their arrival in PPC on 2 August 2012.



**Plate 4: Turnover of *S. leytensis* hatchlings from DENR-PAWB to PCSDS witnessed by KFI President Zubiri at NAIA (left, ©PCSDS/DENR). Turn-over of repatriated turtles from PCSDS to KFI (right, ©KFI).**

KFI was granted permission to take DNA samples of the repatriated turtles which would eventually help identifying collection sites and could ultimately lead to the collectors and the trade chain. A related proposal on trade forensics was submitted to IUCN SOS Fast Action Grant on August 28. Unfortunately the said proposal was rejected.

Then on Sept. 17, Maritime Police and the Philippine Coast Guard confiscated 14 juvenile crocodiles and 27 *S. leytensis* and 4 *C. dentata* that were found abandon at the pier of Liminangkong, Taytay during embarking for Manila at 10 pm. Upon arrival of the wildlife in Puerto Princesa City, KFI was called for species identification and suggestions for managements (Plate 5). The animals were turned-over to PWRCC. Monitoring of KFI at PWRCC revealed a relatively high mortality rate of the juvenile *S. leytensis*. Husbandry facilities at PWRCC for this stress-sensitive, cool water and shade loving species might not be adequate.

On Nov. 15, Sabine was invited to give a lecture on wildlife identification and conservation status during PCSDS Wildlife Enforcement Officer (WEO) training for police, coast guard and maritime (Plate 5).



**Plate 5: Sabine identified the Liminangkong confiscated turtles as *S. leytensis* (left). Sabine giving lecture on wildlife identification to coast guard and other law enforcement agencies (right). ©KFI**

The confiscations and repatriations triggered a series of media interviews and subsequent press releases:

- Repatriated Philippine Forest Turtles turned over to Katala Foundation Inc. – April 2012 – [www.traffic.org](http://www.traffic.org) and [www.philippinecockatoo.org](http://www.philippinecockatoo.org)
- Chester Zoo in England posted a blog on the 1<sup>st</sup> repatriation of *S. leytensis* in the Philippines (<http://www.chesterzoo.org/conservation-and-research/latest-field-news/rare-turtles-returned-home>) on May 25.
- ABS-CBN featured release of repatriated *S. leytensis* in Dumarao on June 12.
- Press release in Yahoo "PH forest turtle 'Bakoko' in danger of extinction" (<http://ph.news.yahoo.com/ph-forest-turtle--bakoko--in-danger.html>) on June 28.
- "Born to be wild – The Palawan Forest Turtle *Siebenrockiella leytensis*. After quarantine and site selection, Katala Foundation releases repatriated turtles in Barangay Dumarao" – June 2012 – [www.philippinecockatoo.org](http://www.philippinecockatoo.org)
- "Going back to the wild" – June 2012 – [www.pcsd.ph/](http://www.pcsd.ph/)
- "Puerto Princesa City adopts with pride the repatriated Palawan Forest Turtles" – July 2012 – [www.philippinecockatoo.org](http://www.philippinecockatoo.org)
- TV Patrol Palawan of ABS CBN featured the second repatriation of *S. leytensis* on August 3.
- Rehabilitation of the thirty-nine repatriated endorsed to Katala Foundation – August 2012 – [www.pcsd.ph/](http://www.pcsd.ph/)
- RNM local and ABSCBN national and local featured Liminangkong confiscation and interview with KFI on September 19.
- TRAFFIC published press release about confiscation of *S. leytensis* in Liminangkong "Maritime Police foil bid to smuggle Philippine Forest Turtles"

out of Palawan” (<http://www.ichelonia.org/mail.cgi/r/TFTSG/637143621655/>) on October 4.

#### **1.4. Conduct of experimental soft release of turned-over / donated / confiscated and captive bred freshwater turtles**

The first batch of repatriated turtles (those that had been confiscated in February) was released back into the wild in June 2012 after they had been given a clean bill of health and under observation of the IUCN guidelines for the placement of confiscated animals and re-introductions (Plate 6). A series of surveys to identify appropriate and relatively safe sites were conducted prior to release. Community and local government authorities committed to take the responsibility over the released turtles and signed endorsement for the establishment of a protected area. The release was given extensive coverage by local and national and international media, which has played a tremendous role in raising awareness amongst government authorities and local people living on Palawan, and therefore is considered a great success (Plate 7). The release in the site under the jurisdiction of the Puerto Princesa City got a generous financial support from the Office of the Mayor.



**Plate 6: Deworming was among the quarantine procedures conducted prior to release (left). Released turtles are monitored through trapping and visual encounter surveys (right).**



**Plate 7: Turn-over ceremonies at the two release sites just prior to release (©KFI).**

## 2. Conduct of scientific research on the biology and management of Philippine Freshwater Turtles and their habitats, and socio economic frame conditions leading to threats and strategies for conservation, such as, among others studies and researches

### 2.1. Research on biology, ecology, diseases, threats, captive management, veterinary medical procedures, and behavior

Captive breeding of *S. leytensis*. Within the framework of the project “Captive breeding of *Siebenrockiella leytensis* at its only range-assurance colony” that was funded by the German Society Herpetological Society (DGHT e.V.) during 2012, we had changed the food ratio of the turtles to 5% body weight per week in February. Then in June, we reduced animal protein from 4 times to 2 times a month. We supplement food with ARCVITS to provide enhanced levels of vitamins A, C and E plus extra calcium that help levels of essential vitamins and minerals to combat stress and diseases (Plate 8).



**Plate 8: Sabine and Angel computing dosage of ARKVITS (left); banana with cod liver oil (right). ©KFI**

In May and June we provided various new kinds of nesting materials and nest designs to all *S. leytensis* females.

Starting May 23, *S. leytensis* #70 showed abnormal swimming behavior and was tilted. We feared egg binding or congestion. Palpitation did not provide any clarification. After a week of warm baths and enema the turtle did not show improvement, we arrange for x-ray on May 31 (Plate 9). This was a big event, since the physicians and radiologists had never seen a turtle that close and of course also never taken an x-ray of a turtle.



**Plate 9: Sabine with female turtle #70 at the radiologist to interpret the x-ray of the turtle. ©KFI**

The x-ray image revealed air bubbles in the intestine caused by constipation but no eggs. We continued warm bath and enema and by and by the turtle set several fecals and was back to normal.

The final report of the DGHT-funded report is due during the first quarter of 2013.

*Student research.* The two students from the Western Philippines University (WPU), who had conducted their theses on turtles in 2011, defended their research in March 2012. The research of Ms. Anne Venturillo looked into feeding, breathing, reproductive and general activity patterns of *S. leytensis* in captivity, and Ms. Lory Bantiling assessed the population structure of *C. amboinensis* in a swamp and rice field in Narra, Palawan. Three WPU 2<sup>nd</sup> year Aquatic Biology students volunteered in KIEBC for three weeks in April. They helped in turtle maintenance and conducted observations on behavior. On June 22, two BS Aquatic Biology students of WPU started their On-the-Job-Training (OJT) with us. They joined field work on the ecology and biology of *S. leytensis* and assisted in husbandry issues of the species in our assurance colony (Plate 10). Yet another student, Monica, conducted her undergraduate thesis on the reproduction of *S. leytensis* in captivity (Oct. 2012 to Jan. 2013).



**Plate 10: WPU students conducted their OJT on turtles with us (left). Sabine teaching Monica the sexual dimorphism of *S. leytensis* (right). ©KFI**

*Growth studies.* Ever since, individuals of the four Palawan native freshwater turtles were turned over to KIEBC in July 2007, we monitor their growth on a quarterly basis (Plate 11). When the repatriated *S. leytensis* were turned over to KFI, we also included them in the growth monitoring. Likewise we assess the growth and general conditions of *S. leytensis* that were confiscated in 2005 and 2012 respectively and that are held at PWRCC (Plate 11, 12). Data on growth of wild specimens of *S. leytensis* are also available from our six-year mark-recapture studies in different sites in northern Palawan (Plate 12).



**Plate 11: Growth monitoring in KIEBC (left) and at PWRCC (right) witnessed by visitor Cris Hagen from the Turtle Survival Alliance. ©KFI**



**Plate 12: Morphological studies on the Liminangkong confiscated turtles at PWRCC (left) and on wild individuals (right).**

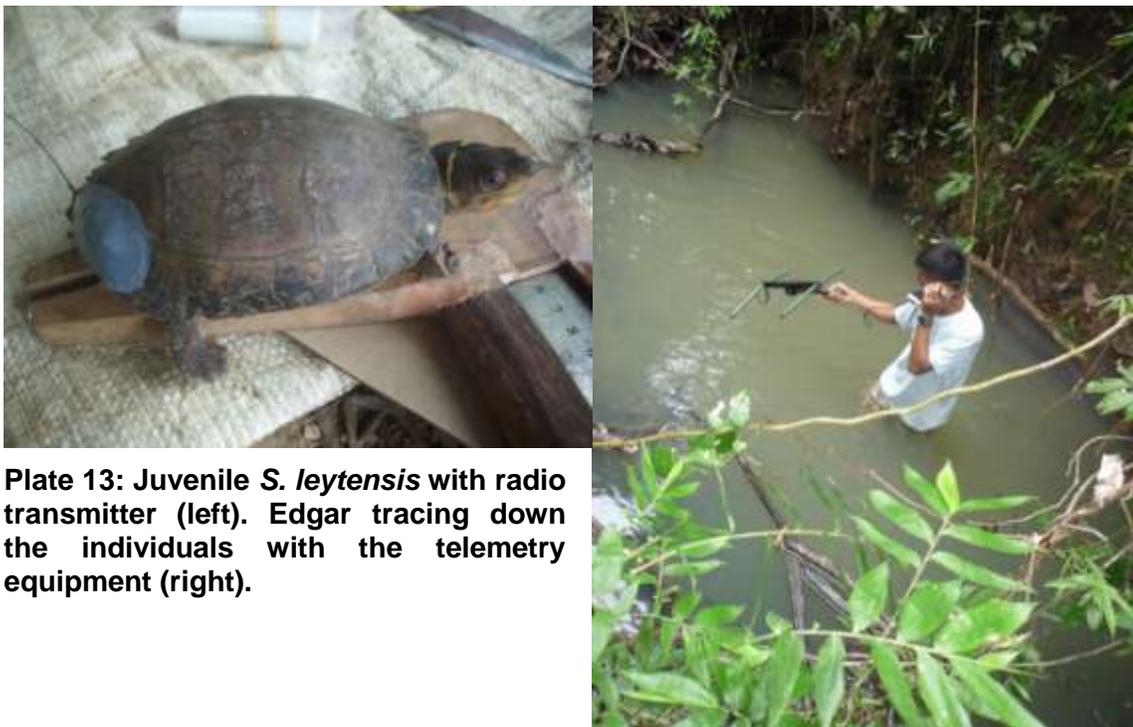
Captive management. We are currently in the process of compiling data from our observations and research on the Palawan Forest Turtle in captivity to come up with a husbandry protocol.

Population size assessment of the Philippine Forest Turtle. In 2007, KFI conducted mark-recapture studies of *S. leytensis* in five different sites, and from 2008 to 2012, we conduct long term population surveys at three sites in Palawan. The three sites differ in as much that in one site the habitat is still relatively pristine, on the other site exploitation through local consumption is rampant, while the third site is exploited for the pet trade. The 2012 fieldwork

under this project entitled “*Siebenrockiella leytensis* over time – are populations stable?” was conducted from February to April. During the sampling, we collected 56, 20 and 9 *S. leytensis* in Site I, II and III, respectively.

Data analysis for the five-year study revealed that the Jolly-Seber Method to estimate population size provides the most reliable results. As per the estimates, population size was relatively stable in only one site while the others have decreasing trends due to habitat destruction and over-exploitation. Based on the findings, *S. leytensis* is and remains critically endangered in line with IUCN criteria A2d, B1+2c Ver. 2.3. A final report was submitted to the Turtle Conservation Funds (Schoppe and Acosta, 2013).

*Home range and seasonality of S. leytensis.* For two years (since Feb. 2011) KFI was able to study the home range and seasonality of *S. leytensis* thanks to funding from the North of England Zoological Society – Chester Zoo. The study will end in March 2013. Parts of the results covering the first year of studies were presented as poster presentation during the 44<sup>th</sup> annual convention of FIMFS. The poster entitled “Site fidelity and movement patterns of the critically endangered, Palawan endemic Philippine Forest Turtle *Siebenrockiella leytensis* (Taylor, 1920)” was presented by Edgar Jose, our research staff in-charge of this study. Results indicated that sub-adults move over larger distances compared to juveniles and adults and do not show site fidelity to just one area but rather have several preferred areas to which they return (Jose et al., 2012). This in combination with our knowledge on the behavior of the species in captivity indicates that the species is territorial and once individuals are nearing adulthood they intend to establish their own territory.



**Plate 13: Juvenile *S. leytensis* with radio transmitter (left). Edgar tracing down the individuals with the telemetry equipment (right).**

**Nutrition.** From January to December 2012 we conducted field and laboratory work under the project entitled “Diet of the critically endangered Palawan-endemic Philippine Forest Turtle *Siebenrockiella leytensis* and its importance in pest control and seed dispersal” funded by Cleveland Metropark Zoo. The study revealed among others that *S. leytensis* plays an important role in reducing pest species like the Golden Kuhol *Pomacea canaliculata* and functions as seed disperser of riparian vegetation (Acosta and Schoppe in prep.; Plate 14). Part of the results will be presented during the upcoming WCSP meeting in April 2013.



**Plate 14: RA Diverlie Acosta collecting fecal samples (left). Diverlie sorting and identifying the fecal matter to the lowest possible level**

**(right). ©KFI**

**Ecological studies.** KFI is advisor to the CLP funded project “Ecological Studies to Promote the Conservation of the Endemic Philippine Forest Turtle in Palawan, Philippines” for which Diverlie Acosta and her team were granted a 2011 Leadership Award under the Conservation Leadership Programme. Dry season fieldwork under that project was conducted in May 2012. The project assessed the distribution and composition of the freshwater turtle fauna and their habitats in Palawan. Research activities were covered by SEP Clearance No. 102811-010 (Plate 15, 16). The team was able to sample 18 sites in 9 municipalities covering the northern and southern part of the province. Data analysis is still ongoing. Outcomes so far are the raise of awareness of project site stakeholders. The local governments of several sites expressed their interest in doing something for turtle conservation in their place and requested the team to keep them updated and present the results of the research upon completion. Some requested to extend project work to other activities not covered by the CLP project e.g. IEC and establishment of protected areas.



**Plate 15: The CLP team collecting invertebrate samples and measuring physical and chemical properties of the different streams.**



**Plate 16: The CLP team members Ron (left) and Edgar (right) using Surber sampler and soil corer, respectively.**

### Threats.

We regularly compile wildlife confiscation and seizure records from the Palawan Council for Sustainable Development Staff (PCSDS) in Palawan, the Palawan Wildlife Rescue and Research Centre (PWRCC) in Palawan, the Provincial office of the Department of Environment and Natural Resources (PENRO) in Palawan, the City Environmental and Resources Office (City ENRO), the Philippine Coast Guard in Palawan (PCG), the Palawan NGO Network Inc. (PNNI), the Philippine National Police (PNP) in Puerto Princesa City, and the Protected Areas Wildlife Bureau of the Department of Environment and Natural Resources (DENR-PAWB) in Manila. The 2012 are still incomplete hence compilation is pending.

We also monitor internet trade of Philippine turtles most especially of the highly prized Palawan Forest Turtle (Plate 17). Allegedly captive-bred *S. leytensis* individuals continue to appear in trade despite the fact that interested reptile collectors/breeders/enthusiasts should know that so far the species has never been bred in captivity. One Philippine Zoo is repeatedly named as source of these allegedly captive-bred *S. leytensis*. However, based on official records, no

zoo or other entity has a record of breeding and or trading *S. leytensis* (PAWB in lit. to SS April 5, 2012).



The screenshot shows a webpage for 'TURTLES & TORTOISES, INC.' with a navigation menu on the left listing categories like 'TURTLES', 'TORTOISES', 'CROCODILIANS', 'DRY GOODS', 'BOOKS', 'ARTWORK', 'POSTERS', 'LIZARDS', and 'SNAKES'. The main content area features a product listing for 'Palawan Forest Turtle (Panyaenemys leytensis) CB subadults'. A photograph of a turtle is displayed. To the right of the photo, the text reads: 'Palawan Forest Turtle (Panyaenemys leytensis) CB 4" - 5" subadults. One of the rarest turtles in the world. Eating a mix of greens, pellets etc. Only sold in pairs. Price listed is per turtle.' Below this, the SKU is 'SKU/259', the quantity in stock is '6 item(s) available', and the price is listed as 'Our price: \$2500.00'. There is also a quantity selector set to '1' and an 'Add to cart' button.

**Plate 17: The Palawan Forest Turtles fetches up to US2,500 through internet sale (posted in April 2012).**

## **2.2. Habitat conservation and restoration techniques**

This is partly in line with point 1.2. of this report. In Barangay Dumarao it is intended to declare an area as protected area for *S. leytensis*. Related activities are scheduled for 2013.

On the island of Dumarao, KFI is implementing the “Critical Habitat Management on Dumarao Island” project under the Philippine Cockatoo Conservation Program since September 2012. The said project intends to conserve the remaining lowland forest ecosystems on Dumarao Island through the establishment of a critical habitat and to restore and protect the threatened faunal and floral elements within the area. The proposed critical habitat under PCSD Administrative Order comprises some 1,500 ha and is home of numerous threatened and endemic species. It harbors the only known island population of the critically endangered Palawan Forest Turtle. On Dumarao Island, *S. leytensis* shares its habitat with the vulnerable *Cuora amboinensis* and the near-threatened *Cyclemys dentata*.

## **3. Education and capacitating stakeholders of PFTCP on natural resource management and conservation; rehabilitation / restoration of species habitats, and environmental awareness**

### **3.1. Environmental education**

In March 2012 we were granted the project “Community-based conservation of the Palawan-endemic Philippine Forest Turtle *Siebenrockiella leytensis* through information education” by the Turtle Conservation Fund. This one-year project

aims raising the level of environmental awareness / knowledge about the Palawan Forest Turtle through: 1) Production of educational materials, 2) Teaching the target clientele facts about the Philippine Forest Turtle, and 3) Development of an educational trail with display area at an ecotourism site. Under the project we have develop button pins with *S. leytensis*, a brochure about its role in the ecosystem, several tarpaulins, and post cards with all four of Palawan's freshwater turtles (Plate 18, 19).



**Plate 18: Postcards featuring the freshwater turtles were distributed during information education campaigns. ©KFI**

Likewise, we have designed hand puppets of *S. leytensis*, hunters, members of a rural family and a puppet house for a puppet shows. A first script entitled “Treasures of the Forest” was written, two student teams trained who then performed in various occasions (Plate 19). The groups performed twice in November and December. The



performance on 29 November was during the Science Film Festival at the Robison Mall in Puerto Princesa City. The event was attended by more than 200 students and interested adults who enjoyed the show very much. The show was also covered by two local TV channels.

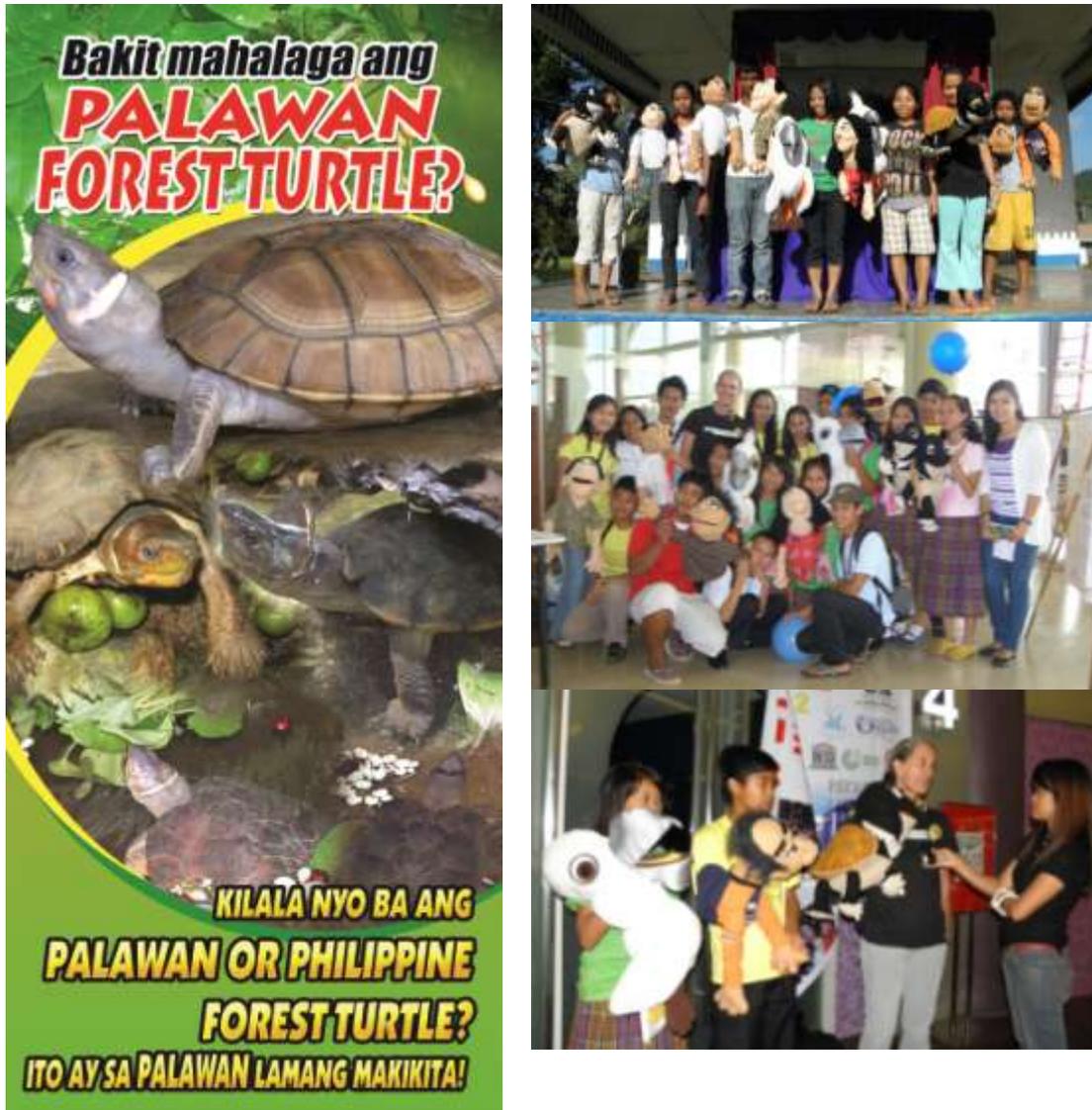


Plate 19: ICE materials: Brochure about the role of Palawan Forest Turtle in the environment (left), and button pin (upper right). Puppeteers during rehearsal (upper right), TV interview with puppeteers and Sabine after the puppet show in the Robinson Shopping mall (right centre and bottom). ©KFI

The project “From nearing extinction to flagship species – the endemic Palawan Forest Turtle *Siebenrockiella leytensis*” was approved by Ocean Park Conservation Foundation Hong Kong on June 26. Agreement was signed in August and the project started in September 2012. A stakeholder workshop was conducted in Dumarao, Roxas – one of the pilot site of the project - in October (Plate 20). Stakeholder identified information education as one of the major needs. Under the project we conducted campaigns in Puerto Princesa City, Roxas, and Dumarao. A full-time education officer was assigned to the project in September 2012 and an assistant education officer was hired for the pilot site in Dumarao in October 2012. Pre-project surveys to assess the level of awareness regarding the Philippine Forest Turtle, its role in the environment, and forests as wildlife habitats had been conducted in Roxas and Dumarao in August/September and a control survey had been conducted in San Vicente where no IEC interventions take place.



**Plate 20: Stakeholder workshop under the project “From nearing extinction to flagship species – the endemic Palawan Forest Turtle *Siebenrockiella leytensis*”. ©KFI**

A lecture flip chart to address knowledge gaps of community members in Dumarao with special reference to the Philippine Forest Turtle, its habitats, its role in the ecosystem, threats, regulating legislation as indentified by the pre-project survey and the stakeholder workshop, and possible conservation measures like protected areas has been designed and printed and used in schools, colleges, community assemblages etc. (Plate 22, 23). Elementary students were introduced to the four freshwater turtles of Palawan with short lectures followed by coloring activities (Plate 24). A 2013 calendar has been designed and printed in December for distribution in early 2013 (Plate 22). Other IEC materials produced were face towels, T-shirt, and bags.

As part of the information education campaign we continued the annual celebration of World Turtle Day which we first celebrated in 2009. In the Philippine we celebrate the event in July just after classes have resumed guaranteeing a large audience from among high school and college students. In 2012, we celebrated the 4<sup>th</sup> World Turtle Day on 13 July 2012 in collaboration with the Western Philippines University. The activity was attended by over 250 participants from 10 high schools from Puerto Princesa City and college students

from WPU. Highlights were Quiz Bee with 10 competing teams, extemporaneous speech with eight contestants, sing and dance contest with five competing teams, and painting contest with 10 contestants (Plate 21). Judges came from various local radio channels, the Palawan NGO Network Inc., PCSDS, DENR PENRO and CENRO, Dos Palmas Resort, BFAR, and the Office of the Vice Governor. The activity was covered by the local TV channel ABC-CBN. This year's theme was "Philippine turtles – Importante ba?" Asking if turtles are important and what their role in the ecosystem is. This activity also received financial assistance from the Provincial Government of Palawan.



Plate 21: Highlights during the 4<sup>th</sup> World Turtle Day Celebration were Quiz Bee and environmental sing and dance competition. ©KFI



Plate 22: One page of the lecture flipchart we use during campaigns (left). Wall calendar to promote the Palawan Forest Turtle as flag ship species. ©KFI

KFI participated in the celebration of the 20<sup>th</sup> anniversary of the Strategic Environmental Plan of Palawan or the Republic Act 7611. We put up exhibits in consonance to its conference theme “*Sustainable Development Perspectives, Initiatives, and Worldviews*” (Plate 23).



**Plate 23: Gynald lecturing about the Palawan Forest Turtle (left). Booth during the celebration of the 20<sup>th</sup> anniversary of SEP (right). ©KFI**



**Plate 24: The elementary students love to color. Through turtle coloring activities we teach them about Palawan’s freshwater turtles. ©KFI**

We submitted a proposal for the promotion of the Palawan Forest Turtle as flagship species to the Provincial Government of Palawan through the Office of the Vice Governor on 5 September 2012. We proposed to contribute PHP98,500.00 to related project activities under Palawan Freshwater Turtle Conservation Program for 2013. Specifically these would be used to print additional calendars and face towels, to acquire a turtle mascot and to support the 2013 activities of World Turtle Day. The proposal was endorsed by the Vice Governor to the Office of the Governor on 15 October 2012. Decision is still pending and we fear that the support might be denied.

### **3.2. Capacitating local communities concerned on turtle conservation, including pre and post release activities for the species in their respective areas**

Please refer also to point 1.4 of this report where we have already elaborated on the involvement of local communities during the release of repatriated *S. leytensis*. The release in Dumarao led to the deep commitment of the local government and communities in the area. They are currently preparing for the establishment of a protected area. In both release sites, the local report to us sightings of the released turtles and therewith contributing to our monitoring.

### **3.3. Information dissemination through multimedia incl. publications and distribution of research outputs/results generated**

#### **Press releases** (not yet mentioned above)

"Protecting the last frontier" is in Philippine Airline's Mabuhay Magazine April issue. It featured the Philippine cockatoo and the Palawan Forest Turtle.

Carpus features *S. leytensis* assurance colony and related activities in their newsletter and encourages potential donors to support on June 30.

#### **Publications and Presentations during Conferences.**

Zookeepers Workshop, Quezon City. 23-25 February 2012.

Schoppe, S., 2012. Connectivity of turtles to the environment, agriculture and fisheries. Oral presentation during 3rd Agriculture-Fisheries Fair, WPU-PPC, 01 March 2012.

SEP+20 Conference and Exhibit by PCSDS, Legend Hotel, Puerto Princesa City, Palawan. 5 July 2012.

Jose, E., Schoppe, S., and R.G. Dolorosa, 2012. Site fidelity and movement patterns of the critically endangered, Palawan endemic Philippine Forest Turtle *Siebenrockiella leytensis* (Taylor, 1920). Poster presentation, 44<sup>th</sup> FIMFS Annual Convention, Cebu, Oct. 24-26, 2012.

Diesmos, A.C., Buskirk, J.R., Schoppe, S., Diesmos, M.L.L., Sy, E.Y., and Brown, R.M., 2012. *Siebenrockiella leytensis* (Taylor 1920) – Palawan Forest Turtle, Philippine Forest Turtle. In: Rhodin, A.G.J., Pritchard, P.C.H., van Dijk, P.P., Saumure, R.A., Buhlmann, K.A., Iverson, J.B., and Mittermeier, R.A. (Eds.). Conservation Biology of Freshwater Turtles and Tortoises: A

Compilation Project of the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group. Chelonian Research Monographs No. 5, pp. 066.1–066.9, doi:10.3854/crm.5.066.leytensis.v1.2012, <http://www.iucn-tftsg.org/cbftt/>.

### **Reports.**

Final report of “Adopt an Animal” was submitted to ZGAP on May 30.

Progress report CMZ *S. leytensis* role in the ecosystem project was submitted in August.

Schoppe, S. and D. Acosta, 2012. TCF- 0166. *Siebenrockiella leytensis* over time – Are populations stable? Technical and financial interim report, May 2012, Katala Foundation Inc., Philippine Freshwater Turtle Conservation Program, Puerto Princesa City, Palawan, Philippines, 22 pp.

Schoppe, S., 2012. Philippine Freshwater Turtle Conservation Program (PFTCP): 2011 Annual Report. Katala Foundation Inc., PFTCP, Puerto Princesa City, Palawan, Philippines, 36 pp.

Schoppe, S. and D. Acosta, 2012. BACOCO – Conservation of the Philippine Forest Turtle *Siebenrockiella leytensis* in Palawan. Final report for Cleveland Metroparks Zoo / Cleveland Zoological Society. Katala Foundation Inc., PFTCP, Puerto Princesa City, Palawan, Philippines, 10 pp.

Bantiling, L.M.D. 2012. Population structure of the Southeast Asian Box Turtle *Cuora amboinensis* (Daudin 1802) in Sitio Cabuluan, Barangay Calategas, Narra, Palawan, Philippines. Undergraduate Thesis, Bachelor of Science in Aquatic Biology, Western Philippines University – Puerto Princesa Campus, Puerto Princesa City, Palawan Philippines. 57pp.

Venturillo, T.A.A. 2012. Behavior of the Philippine Forest Turtle *Siebenrockiella leytensis* in captivity at Katala Institute for Ecology and Biodiversity Conservation (KIEBC), Barangay Antipuluan, Narra, Palawan, Philippines. Undergraduate Thesis, Bachelor of Science in Aquatic Biology, Western Philippines University – Puerto Princesa Campus, Sta. Monica, Puerto Princesa City, Palawan, Philippines. 57pp.

Acosta, D., Jose, E., Esuma, R., Cervancia, M., and L.S. Castro, 2012. Ecological studies to promote conservation of the endemic Philippine Forest Turtle in Palawan, Philippines. Preliminary final report, Katala Foundation Inc., Puerto Princesa City, Palawan, Philippines, 11pp.

Schoppe, S., 2012. From nearing extinction to flagship species – the endemic Palawan Forest Turtle *Siebenrockiella leytensis*. Unpubl. Interim Report to Ocean Park Conservation Foundation Hong Kong. Katala Foundation Inc., Puerto Princesa City, Palawan, Philippines, 35 pp

Critical habitat management on Dumarán Island, Palawan. Unpublished technical and financial quarterly report Sept. – Nov. 2012.

### **3.4. Establishing a Center in Narra, Palawan as venue for biodiversity education and research**

In 2012 we conducted several maintenance activities of the turtle enclosures. We improved the drainage system, elevated the shade spending roof for easy access of keepers, we added drift wood and other shelter in water and land areas of the enclosures, and we had moveable turtle tubs for the confiscated turtles build. Please also refer to the quarterly Philippine Cockatoo Technical Progress Reports.

The construction of an educational turtle trail with informative sign boards is scheduled for 2013.

## **4. PFTCP Work Plan 2013**

Please find the work plan for 2013 below.

Project/Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
<b>Conservation of Philippine freshwater turtle populations and their habitats, particularly but not restricted to PPC, Narra, Dumaran Island, and Rizal</b>												
<ul style="list-style-type: none"> <li>Maintenance and improvement of facilities for conservation breeding / captive management / rescue of threatened freshwater turtle species</li> </ul>												
<ul style="list-style-type: none"> <li>Develop an educational trail and ponds for turtle education</li> </ul>												
<ul style="list-style-type: none"> <li>Provision of assistance in identifying areas / habitats of freshwater turtle for priority protection as well as in implementing conservation and protection measures and sustainable development of identified priority areas</li> </ul>												
<ul style="list-style-type: none"> <li>Provision of assistance in wildlife law enforcement and information dissemination</li> </ul>												
<b>Conduct of scientific research on the biology and management of Philippine freshwater turtles and their habitats, and socio economic frame conditions leading to threats and strategies for conservation, such as, among others studies / researches:</b>												
<ul style="list-style-type: none"> <li>Research on biology such as but not limited to breeding, population dynamics, feeding ecology, synecology, diseases, threats, taxonomy, captive management, veterinary medical procedures, and behavior, among others</li> </ul>												
<ul style="list-style-type: none"> <li>Analyze data of long-term populations surveys of the Philippine Forest Turtle and report results to concerned LGU and interested parties</li> </ul>												
<ul style="list-style-type: none"> <li>Analyze data of habitat studies of Palawan Freshwater Turtles and report results to concerned LGU and interested parties</li> </ul>												

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
<ul style="list-style-type: none"> <li>Analyze data on the home range of the Philippine Forest Turtle</li> </ul>												
<ul style="list-style-type: none"> <li>Analyze data on the nutrition of the Philippine Forest Turtle</li> </ul>												
<ul style="list-style-type: none"> <li>Conduct on studies on husbandry of the Philippine Forest Turtle</li> </ul>												
<ul style="list-style-type: none"> <li>Publish husbandry protocol for the Philippine Forest Turtle</li> </ul>												
<ul style="list-style-type: none"> <li>Study reproductive behavior of Philippine Freshwater Turtles</li> </ul>												
<ul style="list-style-type: none"> <li>Studies threats to Philippine Freshwater Turtles</li> </ul>												
<ul style="list-style-type: none"> <li>Habitat conservation and restoration techniques (establishment of PA)</li> </ul>												
<ul style="list-style-type: none"> <li>Compile wildlife confiscation records</li> </ul>												
<ul style="list-style-type: none"> <li>Attend Wildlife Conservation of the Philippine Workshop for research findings and net working</li> </ul>												
<ul style="list-style-type: none"> <li>Submit proposals for future research projects</li> </ul>												
<b>Education and capacitating stakeholders of PFTCP on natural resource management and conservation; rehabilitation/restoration of species habitats, and environmental awareness by:</b>												
<ul style="list-style-type: none"> <li>Conducting environmental education on the status and threats of Philippine freshwater turtle species for key stakeholders like poachers, buyers, traders, decision makers, law enforcers, in and out of school youth, local communities, academe and local government units, among others. –</li> </ul>												
<ul style="list-style-type: none"> <li>Conduct IEC in sites (Dumaran and Roxas) with potential for the establishment of protected areas</li> </ul>												

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
<ul style="list-style-type: none"> <li>Disseminating information on Philippine freshwater turtles and related conservation / protection issues through multi media, including publications and distribution of research outputs/results generated from this undertaking;</li> </ul>												
<ul style="list-style-type: none"> <li>Celebrate World Turtle Day</li> </ul>												
<ul style="list-style-type: none"> <li>Conduct IEC on Philippine Freshwater Turtles, threats to habitat and climate change in PCCP and PFTCP project sites</li> </ul>												
<ul style="list-style-type: none"> <li>Submit proposals for funding the establishment of a Center in Narra, Palawan as venue for biodiversity education and research</li> </ul>												

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