Calayan Rail Project II

Building Stakeholders Capacity to Conserve an Island-Endemic Species

FINAL REPORT

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ISLA BIODIVERSITY CONSERVATION
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Cover illustrations: (Clockwise) expectations check outputs during barangay consultations in Barangay Cabudadan (Ringor 2008), soil test analysis (Oliveros 2007), participatory resource mapping (Layusa 2007), volunteers enjoying Calayan's view (Ringor, 2008), looking at a framed Calayan rail photo (Ringor 2008).

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SUMMARY

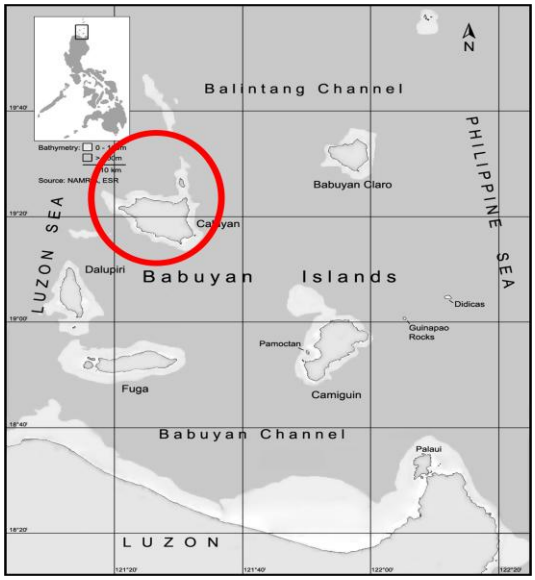
The Calayan Rail Project II was launched in 2007 by Isla Biodiversity Conservation, Inc. to help build local stakeholders' capacity to conserve the Calayan Rail and the island's natural resources.

Within the project's duration:

- We trained local stakeholders, mostly youths from Calayan, on carrying out Calayan Rail monitoring surveys. The training covered rail survey protocols, data recording, and use of equipment. Rail surveys were conducted in May 2007, February 2008 and May 2008. Added to the data collected from previous surveys, monitoring data shows a decline of 14% in rail detection rates in Sitio Longog.
- We trained 22 teachers from 4 primary schools and 2 high schools in the island of Camiguin on Project WET and PLT – two internationally accredited environmental modules that aid teachers in incorporating environment concepts in teaching.
- Basic Environmental Education (BEE) seminars were held for community members in all 7 barangays in the island. Further, project team members visited primary and secondary schools to help raise awareness of the Calayan Rail among students.
- The Calayan Rail mascot, Pedring the Piding, was launched as the new ambassador for conservation of Calayan's natural resources.
- We produced Calayan Rail posters and fact sheets that were distributed to community members and local government agencies and offices.
- An environmental law orientation seminar was held to help local efforts to enforce environmental laws.
- The project facilitated the establishment of the Calayan Environmental Council, a multi-sectoral council envisioned to formulate policies and implement programs for the conservation of Calayan's natural environment.
- The Small Island Reforestation (SIR) program was initiated in Brgy. Magsidel.
- A series of consultations with local stakeholders were held to help establish a wildlife sanctuary in Sitio Longog.
- The project's results and experiences were shared in various presentations and exhibits to local and international audiences. Scientific articles are in preparation.

INTRODUCTION

Figure 1. Map of Calayan Island



The island of Calayan is situated in the Babuyan group of islands in northern Philippines. It has a land area of 197 – sq. kms. and an estimated population of 10,000. The island forms part of the northernmost Important Bird Area in the Philippines and it lies along the East-Asian Flyway for birds migrating from Siberia, Japan, Korea and China to the Philippines.

In 2004, the Babuyan Island Expedition team discovered the Calayan rail (Galliralus calayanensis). The species is endemic to the forests of Calayan. The rail is presently classified as Vulnerable (IUCN 2008) but may need to be uplisted (BirdLife International 2008) because of its small range and present threats, which include hunting, habitat loss due to slash-and-burn farming, pet trade, and introduced predators (cats and dogs).

The Calayan Rail Project was launched in 2005 to help conserve the Calayan Rail and its habitat with funding from the BP Conservation Programme (BPCP). The first phase of the project, initiated a long-term program that will conserve the island's natural resources. Community consultations were conducted to gather the ideas of the community on what they see is needed to better safeguard their environment. In 2006, a conservation action plan was created with the local stakeholders. The Conservation Action Plan calls for: a.) control slash and burn farming; b.) provide livelihood assistance to locals; c.) intensify information, education, communication (IEC); d.) establish a protected area or sanctuary; and d.) strengthen enforcement of environmental laws.

Building on the progress of the project's first phase, the second phase of the Calayan Rail Project was started in 2007, with funding from the Conservation Leadership Programme (CLP, the new name of BPCP). The general thrust of the Calayan Rail Project II is to strengthen the capacity of the local stakeholders to sustainably carry out conservation work for the Calayan rail and the island's natural resources on their own. The project caters to the conservation needs identified by the community in the Conservation Action Plan backed up by interviews and focus group discussions on training and capacity needs. The project aims to build local skills

needed for conservation work, increase environmental awareness, strengthen law enforcement and assist in establishing a wildlife sanctuary.

The following are the specific objectives of the project.

- Help organize and train local stakeholders that will carry out conservation work on the island.
- Increase awareness of and support for the conservation of the Calayan rail and its natural habitat.
- Train local stakeholders in monitoring the abundance and distribution of the Calayan Rail.
- Make knowledge of ecologically - sound reforestation and agro-forestry practices available to the community.
- Increase awareness of environmental laws and ordinances among local law enforcers.
- Assist local stakeholders in establishing a local wildlife sanctuary.

To achieve these objectives, these activities, including a number of trainings, workshops, seminars, consultation activities and awareness-raising activities, were conducted by the team:

- Help Establish the Calayan Environmental Council
- Training of Local Volunteers
- Calayan Rail Population Monitoring Training
- Teacher Training
- Calayan Rail Pride Campaign
- Basic Environmental Education Seminars
- Small Island Reforestation Training
- Environmental Law Orientation
- Help Establish a Wildlife Sanctuary

This report provides details of the progress made by the Calayan Rail Project 2.

CALAYAN RAIL POPULATION MONITORING

Insular bird species like the Calayan Rail are particularly vulnerable to extinction. 18 out of the 20 species that have become extinct since **the year 1600 were flightless (Taylor 1998).** The conservation status of the closest relatives of the Calayan Rail demonstrates this vulnerability. In the genus *Gallirallus*, out of 16 species, 4 (*G. modestus*, *G. dieffenbachii*, *G. pacificus*, and *G. wakensis*) have become extinct, 1 (*G. owstoni*) survives only in captivity, 5 (*G. calayanensis*, *G. australis*, *G. lafresnayanus*, *G. okinawae* and *G. sylvestris*) are threatened and 1 (*G. sharpii*) has not been seen since it was described in 1893 (IUCN 2008).

Through the Calayan Rail Project field surveys were undertaken on Calayan Island to better understand the abundance and distribution of the species. We developed a survey protocol that was simple, relatively cheap and easy to implement for continual monitoring efforts.

Methods

We established census stations situated at least 100m apart along or near foot trails throughout the island. GPS coordinates of these stations were taken using a handheld GPS unit with an accuracy of 30m or less. We classified the habitat in each station as either old growth forest, recently disturbed forest or older regenerating forest based on the tree architecture of the 10 nearest trees following Bibby et al. (1998). However, we added the category agro-forest if agricultural crops such as cocounut, banana and green lime were present.

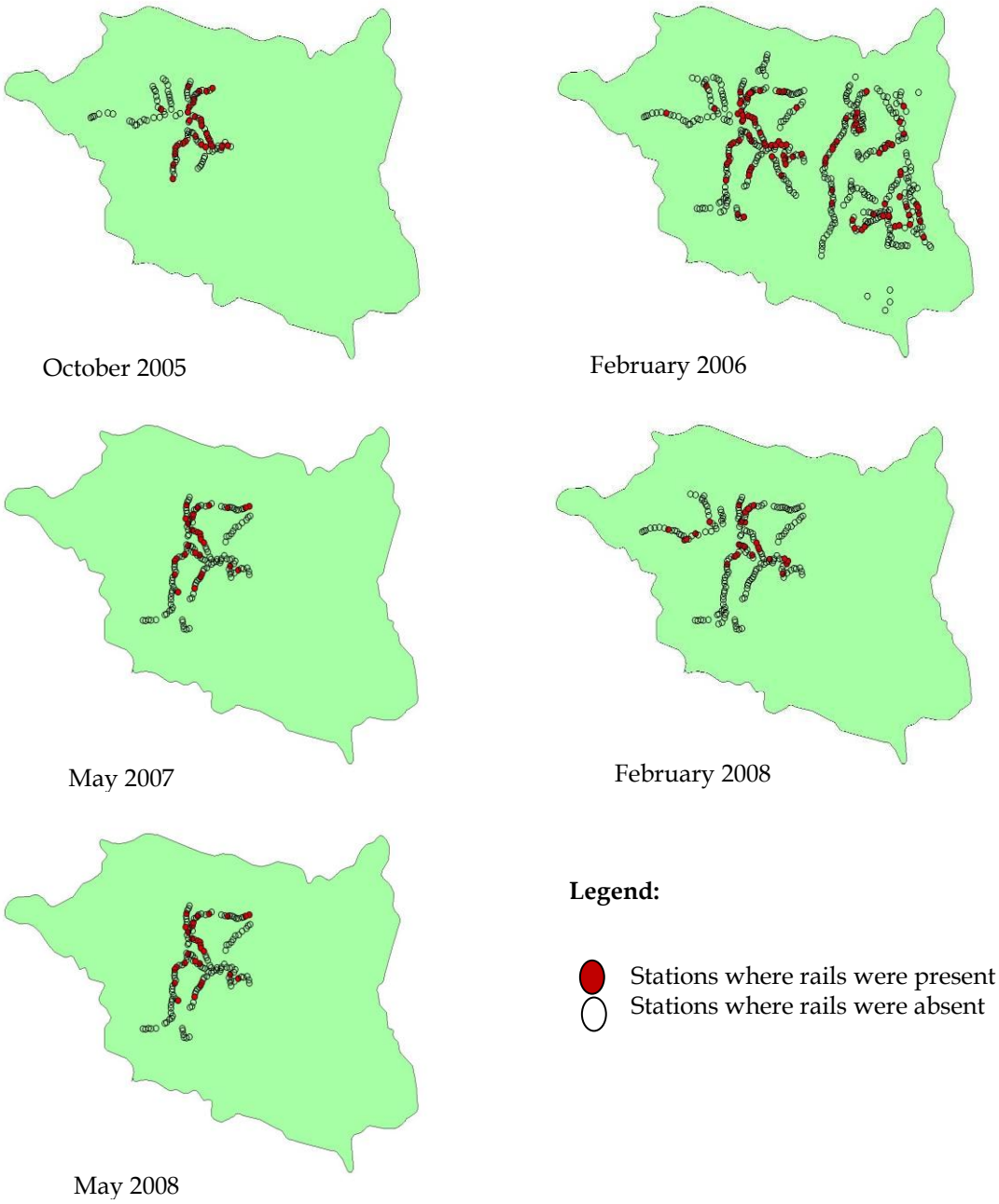
Surveys were carried out in teams of mostly 3 observers, but sometimes 4 or 5. An observer situated at the center of a station broadcast a 40-second recording of the chorus call of the Calayan Rail four times in quarter directions to elicit responses from nearby rails. A 5-second period of silence was observed in between playbacks. At the end of the fourth playback, a 4-minute period of silence was observed. The entire playback routine was pre-programmed in a Sony MZ-NHF800 or MZ-R700DPC minidisk recorder that was used to broadcast calls with a RadioShack audio amplifier.

During this entire period of 6 minutes and 55 seconds, all three observers actively listened for any vocal responses and visually scanned the forest undergrowth for approaching rails. When a response is detected, we record its bearing and distance from the center of the station, the type of call heard or whether it was a visual contact, the time when the response was first detected and the duration of the response. In stations where there was more than one instance of detection, the team made a determination of the total number of rails in the station based on the location and time interval between contacts. If there were any doubts, the minimum number of rails in that station was taken. If a detection was made prior to or after the duration of the observation period, the contact was noted as an off-effort observation and was not included in the count for that station.

Using this survey protocol, we were able to make multiple surveys across four years (Figure 1). Some preliminary surveys in 2005 were reported in Española and Oliveros (2006) but the results from the April-May 2005 survey are not considered here. A poor quality recording of the Calayan Rail call was used at that time which we believe resulted in very low rail response rates in that survey.

On 20–27 October 2005 we undertook a survey of 115 census stations limited to the western part of the island. From 31 January – 20 February 2006 (from hereon referred to simply as Feb 2006) we made an island-wide survey covering 471 stations. On 8–11 May 2007, we performed another survey during a rail survey training course with local volunteers and members of the government environment agency. The survey, however, was again confined to 96 stations in the western portion of the island. In February 2008, we attempted to carry out another island-wide survey. However, due to logistical problems, we were only able to visit 195 stations on 20–25 February. Lastly, in 18–24 May 2008, we conducted another rail survey training course with volunteers and representatives from the local government and so we collected data from 152 census stations. As much as possible, we surveyed the same stations that were visited in past surveys. We detected significantly more rails during the May 2008 survey compared with the February 2008 survey and so we used the May data in the analysis since it was the maximum count for the year.

Figure 2. Rail survey coverage and rail detection



For each survey period, we counted the number of stations where rails were present and where they were absent (Table 1a). We also counted the total number of individual rails detected. We calculated an index of abundance defined as the average number of rails per station.

In order to study trends from 2005 until 2008, we focused our analysis on 69 census stations that were surveyed in all four years (Table 1b). This eliminated the variation in detection rate due to surveying different sample points. These 69

stations are located in the western part of the island. We examined differences in rail detection rates across years by performing a test of independence using the *G* statistic (Sokal and Rohlf 1995).

To look at changes in abundance across years, we counted the number of stations with count 0, count 1 and count 2-4 in each survey period (Table 2). We carried out a test of independence using the G statistic (Sokal and Rohlf 1995) to examine differences in the frequency of each count category across four years.
We analyzed our data from the Feb 2006 survey to look at differences in detection rates across different habitat types (Table 3) using the *G* test of independence (Sokal and Rohlf 1995).

Results

Detection rates averaged 23% but varied from as low as 13% in February 2008 to as high as 35% in May 2007 (Table 1a). The corresponding abundance indices averaged 0.369 rails per station and followed the upward or downward movement of detection rates.

Table 1. Detection rates and abundance indices

Period	Number of stations surveyed	Number of stations where rails were present / Percentage	Number of stations where rails were absent / Percentage	Total number of individuals	Abundance index
(a) All stations surveyed					
Oct 2005	115	31 / 27%	84 / 73%	51	0.443
Feb 2006	471	97 / 21%	374 / 79%	139	0.295
May 2007	96	34 / 35%	62 / 65%	57	0.594
Feb 2008	195	26 /13%	169 / 87%	35	0.179
May 2008	152	29 /19%	123 / 81%	51	0.336
(b) 69 stations surveyed in 2005-2008					
Oct 2005	69	29 / 42%	40 / 58%	48	0.696
Feb 2006	69	28 / 41%	41 / 59%	38	0.551
May 2007	69	25 / 36%	44 / 64%	45	0.652
May 2008	69	19 / 28%	50 / 72%	34	0.493

Examination of the data for the 69 stations that were surveyed in all four years (Table 1b) shows a higher average detection rate (37%) and abundance index (0.598 rails per station) compared with data for all stations visited. Detection rates show a gradual decline from a maximum of 42% in October 2005 to a minimum of 28% in May 2008. Despite this, the *G* test of independence did not find any significant change ($G = 3.878$, $p = 0.275$) in detection rates across years.

The abundance index for the 69 stations exhibited a haphazard decline in value between 2005 and 2008. During this period, there was a 25% rise in frequency of stations with count = 0, a 58% decline in the number of stations with count 1 and a 15% fall in the number of stations with count = 2 to 4 (Table 2). However, these changes in frequency were not significant (G = 10.556, p = 0.103).

Table 2. Frequency of stations across count categories for 69 stations surveyed in 2005-2008

Period	Count = 0	Count = 1	Count = 2 to 4
Oct 2005	40	14	15
Feb 2006	41	19	9
May 2007	44	11	14
May 2008	50	6	13

Across habitat types, detection rate of rails were highest in recently disturbed forest (32%) based on our February 2008 survey (Table 3). On the other hand, detection success was equally lowest in old growth forest and agroforest at 19%. The test of independence found no significant difference among these rates (G = 3.405, p = 0.333).

Table 3. Detection rates across habitat types in February 2008 (n =467)

Type of Habitat	Number of stations where rails were present/ Percentage	Number of stations where rails were absent/ Percentage
Old growth forest	61 / 19%	259 / 81%
Older regenerating forest	12 / 25%	36 / 75%
Recently disturbed forest	10 / 32%	21 / 68%
Agroforest	13 / 19%	55 / 81%

Discussion

With the 69 census stations where we examined trends across years, detection rates and count frequencies exhibited nominal declines but our statistical tests for any change were not significant. We suspect that there might well be a decline but that the test does not have the power to detect a change this small (14%) because of a small number of sample points (n = 69). Increasing the number of stations regularly surveyed in future monitoring activities to 400-500 should improve the test's power and provide a better assessment of population trends throughout the island.

While the statistical test does not conclusively point to a decline in Calayan Rail numbers, the gradual drop of 14% in detection probability across 4 years is of great concern. One explanation for this decline may be the continued clearing of small patches of forest for agriculture. We have observed a few of our census stations in this area cleared and later cultivated. Another possible explanation for the decline is

the hunting of wild Junglefowl Gallus gallus with snares, which also catches the Calayan Rail.

The higher detection rates and abundance indices in the focal 69 stations compared with numbers when other stations are included means that this area in the west central portion of Calayan Island holds a higher density of rails than other parts. It is therefore an important area for the species. The planned establishment of a wildlife sanctuary in the area will be greatly beneficial to the species. Combined with raising awareness of the species in the community, providing them ecologically-sound agro-forestry techniques, and enforcing hunting laws, the measure is expected to control the clearing of forest and put a halt to hunting in the area.

Outside the west central portion of Calayan Island, roads that connect its main settlements are being developed along its coast and through the forested center of the island. We expect that in the long term the improved access to the island's interior will lead to more residents clear-cutting forest for agriculture along or near these roads, likely reducing rail habitat.

The insignificant difference in detection rates across habitat types was not a complete surprise. We have observed the species in coconut groves with a fair amount of undergrowth and in fern-overgrown clearings with sparse canopy cover. The Calayan Rail seems able to survive in disturbed forest habitats. However, it seems to avoid open cultivated areas and grasslands. The species' resilience raises hopes that suitable habitat for the species may be expanded in the future through rehabilitation of degraded areas.

Training of Stakeholders on Calayan Rail Monitoring Survey

Two Calayan Rail surveys were held in order to teach local stakeholders how to survey rails using a playback technique. The surveys were preceded by half a day of lectures on basic information about the species and demonstrations of the survey protocol.

The first survey was held on 7-11 May 2007 in Longog in central Calayan. A total of 8 ISLA volunteers (5 of which were Calayan residents) and 3 staff members of the Department of Environment and Natural Resources took part in the survey training. A total of 94 census stations in and around Longog were visited by the survey team.

The second survey training was held on 17-24 May 2008 in the same area in Calayan. This time, a total of 7 ISLA volunteers (5 of which were Calayan residents) and 2 staff members from the Calayan municipal office gained experience on counting rails. Three ISLA volunteers who joined the 2007 survey training acted as facilitators in this second training activity.

Participants learned the Calayan Rail survey protocol that was developed in the preceding two years by the project team. They were trained how to record data and use equipment like a handheld GPS unit, the cassette recorder and minidisc player.

ENVIRONMENTAL EDUCATION

Teacher Training

ISLA, in collaboration with World Wide Fund for Nature (WWF)-Philippines and the Center for Environmental Awareness and Education (CEAE) carried out a teacher training workshop on March 4-5, 2007 at the Camiguin Elementary School in Brgy. Balatubat, Camiguin Island, Calayan, Cagayan. The training activity was aimed at encouraging educators in the island to take an environmental approach to teaching and providing them with activities and materials that can be easily used in the classroom.

A total of 14 elementary and 8 high school teachers from all six schools on the island (Camiguin Elementary School, Cadadalman Elementary School, Minabel Elementary School, Morol Elementary School, Calayan High School-Camiguin Annex and the Lyceum of Camiguin) participated in the training activity.

The training program included two internationally-reknowned environmental education modules: Project Learning Tree (PLT) and Project Water Education for Teachers (WET). Teachers received training certificates and books that contain almost 200 activities that they can use in their classrooms for various subjects. A teaching aid kit was also provided to each school.

A similar training workshop was conducted on Calayan Island in May 2006 through the first phase of the Calayan Rail Project. Mr. Jojo Castillejos, a teacher from Calayan High School-Camiguin Annex and one of the several teachers who were trained to be PLT and Project WET facilitators in that year, helped as a facilitator in this year's workshop activity.

"The seminar gave me added knowledge, especially about caring or giving importance to nature," wrote Zaira Gonzales, a Grade 1 teacher from Morol Elementary School, in the activity evaluation. Several other teachers were pleased with the seminar and hoped that there would be similar seminars in the future.

Basic Environmental Education Seminars

The project team continued to carry out its series of Basic Environmental Education (BEE) seminars that were started during the first phase of the project. On 9-15 April 2008, the project team visited all seven barangays throughout Calayan Island.

This year the seminars focused on knowing what is biodiversity and its importance and sustainable use of resources. The seminar workshops consisted of fun, enjoyable and hands-on activities lifted from internationally-recognized environmental education modules – Project Learning Tree (PLT) and Project Water Education for Teachers (WET). These activities were adopted to the local setting, making reference to native species such as the Calayan rail, and the rich forest resources the island harbors.

Participants of the seminars included farmers, barangay officials, housewives and students. Most of the 254 community members (Brgy. Poblacion–22; Brgy. Centro Dos–48; Brgy. Magsidel–51; Brgy. Dibay–41; Brgy. Dilam–62; Brgy. Cabudadan–15; Brgy. Dadao–16) that took part in these educational activities were thankful for the opportunity of this learning experience and requested similar seminars in the future.

Information materials

We re-printed posters (2,000 pcs) and fact sheets (1,200 pcs) that were produced from the first phase of the project (Annex A). The posters aim to gain support for the conservation of the Calayan Rail while the fact sheets aim to provide known scientific information about the species, including results of our initial surveys. Both posters and fact sheets were printed in English and the local language, Ilocano.

The posters and fact sheets were distributed for free to members of the community during project activities. We also gave out these materials for display in barangay halls, the town hall, schools, convenience stores and government offices in the area.

A tarpaulin featuring the Calayan rail and information on the species was also produced (Annex A). This was used during exhibits (Philippine Bird Festival in Palawan, ROX Bird Race); otherwise, it stands at the gates of the Municipal Hall in Calayan.

Pedring: The Piding Mascot

On 26 July 2007 school children, teachers and residents of Calayan Island were astounded to see the biggest Calayan Rail (locally known as *Piding*) that ever walked the island. The bird had the usual red beak and legs and dark body but it donned a green scarf and a native hat.

It is not a giant anomaly of nature, but a lovable and cuddly mascot named Pedring. He is the new ambassador of this rare and unique bird and its habitat.

Pedring was spotted during the culminating ceremonies of Nutrition Month Celebrations on the island. During a week where prizes were given to growers of the largest papaya, the largest eggplant and the largest bananas, Pedring surely deserved a prize for being the largest bird of its kind.

Pedring danced among the crowd and school children instantly swarmed around him trying to get a good view of the bird. Cameras were flashing from all directions as people tried to take a photo of this rare appearance.

ISLA, through the Calayan Rail Project, worked in close coordination with the Calayan Municipal Health Office to launch the mascot during the Nutrition Month Celebrations. The event is the biggest activity sponsored by the Health Office every year. Field demonstrations, Filipino games, a cook fest, a basketball tournament, healthy child contests and a float parade are among the exciting activities that marked that year's celebrations. The Calayan Rail Project provided t-shirts, bags and raincoats as prizes for the different competitions.

Since its launch, Pedring has made visits to 4 primary schools on Calayan Island on 17-19 October 2007 and in two campuses of the Cagayan State University in January 2008. Accompanied by youth volunteers, Pedring helps spread the word about the uniqueness of his species, the rich natural resources on Calayan Island and the conservation efforts being undertaken by the local community. The mascot helps remind Calayan residents how fortunate they are for having a bird that can be found nowhere else in the world but their own island. Pedring captivates and entertains his young audience with a little jig – a way of saying it is truly fun to be stewards of the environment

Philippine Bird Festival

Every year the Wild Bird Club of the Philippines organizes the Philippine Bird Festival. In its first year in 2005, it was intended to promote birdwatching in the country, especially school children. But it has grown since to become an annual event where conservation-oriented groups gather to share information about their projects and where Philippine bird conservation issues are discussed. It is an event that is now attended by hundreds of school children, government officials, and bird enthusiasts from the Philippines and abroad.

During the first phase of the Calayan Rail Project, ISLA took part in the first two bird festivals that were both held in Manila. In 2007 and in 2008, ISLA yet again joined two Philippine Bird Festivals – the first held in Cebu City in central Philippines on 21 September 2007 and the second in Puerto Princesa, Palawan in western Philippines on 12 September 2008. The event served an opportune time for the project team to talk about the Calayan Rail, and the island where this endemic species is found, to people and organizations in other parts of the country.

The project team set up exhibits during both festivals. Fact sheets and posters of the Calayan Rail were distributed to teachers and students eager to learn more about this species and its lovely island. Further, quizzes and "passport" games allowed the students to gain in-depth information on this species – adding another one to their long list of unique Philippine biodiversity.

Birdwatching lectures, face painting, art activities, photo displays and fun games are regular activities of the annual festival. In addition, booths of local and international organizations featured species of critical importance and campaigns to save these and their habitat. The Calayan Rail stood among them all as one of the newest additions to Philippine biodiversity.

The 2007 bird festival that was held at the Waterfront Hotel in Cebu City was attended by bird experts, birding enthusiasts, local and international NGO's and over 1,000 Cebuanos, mostly grade school and high school students. It carried the theme: "Just Watch, Don't Catch," aimed to broaden conservation awareness and

the responsible appreciation of nature through birdwatching; and likewise a timely theme fitted to keep, and thus promote, a bird-flu free Philippines.

In the 2008 Philippine Bird Festival, more than 3,000 students and bird aficionados flocked to the Puerto Princesa Coliseum. This year's festival, themed "*Aba, Kakaiba!*" or "How unique!," aimed to raise public awareness about the diverse birdlife in Palawan and local efforts for the protection of the still pristine forest, wetland and coastal habitats of the country's western-most province.

R.O.X. Bird Race

The R.O.X. (Recreational Outdoor Xchange), in partnership with the Wild Bird Club of the Philippines (WBCP) held the first ever 'ROX Bird Race Challenge' on December 01-02, 2007. ISLA took part in the culmination of the event on December 02 at the Bonifacio High Street in Fort Bonifacio in Taguig, in metropolitan Manila.

Isla joined the activity with a booth and coloring activity that features the Calayan Rail. Stickers, facts sheets and ads were distributed to friends and guests present during the event. It was an opportune time to spread the word about the Calayan rail and its island-home among city dwellers and mall-goers. And as it was held on a Sunday, families with young kids gathered in the exhibit area to learn more about the fascinating birds of the Philippines.

ROX is a newly opened recreational outdoor hub said to be the largest in Southeast Asia. They organized the Bird Race to make the public aware of existing green spaces, wetlands and parks in Metro Manila that are important homes for over 100 species of migratory and resident birds. With the success of the race, it is hoped to make this activity an annual event to encourage more people to get into bird watching and conserve the cities' remaining green areas.

Oral Presentations

Carl Oliveros. Conservation of the Calayan Rail. Seminar to Undergraduate Biology Majors. Avila University, Kansas City, Missouri, U.S.A. October 2008.

Carl Oliveros, Cynthia Adeline Layusa and Michael Angelo Morales. Monitoring the status of the Calayan Rail. 22nd Annual Meeting of the Society of Conservation Biology, Chattanooga, Tennessee, U.S.A. July 2008.

Carl Oliveros, Elson Aca, Miguel Ferido, Harvey Garcia, Karina Javier, **Cynthia Adeline Layusa**, Michael Angelo Morales. Calayan Rail Project II: Building local stakeholders' capacity to protect an island-endemic species. 22nd Annual Meeting of the Society of Conservation Biology, Chattanooga, Tennessee, U.S.A. July 2008

Cynthia Adeline Layusa. ISLA's conservation projects in the Babuyan Islands. Talk given at a regular meeting of the Wild Bird Club of the Philippines. Taguig, Philippines. March 2008.

Cynthia Adeline Layusa. ISLA's conservation projects in the Babuyan Islands. Seminar to undergraduate students in Environmental Planning and Management. Environmental Studies Institute, Miriam College Foundation Inc., Quezon City, Philippines. 26 February 2008

Carl Oliveros. Conservation of the Calayan Rail. Graduate Student Organization Annual Retreat. University of Kansas, Lawrence, Kansas, U.S.A. October 2007.

ENVIRONMENTAL LAW ORIENTATION TRAINING

In cooperation with Tanggol Kalikasan, an NGO that specializes on environmental law, we conducted an environmental law orientation seminar workshop on 21-22 May 2008 to help strengthen the enforcement of these laws on the island. In this activity local law enforcement officers were given an overview of important national environmental laws and criminal procedures. In addition, they were trained on essential law enforcement skills such putting together proper documentation of evidence and affidavit writing.

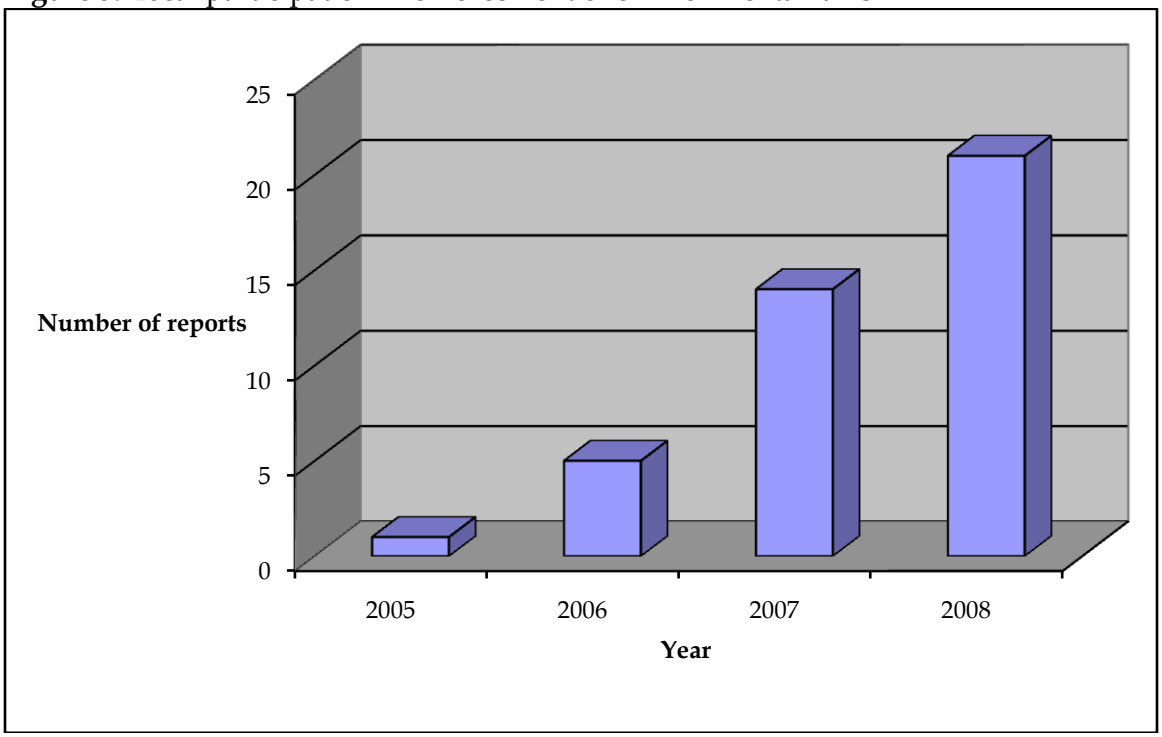
A total of 79 local law enforcers attended the seminar. This number included barangay officials, barangay police, members of the Calayan Municipal Council, representatives from the Calayan municipal government, local staff of the Department of Environment and Natural Resources and members of the Philippine National Police-Calayan.

In post-activity evaluations, participants rated the training seminar favorably. 92% of attendees rated the relevance of topics discussed as either "Excellent" or "Very Good." A higher proportion of participants had the same rating for the organization of topics (96%), while less thought so of teaching aids (78%) and reading materials (64%). Each of the resource persons was regarded as "Excellent" or "Very Good" by 70% of attendees.

We have received a report that in September, some local law enforcers actually used what they learned during the seminar in the apprehension of fishermen using illegal fishing methods.

There has been an increase in local participation in environmental law enforcement as evidenced by the rise in number of reports of environmental law violations received by the Philippine National Police from the public (Figure 3). We assume that violations have been under-reported in the past. This improvement was driven by local environmental advocates in the community.

Figure 3. Local participation in enforcement of environmental laws



CALAYAN ENVIRONMENTAL COUNCIL

The Calayan Environmental Council (CEC) was formally launched on March 7, 2007 at the Calayan Multi-Purpose Hall in Calayan Island, Cagayan. The CEC is a multi-sectoral council formed to serve as a vehicle for cooperation for environmental programs and activities among different stakeholders in Calayan Island.

Representatives from the municipal government of Calayan, the barangays in the island, the local NGO's, the education as well as the religious sector were present during the first council meeting.

At the CEC launch, members of the council discussed and adopted its Constitution and By-Laws, after which, they were organized into the different working committees and the Executive Committee. Plans for the council for the coming months were discussed, including a law enforcement training activity, rainforestation training activity and information and education activities.

Mr. Lino Llopis, Municipal Agriculture Officer, was elected Chair of the CEC Executive Committee. Ms. Bella Llopis and Mrs. Teresita Singun, meanwhile were voted Vice-Chair and Treasurer, respectively. The Executive Committee also includes the Calayan Mayor, a representative from the Department of Environment and Natural Resources, representatives from the seven barangays in Calayan Island, the six chairmen of the working committees and three representatives from NGO's.

Isla Biodiversity Conservation, along with Fr. Dennis Maquiraya, Calayan Parish Priest and Mr. Lito Ubasa, Chairman of Magsidel West Farmers Association, was elected to become a

member of the Executive Committee. Isla was also chosen to become part of the council's Secretariat.

The council was born as a result of a series of barangay consultations made in 2006 by the Calayan Rail Project team. Communities and agencies noted the lack of cooperation and coordination of different agencies and organizations in planning and implementing programs for the conservation of Calayan's natural environment. All seven barangays in the island expressed interest in joining a council that would foster collaboration in carrying out activities and that would be a source of support in tackling the various environmental issues facing the island and its residents.

On 22-23 May 2007, members of the Calayan Environmental Council reached a milestone by formulating its mission and vision statement at a planning workshop held at the Calayan Multi-Purpose Hall.

After hours of lengthy discussions, the council members agreed on the following wording in Ilocano:

VISION

Calayan nga napnuan natural a kinabaknang nga ay-aywan dagiti agkaykaysa nga umili para iti nasayaat a pannakausar para iti agdama ken masakbayan.
(An island rich in natural resources that is conserved hand in hand by the community for its sustainable use.)

MISSION

Makitinnulong kadagiti maseknan para iti pannakaaramid ken pannakaipatungpal dagiti linteg, pagannurutan, plano ken programa ken iti pannakaipaamo kadagiti umili, iti umisu a pannakasalwad ken pannakausar kadagiti natural nga kinabaknang.
(Help each other in formulating and implementing policies, regulations, plans and programs and in educating the community on the conservation and sustainable use of natural resources.)

SMALL ISLAND REFORESTATION TRAINING

The Calayan Rail Project started the development of the Small Island Reforestation (SIR) Program. The SIR is a reforestation technique being developed to help rehabilitate de-forested areas on the island. It is designed to help upland farmers increase the productivity of their land and discourage them from clearing forests for agriculture, one of the main threats to the Calayan Rail's habitat. Based on a technique known as "Rainforestation" that has seen success in other parts of the country, the SIR involves planting native trees and inter-cropping with them vegetables and fruits from which farmers can make a living. This is the first time that this technique will be implemented in a small-island setting.

In April 2007, a small team visited Calayan to make preliminary preparations for the SIR training. The team conducted soil tests in potential pilot reforestation areas as well as focus group discussions and interviews with local residents to help assess the social acceptability and economic viability of a variety of vegetable and fruit crops.

Due to scheduling problems the SIR training was postponed twice but was finally held on 10-11 May 2008 in Barangay Magsidel on Calayan Island. A total of 39 residents of Brgy. Magsidel took part in the training workshop. These included barangay officials, barangay police, farmers and representatives from the municipal government of Calayan.

The first day of the training workshop was devoted to lectures on the state of Philippine rainforests, the importance of small island ecosystems, ecological considerations in reforestation, the importance of using native species and the aims and stages of SIR. The second day involved hands-on work in collecting wildlings, constructing a growth chamber and a short discussion of future plans.

At the end of the training-demonstration, more than 400 wildlings were bagged, a growth chamber was constructed, and a set of SIR officers were chosen. As of

October 2008, at least 70 wildlings have been transferred to a reforestation area being maintained by a spring development association in Brgy. Magsidel. The Municipal Agriculture Officer (MAO) expressed intentions to continue the initiative in other barangays.

A follow-up meeting was held on 12 October 2008 with SIR participants to share updates, experiences with the SIR technique, and plan next steps for the program. As of October 2008, at least 70 wildlings have been transferred to a reforestation area being maintained by a spring development association in Brgy. Magsidel. The community plans to apply the technique in 6 other spring development project sites in the barangay. The Municipal Agriculture Office also expressed intentions to continue the initiative in other barangays.

ESTABLISHMENT OF A WILDLIFE SANCTUARY

During a series of community consultations carried out in the first phase of the project, the establishment of a protected area or sanctuary on Calayan Island was identified as a need. Subsequently, a resolution was filed at the Sanggunian Bayan of Calayan requesting the Municipal Mayor to establish portions of Calayan Island as a wildlife sanctuary or protected area. Sitio Longog in Brgy. Magsidel, where the Calayan Rail is commonly sighted, was chosen to be the pilot site for a sanctuary. However issues involving land tenure and social acceptability of the proposed sanctuary need to be clarified. ISLA, through the Calayan Rail Project, is building on this initiative by assisting local stakeholders in establishing a local wildlife sanctuary through a participatory process.

The objective of this activity is to assist local officials in conducting a participatory resource mapping activity and community consultations on the recommended wildlife sanctuary and watershed area and prepare a recommendation to the Calayan Municipal Council.
The community-based participatory process was conducted in three stages to get the full understanding and participation of the stakeholders, as well as to address the concerns and interests of those who will be affected and involved in the process. The phases include:

1. Community consultation, Participatory Resource Mapping (PRM) and validation;
2. Consultation of PRM outputs with the local government unit and key local government agencies and;
3. Presentation of consolidated recommendations to the community in Longog.

Stage 1: Community Consultations and PRM

A participatory resource mapping and consultation activity was facilitated by ISLA on 26 May 2007 in Sitio Longog. Residents of Longog and nearby Pilid as well as

those who have farms in and around Longog attended the consultations. Officials of Barangay Dibay led by its Chairman Guillermo Bumagat were also well present.

Farmers arrived at a consensus that a protected sanctuary and watershed needs to be established around Longog in the center of Calay an Island. Among the rules proposed by farmers inside this sanctuary include the prohibition of certain acts such as clearing of forest for agriculture (kaingin), any cutting of trees, hunting wildlife, and construction of permanent structures inside the protected area. Consultation participants also asked that an area be designated around current agricultural areas where the above activities will be allowed.

All those present agreed that everyone should take part in guarding the protected area and about a dozen expressed interest in becoming informants to law enforcers.

Stage 2. Consultations with the Local Government

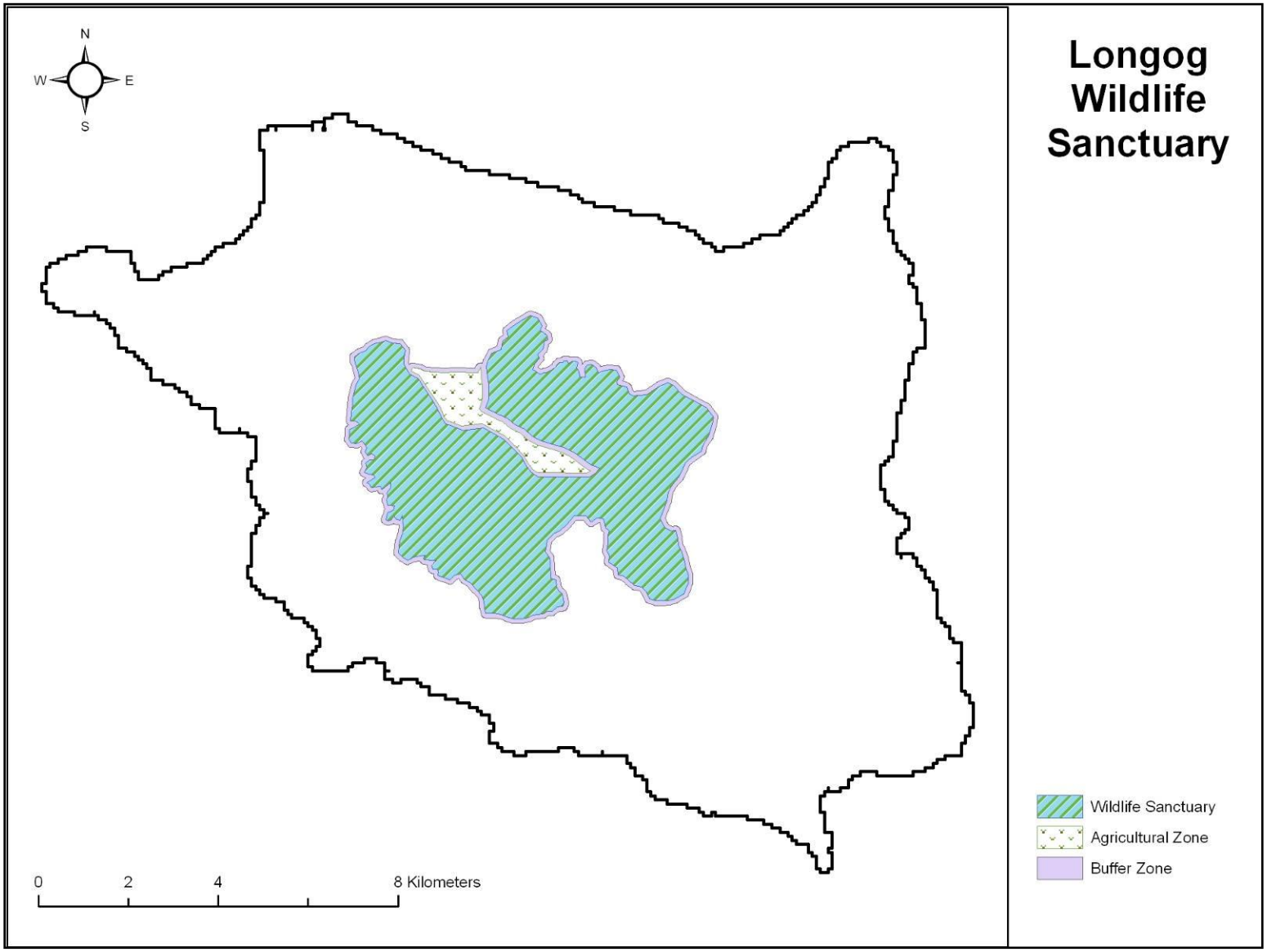
On 6 May 2008, results of initial consultations with the community in Longog were shared with local government officials in a session of the Municipal Council. Officials present were in general agreement with the initiative to establish a protected sanctuary and watershed. However, concerns were raised including the need for a public hearing, which is a technical requirement for local ordinances and the source of funding for operation of the sanctuary.

Stage 3. Presentation of Consolidated Recommendations to the Community in Longog.

The meeting with local government officials was followed by another visit to the community in Longog to discuss issues raised by the officials. A resounding support to push through with a municipal ordinance to establish the sanctuary came from the community. Following this resolution, an analysis of the community's strengths and weaknesses in managing the sanctuary, and the opportunities and possible threats that they see imminent to establishing the sanctuary, were gathered through a workshop. Here, a need for

cooperation among communities and training of wardens were identified in the SWOT as two leadings issues that need to be addressed so the community can effectively manage the sanctuary once implemented. The community sees only opportunities gained from the sanctuary including protection for their water source, and sustainability of resources for future generations.

Soon, an ordinance will be crafted to legalize the wildlife sanctuary. Map 1 shows the location of the proposed sanctuary in Sitio Longog, Calayan Island. A technical report on the proceedings, recommendations and maps is produced to aid legislators in crafting the municipal ordinance. Full details of the activity are available in the attached report (Annex B).



Map 1: Location of Proposed Wildlife Sanctuary and Buffer Zone in Sitio Longog.

BARANGAY CONSULTATIONS

In October 2008 we held a series of community consultations in the 7 barangays on Calayan Island in order to: (a) share the results of the Calayan Rail survey monitoring work; (b) share updates on the Conservation Action Plan formulated in 2006 based on the previous community consultations in that year; and (c) provide the community an opportunity to give further inputs in further conservation activities.

A total of 285 community members took part in the consultations (Brgy. Dilam – 31, Brgy. Dibay – 30, Brgy. Dadao – 46, Brgy. Cabudadan – 20, Brgy. Magsidel – 65, Brgy. Centro 2 – 33, Brgy. Poblacion – 60).

The project team members sensed the keen interest of participants to learn about the results of Calayan Rail monitoring surveys during the consultations. Community members asked a lot of questions about the study and general information about the species. They likewise shared their own knowledge and experiences with the project team.

In all barangays, there was a general call to halt illegal activities that harm the environment and to undertake conservation programs. Reforestation, environmental education, seminars and deputization of wardens are among the top measures proposed by the participants.

TEAM AND ORGANIZATIONAL DEVELOPMENT

Team Member Joins CLP Training

A member of the Calayan Rail Project team, Cynthia Layusa, traveled to South Africa from 24 June – 6 July 2007. She took part in conservation skills training held at the Thomas Baines Nature Reserve sponsored by the Conservation Leadership Programme. She also attended the 21st Annual Meeting of the Society for Conservation Biology and participated in a GIS training course at the Nelson Mandela University in nearby Port Elizabeth. The activities form part of support services provided by the Conservation Leadership Programme to its winning project teams.

Local Volunteers Join Conservation Training and Festivals

We invited three local volunteers from Calayan Island to join a team from Mabuwaya Foundation and ISLA in conducting Philippine Crocodile population monitoring survey in Dalupiri Island, Calayan, Cagayan on 26-30 May 2008. The training enables the local volunteers to gather experience in biodiversity surveys of other important wildlife that can be found in the Municipality of Calayan.

One local volunteer also joined in the Philippine Bird Festival in Puerto Princesa City in Palawan. The exposure aims to increase appreciation of conservation work by local volunteers, as well as to increase a sense of pride among local volunteers on their very own Calayan rail. It also allows them to know other organizations in the Philippines working towards wildlife conservation. The presence of a Calayanon in the Bird Festival was seen as a chance for other bird enthusiast to know more about the island and its endemic pride.

The idea that they are one with other groups in their efforts to conserve nature, and the knowledge that the Calayan rail is one of prides in Philippine biodiversity is best felt when experienced firsthand. Local volunteer involvement grows deeper, and in it stems advocates that can become future conservations in their own island.

Volunteers Trained on Project WET and PLT

3 Manila-based volunteers and 1 local volunteer participated the Project WET and Project Learning Tree workshop. The event was organized by Add UP Volunteers

on 19 October 2008 at the Conference Hall of the Environmental Studies Institute, Miriam College Foundation, Quezon City.

Getting trained on the use of these manuals will help volunteers in doing environmental education campaigns in the island. These modules are being used in Calayan for the basic environmental education seminars and teacher training workshop.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions:

The Calayan Rail Project II has helped build local stakeholders' capabilities in conserving the Calayan Rail and the island's natural resources as evidenced by the following indicators:

- The municipal government of Calayan and barangay units on the island have continued to provide local counterpart contribution to the project in terms of logistics support and budget for food in various activities
- The Calayan Youth Association included environmental workshops in some of its meetings in February 2007.
- The Calayan Municipal Council has passed 18 resolutions that concerns environmental resources protection.
- Teachers from the Calayan National High School and St. Bartholomew's Academy are regularly using classroom activities adopted from Project Learning Tree and Project WET.
- A growth chamber with 400 wildlings was constructed in Brgy. Magsidel using the Small Island Reforestation technique and 70 of these wildlings were subsequently planted in spring development project sites.
- Handouts on Small Island Reforestation were produced and provided to attendees of the training activity.
- Local participation in environmental law enforcement has increased as evidenced by the rise in number of reports received by the Philippine National Police in Calayan from the public. This improvement was driven by local environmental advocates in the community.
- We trained a total number of 20 individuals in rail survey monitoring, including participants from the office of the Calayan Municipal Office (2), the Department of Environment and Natural Resources (3), Calayan residents (10), and ISLA volunteers (5).
- Local stakeholders representing the following offices/units participated in consultation activities and gained experience in a participatory process of establishing a wildlife sanctuary: the Calayan Environment and Natural Resources Office, the Calayan Municipal Agricultural Office, the Calayan Municipal Planning and Development Office, the Calayan Municipal Council, the Calayan Assesor's Office, the Association of Barangay Captains President and 3 barangay units

Recommendations:

In order to maximize the gains made in the current project, we recommend that:

- Further involvement of stakeholders in conservation activities is encouraged to take advantage of skills gained in the current project.
- Initiatives started in the current project including the Small Island Reforestation, Environmental Law training, and Teacher Training are continued to realize their potential long-term benefits to conservation in the area.
- Monitoring surveys of the Calayan Rail is continued and its coverage expanded.
- Further studies on the Calayan Rail's ecology are carried out to guide conservation strategies.
- Increase awareness of the species and its conservation on a national and international scale.
- The project team maintains its good working relationship with local stakeholders.
- The project team maximizes the length of visits to Calayan Island to improve monitoring, evaluation and coordination activities.
- ISLA undertakes professional development activities for its staff and volunteers in order to establish the organization as a center of expertise in conservation in small islands.
- The Calayan Municipal Council passes an ordinance that establishes a wildlife sanctuary in Longog and allocates the appropriate resouces for its management.

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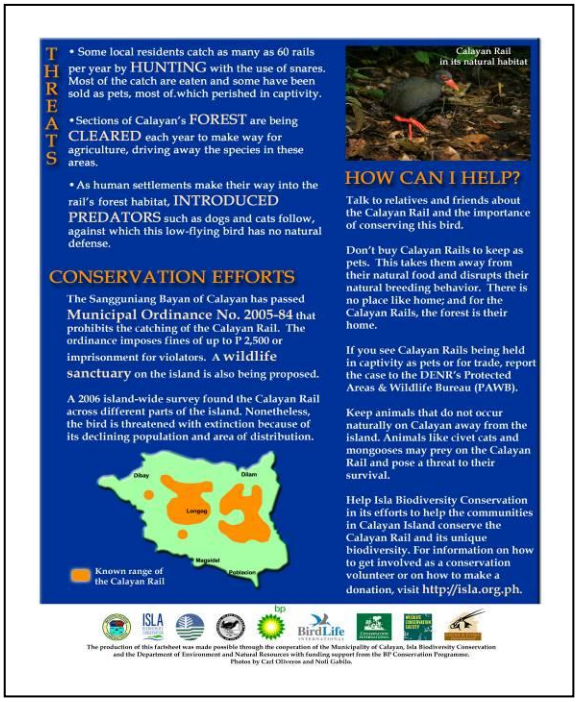
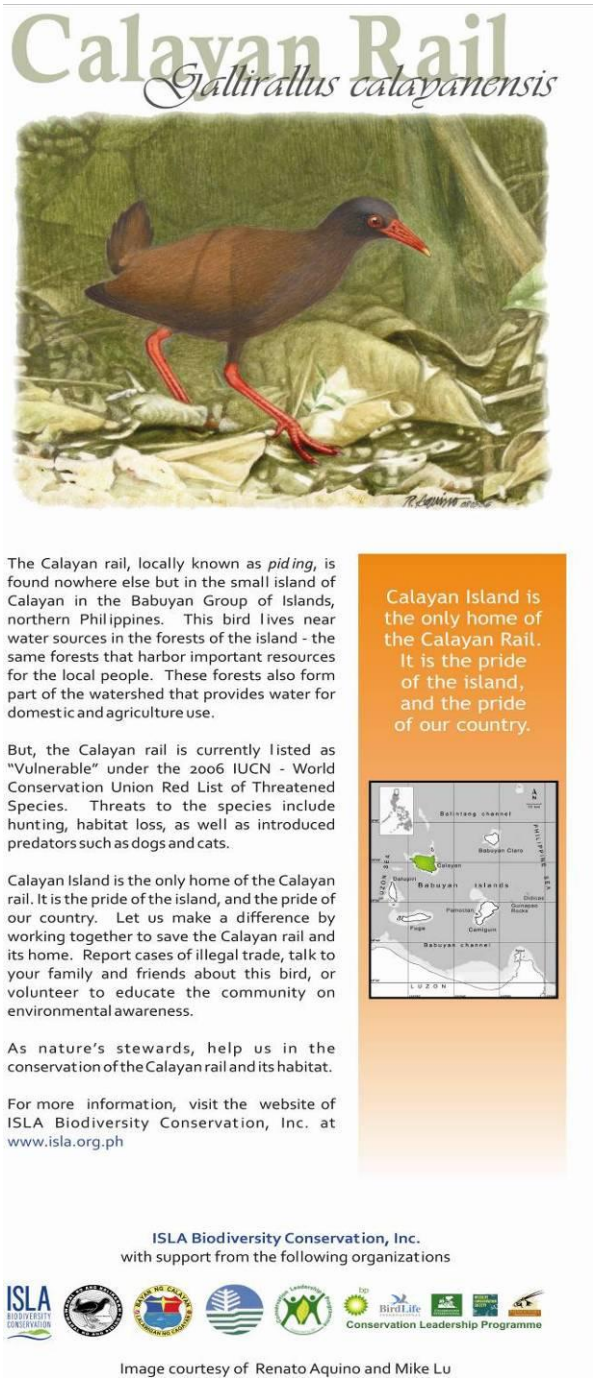
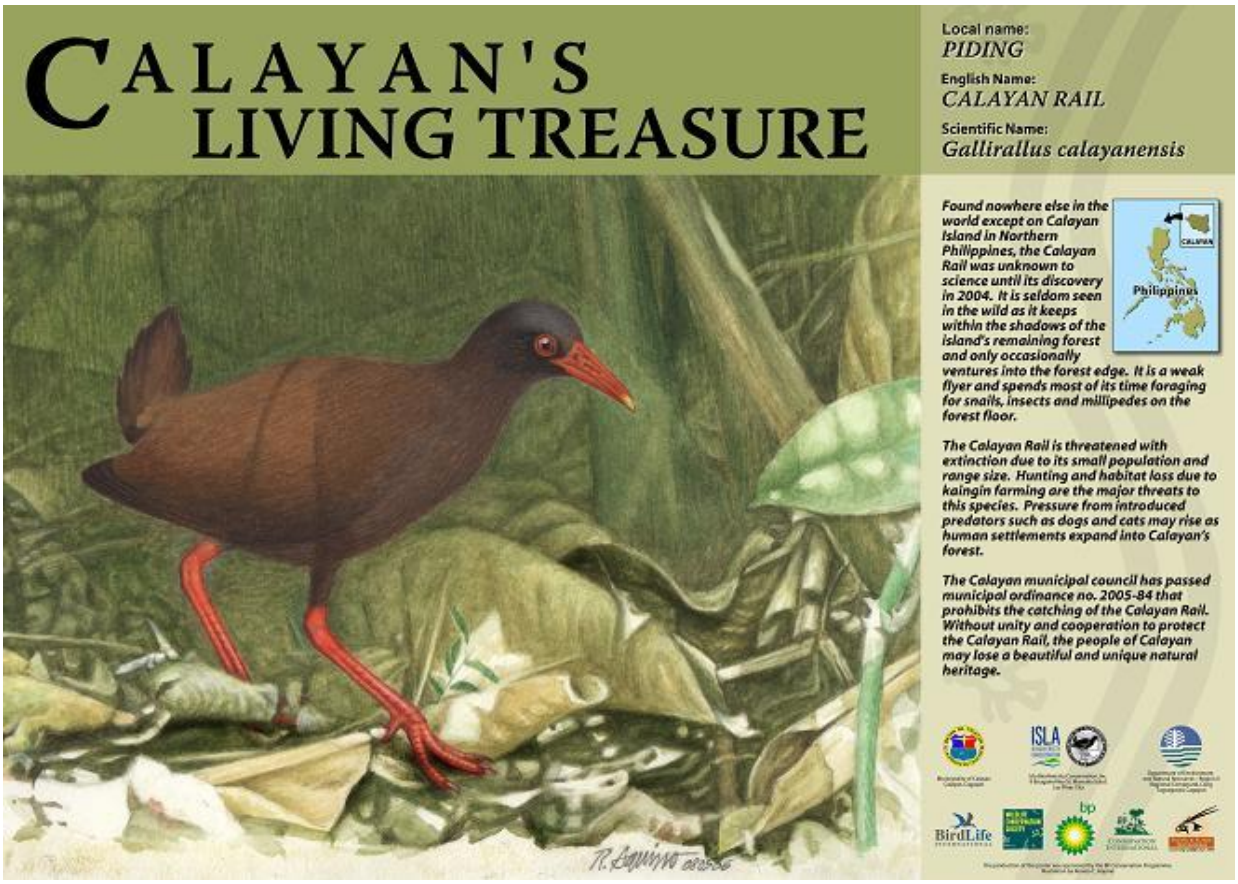
ANNEX A:
Information Materials





Left top and bottom: English version of the Calayan Rail Fact Sheet (front and back).
Right: Calayan rail tarpaulin displayed during festivals and at the Municipal Hall.

ANNEX A:
Information Materials



English version of the Calayan rail poster.

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