

PHILIPPINE
COCKATOO
CONSERVATION
PROGRAMME



In-Situ
Conservation Project

Technical Progress Report

January - August 2012



By



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With contributions from Dr. Sabine Schoppe

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Municipal Government of Balabac, Philippines
Municipal Government of Patnanungan, Quezon, Philippines
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Palawan Council for Sustainable Development Staff (PCSDS)
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Polillo Islands Biodiversity Conservation Foundation, Inc.
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EXECUTIVE SUMMARY

Output 1: Conservation of cockatoo population on Pandanan and Bugsuk Islands, Balabac

1. Eight nests were occupied this breeding season. Fifteen out of sixteen fledglings were banded.
2. We lost one hatchling to poaching. Investigation results are being assessed for possible law suit against involved persons. We coordinated with Jewelmer Security to help in monitoring entry of suspected middleman and newcomers in the area.
3. The nest monitoring in Bugsuk was not successful due to unavailability of reliable guide; however, the visit harbored good observations of Blue-headed Racquet-tails and Blue-naped Parrots.
4. The roost counts in Malinsuno were unstable. Birds tend to move frequently between islands to forage and to avoid unfavorable weather conditions. Highest count in Malinsuno was 95 birds.
5. Cockatoo counts in southern part of Bugsuk Island yielded 20 birds in August and these roosting birds were observed for three weeks in the area. This was when *Sonneratia alba* was fruiting.
6. We monitored 20 active nest trees of other cavity-nesting birds in Pandanan in particular of Blue-naped Parrot, Palawan Hornbill, Hill Myna and Blue-headed Racquet-tail.
7. The construction of the field house in Malinsuno Island had started in July. Meanwhile, a nursery had also been established in Pandanan Island by the wardens.

Output 2: Re-introduction of Philippine cockatoos into parts of the historical range

8. The MOA between KFI and PCSDS was formally signed on August 2, 2012 with none other than the PCSDS Chair, Gov. Mitra and KFI President J.M. Zubiri at the Provincial Capital, Puerto Princesa City.
9. We started taking measurements of Philippine cockatoo museum specimens available in the Philippines. It is hoped that we can do a genetic study that will further shed light on former occurrence of possible subspecies.
10. With funding for two years from Save our Species (SOS), the assessment of potential re-introduction sites is continued. Three assessments have been conducted within the reporting period: Masbate and Ticao, Mindoro Occidental and Bohol.
11. In Masbate, small forest areas exist north of Milagros and in Tugbo watershed, but are heavily encroached by hunters and in the latter forest also by illegal gold miners. Very few potential nest trees were recorded in these two sites. Of the four assessed mangrove areas only the Bongsalay Mangrove Nature Park was potentially suitable for re-introduction. With 245 ha this protected area on the southern tip of Ticao Island is the largest mangrove stand in the region. Further access is hampered by activities of rebel groups, particularly New People's Army, especially in forest remnants in Ticao.
12. We assessed three areas in the western portion of Mindoro: Malpalon, Aroyon-Malate Tamaraw Critical Habitat and Siburan Forest in Sablayan Penal Farm. The combination of widely intact lowland forest, efficient protection and supportive management make Siburan Forest within the penal farm one of the most promising sites assessed so far.
13. We assessed inland forests in Rajah Sikatuna National Park, in the upper reaches of Loboc River and northern mangrove islands in Bohol. Good forest with a high number of potential nest trees persists in the park; the elevation is already beyond the optimal

lowland habitat of the cockatoo, however, no orographic rain occurs in the area due to absence of higher mountain ranges.

Output 3: Conservation of cockatoo population on Rasa Island Wildlife Sanctuary (RIWS), Narra continued

14. This breeding season we recorded the wettest February since start of the project and 39 pairs with breeding attempts, likewise the highest number since conservation efforts started in Rasa which may be explained by the favorable weather conditions before and during the onset of the breeding season.
15. A total of 74 eggs were produced and 53 chicks hatched; 44 were banded.
16. We observed some nests with heavy mite infestation. Whenever accessible, we treated hatchlings and nest substrate was treated with pyrethrum-based powder.
17. Since 2000 we see a tendency towards smaller clutch sizes, which may not be explained by weather conditions alone, but may be related to higher densities of cockatoos on Rasa overall.
18. In the 2012 breeding season average clutch size was 2.3 eggs per pair, which is similar to past years, but somewhat lower than in the early years of the project.
19. Fruiting intensity was below average in this season and may have contributed to a somewhat reduced productivity of an average 1.22 fledglings per breeding pair.
20. Interesting results on our analysis on the long-term breeding performance, rainfall and food supply is presented. There is a very highly significant correlation between number of fledglings per pair and fruiting intensity in March ($n < 0.01$), and a significant one ($n < 0.05$) for fruiting intensity in April. The highest correlation for a longer period was found for fruiting intensity between March and May and the number of fledglings per pair. No significant correlation was found between flowering intensity and average number of fledglings produced per pair. There was also a highly significant correlation between fruiting intensity in March and number of hatchlings produced per pair which is more difficult to explain.
21. One implication for management could be that supplemental feeding can already be initiated at an earlier stage, if fruiting intensity falls below a threshold of 0.3 in March. Supplemental feeding then could commence in April.
22. For the first time since start of the project in 1998 cockatoos are now roosting on the mainland opposite of Rasa, starting in July of this year. The first roosting birds recorded in mainland station on July 3 were 35 individuals. Numbers of cockatoos which stay overnight on the mainland is fluctuating and reached 82 birds on July 27.
23. The mainland roost is not yet consolidated in terms of location and birds seem to transfer roost sites frequently. The split-up of the traditional roost count on Rasa leaves us with mixed feelings. Management has to be adaptive until we see where birds will settle down. In the meantime, conservation education in involved coastal communities was intensified.
24. In April, we rescued one cockatoo which was injured allegedly from an improvised air gun that uses marbles as pellets. Despite treatment by veterinarian, the bird died due to hypoglycemia secondary to stress and wing injury.
25. Monitoring of claimants and others into Rasa Island Wildlife Sanctuary is continuously done especially that the breeding season is also the height of honey gathering and many other activities like copra and sea cucumber harvesting.
26. Two regular PAMB meetings were held within the reporting period.
27. PAMB members rehabilitated the excavated area in Rasa Island. Trees were planted and a promissory note was signed in presence of the PAMB members.

28. In June, we were invited to speak before the 18-man monitoring team from the National Economic Development Authority (NEDA) Region 4-B. We also participated in the Participatory Local and Regional Economic Development (LRED) Planning Workshop which was sponsored by GIZ held in Narra.
29. The celebration of 6th Katala Festival was a huge success. Pupils and students of elementary and high schools were engaged in different fun and learning activities with this year's theme "Biodiversity is Life".
30. PCCP Narra staff reached 1,213 recipients of government's 4Ps program (program for the poor families) from 11 northern barangays of Narra in 12 days in August preaching about the plight of the Katala, environmental laws and importance of biodiversity conservation. This campaign was received very well by target audience and will extend to southern barangays of Narra.

Output 4: Conservation of cockatoo population on Dumarán Island, Dumarán continued

31. Four nest holes were occupied by cockatoos. A total of eleven eggs were produced, of which two were thrown out by adult birds and presumably were infertile. No problems with mite infestation were reported from Dumarán. All five hatchlings were banded.
32. Breeding success remains low, which may be partly due to limited nest sites, for which competition exists with other cavity nesters. Artificial nest boxes are still ignored by cockatoos, but accepted by a number of reptile and bat species, as well as Dollarbirds *Eurystomus orientalis*.
33. As in previous years maximum and minimum numbers increased with the end of the breeding season, reaching the highest count for the season with 27 individuals on July 6 at the traditional roosting site.
34. A wild-caught cockatoo was confiscated from a farmer who stated that a flock of these birds raided his corn field. All primaries and secondaries on both wings were cut, so that the bird was flightless. We turned over the bird to PWRCC.
35. We grieved the loss of a long-time wildlife warden Tirso Sy in June.
36. Wardens released in June a confiscated Blue-naped parrot in Omoi Cockatoo Reserve after its health was stabilized.
37. We successfully prevented the implementation of a large scale plantation project in Dumarán that further threatens the already degraded forest ecosystems in the island. Our position paper has been considered by the PCSDS in its review of the project proposal.
38. Only one LPAMC Regular Meeting was held within the period. Highlight was the commitment of members and municipal officials to support our initiative to establish a critical habitat that will connect two locally protected cockatoo reserves on the island.
39. Illegal cutting of trees and kaingin practices continue unabated. We observed two kaingin farms where posed disturbance to breeding pairs because of their proximity to nest trees. Extensive illegal cutting was observed in Bulalakaw - Baleteng Bilog – Kasipulo forest stretch. These are reported but no confiscations had been successfully done. Threats on wardens' lives meanwhile persist.
40. As of August, our nursery has 2,619 seedlings of ten different species and of ca. 15 more unidentified trees known to be food for the Palawan Hornbill.
41. The 9th Kalabukay Festival was celebrated in cooperation with the Dumarán National High School. The PFTCP of KFI joined in the festivity of fun games and contests.

42. The roofing of the Katala Environment Education Center (KEEC) was completed through the financial assistance from Chester Zoo. Solar 300 AC system was also installed in the center.

Output 5: Conservation of cockatoo population in Culasian Managed Resource Protected Area (CMRPA), Rizal continued

43. Few cockatoos are recorded and it seems more and more plausible that the few surviving birds are beyond reproductive age.
44. Absence of reproductive cockatoos for some years now resulted in the decision not to include the site anymore within the PCCP in the next project phase. In order to continue conservation efforts for this still important site (internationally for Blue-naped Parrot, nationally for “Manggis”, the tallest tree of Asia, only site of the species in the Philippines); other funding sources have to be sourced.
45. 69 Blue-naped Parrot *Tanygnathus lucionensis* fledged from trees monitored by wardens. Second-most common cavity nester is the Hill Myna *Gracula religiosa*, with 17 fledglings reported. In addition, two Palawan Hornbill *Anthracoceros marchei* fledged from two nests.
46. In April, the illegal fishpond of Bebe Toto was demolished by a composite team of law enforcement authorities. However, this was again back to operations in July.
47. Rizal is beset with unresolved illegal cutting of trees allegedly involving public officials. Aside from high-value trees, mangrove cutting and tan barking were also observed. Mangrove cutting is mainly for charcoal production.
48. Wardens identified two sites within the PA that could be used for the National Greening Project of DENR. They collected nearly 2000 seedlings for project.
49. Two wardens resigned from work due to personal problems.

Output 6: Support for Polillo Islands Parrot Project

50. It remains unclear if the very low population number over the years is due to an over-aged cockatoo population or due to persistent illegal activities, including poaching for the pet trade. Monitoring of cockatoo population in Polillo is hampered by logistical difficulties, particularly the only sporadic presence of project staff. Our coordinator, Liza Dans, left work in Polillo in June though she has signified interest to continue monitoring the Philippine cockatoo by next year.
51. Activities mainly focused on the conduct of information campaigns and strengthening law enforcement through local partnerships like the Bantay Gubat and newly organized DENROs.

Output 7: Katala Institute for Ecology and Biodiversity Conservation

52. All birds are well, but psychological problems persist. The birds interact normally with each other and sometime with wild cockatoos which occasionally visit the KIEBC area.
53. Construction work of the quarantine facility to accommodate rescued birds and raise them with minimum disturbance had started. Dr. Frey of Marion Packer Trust visited the KIEBC in May. Part of the facility is funded by Marion Packer Trust.
54. As of August 31, the assurance colony held 26 *S. leytensis*, 64 *C. amboinensis*, 9 *C. dentata*, and 1 *D. subplana*.
55. PAWB veterinarian Dr. Rizza A. Salinas visited our facility from 18-20 January. She conducted necropsy of three turtles. The necropsy did not show a uniform pattern for

the three individuals although all had lesions that were suggestive of a systemic infection.

56. All fatalities of *S. leytensis* were females that are more stress-prone than males. This confirms our earlier decision that keeping *S. leytensis* individually is necessary.
57. On April 28, we took part in the first ever repatriation of wildlife in the country when we received 18 hatchlings of *S. leytensis* that had been confiscated at the Hong Kong International Airport on 8 Feb. 2012 and were returned to Palawan. They were released in two groups of nine individuals each in Barangay Dumarao on June 11 and in Barangay Tagabinet on June 22. Another repatriation and turn-over was done in August 2. Said turtles are still kept under quarantine conditions in our facilities.
58. A new and more permanent nursery compartment was constructed with support from Christine Shanks and Susan Hillard from the USA. As of end of the reporting period 1,779 seedlings of 28 native and two exotic plant species were present in the nursery.
59. Angel, our zookeeper attended the National Zookeepers Workshop in February in Quezon City.
60. In May, Cris Hagen of the Turtle Survival Alliance visited KIEBC and KFI's in-situ conservation site of *S. leytensis* in Puerto Princesa City.
61. We negotiated and signed a wildlife loan agreement with DENR for porcupines within this reporting period, and pending the health check, the animals will be brought back to Palawan.
62. Five confiscated juvenile Hill Myna and one juvenile Blue-naped Parrot were handed over to KIEBC on July 3. The Hill Myna were eventually transferred to PWRCC while the Blue-naped Parrot died due to hemorrhagic enteritis as per necropsy result.

Output 8: Cockatoo advocacy

63. Monitoring in Iwahig Penal Colony yielded regular sightings of cockatoos ranging from 15 to 23 birds in the first quarter. This decreased in the latter months as breeders stay in nest trees.
64. Cockatoo sightings in WESCOM and neighbouring naval area were recorded ranging from two to twelve individuals daily from June to July.
65. We confirm that cockatoos cross over Puerto Bay from Iwahig River on its route to WESCOM. From Puerto Bay, it passes Malvar St and cross a partly forested patch towards the military compound.
66. In Montible sub-penal colony, we confirmed cockatoo roosting in a coconut tree. Our monitors suspect a nest tree with three cavities of which one is of the Philippine Cockatoo.
67. We aided in the confiscation of an unregistered Philippine cockatoo from an illegal pet owner. The investigation is still on-going according to PCSDS.

Other highlights

68. Results of the PBFDCirco virus tests on five cockatoo feather samples were negative.
69. At least eighteen globally threatened and Near Threatened wildlife species were recorded from all sites within the reporting period.
70. Indira and Peter honored the invitation of Dr. Roger Wilkinson from Chester Zoo in March to share experiences and achievements of the PCCP to Chester colleagues. We also shared the Katala Pride Campaign to masteral students on Conservation Biology from Manchester University.

71. P.Widmann contributed to Bird-Life International (BLI) reviews for Philippine Cockatoo, Blue-headed Racquet-Tail, Palawan Hornbill and Storm's Stork.
72. Proposals for financial assistance for the wardening scheme were submitted for consideration in 2013 appropriation in three project municipalities of Narra, Rizal and Dumarán. A separate proposal was submitted to the Provincial Council for consideration as well.
73. Proposal for the creation of critical habitat in Dumarán Island was approved by PTFCF. PFTCP proposal submitted to Ocean Park Conservation Foundation Hongkong was likewise approved.
74. KFI through the PCCP and PFTCP put up exhibits in celebration of the 20th anniversary of the Strategic Environmental Plan of Palawan.
75. We had media mileage earned during the repatriation and turn-over of the Philippine Forest Turtles to KFI. Likewise, we also had media coverage for the MOA signing between PCSDS and KFI.
76. We bought a brand new 4x4 service vehicle and sold the old car.
77. We hired an assistant keeper for KIEBC; had accepted two resignation of wardens from Rizal and one from Pandanan within the reporting period.

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ACRONYMS

CE	Conservation Education
CENRO	Community Environment and Natural Resources Office(r)
CEPA	Conservation des Espèces et Des Populations Animales
CMRPA	Culasian Managed Resource Protected Area
DENR	Department of Environment and Natural Resources
DGHT	German Herpetological Society
IUCN	International Union for the Conservation of Nature and Natural Resources
KEEC	Katala Environmental Education Center
KFI	Katala Foundation, Inc.
KP	Kingfisher Park
KIEBC	Katala Institute for Ecology and Biodiversity Conservation
LGU	Local Government Unit
LPAMC	Local Protected Area and Management Committee
LPF	Loro Parque Fundación
MENRO	Municipal Environment and Natural Resources Officer/Office
MMPL	Mt. Mantalingahan Protected Landscape
MOA	Memorandum of Agreement
PA	Protected Area
PAMB	Protected Area Management Board
PAWB	Protected Areas and Wildlife Bureau
PASu	Protected Area Superintendent
PCCP	Philippine Cockatoo 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
PTFCF	Philippine Tropical Forest Conservation Foundation
PWRCC	Palawan Wildlife Rescue and Conservation Center
RA 9147	Republic Act 9147 otherwise known as the Wildlife Protection Act
RIWS	Rasa Island Wildlife Sanctuary
TSA	Turtle Survival Alliance
SDENRO	Special Deputy Environment and Natural Resources Officer
WPU	Western Philippines University
ZGAP	Zoologische Gesellschaft für Arten- und Populationsschutz

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INTRODUCTION

*The Philippine cockatoo *Cacatua haematuropygia**

The Philippine Cockatoo or Red-vented cockatoo *Cacatua haematuropygia* is restricted to lowland forest areas and mangroves in the Philippines. Formerly, it could be found all over the archipelago (Dickinson *et al.* 1991). Only in the last decades a rapid decline set in, which brought the species to the brink of extinction (e.g. Boussekey 2000a; Lambert 1994). The reasons for the decline of the populations are (e.g.; Collar *et al.* 1999; Lambert 1994; Widmann *et al.* 2001):

- Habitat destruction, particularly in respect of nesting and food providing trees.
- Persecution as crop pest.
- Poaching for pet trade.
- Potential diseases caused by the introduction of captive birds in the range of wild populations.
- Tropical storms and typhoons

Habitat destruction and poaching are the most important factors threatening the Philippine cockatoo.

Since almost twelve years Katala Foundation Inc. (KFI) implements the PCCP in the Philippines. Comprehensive conservation projects are currently undertaken in four sites in Palawan (Fig. 1): Rasa Island (Narra), Dumarán Island (Dumarán), Culasian (Rizal), and most recently Pandanan and Bugsuk Islands (Balabac). The three former sites contain by now protected areas declared on municipal levels, specifically demarcated to include the remnant cockatoo populations. The latter site is predominantly owned by Jewelmer Corporation, with which KFI has a Memorandum of Agreement for the conservation of the species.

We estimate that a maximum of 1,245 Philippine cockatoos exist in the wild (assuming few populations have been overlooked in recent surveys of historical locations, and an estimated 400 individuals survive in the Sulus, for which only incomplete information is available). The minimum number of wild Philippine cockatoos is estimated to be 450 individuals.

The single-most important Philippine cockatoo population on Rasa is secured under presidential proclamation as “Rasa Island Wildlife Sanctuary” since February 2006, in addition to local legislations. Pandanan, the latest site, holds possibly the second-most important population with at least 62 individuals. One additional site is in the Polillo group of islands in the Luzon Faunal Region, the only known location in the Luzon Faunal Region.

With the four project sites in Palawan and one in Luzon, it is estimated that between one- to two-third of the remaining wild population is currently covered in PCCP projects. Cockatoo populations are stable or increasing in all sites and improved legal conservation could be achieved (e.g. through creation of cockatoo reserves). However, law enforcement by state agencies remains weak and pressure on these areas is rather increasing (migrant influx to Palawan, mining, planned large-scale establishment of bio-fuel plantations). Warden schemes remain the single-most important tool to assure the short-term survival and recovery of the species, whereas lobbying, conservation education, habitat restoration and reintroduction, as well as provision of alternative livelihood options are important for the long-term improvement of the frame conditions for cockatoo conservation in the Philippines.

Objective of the Philippine Cockatoo Conservation Program

Conservation and restoration of the most viable subpopulations of the Philippine cockatoo and their habitats, including associated flora and fauna under involvement of all key stakeholders, resulting in a down-listing of the species from 'Critical' to 'Endangered' through reversing its population decline and under consideration of the precautionary principle.

Program Strategy

The main strategy of the programme is to conserve *in-situ* the most important subpopulations of the Philippine cockatoo through adopting participative methods.

The general program strategies are:

- Management of local resources in the framework of Philippine law;
- Capacity-building for local decision-makers and key stakeholders to ensure sustainability of the conservation efforts; and,
- Ecosystemic conservation approach with the Philippine cockatoo as flagship species.

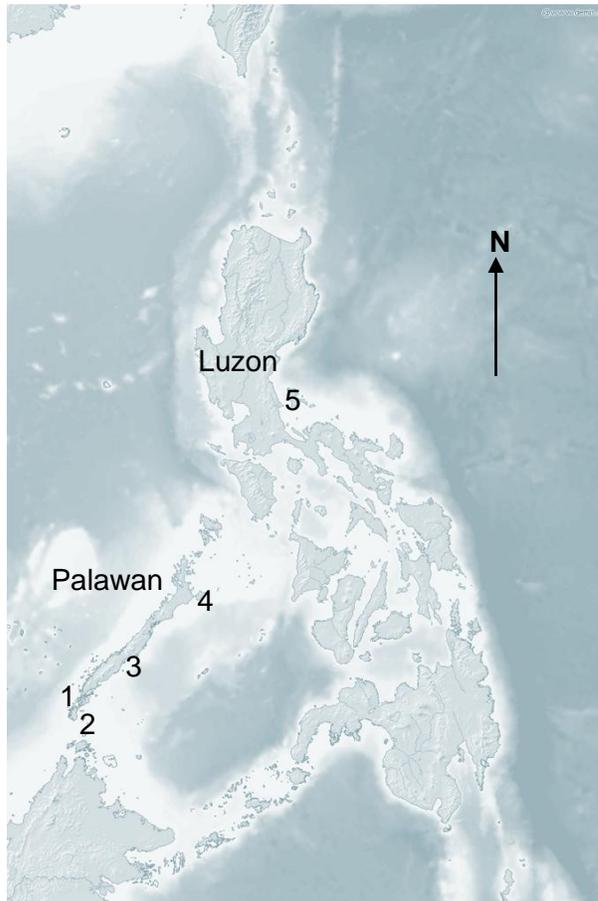


Figure 1. Map of the Philippines indicating sites of the Philippine Cockatoo Conservation Program: 1. Culasian Managed Resource Protected Area, Rizal; 2. Pandanan, Balabac; 3. Rasa Island, Narra; 4. Omoi and Manambaling Cockatoo Reserves, Dumaran; 5. Patnanungan Island, Polillo group of Islands, Quezon.

Deliverables

Objective 1: Conservation of cockatoo population on Pandanan and Bugsuk Island, Balabac

- Warden scheme on Pandanan Island continued and extended to Bugsuk Island.
- Survey cockatoo population and habitat assessment on Bugsuk Island conducted and monitoring on Pandanan continued.
- Networking with local stakeholders, particularly with Jewelmer Corporation, the largest private landowner, continued.
- Conservation education on Pandanan Island continued and extended to adjacent mainland and Bugsuk Island.
- Small livelihood projects for key-stakeholders continued.

Objective 2: Re-introduction of Philippine cockatoos into parts of the historical range

- Assessment of potential translocation sites and potential remnant populations within the historical range continued using the quantitative tool developed during the re-introduction workshop.
- Workshops for a comprehensive Philippine Cockatoo Conservation Action and Management Plan conducted and results for re-introduction procedures incorporated.
- Translocation site preparation commenced, e.g. through conservation education, habitat restoration, improvement of legal frame conditions, once a suitable site is identified.
- Protocols for hand-raising of orphaned chicks with minimal exposure to humans and related facilities further improved.

Objective 3: Conservation of cockatoo population on Rasa Island, Narra

- Warden scheme continued.
- Members of the Local Protected Areas Management Committee capacitated in the management of the Philippine Cockatoo and Rasa Island Wildlife Sanctuary and meetings facilitated.
- Conservation education for stakeholders, particularly in mainland areas which are regularly frequented by cockatoos continued.
- Experimental habitat restoration on mainland initiated.
- Planting of food plants on mainland continued to offset damages on agricultural crops caused by cockatoos.
- Research on conservation-related aspects of cockatoo biology on Rasa continued, with focus on factors influencing breeding success and foraging ecology.

Objective 4: Conservation of cockatoo population on Dumaran Island, Dumaran

- Warden scheme continued.
- Incoming members of Local Protected Areas Management Committee assisted and capacitated in the management of the Philippine cockatoo, as well as Omoi and Manambaling Cockatoo Reserve.
- Buffer zone restoration around existing cockatoo reserves continued.
- Effectiveness of previous conservation education evaluated.
- Local government assisted in land use planning, particularly in respect to demarcation of extensive *Jatropha* plantations.

Objective 5: Conservation of cockatoo population in Culasian Managed Resource Protected Area, Rizal

- Warden scheme continued.
- Members of Local Protected Areas Management Committee capacitated in the management of the Philippine cockatoo and Culasian Managed Resource Protected Area and Culasian headwaters within the Mt. Mantalingahan Protected Landscape and meetings facilitated.
- Alternative funding sources for PA management further secured.

Objective 6: Support for Polillo Islands Parrot Project

- Warden scheme for Philippine cockatoo and other parrot species continued.
- Conservation education for threatened parrot species within the archipelago continued.
- Location for locally protected parrot reserve identified and promoted with stakeholders.

Objective 7: Katala Institute for Ecology and Biodiversity Conservation

- Captive management of Philippine cockatoo and other highly threatened species continued through employment and training of zookeepers and volunteers.
- Establishment of a training centre initiated.
- Quarantine area to accommodate rescued cockatoos and/or cockatoos destined for translocation improved.
- Landscaping with native species propagated in the Katala nursery continued and trail system initiated.
- Proposal submission to other potential donors continued.

Objective 8: Cockatoo Advocacy

- Palawan Council for Sustainable Development and other law-enforcing bodies assisted in formulation and implementation of regulations pertaining wildlife and natural resource management.
- Land use planning in project municipalities assisted.
- Conservation education campaigns conducted in Iwahig Penal Colony and buffer zone of Puerto Princesa Underground River National Park.
- Promotional video for the Philippine cockatoo conservation Programme produced and disseminated.

Description of Project Sites

Rasa Island, Narra, Palawan

Rasa is a small coral island of 8.34 km² area situated in the Sulu Sea, just offshore of the Municipality of Narra, Palawan, Philippines (Fig. 2). About 1.75 km² are covered with coastal forest, mangrove (5.60 km²), cultivated areas (predominantly coconut; 0.39 km²), 0.60 km² are barren or sparsely vegetated sand and coral outcrops. In February 2006, the island became a Wildlife Sanctuary through Presidential Proclamation 1000 and since a Protected Area Management Board is functioning as management body for Rasa Island Wildlife Sanctuary (RIWS). In 2008, RIWS was chosen as Top 13 Bird Watching Sites in the Philippines by the Department of Tourism.

The island is the pilot site of the program since 1998. Key component of this project site is the wardening scheme which involves patrolling and protection of the birds during and outside the breeding season. This scheme has proven to be efficient. It has more than doubled the population of cockatoos on the island over ten years (presently ca. 289 birds).

Rasa Island probably holds the highest population density of Philippine cockatoo that remains in the wild. The world population of Philippine cockatoo was estimated to range between 1,000 to 4,000 individuals (Lambert 1994). More recent estimates put the number of cockatoos remaining in the wild between 870 and 2,300 (Widmann 2001). About 70 to 75% of this population is probably found in Palawan (Boussekey 2000b). This makes Rasa a high priority area for the protection of this species.

Not only Philippine cockatoos live on the island, but a variety of other species, with an unusual high percentage of globally threatened and near-threatened taxa (IUCN 2012), considering the small size of Rasa. Note worthy among the 104 recorded bird species are Grey imperial pigeon *Ducula pickeringii* and Mantanani scops-owl *Otus mantananensis*.

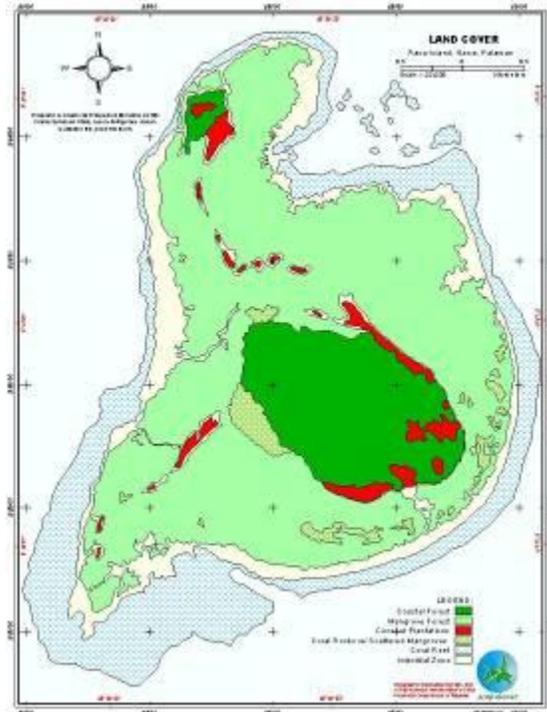


Figure 2. Vegetation and land-use of Rasa Island, Palawan, Philippines.

Dumaran Island, Dumarán, Palawan

Dumaran is situated in north-eastern Palawan between 10°22' and 10°41'N and 119°28' and 119°55'E. Nine Barangays are situated on Palawan mainland, seven on western Dumaran Island. The island is situated in the Sulu Sea and separated by a ca. 7 km wide channel from the mainland.

PCCP currently manages three areas on the island: Omoi and Manambaling Cockatoo Reserves (Fig.3) and the traditional roosting site in Lagan. A Local Protected Area Management Committee (LPAMC) functions as its management body.

All natural terrestrial ecosystems in Dumaran are tree-dominated. On Dumaran Island only few small and isolated forest patches remain, none of them larger than 103 ha. The most abundant formation is evergreen and semi-evergreen lowland forest with Ipil *Intsia bijuga*, Amugis *Koordersiodendron pinnatum* being emergent tree species of commercial value.

Ornithological surveys conducted by Katala Foundation so far yielded 108 species from the island. A prominent species of conservation concern is the Philippine cockatoo, which can be found with viable population in the mangroves and forest remnants of Dumaran Island, but apparently not anymore on the mainland. The last remaining forest patches are therefore of global conservation concern. This notion is supported by the recent records of other globally threatened species, particularly the Philippine forest turtle *Siebenrockiella leytensis*.

CMRPA ranges from sea level to about 140ma.s.l. south of Culasian proper. The terrain is flat in the narrow coastal area, and rolling to moderately steep in the remaining portions. The two largest forest areas persist north of the highway near Tagbalugo on an isolated moderately steep hill reaching 120ma.s.l. and a highly fragmented rolling forest area south of the highway from ca. 20 to 140ma.s.l. near Darapiton, Malutoc, Balingasag and Tuburon. Two permanent rivers mark the periphery of CMRPA: Culasian River in the north and Arapitan River in the south. Smaller ephemeral creeks and stagnant water bodies can be found inside the area.

The major terrestrial ecosystem in the PA is lowland dipterocarp forest. Unlike most forests in Palawan, canopy heights are very high, often thirty to forty meters, with “Apitong” *Dipterocarpus grandiflorus*, “Manggis” *Koompassia excelsa* being the most conspicuous emergent tree species. Particularly in Rizal is the only location in the Philippines where *Koompassia excelsa*, the tallest tree species in Asia, can be found. Other emergent trees are for example *Dipterocarpus gracilis*, *Dipterocarpus hasselti*, *Intsia bijuga* and *Koordersiodendron pinnatum*.

Level areas are dominated by permanent cultivation. Shifting cultivation is also most common along the roads, but can frequently be found isolated in forested areas, often on steep slopes. Emergent “Manggis” and “Apitong”, isolated in cultivated areas, indicate nest sites of parrots or hill mynas which are ‘owned’ by a poacher, and therefore were not cut during the area was cultivated. The PA holds the highest known density of the near-threatened Blue-naped parrot in the country, and is likely of global importance for this species. Since habitat is very suitable and poaching is reduced significantly, reasons for the stagnant population could be over-aged breeding pairs or competition with other tree-cavity breeders (particularly Blue-naped parrots).

To date, 133 bird species are recorded within the CMRPA. Of outstanding conservation concern (IUCN 2012) are particularly the larger tree cavity nesters, like Palawan hornbill *Anthracoceros marchei*, all three parrot species of Palawan, Philippine cockatoo *Cacatua haematuropygia*, Blue-naped parrot *Tanygnathus lucionensis* and Blue-headed racquet-tail *Prioniturus platenae*. The cockatoo population in Culasian remains stable, but on a very low level.

Pandanan Island, Balabac

Pandanan Island in Bgy. Pandanan belongs to the north easternmost municipality of Balabac in Palawan (Fig. 5). Coastal forests are dense and stock on flat limestone originating from elevated coral reefs. Large trees in the coastal forest are mostly deciduous and widely spaced due to water stress during the dry season. The understory is

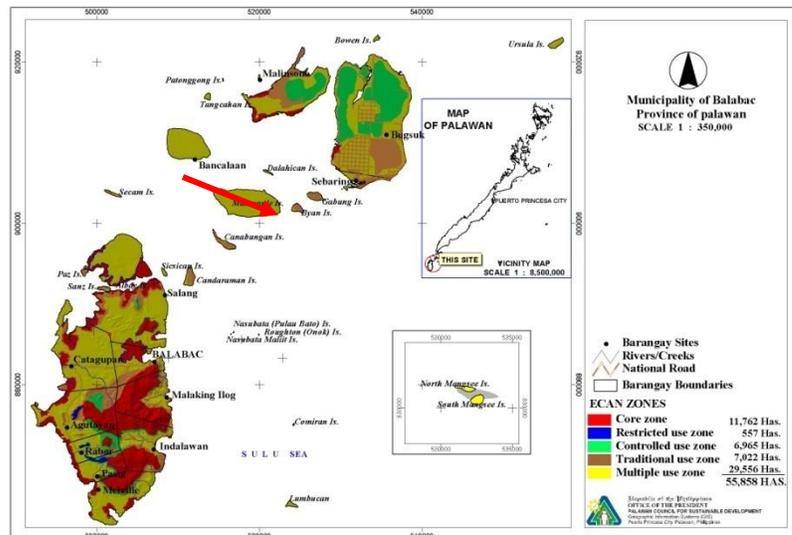


Figure 5. Location map of Pandanan Island indicated in red arrow (PCSDS).

very dense with abundant vines. Emergent trees comprise the genera *Dipterocarpus*, and *Ficus*. A narrow rim of beach forest with *Erythrina*, *Calophyllum* and *Barringtonia* is present. The dense coastal forest cover is as well protected because the large portion of the island is privately-owned and entries are monitored by private guards. Coconuts are the major crop grown in the coastal areas and shifting cultivation including lowland rice, corn, and root crops inside forested areas are common land use forms. Extensive mangroves are thriving.

So far, 47 bird species have been recorded in and around Bgy. Pandanan, but inventories are still ongoing. Among these are six globally threatened and six near-threatened species (IUCN 2010). Of outstanding conservation concern are particularly the larger tree cavity nesters, like Palawan hornbill *Anthracoceros marchei*, all three parrot species of Palawan, Philippine cockatoo *Cacatua haematuropygia*, Blue-naped parrot *Tanygnathus lucionensis* and Blue-headed racquet-tail *Prioniturus platenae*, and other conservation relevant species like Grey imperial pigeons *Ducula pickeringii* and Mantanani scops-owl *Otus mantananensis* (Widmann *et al.* 2008).

The implementation of the warden scheme recruiting cockatoo poachers resulted in significant increases of the cockatoo population in the first two years of project implementation, comparable to those of the early stages on Rasa Island. In recent surveys, roosting site is at a coconut plantation in Malinsuno Island just across Pandanan Island. Highest number of cockatoo observed was 80 in October 2010.

Patnanungan, Polillo group of islands, Quezon

The Polillo group of islands in Quezon is possibly the last area containing a population of the critically endangered Philippine cockatoo *Cacatua haematuropygia*, or ‘Kalangay’ as known locally, in the Luzon faunal region (Gonzalez 1997, Collar *et al.* 1999, Widmann 2001).

Patnanungan Island (Fig. 6) is mostly covered by scattered fragments of logged primary lowland evergreen forest and patches of secondary growth forest. About 95 species of birds were recorded from Patnanungan Island, of which 18 species are endemic to the Philippines and three are restricted to Greater Luzon. (Gonzales, 2007).

Forests, particularly in the northern and central portion of the island, are frequently transformed into slash-and-burn fields. The small diameter classes of cut trees indicate that rotational periods might be shorter than fifteen years. Principal crops planted are corn, cassava, banana and papaya.

Cockatoos persist in very low numbers. Habitat is seriously degraded and lack of nest trees might be a limiting factor. Due to the relative proximity to Manila as potential market, illegal logging and wildlife trade remain rampant in the area. Poaching for the pet trade is still ongoing, due to insufficient law enforcement, particularly in remote areas.



Figure 6. Map of the Polillo Islands, Philippines indicating the major islands and settlements, a global priority site for biodiversity conservation (adopted from Hampson *et al.*, 2003).

Methodologies

The Philippine Cockatoo Conservation Programme (PCCP) employs an ecosystemic and community-based approach to biodiversity conservation using the Philippine cockatoo as its flagship species. The main components of the program are nest protection or wardening schemes; scientific researches on feeding, biology and ecology of the Philippine cockatoo and other threatened species; identification, protection and management of key conservation sites; conservation education; habitat restoration; and capacity building. Researches on the Philippine cockatoo include distributional surveys, rescue of individual birds, translocation assessments, and conservation breeding for later re-introduction.

Information on the biology and ecology of the cockatoo is gathered through direct observation. On Rasa, movements of the cockatoos can be best observed from a boat, from beaches or coral outcrops. Very dense vegetation on the island considerably hampers visibility on transect walks or point counts. On Dumarán, Rizal and Polillo, movements are observed through wardens monitoring and patrols at protected areas and roost sites.

Monitoring of the population trend on Rasa, Dumarán and Pandanan in Balabac is done through counting individuals at a traditional roost site. A traditional roost site is situated in a mangrove area on Rasa and can be observed from a boat while in Dumarán a privately-owned coconut plantation serves as the roost site bordering close to a mangrove area. On Balabac, at least two roosting sites are presently monitored; one in Malinsuno Island and the other on Pandanan Island. Counts are conducted monthly either before sunset on Rasa and Balabac islands and daily on Dumarán. Counts are also conducted during dawn before birds leave the roost site. Whenever possible, counts on Rasa are conducted under similar weather and light conditions. No roosting sites are known from Culasian and Patnanungan.

The core component in all project sites is the wardening scheme, employing former poachers as wildlife wardens. Wardens inspect and verify existing and potential nest trees starting end of September. During the breeding season, the nest trees are under permanent surveillance. Trees are climbed and nest holes controlled every ten days during that time. For safety reasons, dead or damaged trees are not climbed. Nest trees are characterized through species identification, tree height, diameter at breast height (DBH), height of nest hole, exposition of nest hole, diameter of hole, and diameter at base and depth of cavity. The geographic location of each nest tree is taken with the help of a GPS and marked in a map.

Presence or absence and condition of adult birds, eggs, nestlings or nest predators are noted. Nestlings are weighed with Pesola spring balances/and or electronic balance and banded with aluminum rings bearing the inscription of the Department of Environment and Natural Resources (DENR), the number and year (e.g. DENR 11-0001).

Volunteers are detailed in monitoring stations at the mainland coasts of Narra within and outside the breeding season. These volunteers record all sightings of cockatoos and other significant wildlife in the area of assignment.

Surveys to find remnant cockatoo populations are based on historical sources or recent information. To initially narrow down the searches, non-formal interviews with key informants (poachers, other forest users, barangay officials, school teachers) are conducted. Surveys aim to identify remnant cockatoo populations or areas which are suitable for translocation.

Herbarium collections are made of key plants in cockatoo habitats, particularly food-providing plants, and nest and roost trees. The physical structures of cockatoo breeding habitats are characterized through forest profiles. Phenological information on fruiting and flowering of food-providing trees are systematically collected on Rasa and Dumaran.

Restoration of mangrove is conducted on Rasa through transplanting of nursery-grown trees. Experimental restoration of lowland forest habitat is done in Dumaran. Particularly nest- and food-providing plants for cockatoos are systematically tested for their suitability for reforestation. MS Access and excel programs are used for analysis.

Composition of remaining bird communities in project and survey sites is assessed using MacKinnon-Lists and, occasionally, mist-netting. Composition of mammal, reptile and amphibian communities in project sites is assessed through direct observations, mist- and harp-netting, live-trapping (Sherman type and locally-made cage type) and pitfall trapping.

To identify potential cooperators for the projects, livelihood needs, and capacities, stakeholder and SWOT analyses are employed. Participatory planning is done through goal-oriented project planning methodology. Alternative livelihood is provided for key-stakeholders of the cockatoo and the PAs, based on the needs assessments.

Conservation education activities employ the PRIDE approach which uses marketing methodologies to galvanize community support for conservation. The approach conducts pre and post project surveys to assess changes in levels of knowledge, awareness and behavior among target audience by using control groups. Survey Pro is used for analysis on changes over time. Proven marketing vehicles like billboards, posters, fact sheets, puppet shows, school and community visits, festivals and media participation are used to deliver relevant and compelling conservation messages.

Relevant trainings and seminars are conducted to help capacitate local partners in conservation. Cross visits to Rasa and other project sites are encouraged to facilitate exchange of experiences, lessons learned and good practices to boost morale of local partners and reinforce knowledge.

Please refer to each output for particular methodologies used in achieving results.

RESULTS AND PROGRESS

Output 1: Conservation of cockatoo population on Pandanan and Bugsuk Islands, Balabac

Nest protection and wardening scheme

Eight nests were occupied this breeding season. One hatchling out of a clutch of three was confirmed dead. It was reported by wardens that this nest hole is very tight and barely can accommodate two cockatoo chicks. In all, we had sixteen hatchlings of which only one was not banded (Table 1). A fledgling left the nest without band. One banded hatchling was poached in May. Investigation revealed that poaching happened in the wee hours of the morning. Wardens recovered two rolls of old Amagas rope that we suspected was used to climb nest tree. The Amagas rope was retrieved near the active cockatoo nest. We informed the Barangay Captain of Malitob, Bataraza of the suspicious presence of a known middle man from the area. Middleman from the mainland transported the bird early hours at dawn through a non-motorized boat to avoid detection. We had identified the boat operator used by the said middleman. The security outpost of Jewelmer Corp. was immediately informed of the presence of alleged middleman in the area and passed on the alert message to neighboring island of Bugsok.

Notable is the presence of Palawan Flying Squirrel *Hylopetes nigripes* on an island of the relatively small size of Pandanan. It is considered a potential competitor for nest sites and also a potential nest predator. No interaction with cockatoos so far recorded however.



Figure 7. Fifteen Philippine Cockatoo hatchlings were banded this year were from Pandanan Island. ©RAntonio

In Bugsuk, nest monitoring was not that productive in February due to unavailability of reliable guide in the area. Mr. Gapilango said in an interview that breeding activities in the area usually come in later than in Pandanan Island. He added most nest trees he had known are already dead. Other nest trees, he said, were regularly visited and probably taken by poachers from mainland Batarasa and Sebaring-based residents. Mr. Gapilango only observed cockatoos in Pagasa area once in January and thereafter no sightings were recorded. While Pastor who was our guide observed in December one cockatoo fronting the house of Mr. Cojuangco and after that no more sightings he said. Wardens visited Kasiyapan Forest which we know had active nest trees in the past years however, we could not trace these trees

anymore since provided guides were not familiar of the area. A new nest tree (Bayoso *Pometia pinnata*) was identified with already indications of nest occupation e.g. cut twigs; yet, no adults were observed during the visit. The tree had the name “Boy” marked on its trunk. “Boy” is a known poacher from Sebaring who knew most of the nest trees in the area. He once guided us in the area and showed all nest trees he knew. After that we refrained getting his services as guide to avoid conflict with Jewelmer Corp. Hence, we failed to visit active nest trees during this visit. We learned from our sources that “Boy” had left poaching since KFI started the project in Pandanan and after talking with KFI management.

In Landingan Forest, also in Bugsuk, four potential nest trees were listed. None of the nest trees listed in previous years was reached due to guide’s lack of knowledge of the area.

We conducted rapid mangrove assessment in the northern part of Pandanan which is frequented by locals and reported to have cockatoo sightings. We had six plots assessed. Dominant species is *Sonneratia alba*. The area is known to be a feeding ground for the cockatoos after roosting in Malinsuno Island.

In April, we observed some potential predators (Crested-serpent Eagle and White-bellied Sea-eagle) particularly near nest trees that might also pose disturbance to the cockatoo nesting pairs.

Meanwhile, team observed Blue-headed Racquet-tails, Blue-naped Parrots and Pink-necked Pigeons feeding on a fruiting shrub called “Tabangaw” at the end of the air strip in Bugsuk.



Figure 8. The Blue-headed Racquet-tail photographed by our Field Officer, Rene Antonio, while feeding in Bugsuk Island in February 2012. ©RAntonio

Ficus trees, Bayoso and Kapok were abundantly flowering and fruiting within the period on Pandanan Island. These were readily raided by birds in particular wardens observed Green Imperial Pigeons and the Philippine Cockatoos. Wardens also observed *Sonneratia alba* had fruits that were feasted by cockatoos especially near the area of Jewelmer security outpost in Liyang-liyang.

Apart from Philippine Cockatoo nest trees, wardens also monitored 20 active nests of other cavity-nesting birds. Of the 20 nests, 14 belonged to Blue-naped Parrot, the most common parrot species in the area. This was followed by Hill Mynah with three nest holes; one nest was with Blue-headed racquet-tail and two nests were recorded for Palawan Hornbill. Nest characterization of these nest trees will be done in the next reporting period.

Wardens intensified monitoring of newcomers in the island together with barangay officials. Jewelmer Corp. is also kept abreast of any newcomer in the area to help monitor.

Few cut trees were observed within the period. These were allegedly used for house construction. In Kamilet area though, wardens observed nearly 200 pcs of round timber. There was nobody around during the patrol. It was known that said

timber were intended either as posts for houses or for seaweed farms. There were clearings done inside coconut areas in March in Gabong. We observed two potential nest trees cut in Doling-doling area; one Bayoso and another *Ficus*. Three more illegal cutting of trees were observed from May to August. Mostly round timber was found and its alleged use is like in previous months.

Wardens monitored one dead Hawksbill turtle in Pandanan that was tied to a coral. Marine turtle poaching had been prevalent in Balabac waters reportedly engaging locals and Chinese nationals.

We also started constructing our field house in Malinsuno Island after legal papers were arranged (Fig. 8).



Figure 9. The skeletal framework of the PCCP/KFI field house in Malinsuno Island was completed in July. ©RAntonio

A nursery was also established in July in Pandanan Island. So far 513 seedlings composed of 12 different species are maintained in the nursery. Priority species collected are those that provide food and nests for the Katala and other target bird species.



Figure 10. Wardens take off from monitoring activities to start a nursery of endemic seedlings from the island. ©KFI

Roost site monitoring

Patterns in this roost site are less discernible than on Rasa. It only exists since 2010 and is more exposed to weather than the latter. Possibly that is why there is a significant aseasonal difference between maximum and minimum numbers of individuals counted, since other temporary roost sites are used. However, it was noted that birds still arrive after dusk during the evening counts and leave the roost before dawn in the morning so that in some occasions counts may be too low (Fig. 11).

We also observed that birds tend to move between islands frequently, presumably to avoid unfavorable weather conditions, but possibly also to exploit seasonal food sources (Fig. 12). Birds may use up to four roost sites simultaneously, which makes them difficult to monitor. Highest numbers counted in the roost site on Malinsuno were 95 birds. In August the maximum were 84 birds, and at least 20 additional birds were staying at a roost site in southern Bugsuk (Fig. 13, right)

Like on Rasa, total numbers tend to increase towards the end of the breeding season. As early as April 25, two recent fledglings which were still fed by their parents were recorded at the roost site.



Figure 11. Philippine Cockatoos at the roosting site in Malinsuno Island, Balabac, Palawan. ©RAntonio

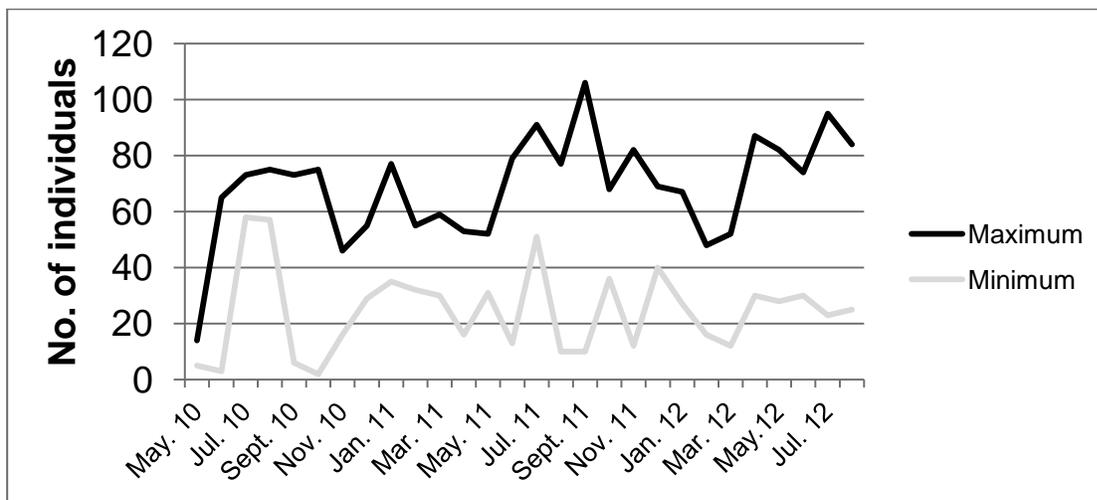


Figure 12. Minimum and maximum simultaneous monthly roost count of Philippine Cockatoos on Malinsuno Island, off Pandanan.

A new roost site was established in the southern portion of Bugsuk Island. Wardens recorded 20 birds on August 26; fruiting season of *Sonneratia alba*, the most important food-providing tree within mangrove, lasts from early August to the first or second week of September in this part of the island.

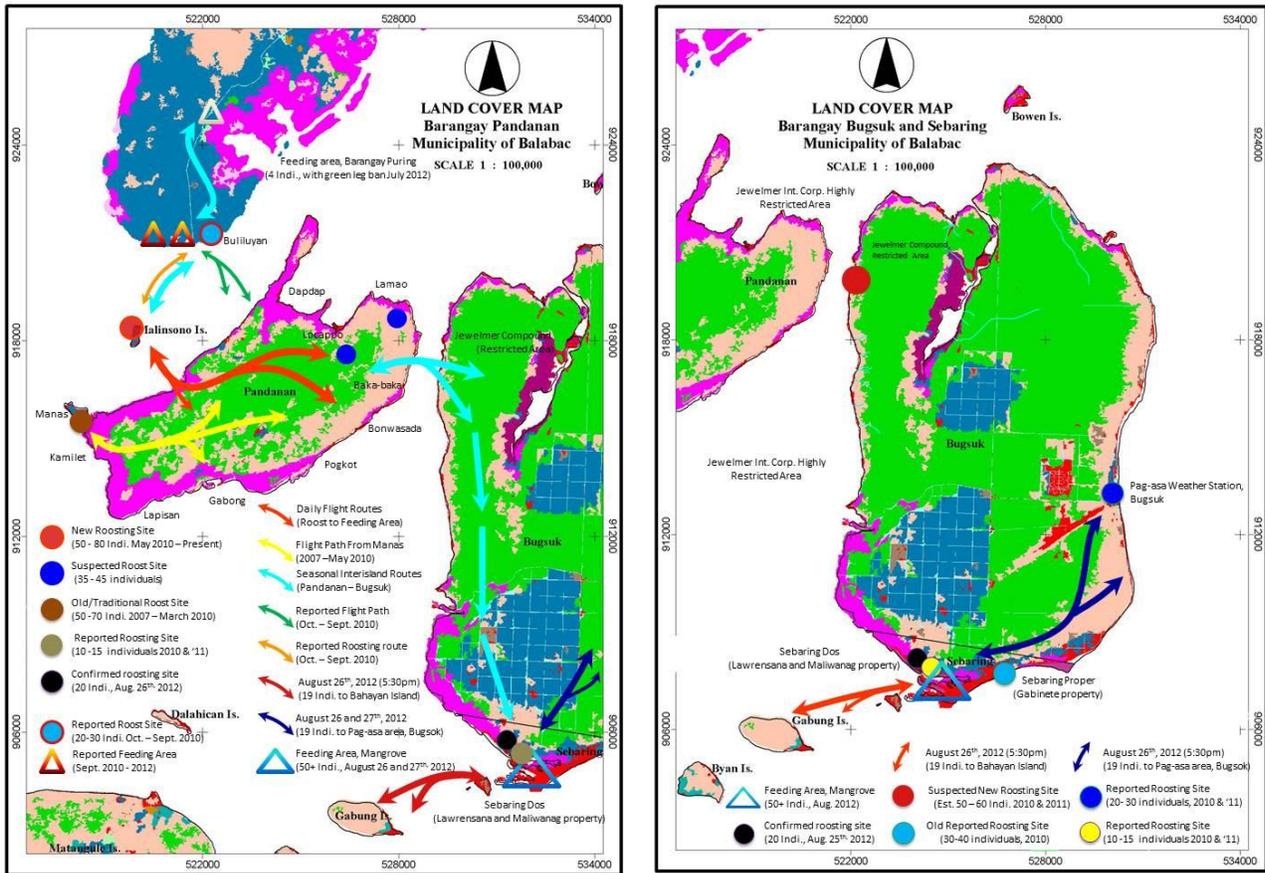


Figure 13. Roost sites on Pandanan, Malinsuno, Palawan mainland, as well as inter-island movements (left); roost sites and movements on Balabac (right) of Philippine Cockatoos.

Conservation Education

In January, we conducted Katala Fun Day in celebration of Bgy. Pandanan’s Annual Fiesta in honour of Sto. Niño. Over 100 kids and adults enjoyed the short lectures, games, colouring and face painting

activities. Barangay council members and Sangguniang Kabataan (youth organization) assisted in the celebration. Kataly, the mascot and Little Kataly, the hand puppet enlivened the festivities (Fig. 14).



Figure 14. The festivity in January was filled with fun while learning importance of the Katala and biodiversity. Kids were seriously coloring their favorite bird patterns. Katala (mascot) and Little Katala (hand puppet) also enjoyed the company of kids and adults in Pandanan. ©KFI

Constraints and measures taken

- Monitoring of nest trees in Bugsuk seemingly gets harder in the absence of a good reliable guide. We were able to trace many active nest trees in the previous years through the help of “Boy Lantik”, a known poacher, who had decided to stop poaching. However, he is denied entry or participation to our work in Bugsuk by the Jewelmer Corporation. We had sought help from the latter on monitoring nest trees identified; however, no feedback has been received so far. Pastor Abel and Chieftain Hamedon meanwhile committed to monitor the identified poachers especially the Gabong brothers.
- We had availed climbing skills of one of our wardens from Rizal to assist the nest monitoring in Pandanan this year.
- Our investigations regarding the May poaching were substantiated by results of investigation we did on mainland particularly in Buliluyan and Sumbiling where known middlemen of illegally traded wildlife reside. After all the information were gathered, Bgy. Pandanan summoned all persons allegedly involved and inquest was done. Affidavits were secured and we referred these to lawyers for a possible case to file.

Table 1. Data on banded Philippine cockatoo hatchlings from Pandanan Island, Balabac, Palawan, May 2012, Philippine Cockatoo Conservation Program, ©KFI

NESTING TREE NO. & NAME	NO. OF HATCHLINGS BANDED	GREEN RING NO.	DATE OF RINGING	MEASUREMENT (cm)			WEIGHT (grams)	EYE COLOR	REMARKS
				Wing length	Tarsus (leg) length	Tail length			
05 Salugon	1	085-2012	04/18/12	9.5	2	0.7	330	Brownish	No food on crop; feathers on wings; fine tail feather. No mites.
	2	086-2012	04/18/12	8	1.8	N/A	315	Brownish	Wing with feather; with little food in crop. No mites.
10 <i>Dracontomelon dao</i>	1	084-2012	4/13/12	8.5	2	1.5	360	Brownish	Little food in crop, granular. No mites, healthy. Half covered by feather. Match sticks tail short tip open.
6 <i>Pometia pinnata</i>	1	081-2012	3/16/12	18.3	2	7.5	274.5	Grayish	No mites observed; little granular food in crop. Fully covered by feather.
	2	082-2012	3/16/12	19	2	7.5	294.5	Blackish	Little granular food in crop. Fully covered by feather.
	3	083-2012	3/16/12	15.8	1.9	5.2	304.5	Brownish	Little granular food in crop; food fragments on mouth. Aggressive. No feather on the belly area. Dirt on feather. No mites.
10 <i>Dracontomelon dao</i>	1	084-2012	4/13/12	8.5	2	1.5	360	Brownish	Little food in crop, granular. No mites, healthy. Half covered by feather. Match sticks tail short tip open.
11 <i>Dracontomelon dao</i>	1	087-2012	5/18/12	12	2	2	335	Brownish	Little food in crop, no mites, and feather not complete/half

									covered. Healthy.
	2	088/Green	5/18/12	12	2	3	295	Blackish	No mites, half covered by feather. Healthy, little food in crop. Tail feather tip open.
09 <i>Pometia pinnata</i>	1	090/Green	5/19/12	10.7	2	1	280	Blackish	Half covered by feather. No food in crop, no mites. Clean feather. Healthy.
	2	091/Green	5/19/12	9.6	2	1	305	Brownish	No food in crop, half covered by feather. No mites. Healthy.
	3	092/Green	5/19/12	9.5	1.9	0.5	265	Brownish	No food in crop. No mites. Wing and back with feathers.
20 <i>Dracontomelon dao</i>	1	093/Green	5/21/12	12.1	2	2.6	308	Brownish	Tail feather tip open. No food in crop. With dirt on feather. No mites.
	2	094/Green	5/21/12	11.5	2	2.5	265	Brownish	Tail feather tip open. No food in crop. No mites. With dirt on feather. Clean mouth.
22 <i>Pometia pinnata</i>	1	089/Green	5/18/12	7.6	2	N/A	295	Brownish	No tail feather, healthy, no food in crop. No mites.

Output 2: Re-introduction of Philippine cockatoos into parts of the historical range

The MOA between KFI and PCSDS was formally signed on August 2, 2012 with none other than the PCSDS Chair, Gov. Mitra and KFI President J.M. Zubiri at the Provincial Capital, Puerto Princesa City. This MOA is for the on-going implementation of the Philippine Cockatoo Conservation Program in the province. A press conference was also done after the signing. The activity was together with the turn-over of repatriated *S. leytensis* from the PCSDS to the KFI.



Figure 15. MOA signing between the KFI and PCSDS took place in August (above). During said event, PCSDS Chair Gov. Mitra formally turned over the repatriated turtle to KFI represented by its President J.M. Zubiri. The activity was followed by a press conference joined by several local media outfits. ©KFI

Preparation of a founder population

A facility for hand-raising rescued Philippine Cockatoos with minimal human contact is under construction in KIEBC (see Objective 6).

Realistically only birds from Palawan are available for re-introduction, and Rasa is targeted as source area since its cockatoo population is already at saturation level. Re-introduction will only be considered in areas without resident cockatoo population. Although no alternative to founder birds from Palawan exists, we would like to know, if Philippine Cockatoos formed distinct subspecies within its range. We started taking external measurements of museum specimens available in the Philippines. Assuming that we receive permission from the National Museum to secure tissue samples, a genetic study will further shed light on former occurrence of possible subspecies.

The establishment of natural parasite load will be part of the veterinary protocol which is further developed. Within the reporting period we collected and preserved mites from hatchlings on Rasa. Next year we will participate in a wider study establishing blood parasite loads of wild parrots, headed by Dr. Juan Masello, University of Giessen, Germany.

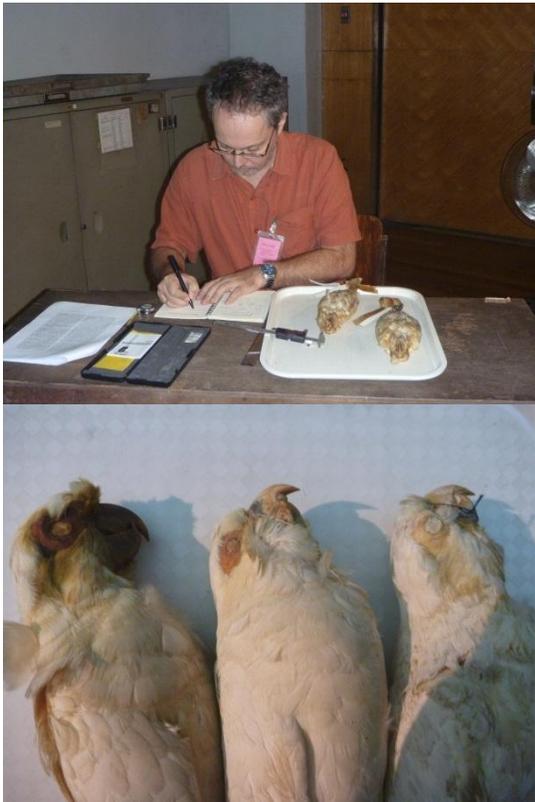
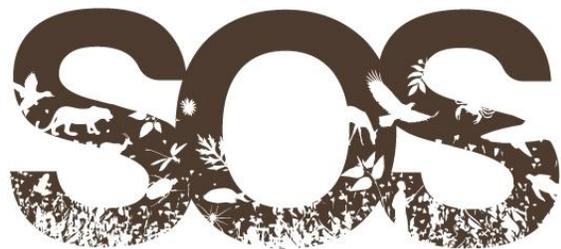


Figure 16. Peter taking notes after measuring cockatoo skins in National Museum of the Philippines (left); one specimen from Samar with massive beak, whereas other specimens from the same island fall into the same size categories as birds from other islands (right). ©KFI



SAVE OUR SPECIES

Assessments of potential re-introduction sites

With funding for two years from Save our Species (SOS), the assessment of potential re-introduction sites is continued. Within the reporting period three assessments have been conducted within

the historical range of the cockatoo in Oceanic Philippines:

- Masbate and Ticao
- Mindoro Occidental
- Bohol

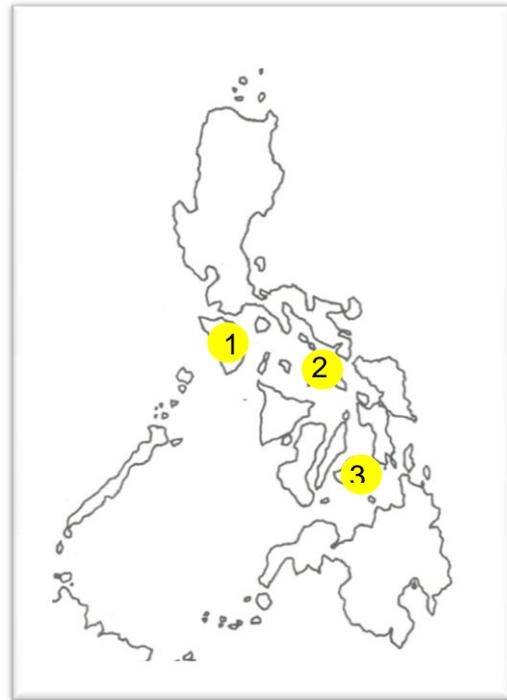


Figure 17. Map indicating cockatoo re-introduction assessments conducted within the historical range of the species: 1) Mindoro Occidental, 2) Masbate and Ticao, 3) Bohol

Sites with potential suitability for re-introduction were shortlisted using published information on historical records of cockatoo (Dickinson et al. 1991, Collar et al. 1999, Kennedy et al. 2000) or on areas of conservation concern (Mallari et al. 2001, Ong et al. 2002), as well as the database of the Protected Areas and Wildlife Bureaus (PAWB; www.pawb.gov.ph).

Sites were assessed during surveys using a catalogue of parameters, including biophysical (e.g. habitat quality, including canopy height and density, relative abundance, DBH and height of emergent as potential nest trees, area, competitors, predators), socio-cultural (e.g. prevalence

of unsustainable resource use, attitude towards the project), as well as legal and administrative parameters (capacity of law-enforcement bodies, transportation, communication) (KFI 2010).

Informal meetings with communities, land owners and decision makers in each site provide information for the assessment, particularly on project acceptance, but also serve as platforms to inform about the project and as future basis for the issuance of prior-informed consent certificates.

We summarized the assessments of the three sites in the following. The final assessment will make use of the quantitative scoring tool developed during the re-introduction workshop in 2010. These results and more detailed description of assessed sites will be published in a report in April 2013 in preparation of a workshop with PCCP and stakeholders of the highest and second-highest scoring sites.

Masbate and Ticao

Between June 7 and 14 we assessed seven sites on the islands of Masbate and Ticao within the Province of Masbate.

Masbate has a long history of deforestation, currently large areas are covered by pasture land and coconut plantations. Cockatoos have been recorded by Tabaranza and Curio in the early 1990s (Collar et al. 1999) but the record of the latter is based on secondary information only.

Small forest areas exist north of Milagros and in Tugbo watershed, but are heavily encroached by hunters and in the latter forest also by illegal gold miners. Very few potential nest trees were recorded in these two sites, and cockatoos may even compete with those with the globally endangered Visayan Tarictic *Penelopides panini* which still may persist in forest patches north of Milagros.

Of the four assessed mangrove areas only the Bongsalay Mangrove Nature Park was potentially suitable for re-introduction. With 245 ha this protected area on the southern tip of Ticao Island is the largest mangrove stand in the region. Large portions are stocked with old-growth *Rhizophora*, *Bruguiera* and *Avicennia*. Emergent *Sonneratia* which might be suitable as nest trees for cockatoos are however scarce.

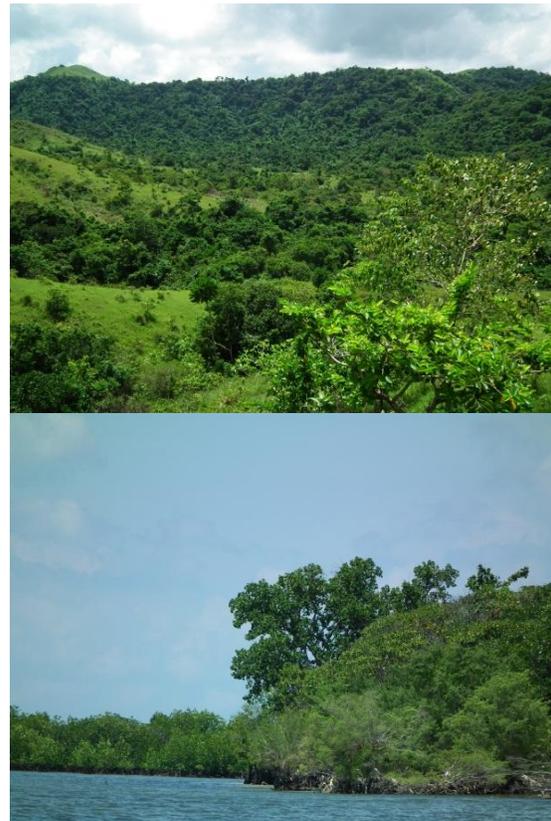


Figure 18. Extensive forest patch on a hillside North of Milagros (above); mangrove with emergent *Sonneratia* in Bongsalay Mangrove Nature Park (below). ©PWidmann

Aside from hunting and gold mining, also illegal logging is widespread and will likely further diminish existing forest patches.

All local government and DENR representatives were very supportive of our field work and welcomed the idea of cockatoo re-introduction. For one of the forest patches which looked promising

from a distance we were not able to secure permission to enter by the holder of the grazing permit for this area. Further access is hampered by activities of rebel groups, particularly New People's Army, especially in forest remnants in Ticao.

Mindoro Occidental

The western portion of Mindoro holds the last substantial lowland forests of the island which hold globally important populations of four endemic lowland bird species. We assessed three areas from July 19 to 26. Field work was hampered by continuous strong rains which made river crossings difficult, and caused washed out roads and collapsed bridges.

Collar et al. (1999) do not give cockatoo records for Mindoro Occidental. Mallari et al. (2001) gives secondary sight records of Philippine Cockatoos for Siburan, Malpalon and Iglit-Baco.

A cockatoo specimen housed in the National Museum of the Philippines was collected in the 1970s in Sablayan (central Mindoro Occidental).

We assessed three areas: Malpalon, Aroyon-Malate Tamaraw Critical Habitat and Siburan Forest in Sablayan Penal Farm; the first and the third are Important Bird Areas. Larger forest areas persist in all three areas. The local government of Malpalon declared valuable forest areas as locally protected area ("tree park"). Best protection of forest is achieved by the Penal Farm, since the area is well monitored by prison guards. This becomes apparent in the Tamaraw Critical Habitat where responsibility was handed over by the Department of Justice to the DENR; during our visit charcoal-making, illegal logging and recent slash-and-burn cultivation were rampant.

All local communities (including representatives of Mangyan in Malpalon), DENR and Superintendent and officers of Sablayan Penal Farm were very

supportive during our assessment and consistently very interested to lure the re-introduction project to "their" area.

The combination of widely intact lowland forest, efficient protection and supportive management make Siburan Forest within the penal farm one of the most promising sites assessed so far.



Figure 19. Meeting with representatives of the Mangyan community in Malpalon (left); good quality lowland Dipterocarp in Siburan, Sablayan Penal Colony, Mindoro Occidental (right). ©PWidmann

Bohol

Most of lowland forest in Bohol is cleared for agriculture, but forest remains on most of the numerous limestone outcrops of the island, notably around Rajah Sikatuna National Park. There are few cockatoo records from Bohol in the 1990's (Collar et al. 1999). A KFI survey in 2002 in the lower watershed of Loboc River and the

national park did not yield any cockatoo records (Widmann et al. 2002).

We assessed inland forests in Rajah Sikatuna National Park, in the upper reaches of Loboc River and northern mangrove islands in Bohol from August 8 to 15. Good forest with a high number of potential nest trees persists in the park; the elevation is already beyond the optimal lowland habitat of the cockatoo, however, no orographic rain occurs in the area due to absence of higher mountain ranges.



Figure 20. Measuring trees in Rajah Sikatuna National Park (above); forested limestone outcrop, South-central Bohol (below). ©PWidmann

Forests on limestone outcrops in the upper reaches of Loboc River are closed, but diameter classes of trees are small, so that potential nest trees are scarce.

Islands on the north coast of Bohol were partly densely settled. Uninhabited ones

were invariably very small (50 ha or smaller) and with mangroves of only small diameter classes.

Output 3: Conservation of cockatoo population on Rasa Island Wildlife Sanctuary (RIWS), Narra continued

Wardening scheme

In March, we excavated the pilot whale which was buried some years back since the area of burial will already be used. Bones were carefully collected and soaked in seawater and sun dried.

In April, we rescued one cockatoo with violet leg band number DENR 0015-2010 which was injured allegedly from an improvised air gun that uses marbles as pellets. The bird was retrieved along Panacan River with difficulty in flying. There was remarkable impact observed in the wing muscle of the bird and it was much stressed. It was brought to KIEBC for immediate treatment and assessment. Dr. G. Rebong from PWRCC observed hematoma on the injured right wing but no complete fracture was felt. Bird was treated with antibiotic and daily calcium supplement. It was fed regularly with natural food and supplements and was isolated in a cage that was kept inside the caretaker's house in KIEBC to monitor its progress. However, after three days the bird died. Necropsy was done by Dr. Rebong and hypoglycemia secondary to stress and wing injury was written as cause of death.

Investigation was conducted together with PNP Narra and this was reported to PASu. We could not trace the perpetrator. Information campaigns were conducted in the vicinity of the area and barangay captains were alarmed of the incident.



Figure 21. The injured cockatoo being checked by Dr. G. Rebong at KIEBC. ©KFI

Wardens completed the construction of a toilet and septic tank near the campsite in Rasa. Camp improvement e.g. construction of cabinets, roof replacement was also completed. Improvements in KIEBC were also completed with the help of wardens.



Figure 22. Transparent roof was replaced to provide more light for wardens in campsite. ©KFI

In July, PAMB members lead by DENR, PCSDS, and PNP along with municipal officials and the Alisto family rehabilitated the excavated area in Rasa Island. Trees were planted as well and a promissory note by the Alisto family was signed in presence of the PAMB members.



Figure 23. The hole dug by the Alisto family was covered with boulders and planted with trees (above) by the PAMB composite team (below). ©JSoquerata

The team on its way to Alisto area saw a freshly cut Taluto and was reported to authorities.

We noticed many of tribal community members frequented Rasa Island for sea cucumber collection. Several claimants as well were noticed working in their coconut plantations for copra. Number of gleaners was also significant. Hence, the monitoring of entry and exit was done intensively by wardens.

Ms. Mary June Maypa, Chief, PAWD of DENR-Region 4-B visited Narra but was unable to visit Rasa Island despite plans due to bad weather conditions. However, she spent time to discuss with PCCP team Narra led by Fred Diaz on some issues and concerns.

Wardens were occupied with works in KIEBC and the forest patch in Aborlan where we maintain and rehabilitate a forest patch.

Capacity building of the Protected Area Management Board (PAMB) of the Rasa Island Wildlife Sanctuary (RIWS)

The 23rd regular PAMB meeting was held on 15th February 2012. PCSDS representative Felomino Racuya presided the meeting. Highlights of the meeting were: (1) *agreement to rehabilitate the excavated area in Rasa Island that was allegedly done for treasure hunting. The dug hole will be covered after which planting of indigenous trees will be done. A promissory letter will be also be signed by the concerned individuals assuring the PAMB that such activity will not be done anymore;* (2) *agreement that all collected conservation fees in the future will be used for the continued maintenance of structures in Rasa Island;* and the (3) *clarification on the alleged CADT application of RIWS by the Tagbanua community. It was reported by the tribal representatives that they are not aware of its application but only the waters surrounding Rasa was applied for. Both PCSDS and DENR offices are unaware of the said application.*

In June, we were invited to speak before the 18-man monitoring team from the National Economic Development Authority (NEDA) Region 4-B. This was an opportunity for us to seek help from NEDA regarding maintenance of existing structures on Rasa Island e.g. birdwatch tower and boardwalk. Meanwhile, we also participated in the Participatory Local and Regional Economic Development (LRED) Planning Workshop where we were engaged in local environmental issues and concerns. The LRED is a process to mobilize stakeholders from the public and

private sectors as well as from the civil society, to become partners in a joint effort to improve the economy of a defined sub-national territory and thus increase its competitiveness.

The 24th regular PAMB meeting was held on 7th June 2012. PCSDS District Manager Virginia Catain presided the meeting. Highlights of the meeting included the updates on the Katala Festival preparations, BS 2012 and the presentation of the Municipal Tourism Officer on its tourism packages for Rasa Island. It was agreed that tourism plans must be presented in detail again to the PAMB when ready.

Our proposal for 2013 financial assistance for the wardening scheme was submitted to the Office of the Mayor within the period.

Conservation education and ecotourism

Education campaign in Panacan area gathered mainly kids who were taught Bird Art conceptualized by our Field Admin Assistant Jewil Soquerata. This art class is very unique, interesting and attracts the attention of kids and adults alike. The tragic story of the injured cockatoo rescued in the area was also a hit among kids. Kids in some way felt guilty and were sorry about the plight of the injured cockatoo. The main conservation message imparted was about co-existence and “sharing a place to live”.

Another highlight was the lecture done amongst ca. 150 Aglipay church members who were gathered for their eco-camp. FOC Siegfred Diaz lectured about stewardship and biodiversity conservation which was greatly appreciated.

Siegfred lectured before 40 Girl Scouts of Panacan High School about nursery establishment and maintenance. Scouts were taught potting, bagging and planting.



Figure 24. Ate Jewil (center) led the information campaigns in Narra and conceptualized the bird art for the kids in Narra. ©KFI

We joined the festivities of Bgy. Elvita in February and conducted the “Katala Fun Day”. We engaged children into story telling about the Katala and it was very inspiring to see kids enjoying the fun activities that included coloring, face painting and trashura (trash) games. Our mainland volunteers assisted JSoquerata.

The 6th Katala Festival was successfully celebrated on 21 June 2012 with the theme “Biodiversity is Life”(Fig. 26). The celebration commenced early morning with tree planting in KIEBC which was participated by 211 individuals from nine different organizations and government agencies. A total of 408 seedlings of different species were planted. The activities continued at 9am in the gymnasium with a huge crowd of nearly 300 students and pupils from Narra’s elementary and high schools. Apart from the usual activities we conduct during a Katala Fun Day, we introduced a presentation by PSU college students using the “guerilla marketing concept”. They interpreted through dance some famous songs and impersonated influential people and celebrities to convey conservation messages. We also had an interfaith lecture on the concept of stewardship. One successful contest was

the environmental chant contest where high school students displayed their creativity in crafting environmental chants and props to augment the presentation. Other contests and games were: on the spot speed painting contest in the tune of the “Tahanan ng Katala” song; street drawing and extemporaneous speaking contest. We distributed PCCP shirts and towels during the festival. We thank our donors and sponsors who had helped in many ways.

The annual festivity had always been financially supported by the municipal government of Narra.

After the festivity in June, Fred Diaz and Jewil Soquerata geared up and visited all north bound barangays of Narra to speak before 4Ps recipients. 4Ps is a government project that provides trainings and financial assistance to poor families. Fred and Jewil reached 1,213 individuals in 12 days in August preaching about the plight of the Katala, environmental laws and importance of biodiversity conservation. The comprehensive discussion was greatly appreciated by participants and it was an eye opener for women in particular who mainly the beneficiaries of the 4Ps program are. On these occasions, over 1400 “Share a place

to live” posters were distributed. We have summarized answers of our commentary sheets as follows:

- We become aware of the laws, importance of biodiversity and some information widened my understanding
- It was a rare opportunity to be informed of such important and worthy knowledge and that our share is to impart them
- Through this initiative, we are prompted of the bigger responsibility as parents especially as mothers to educate properly our children in particular on what to do to help protect the wildlife – that kids needs to understand the earliest possible since they are the future keepers of this fragile environment
- I have learned that protecting wildlife benefits not only the wildlife but humans as well and that we are dependent also on wildlife for survival.
- We will try to engage in similar conservation activities and we all should unite our efforts especially in observing the

laws since it is there not only for the wildlife protection but also for our sake.

- As a mother, my role is to become “the light of the family” thus with these valuable information I provide the light and direction to how best to protect our environment.

During the Nutrition Month parade in June PCCP wardens and volunteers tagged conservation messages in their necks which were eagerly read by spectators. After which along with staff they conducted information campaign in Inojas area where cockatoos roosting was confirmed.

Visitors in the first quarter of the year were mostly from the United Kingdom facilitated by the Birding Adventure Philippines who were very impressed of a conservation work that is “successfully implemented”. We had visitors from the Tourism Infrastructure and Enterprise Zone Authority (TIEZA) in June. They came with the Municipal Tourism Officer to evaluate possible assistance the group could offer for Rasa.



Figure 25. Fred and Jewil (left) in complete gears to include projector, laptop and information materials, on their way to 11 barangays for the campaign with the 4Ps members. ©KFI



Figure 26. A collage of pictures taken during the whole day Katala Festival in Narra which was successfully participated by nearly 300 students from different elementary and high schools. ©KFI

Systematic collection of data on breeding and feeding biology and population dynamics of Philippine Cockatoo continued

Data from previous breeding seasons indicated that average breeding success measured in number of fledglings per breeding pairs depends on precipitation occurring between January and June. Precipitation below 300mm in this period resulted in total breeding failure. Breeding success is highest between 300 and 700 mm. However, very high precipitation during the fledgling stage again reduces survival rates (Widmann et al. 2009).

Also the number of pairs getting into breeding condition at the onset of the breeding season may be influenced by rainfall. We plotted number of breeding pairs from 2005 to 2012 against precipitation in February at the beginning of nesting activities. We omitted data from earlier years, since the cockatoo population on Rasa was recovering exponentially from poaching during these years and number of breeding pairs may reflect the increasing number of birds, rather than weather conditions. Figure 27 indicates that generally more pairs get into breeding conditions during wet conditions at the onset of the breeding season.

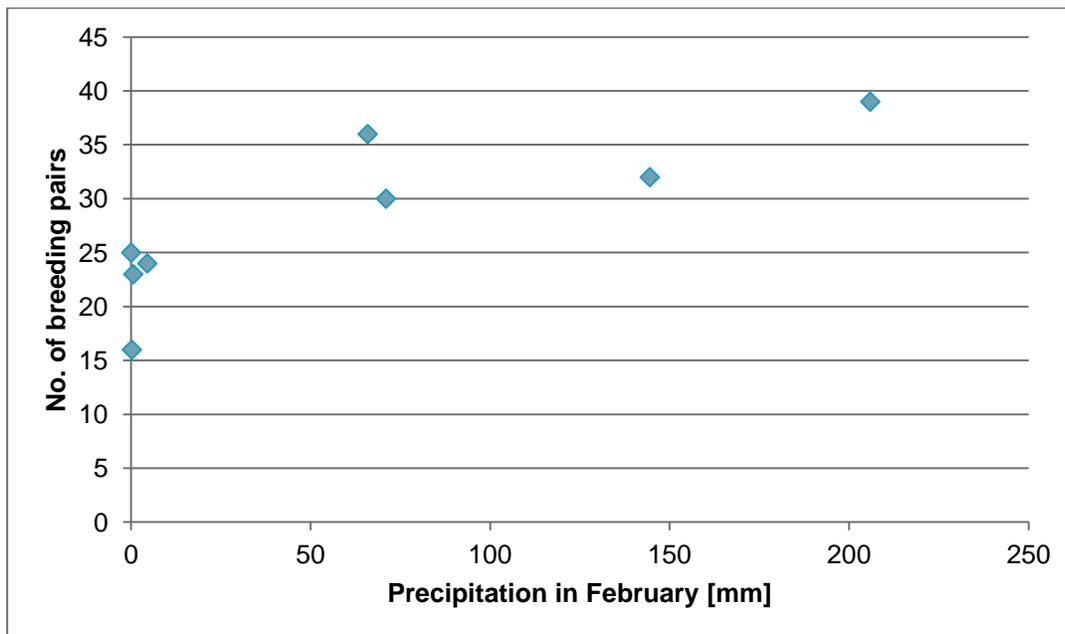


Figure 27. Number of breeding pairs on Rasa Island between 2005 and 2012 in relation to precipitation at the onset of the breeding season (February).

This breeding season we recorded the wettest February since start of the project and 39 pairs with breeding attempts, likewise the highest number since conservation efforts started in Rasa. A total of 74 eggs were produced and 53 chicks hatched. Thirteen eggs were lost during the reporting period. Suspected reasons for hatching failure were: two eggs were recovered intact but apparently infertile, two eggs recovered damaged and

without content, one nest with two eggs was given up, because of occupation by Mangrove Cat Snake *Boiga dendrophila*. In other cases smashed egg shells were recorded in the nest cavity or eggs disappeared without any trace.

This year yielded the highest number of breeding pairs on Rasa since start of the conservation project (Fig. 28A), which may be explained also by favorable weather

conditions before and during the onset of the breeding season (Widmann et al. 2012). This was however not matched by overall productivity per pair. Since 2000 we see a tendency towards smaller clutch sizes (Fig. 28B), which may not be explained by weather conditions alone, but may be related to higher densities of cockatoos on Rasa overall. This trend is less clear in the number of fledglings per pair, and least for the number of fledglings

per pair, where environmental factors, particularly food supply probably play a more important role. This becomes apparent in the years 2005 and 2010 where due to extreme droughts a complete breeding failure was observed on Rasa (rescued hatchlings in those years are not considered in this analysis, since they almost certainly would not have fledged without intervention).

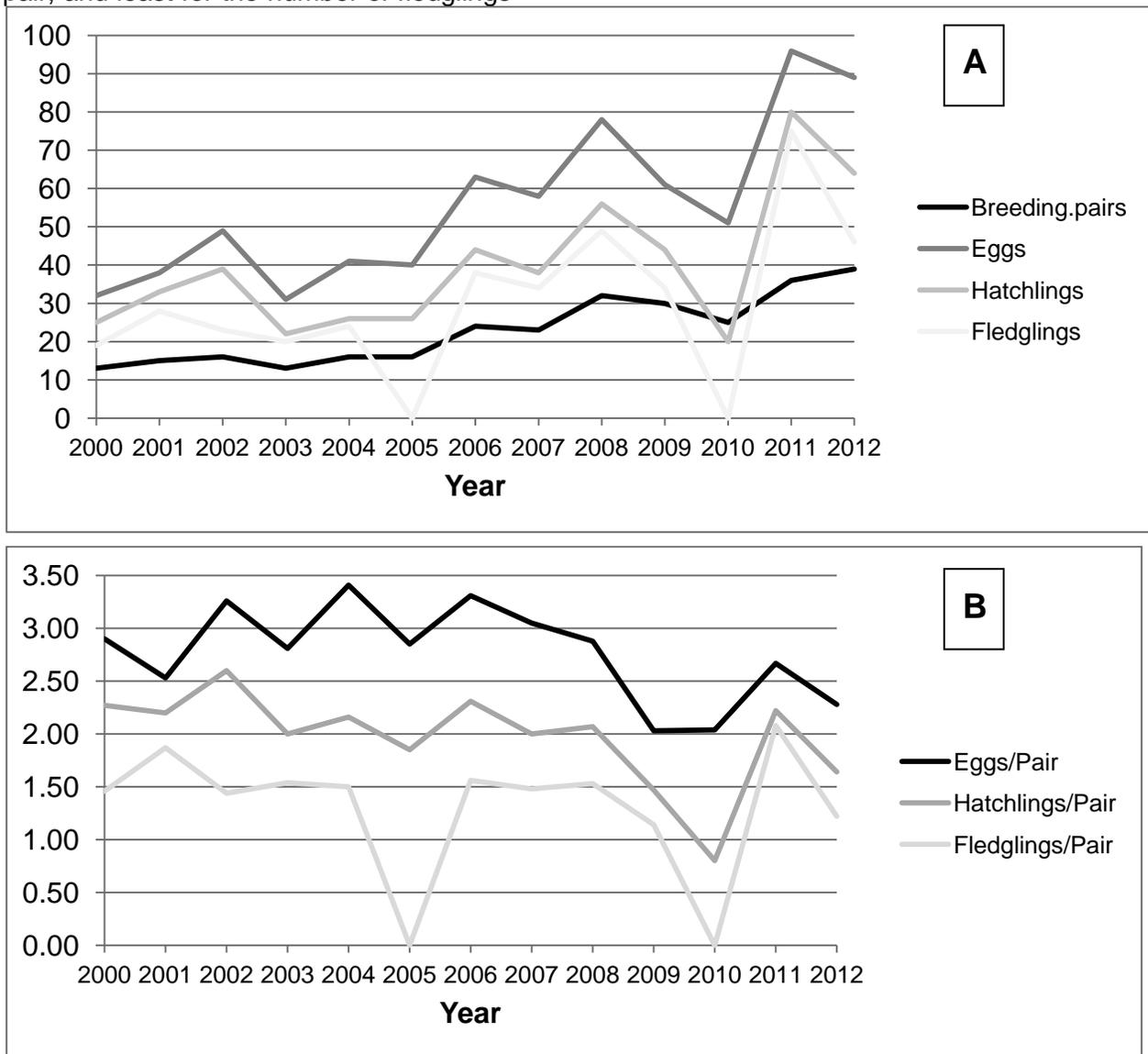


Figure 28. Absolute number of cockatoo breeding pairs, eggs, hatchlings and fledglings (A) and eggs, hatchlings and fledglings per breeding pair (B) per season from 2000 to 2012 on Rasa Island.

In the 2012 breeding season average clutch size was 2.3 eggs per pair, which is similar to past years, but somewhat lower than in the early years of the project.

Fruiting intensity was below average in this season and may have contributed to a somewhat reduced productivity of on average 1.22 fledglings per breeding pair.

We suspect that at least eight hatchlings succumbed to mite attacks, two further were found dead for unknown reasons and three further disappeared from the nest, the latter all being quite shallow. Wardens suspect predation by Crested Goshawks *Accipiter trivirgatus* which occasionally were observed perching close-by nest holes. However, no incidence was directly observed of goshawks trying to prey on nestlings.

Accessibility of nest trees permitting, treatment of hatchlings attacked by mites was done every three days. Additionally nest substrate was treated with pyrethrum-based powder. This was also not possible for those nests which are too deep to reach the substrate.

One banded, but not yet fledged bird was found dead in front of the nest hole. We suspect it jumped or fell out of the nest. Its sibling fledged successfully earlier on the same day. A total of 46 cockatoos fledged this year, of which 45 were banded (Table 2).

No sign of occupation was recorded from any of the thirty artificial nest boxes installed on Rasa.



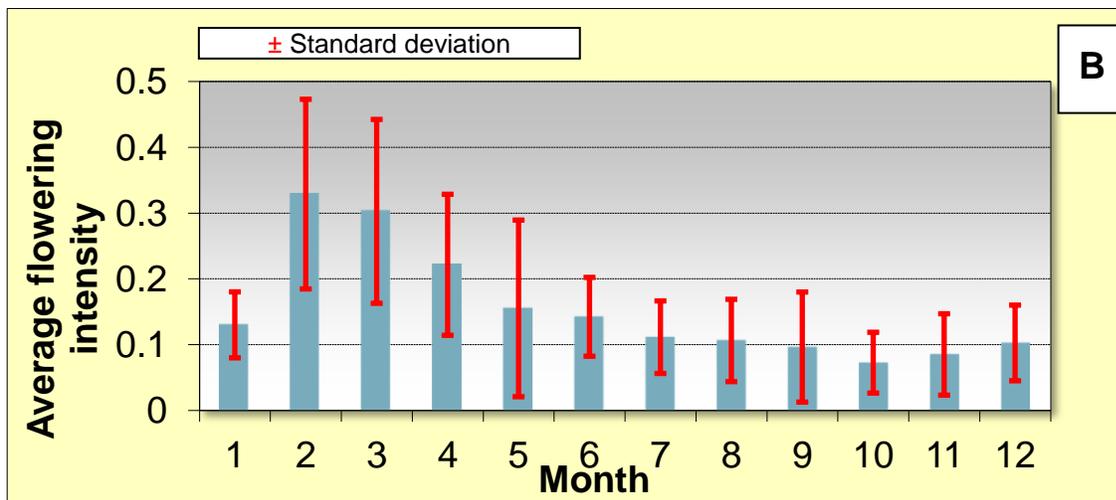
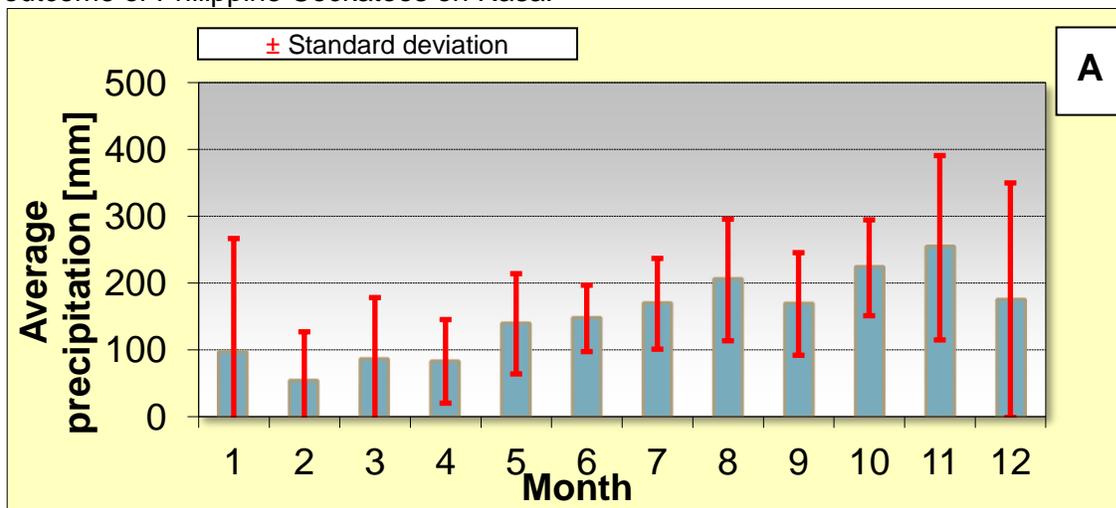
Figure 29. Indira and Fred checked the health of hatchlings while Angel, zookeeper, soaked the birds attacked by mites with diluted cock shampoo (top left). Peter estimates the right amount of food to be given to underweight hatchlings. ©KFI Lower pictures showed the successful banding of Philippine cockatoo hatchlings this year done by Fred and Deputy PASu Noli Alfaro. Photos were taken by Municipal Tourism Officer, Sherwin Corpuz who joined one banding schedule.

Long-term breeding performance, rainfall and food supply

Detailed breeding records for Rasa are available since 2000; phenological data on flowering and fruiting of woody plant are systematically collected since 2005. Rainfall data are available from a PAGASA weather station of the Western Philippines University campus in Aborlan about 26 km away from Rasa.

Rainy season usually starts in May or June and ends in December (Fig. 30A), with some variation depending on timing of the monsoon systems. Amount of rainfall can vary significantly, particularly within the drier month, therefore having major direct and indirect effects on the breeding outcome of Philippine Cockatoos on Rasa.

Flowering of woody plants on Rasa peaks during the dry month and becomes less intense during the end of the dry and throughout the rainy season (Fig. 30B). Seasonality of fruiting is less pronounced, but a peak is discernible from the mid to the end of the dry season, a time when most cockatoo hatchlings are present in the nests. A less pronounced peak can be observed in August (Fig. 30C). Considerable inter-annual variation of both flowering and fruiting intensity takes place, which is closely linked to rainfall.



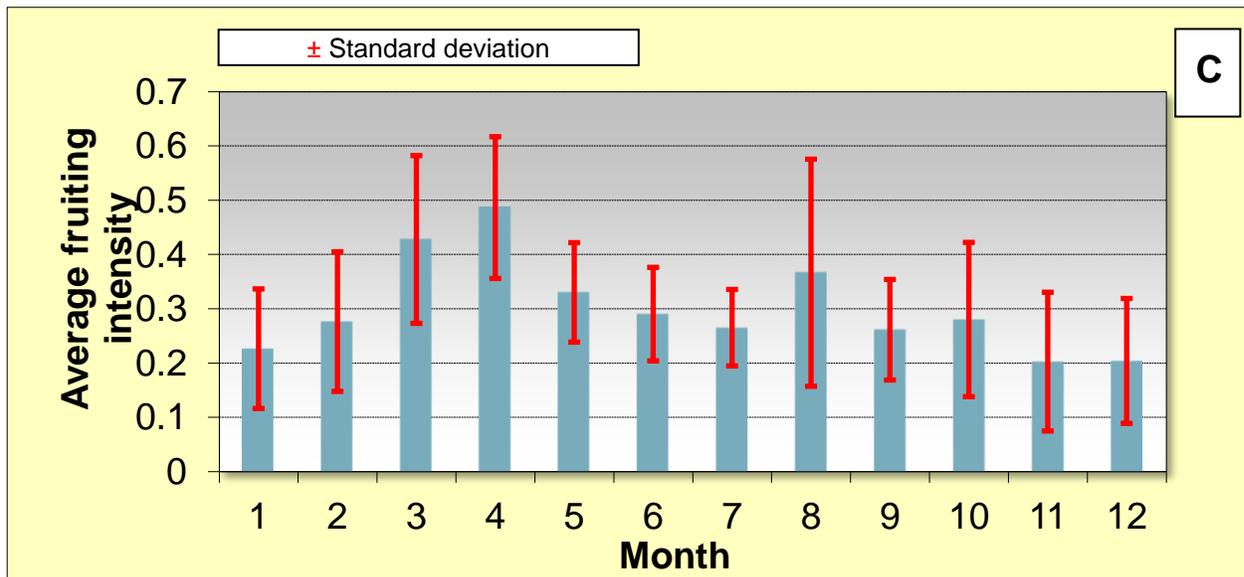


Figure 30. Average monthly precipitation in Aborlan (A), average monthly relative flowering (B) and fruiting (C) intensity of woody plants on Rasa Island (2005-2012).

Using Spearman’s Rank Correlation Coefficient there is a very highly significant correlation between number of fledglings per pair and fruiting intensity in March ($n < 0.01$), and a significant one ($n < 0.05$) for fruiting intensity in April. The highest correlation for a longer period was found for fruiting intensity between March and May and the number of fledglings per pair (SRCC 0.8982, $n < 0.01$, Fig. 31). In this period eggs hatch and small nestlings are dependent on a regular food supply.

No significant correlation was found between flowering intensity and average number of fledglings produced per pair. Although flowers play a certain role in the diet of Philippine Cockatoos, we did not record any incidence that they were fed to nestlings.

There was also a highly significant correlation between fruiting intensity in

March and number of hatchlings produced per pair which is more difficult to explain. The number of hatchlings, whether they survive later on or not, is mostly determined by egg survival and rate of fertilized eggs. Fruiting is unlikely to influence predation rates, and an elevated fruiting intensity in March is not likely to enhance condition of parent birds either which in turn might lead to an increase in egg production at this time of the year.

One implication for management could be that supplemental feeding can already be initiated at an earlier stage, if fruiting intensity falls below a threshold of 0.3 in March. Supplemental feeding then could commence in April. This threshold would have triggered earlier supplemental feeding in the very dry years of 2005 and 2010, but also in this breeding season.

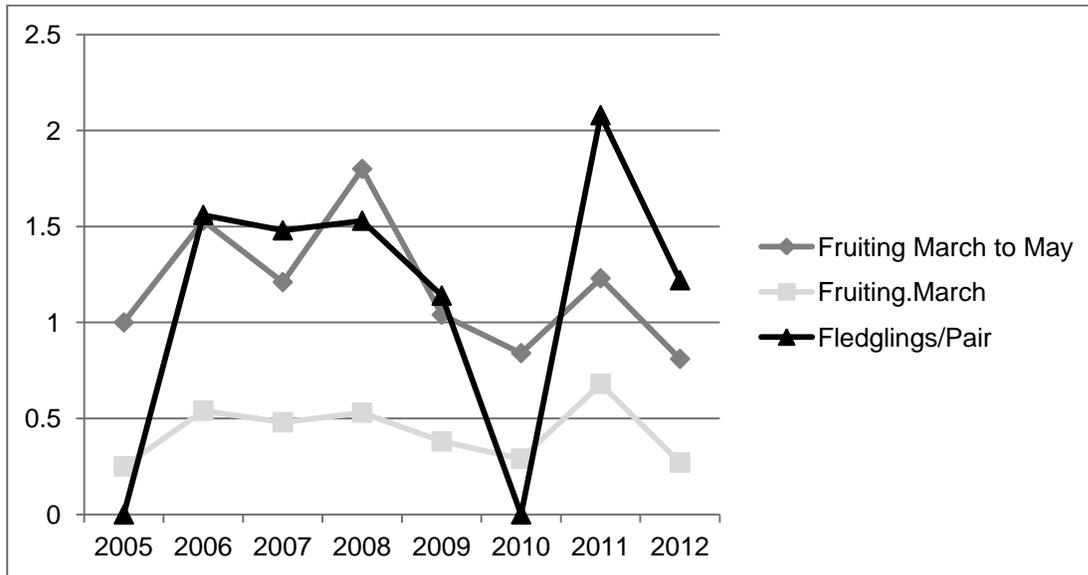


Figure 31. Very highly significant correlation between average number of fledglings per pair, fruiting intensity in March and fruiting intensity from March to May between 2005 and 2012 (SRCC 0.8982, $n < 0.01$).

Roost counts

For the first time since start of the project in 1998 cockatoos are now roosting on the mainland opposite of Rasa, starting in July of this year. The traditional roost site on Rasa was becoming crowded over the past years, with many birds forced to sleep inside the denser canopy, instead of exposed branches (Fig. 32). Roosting pattern in the past six years became quite predictable on Rasa, and we expected a considerable increase of birds after end of the breeding season with breeders and newly hatched birds augmenting the non-breeders. However, this did not happen. Instead a large number of birds transferred to the mainland opposite of Rasa and created a new roost site in coconut plantations there. The first roosting birds recorded in mainland station on July 3 were 35 individuals. Numbers of cockatoos which stay overnight on the mainland is fluctuating and reached 82 birds on July 27. Simultaneous counts in the two roost sites yielded still lower numbers than simultaneous counts on

Rasa on calm days, indicating that there might be at least one more additional new roost site which we did not discover yet. High counts from the two roost sites on July 24 yielded 186 birds from Rasa and 58 birds from the mainland roost, bringing up the total to 244 birds (Fig. 33).

Birds were occasionally recorded in KIEBC interacting with cockatoos in the aviary. We also observed birds roosting in Enojas area (outside our mainland stations) and yielded the highest count at 79 individuals on a coconut tree on June 29. These counts fluctuated after a gunshot was heard the next day. Despite its dwindling number in the area, we continue to monitor since the area is used by birds in transit when Malunggay fruits are available, towards their flight to Malinao.

The mainland roost is also not yet consolidated in terms of location and birds seem to transferring roost sites frequently.

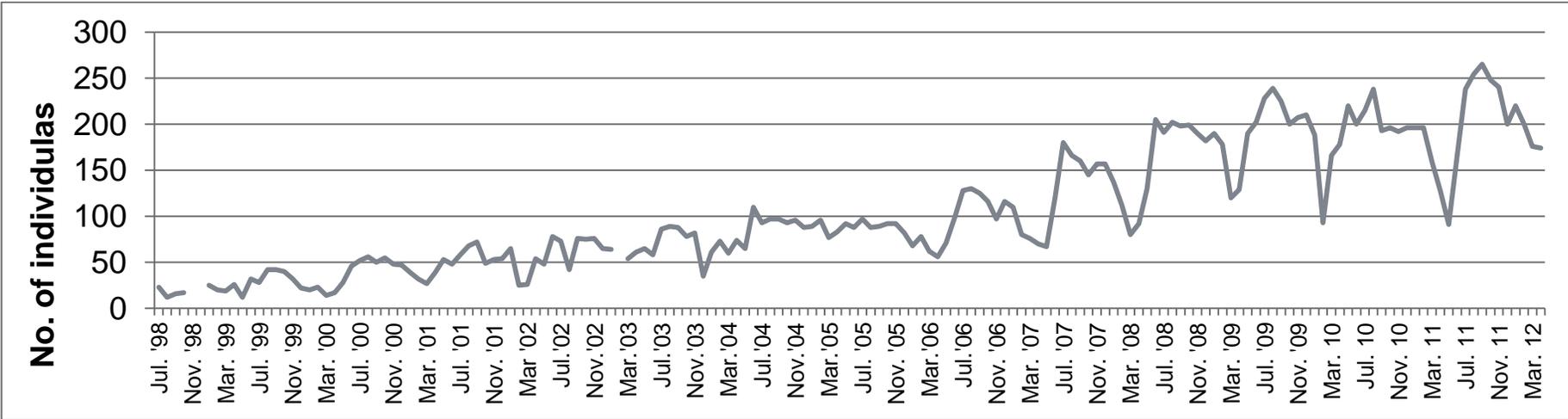


Figure 32. Maximum simultaneous number of cockatoo individuals during monthly counts at traditional roost site on Rasa Island.

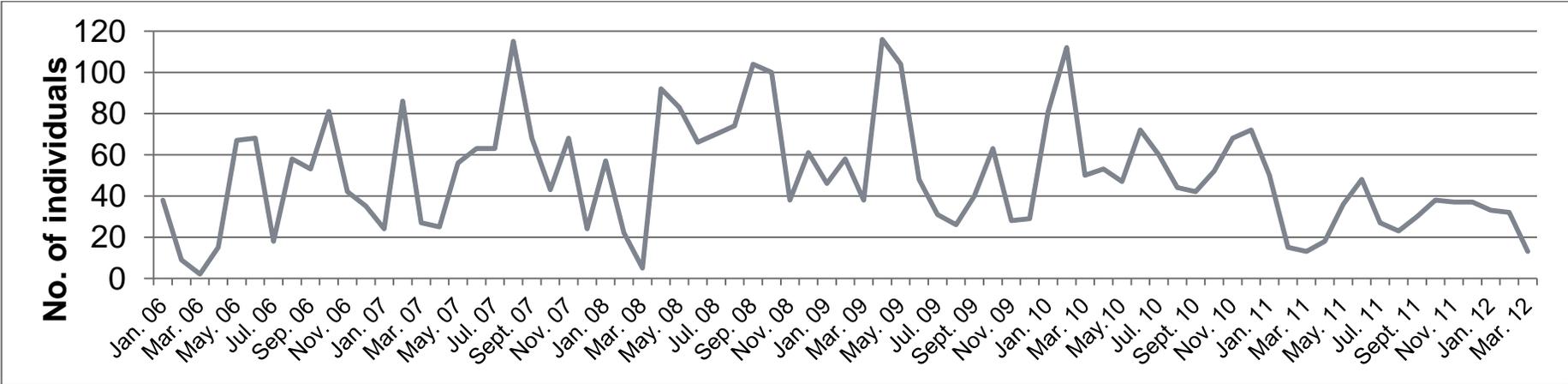


Figure 33. Maximum simultaneous number of cockatoo individuals during monthly counts in coastal mainland stations opposite Rasa Island.

Table 2. Data on banded Philippine cockatoo hatchlings from Rasa Island Wildlife Sanctuary, Narra, Palawan, June 2012, Philippine Cockatoo Conservation Program, ©KFI

NESTING TREE NO. & NAME	NO. of HATCHLING BANDED	MAROON RING NUMBER	DATE OF RINGING	MEASUREMENTS in Length (cm)			WEIGHT (grams)	EYE COLOR	Remarks
				Wing	Tarsus	Tail			
36 <i>Sonneratia alba</i>	1	DENR-001-12	27-Apr-12	16.8	1.8	5	305	Bluish black	Healthy; with food in crop; with mites
			2-May-12	18.9	1.8	6.6	295		
	2	DENR-002-12	27-Apr-12	17.5	1.7	6.4	300	Black	Healthy; with food in crop; with mites
			2-May-12	19.2	1.8	7.6	275		Fed with <i>Cerelac</i>
	3	DENR-003-12	27-Apr-12	14.5	1.8	3.4	310	Bluish black	Healthy; with full crop; with mites
			2-May-12	16.6	1.8	4.6	315		
9 <i>Sonneratia alba</i>	1	DENR-004-12	27-Apr-12	16.4	1.9	6.5	280	Blackish	Healthy; with half-full crop; with many mites
			2-May-12	19.9	1.9	7.8	280		With <i>Cerelac</i> in crop-no mites
26 <i>Sterculia sp.</i>	1	DENR-005-12	27-Apr-12	12.2	1.6	sprouting	205	Bluish black	Thin; with food in crop; with mites
47 <i>Sonneratia alba</i>	1	DENR-006-12	2-May-12	18.6	1.8	8.4	325	Brownish black	Healthy; little granular seeds and with liquid in crop; no mites
	2	DENR-007-12	2-May-12	18.4	1.7	7.9	320	Bluish black	Healthy; little granular seeds and with liquid in crop; no mites
	3	DENR-008-12	2-May-12	12.5	2	1.9	305	Bluish black	Healthy; little granular seeds and with liquid in crop; no mites
46 <i>Sonneratia alba</i>	1	DENR-009-12	2-May-12	15.8	1.4	4.6	420	Bluish black	Healthy; little granular seeds and with liquid in crop; no mites
	2	DENR-010-12	2-May-12	14.5	1.5	3.3	375	Brownish black	Healthy; many granular seeds and with liquid in crop; no mites

45 <i>Sonneratia alba</i>	1	DENR-011-12	2-May-12	16.2	1.6	3.4	345	Bluish black	Healthy; little granular seeds and with liquid in crop; no mites
	2	DENR-012-12	2-May-12	14.7	1.5	2.8	335	Bluish black	Healthy; little granular seeds and with liquid in crop; no mites
32 <i>Sonneratia alba</i>	1	DENR-013-12	2-May-12	14.1	1.8	2.1	310	Black	Healthy; no food in crop; no mites
	2	DENR-014-12	2-May-12	12.8	1.6	sprouting	280	Brownish	Healthy; no food but with liquid in crop
28 <i>Sonneratia alba</i>	1	DENR-015-12	9-May-12	14	1.7	3	305	Brownish	Healthy; little granular seeds in crop; no mites
	2	DENR-016-12	9-May-12	11	1.5	none	285	Bluish black	Healthy; half-full crop; no mites
62 <i>Sonneratia alba</i>	1	DENR-017-12	9-May-12	12.5	1.5	sprouting	295	Brownish	Healthy; little granular seeds in crop; no mites
	2	DENR-018-12	9-May-12	10.6	1.4	none	265	Brownish	Healthy; little granular seeds in crop; no mites
39 <i>Sonneratia alba</i>	1	DENR-019-12	9-May-12	11.2	1.7	none	355	Bluish black	Healthy; little granular seeds and with liquid in crop; no mites
	2	DENR-020-12	9-May-12	13.2	1.8	2.1	340	Brownish	Healthy; little granular seeds and with liquid in crop; no mites
64 <i>Sonneratia alba</i>	1	DENR-021-12	9-May-12	17.3	1.7	7.1	295	Brownish	Healthy; little granular seeds and with liquid in crop; no mites
43 <i>Sonneratia alba</i>	1	DENR-022-12	9-May-12	15.7	1.5	3.6	385	Brownish	Healthy; crop full of granular seeds and with liquid; no mites
	2	DENR-023-12	9-May-12	11.2	1.4	sprouting	315	Bluish black	Healthy; crop full of granular seeds and with liquid; no mites
70 <i>Pterocymbium taluto</i>	1	DENR-024-12	17-May-12	17.4	1.4	5.5	280	Blackish	Healthy; crop full of granular seeds; no mites
	2	DENR-025-12	17-May-12	12.8	1.3	1.1	280	Brownish	Healthy; crop full of granular seeds; no mites
58 <i>Garcinia</i> sp.	1	DENR-026-12	18-May-12	20.2	1.5	10.3	285	Blackish	Healthy; no food but with liquid in crop; no mites; near to fledge

31 <i>Garuga floribunda</i>	1	DENR-027-12	18-May-12	18.4	1.2	6.3	305	Blackish	Healthy; 2 pcs of granular seeds in crop; no mites
	2	DENR-028-12	18-May-12	19.2	1.4	6.8	295	Blackish	Healthy; many granular seeds in crop; no mites
3 <i>Garuga floribunda</i>	1	DENR-029-12	18-May-12	19.2	1.6	8.9	325	Blackish	Healthy; half-full crop of granular seeds; no mites
	2	DENR-030-12	18-May-12	19.1	1.5	9.1	325	Brownish	Healthy; little granular seeds in crop; no mites
12 <i>Garuga floribunda</i>	1	DENR-031-12	18-May-12	13.6	1.3	4.6	295	Blackish	Healthy; 2 pcs of granular seeds in crop; no mites
	2	DENR-032-12	18-May-12	12.5	1.2	2.5	195	Brownish	Healthy; 4 pcs of granular seeds in crop; no mites
			1-Jun-12	17.3	1.6	8.8	270	Brownish	Healthy; crop with liquid
11 <i>Garuga floribunda</i>	1	DENR-033-12	18-May-12	9.5	1.4	sprouting	245	Blackish	Healthy; 1 seed in crop; no mites
			1-Jun-12	14	1.4	3.5	250	Brownish	Crop with granular seeds; no mites
	2	DENR-034-12	18-May-12	10.1	1.3	sprouting	245	Blackish	Healthy; no food in crop; no mites
			1-Jun-12	14	1.6	2.5	230	Brownish	Crop full with granular seeds; no mites
21 <i>Sonneratia alba</i>	1	DENR-035-12	22-May-12	17.2	1.6	5.4	345	Brownish	Healthy; full crop; no mites
	2	DENR-036-12	22-May-12	12.2	1.4	sprouting	295	Blackish	Healthy; full crop; with mites (treated with cock shampoo)
	3	DENR-037-12	22-May-12	15.8	1.6	4.9	340	Brownish	Healthy; half-full crop of granular seeds; with mites (treated with cock shampoo)
38 <i>Sonneratia alba</i>	1	DENR-038-12	22-May-12	14.7	1.4	3.9	285	Brownish	Healthy; full crop; no mites
	2	DENR-039-12	22-May-12	16.5	1.5	4.9	300	Brownish	Healthy; little granular seeds in crop; no mites
			1-Jun-12	18.5	1.6	7.8	330	Brownish	Full granular seeds in crop
	3	DENR-040-12	22-May-12	10.2	1.4	1.5	275	Blackish	Healthy; little granular seeds and liquid in crop; no mites

<i>5 Garuga floribunda</i>	1	DENR-041-12	22-May-12	16.2	1.3	1.9	255	Brownish	Healthy; little granular seeds in crop; no mites
	2	DENR-042-12	22-May-12	15.6	1.4	1.5	255	Brownish	Healthy; little granular seeds in crop; no mites
			1-Jun-12	17.2	1.61	4.4	305	Brownish	Full granular seeds in crop; thinner
	3	DENR-043-12	22-May-12	12.2	1.4	sprouting	252	Blackish	Healthy; many granular seeds in crop; no mites
			1-Jun-12	14.2	1.5	0.5	215	Blackish	Crop full of granular seeds; thinner
<i>72 Sonneratia alba</i>	1	DENR-044-12	18-Jun-12	17.4	1.4	6.2	315	Brownish	Healthy; little granular seeds in crop; no mites
<i>57 Sonneratia alba</i>	1	DENR-045-12	28-Jun-12	11.5	1.3	sprouting	310	Blackish	Crop full of seeds and grinded substance (dry); no mites; thin

Constraints and measures taken

- Entries to Rasa during this period together with the breeding season as this was also the season for most of the claimants' source of income such as honey collection, sea cucumber gleaning, copra processing. Hence, monitoring was stepped up.
- The split-up of the traditional roost count on Rasa leaves us with mixed feelings. On the one hand it is encouraging to see that birds seem now to disperse, after Rasa was getting too crowded. On the other hand is monitoring of the birds, and also keeping them safe, much more challenging now since the new roost site (or sites) are not yet consolidated and in much closer vicinity to humans. Management has to be adaptive until we see where birds will settle down. In the meantime, conservation education in involved coastal communities was stepped up considerably to sensitize people about the birds in their neighborhood and to avoid conflicts and persecution. Education campaigns are also used to gather information on secondary cockatoo observations.
- Wardens and PCCP management met in July to thresh out working issues amongst wardens and staff. In the presence of PASu Tactay and Deputy PASu Alfaro we were able to identify lapses and personal issues amongst wardens and field coordinators.

Output 4. Conservation of cockatoo population on Dumarán Island, Dumarán continued

Wardening scheme

Continued illegal cutting of trees and kaingin practices were observed by wardens and reported to authorities. Perpetrators are known yet no case

could progress. In February along with MENRO Magbanua and PNP representatives, wardens inspected known kaingin farms in Baing and Bulalakaw areas in So. Kasipulo, Bgy. Sto. Tomas. One kaingin was only ca. 300m away from a known cockatoo nest tree. In another survey, another kaingin was observed ca. 350m away from another cockatoo nest tree.



Figure 34. Snap shots of illegal cutting of trees allegedly meant for government projects. ©KFI

Extensive illegal cutting was observed in Bulalakaw - Baleteng Bilog – Kasipulo forest stretch. These areas are outside of locally declared PA but are remnant forest patches on the island. Large old high-valued trees are cut down allegedly for government projects. There was apprehension done by wardens of timber hauled on broad daylight however these were released as per advice from authorities.



Figure 35. Kaingin practice remains a threat to diminishing forests in Dumarán Island. This picture shows a contiguous forest patch endangered by unregulated kaingin farms from Baing (upper left), Baleteng-bilog (upper right) and Kasipulo (lower left) areas. A cockatoo pair perches on a barren land in Kasipulo; its nest is closely located in the forests shown in lower left. ©MP/KFI

Wardens released in June a confiscated Blue-naped parrot in Omoi Cockatoo Reserve after its health was stabilized.

Wardens surveyed farmers in between the two protected areas of Omoi and Manambaling pertinent to the establishment of a critical habitat. Most if not all of the farmers have no legal instruments of their farms. Wardens also surveyed mangrove areas and farms with reported cockatoo sightings and farmers noted that cockatoos pass by their areas only and not raid their rice and corn plantations.

As of August, our nursery has 2,619 seedlings of ten different species and of ca. 15 more unidentified trees known to be food for the Palawan Hornbill.

Capacity building

A proposal for large-scale conversion of grasslands and residual forest into oil palm and *Jatropha* plantation was submitted to local government of Dumarán by Manila-based Green Square Properties Corporation based on DENR's Upland Agroforestry Program. Very limited introduction to the project was done by the company for local affected communities, and virtually no ground-truthing and public consultation took place. Consequently KFI was only involved in the process at a very late stage, when its representative was invited for a public hearing conducted by PCSD. KFI is one of the important stakeholders in the area as host NGO of

the management board of two protected areas (Omoi and Manambaling Cockatoo Reserves) and owner of one reforestation lot within the proposed project site, but did not receive any communication from the project proponent. KFI produced an assessment paper on the project and voiced out its severe reservations, mainly for ecological and socioeconomic reasons, and pointed out procedural shortcomings of the planning and application process of the project. These concerns were also presented during the public hearing in Dumarán organized by PCSD, during which the proponent unfortunately was absent.

The 15th Regular Local Protected Area Management Committee Meeting was conducted on 10th February 2012 with Administrative Officer Arnel T. Caabay as presiding officer. The deliberation on the critical habitat establishment was continued. At the end, board members committed to support the initiative. MENRO Magbanua presented results of his team's survey on kaingin farmers which resulted to an agreement between and among the kaingin farmers not to burn tilled areas and not to encroach on declared protected areas and remaining forest patches. Likewise, there was the presentation of illegal chainsaw operations in the municipality that needed to be resolved.

Conservation education

The repair of the Katala Environment Education Center (KEEC) was completed through the financial assistance from the Chester Zoo. The main repair was the roofing of the centre. We used galvanized iron sheets to replace the native Nipa shingles that were already rotten. After the new roofing was fixed, wardens also replaced destroyed wooden floors, walls and rotten beams and posts. The center was

further equipped with a Shell Solarmax 300, AC system to supply electricity.

Meanwhile, the Katala Conservation Club (KCC) elected new set of officers for two categories: elementary and high school members. This was their preparation for the activities they will have to carry on for the Katala Festival in June.

The 9th Kalabukay Festival was celebrated in cooperation with the Dumarán National High School. Its activities were conducted in the school grounds. The festivity started with tree planting around the KEEC grounds which was participated by ca. 70 students and employees from municipality, PNP and schools. Staff under the PFTCP joined the activity and trained KCC members in a puppet show featuring the critically endangered Philippine Forest Turtle and the Philippine Cockatoo. The performance of which was another highlight of the festivity. The newly renovated field house (KEEC) was blessed by the parish priest after the tree planting. Katala, the mascot, failed to grace the parade due to heavy rain. However, young Dumareños enjoyed the contests and fun activities e.g. extemporaneous speech, quiz bee despite disruptions in between due to heavy rain. The highlight was the sharing of Fr. Alaska, parish priest on stewardship of nature.



Figure 36. Main repair of the KEEC was the replacement of the rotten Nipa shingles to GI sheets. Along with the repair was the installation of a solar system in the center. Wardens provided the labor for the said repair and maintenance. KEEC is now ready for the Kalabukay Festivities in June. ©MPlazos, JKGaño, KFI



Figure 37. Snap shots taken during the 9th Kalabukay Festival in Dumarán. ©KFI

Systematic collection of data on breeding and feeding biology and population dynamics of Philippine Cockatoo continued

Four nest holes were occupied by cockatoos. A total of eleven eggs were produced, of which two were thrown out by adult birds and presumably were infertile.



Figure 38. A pair of Philippine cockatoo near its nest tree during monitoring. ©MPlazos

No problems with mite infestation like in Rasa were reported from Dumarán. All five hatchlings reported in the last period were banded (Table 3). Four were in good condition, whereas one (out of a clutch of three) was slightly underweight, however all fledged successfully.



Figure 39. Three of the five hatchlings with their new leg bands. ©MPlazos

In all active cockatoo nests, non-breeding cockatoos were observed in

addition to breeding pairs. Numbers ranged between one to seven birds. Some were confirmed as fledglings from last year, in cases where ring colors could be seen.

A pair of Hill Mynas *Gracula religiosa* took over an active cockatoo nest by destroying one egg and killing one hatchling. One nest was infested by arctiid moth caterpillars, but these were removed by wardens and did not negatively affect the outcome of the breeding effort. As of end of project reporting period, five hatchlings are still in the nests.

Cockatoo population in Dumarán is growing only slowly. Breeding success remains low, which may be partly due to limited nest sites, for which competition exists with other cavity nesters. The take-over by Hill Myna of an active cockatoo nest was the first record of its kind since start of the PCCP.

Artificial nest boxes are still ignored by cockatoos, but accepted by a number of reptile and bat species, as well as Dollarbirds *Eurystomus orientalis*.

Wardens' monitoring yielded sightings from Lagan roosting site to mangroves in Sitios Lamba, Salvacion and the Poblacion port areas. Residents also reported their sightings. In January, 12 individuals were sighted in the pier area and was enjoyed by residents.

A wild-caught cockatoo was confiscated from a farmer who stated that a flock of these birds raided his corn field. All primaries and secondaries on both wings were cut, so that the bird was flightless. Since regrowth of contour feathers would take several weeks and during the captive period it was exposed to domestic chickens for a longer period, it was decided to turn over the bird to PWRRC, instead of attempting to rehabilitate it on Dumarán.

Nest characterization of two nest trees was completed.

Roost counts in the coconut plantation remain stable over the years, with seasonal fluctuations, as in Rasa. Fewer birds are counted during the breeding season, since breeding pairs and apparently some non-breeders stay in the vicinity of the nest trees. As in previous years maximum and minimum numbers increased with the end of the breeding season, reaching the highest count for the season with 27 individuals on July 6 (Fig. 40). The steep incline of cockatoo numbers after breeding season is not only caused by returning parent birds and fledglings, but also by some breeders which seem to stay during occupied nests during breeding season.

The differences of maximum and minimum counts indicate that, unlike in Rasa, not all birds are utilizing the roost at any one time.

The project in Dumaran experienced a serious loss in the unexpected death of long-time wildlife warden Tirso Sy in June, who also was the owner of the coconut plantation where the roost site is situated. The KFI team expressed its condolences to the family and was assured that the efforts to protect and

monitor the cockatoos in the site will be continued by the family.

Constraints and measures taken

- The “almost approval” of a large-scale plantation project without updated planning base and virtually no public consultation is very difficult to explain, except by gross negligence on the side of the involved line agencies, particularly DENR. Although regulations are in place for public consultations, it is extremely difficult to obtain information on project proposals, and one has the impression this is meant to be this way. Networking with PCSD Staff resulted in consideration of KFI’s concerns into the decision-making process and the resulting rejection of the project by the PCSD. So far there is no policy of PSCD regarding large-scale plantation development, particularly in respect to ECAN in Palawan. KFI offered to work on this issue.
- Rampant illegal cutting of trees and kaingin practice were observed by wardens and reported to authorities. Perpetrators are known yet no case could progress.

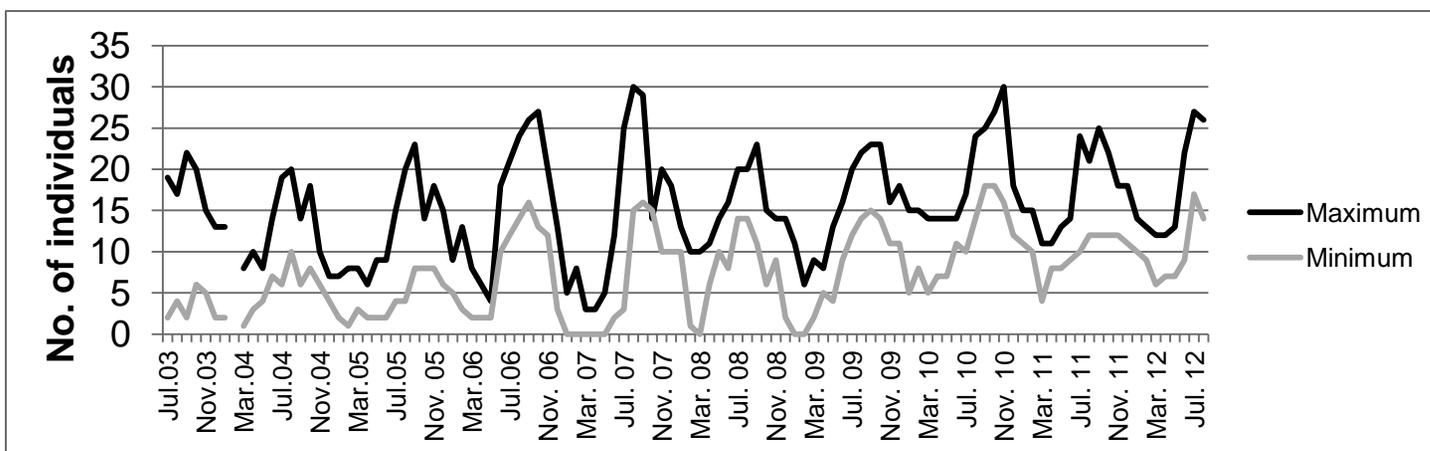


Figure 40. Maximum and minimum simultaneous number of cockatoo individuals during monthly counts at traditional roost site in Lagan, Dumaran Island.

Table 3. Data on banded Philippine cockatoo hatchlings from Dumaran Island, Palawan, June 2012, Philippine Cockatoo Conservation Program, ©KFI

NESTING TREE NO. & NAME	NO. OF HATCHLINGS BANDED	LIGHT BLUE RING NO.	DATE OF RINGING	MEASUREMENT (cm)			WEIGHT (grams)	EYE COLOR	REMARKS
				Wing length	Tarsus (leg) length	Tail length			
02 Luwas-luwas	1	0131-2012	05/23/12	25	2	4	220	Brownish	Crop half full, healthy, body is partly dirty
	2	0132-2012	05/23/12	19	2	2	240	Blackish brown	Full crop, healthy, body is partly dirty
04 Luwas-luwas	1	0133-2012	06/01/12	19	2	2	200	Brownish	Thin at first check but has regained condition
	2	0134-2012	06/01/12	28	3	4	250	Brownish	Full crop, healthy, left eye seems to be smaller than the right.
	3	0135-2012	06/01/12	28	3	6	230	Brownish	Full crop, healthy

Output 5. Conservation of cockatoo population in Culasian Managed Resource Protected Area (CMRPA), Rizal continued

Wardening scheme

In April, the illegal fishpond of Bebe Toto was demolished by combined authorities from PCSDS, PNP, KSK, PNNI and the Marines. The case had been acted through the Adjudication Board of the PCSDS after some years of waiting. However, all these efforts seemed futile. The said fishpond was observed to have been revived. We reported this case to authorities and awaiting action.

Meanwhile, barangay officials confiscated 20 pcs of illegally cut timber and some boat hulls in March at So. Dipanga. Confiscated items were left at the barangay for custody.

Illegal cutting of trees persists. In particular trees targeted are Ipil, Nato, Amugis and Tabulian. The latter is commonly harvested for its priced value and is said to be sold in Malaysia. Mangrove cutting for charcoal was also reported. More than a hundred sacks of packed charcoal were observed by DENR officials in their visit in March. Aside from high-value trees, mangrove cutting and tan barking were also observed. Mangrove cutting for charcoal production persisted until the end of this reporting period.

Like in Dumaran, Rizal is beset with unresolved illegal cutting of trees. This allegedly involves public officials. Illegal use of chainsaws is rampant.

Wardens were engaged in identifying two areas for the National Greening Project of DENR. The two sites are also within the CMRPA. They collected nearly 2000 seedlings for this intention. They have yet to receive payment. CENRO personnel already installed landmarks and demarcated NGP site in Rizal together with the wardens. One kaingin owner though did not want his area included as

site for NGP and threatened the wardens should planting be done in said area. Wardens will be involved in the project according to DENR officials. Meanwhile, the seedling nursery is maintained with a variety of species collected from the area.



Figure 41. The multi-sectoral enforcement team in action during the demolition of the fishpond of Bebe Toto in Rizal. ©KFI



Figure 42. Illegal cutting of mangroves for charcoal production is rampant in Rizal. ©KFI

Our proposal for financial assistance for 2013 for the wardening scheme was submitted in August for consideration during the municipal budget hearing.

Two wardens resigned from work due to personal problems.

Capacity building

Backyard gardens were affected by heavy rains so harvests were not impressive but were enough for own consumption. Mostly ginger and string beans were harvested in the first quarter. Wardens'

rolling sari-sari store is maintained but needs constant monitoring.

Literacy classes for the wardens ended in March 2012.

The LPAMC Meeting was conducted on the 22nd February with eight member-offices present. Hon. Douglas A. Macanas, Municipal Administrator, presided the meeting. Highlight was the deliberation on the rampant illegal cutting inside the PA where no one yet has been prosecuted. The authorities present during the meeting reiterated their commitment to support whenever a report is submitted to their respective offices.

Systematic collection of data on breeding and feeding biology and population dynamics of Philippine Cockatoo continued

No cockatoo breeding attempt was recorded from this site. Few cockatoos are recorded and it seems more and more plausible that the few surviving birds are beyond reproductive age. One single cockatoo was observed in February near the last known cockatoo nest tree in Ransang outside the protected area.

The area remains however important for other cavity-nesting bird species, notably the Blue-naped Parrot *Tanygnathus lucionensis*, of which 69 individuals fledged from trees monitored by wardens. Large flocks are observed regularly, with up to 79 birds on 20 January, and the protected area is certainly of international importance for this species. Second-most common cavity nester is the Hill Myna *Gracula religiosa*, with 17 fledglings reported. It cannot be ruled out that the dominance of these two species has negatively impacted breeding attempts of cockatoos, since these belong to the most important competitors for nest sites (for the latter see under “Dumaran”).



Figure 43. Warden Gindin climbs the towering Manggis to check the nests of Blue-naped Parrot. ©RAntonio/KFI

In addition, two Palawan Hornbill *Anthracoceros marchei* fledged from two nests.

After the breeding season large flocks of Blue-naped Parrots *Tanygnathus lucionensis* and Hill Myna *Gracula religiosa* could be observed in the protected area, with up to 33, 48 and 20,18 individuals in June and July respectively.

In an attempt to find possible cockatoo nesting trees, we coordinated with Bgy. Panalingaan, adjacent barangay south of Culasian, and interviewed locals. The team interviewed a local poacher who shared that since 2005 till 2008, he monitored five Manggis *Koompassia excelsa* nesting trees one occupied with cockatoo. The cockatoo nesting tree had DBH of 175cm. He poached 3-4 cockatoo hatchlings yearly and sold them to a middle man in Panalingaan at PhP400-900.00 per hatchling. In 2009, he doubted that the nesting trees he was monitoring were poached by other local poachers in the area. Later he learned that the poachers also harvested parent birds. Hence, cockatoo sightings are getting rarer already. Currently, three Manggis trees in the area are known to be nesting trees of either Blue-naped Parrot or Hill Myna according to the informant.

Constraints and measures taken

- Absence of reproductive cockatoos for some years now resulted in the decision not to include the site anymore within the PCCP in the next project phase. In order to continue conservation efforts for this still important site (internationally for Blue-naped Parrot, nationally for “Manggis”, the tallest tree of Asia, only site of the species in the Philippines); other funding sources have to be found. Since habitat is still good, supplementation with cockatoos should be considered.
- Wardens were instructed to avoid confrontation in dealing with continued threat from illegal resource users.
- We inspected the toilets which were constructed in 2010 through the German Embassy Manila funds during this period. Repair of the roofing of one toilet was already done; while another one is due for replacement. All toilets are functioning. The water pumps meanwhile need maintenance in particular the replacement of filter.

Output 6. Support for Polillo Islands Parrot Project

There were indications e.g. twigs cut and feces on the ground of known cockatoo nesting trees but no confirmed breeding attempt. Nest tree visitation was also hampered by strong rain and flooding within the period. In April, Liza’s team noted illegal massive cutting in Duyan-duyan forest where 144m² was cleared. This site was only 100m from a known Philippine Cockatoo and Blue-naped Parrot nesting trees.

Cockatoo sightings were scarce. According to local partners, two were observed in Burdeos and four in Patnanungan. Two cockatoos seen heading towards Minasawa Island but this was not seen during Liza’s visit on the

island in April. In May monitoring, only one Kalangay (Philippine Cockatoo) and one Kagit *Tanygnathus lucionensis hybridus* were observed upon the arrival of the team. The team suspected that the other Kalangay might have been killed by the loggers. One Kalangay was regularly heard until 12NN of May 21 when the team was preparing for departure. Andeth knocked on the trunk of one nest tree, consequently a Kalangay flew out of the cavity angry. Another bird joined and the pair flew around the nest noisy and angry. The sight was a relief. No breeding activity though was recorded.

Our coordinator, Liza Dans, focused on integrating the cockatoo monitoring in the activities outlined by the Polillo Islands Biodiversity Conservation Foundation (PIBCFI) for the year. She mainly worked on the conduct of information campaigns and strengthening law enforcement through local partnerships like the Bantay Gubat and newly organized DENROs. In Patnanungan where the pilot cockatoo monitoring was done, Liza along with colleagues is progressing in the organization of Bantay Kalikasan/Gubat. This will be done in Jomalig municipality as well. This initiative will improve the lax law enforcement in the area.

IEC were conducted in Patnanungan Sur, Patnanungan Norte, and Panukulan municipalities.

Constraints and measures taken

- Monitoring of cockatoo population in Polillo is hampered by logistical difficulties, particularly the only sporadic presence of project staff. The one-man wardening scheme did not yet result any tangible results regarding breeding activities of cockatoos in the area. It remains unclear if the very low population number over the years is due to an over-aged cockatoo population or due to persistent illegal activities, including

poaching for the pet trade. Permanent conservation staff in Polillo is urgently needed and this is probably best achieved by integrating the nest protection scheme under the wider umbrella of Polillo Islands Biodiversity Conservation Foundation (PIBCFI).

- Illegal cutting of prime forest trees including mangroves and illegal chainsaw operations were reported to DENR Regional 4-A. All illegal activities were as well reported to the Office of the Mayor. The team completed tree tagging in April in the hope that this will deter poaching of trees.
- Logging was also observed in Patnanungan and rivers were used as transporting trails.
- Our coordinator, Liza Dans, decided to leave work in Polillo in June and we have not discussed on the details as to how to continue the monitoring work in the area though she signified interest to continue the work. We hope to talk as well with Polillo Islands Biodiversity Conservation Foundation Inc.

Output 7. Katala Institute for Ecology and Biodiversity Conservation

A design by KFI for an enclosed facility for hand-raising of rescued cockatoos with minimal exposure to humans was translated into a construction plan by a local engineer. The floor size of the facility will be three by five meters. It will consist of three compartments: a changing room for the keeper with disinfectant foot bath, cabinet and sink; two rows of table tops for boxes or cages with separate sink; a small indoor aviary. Natural light is allowed through integration of glass blocks and a skylight. A separate septic is provided. When not used for raising rescued birds, the facility could be used for bird and small mammal quarantine. Construction work commenced in July. As

of end of reporting period cement and form works were finalized, including the septic tank. Part of the facility is funded by Marion Packer Trust, whose representative Dr. Walter Frey, visited the facility in May.

Zookeeper Angel attended a five-day national zookeeper workshop in Manila in February.

Turn-over of confiscated birds

Five confiscated juvenile Hill Mynas and one juvenile Blue-naped Parrot were handed over to KIEBC on July 3. All were examined, weighed and put into isolation cages within the quarantine area. Mynas were fed with a soft food mix with added vitamin and minerals; the Blue-naped Parrot received the same diet as the cockatoos. Additionally fruits were fed on a daily basis. All mynas had damaged beaks and tail feathers; one was treated with Betadine, because of an open wound at the base of the beak. On July 16 one myna was found on the ground with cramped neck bent backwards; it died shortly afterwards. We suspect long-term vitamin B deficiency as cause for the death, which could not be remedied in the relatively short period in our custody. Poached birds invariably are kept on boiled-rice and banana diets, both by poachers and traders.

The Blue-naped Parrot developed phlegm on July 17 and was immediately placed under heating lamp and treated with antibiotics. Through hand-feeding with Cerelac the bird's conditions temporarily improved, but then hastily deteriorated and it died on July 23. The necropsy of the bird indicates hemorrhagic enteritis as cause of death. The remaining four mynas were turned over to PWRRC on July 23.

These birds were turned over to KIEBC by Mr. Felomina Racuya of PCSDS.

Captive management of Philippine cockatoo and other threatened target species

Philippine cockatoo

All birds are well, but psychological problems persist. Plumage of Violet recovered nicely during the time it wore the collar, but plucking resumed as soon it was removed again. Blue was put inside a separate cage within the aviary after it started plucking feathers from its partner Silver. Silver had wings clipped in April. All these behavioral problems started and persist as a consequence of recapturing the birds after the first translocation experiment in Lagen. Other than that the birds interact normally with each other and sometime with wild cockatoos which occasionally visit the KIEBC area.

In January, visiting veterinarian from PAWB, Dr. Rizza Salinas examined the birds and recommended that we introduce water spray in the aviary to provide birds with a bath and comfort during hot days.

A small vegetable garden was established to supplement the birds and keepers diet and to cut costs. New forms of enclosure enrichment regularly designed by the keeper are readily accepted by the birds, but seem to have little effect on feather-plucking habits.

Freshwater Turtles

During the reporting period, a total of 37 eggs and 13 hatchlings of *C. amboinensis* were produced. *Cyclemys dentata* were observed mating in March, and we found two clutches of 2 eggs each in May. The first clutch was laid in the water and eggs had cracks and the 2nd clutch was properly deposited but eggs proved to be infertile. We had one *S. leytensis* (# 70) egg in February but it was infertile and deposited in the water. After being restless for several days, the same individual laid another egg in the water of

the pond on May 11. This indicated that we still have not met the nesting requirements of the species despite various designs. The same day, male S.I. #11 was introduced to S.I. #70 and the pair immediately mated. We are keeping males and females separate since last year and only started mating experiments with selected individuals in March but females were not receptive. In April one pair (#46&47) copulated. We did several other mating experiments during the reporting period: May (44 & 46 – no mating), June (3 & 44 – no interest; 3 & 47 – immediate mating; 21 & 36 – immediate mating; 11 & 70 - mated), and July (47 & 3 - mating; 21 & 36 - mating; 44 & 3 – no mating, 29 & 21 – no mating). We had one fatality of *S. leytensis* in January 2012 and five cases of shell rot; three of which were severe and needed antibiotic treatment. A total of two *C. amboinensis* had been turned over to KIEBC. As of August 31, the assurance colony held 26 *S. leytensis*, 64 *C. amboinensis*, 9 *C. dentata*, and 1 *D. subplana*.



Figure 44. This shows the position in which *C. dentata* were observed during copulation. ©KFI

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. The necropsy did not show a uniform pattern for the three individuals 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. All fatalities were females that are more stress-prone than males. Results of histopathology of organs of the three necropsied turtles are still pending.



Figure 45. Necropsy of *S. leytensis* by Doc Rizza assisted by Angel and Diverlie. ©SSchoppe

This confirms our earlier decision that keeping *S. leytensis* individually is necessary. We decided that having KIEBC extension facility in Puerto Princesa City to keep sick or weak animals would be appropriate in order to allow proper veterinary care / regular injections for turtles with health problems. Our request to transfer some sick turtles to KIEBC extension facilities in PPC on the private property of Sabine was approved by PAWB in June and we consequently informed PCSDS about the decision. Five *S. leytensis* (#70, 6, 27, 34, 11) - four of which have long history of severe shell rot - were transferred to the facilities in PPC, leaving us with 21 *S. leytensis* in KIEBC Narra. 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 are healing and so far no new shell rot. 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 of *S. leytensis* and quarterly growth monitoring of all turtles was conducted in February and August.

In May, Cris Hagen of the Turtle Survival Alliance visited KIEBC and KFI's in-situ conservation site of *S. leytensis* in Puerto Princesa City. Among others we discussed how to best divide the existing *S. leytensis* enclosures into two each.

Within the framework of the project "Captive breeding of *Siebenrockiella leytensis* at its only range-assurance colony" that is funded by the German Society for Herpetology and Herpetoculture (DGHT e.V.) from Jan. to Dec. 2012, we have 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. In May and June we provided various new kinds of nesting materials and nest designs to all *S. leytensis* females. Starting May 23, S.I. # 70 showed abnormal swimming behavior and was tilted. We feared egg binding or congestion. Palpitation did not provide any clarification. When after a week of warm baths and enema the turtle did not

show improvement we – after a long search – finally found a clinic that accepts animals for x-ray. We arrange for x-ray on May 31. 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. Accordingly they did not know how to interpret the x-ray image. We consulted several veterinarians who identified air 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.



Figure 46. Sabine teaching keeper Angel how to dose the ARCIVITS. ©KFI

In June, we received the results of a heavy metal analysis of our deep well water that we had sent out last April. Values for nickel did overshoot the national standards for drinking water and now we refrain from drinking the water. Water samples from *S. leytensis* treatment tank and from *Cuora* tank not connected to treatment tank were sent to Puerto Princesa City Water District for microbiological analysis in late August. Results are still pending.

On April 28, we were part of a historical moment in the Philippines. 18 hatchlings of *S. leytensis* that had been confiscated at the Hong Kong International Airport on 8 Feb. 2012 were returned to Palawan. This was 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. The turtles were released in two groups of nine individuals each in Barangay Dumarao on June 11 and in Barangay Tagabinet on June 22. The latter received financial assistance from the Office of the Mayor of Puerto Princesa City. On June 14, the same Chinese smuggler was caught again with 43 hatchling/juvenile *S. leytensis* and other wildlife in HK and got 6 weeks imprisonment. These turtles were also repatriated and turned over to KFI upon their arrival in PPC on August 2. Ever since, KFI is keeping them under quarantine conditions in our facilities.



Figure 47. Turnover of *S. leytensis* hatchlings from DENR-PAWB to PCSDS and witnessed by KFI President Zubiri at Ninoy Aquino International Airport. ©PCSDES/DENR



Figure 48. Turn-over of repatriated turtles from PCSDS to KFI. ©KFI

The two students from the Western Philippines University (WPU), who had conducted their theses on turtles, 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. Three WPU 2nd 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.

During the reporting period “The lasts of their kind – Help now!” project at the donation platform *Betterplace* (www.betterplace.org) collected a total of 881.00 Euro financial assistance to support maintenance expenses of the assurance colony. Donations were much reduced in the last quarter maybe because most relatives and friends had all donated by now. We assume that they are the main donors.

Porcupines

Last year the prospect of obtaining confiscated Palawan Porcupines *Hystrix pumila* did not materialize, because of yet another round of amnesty for illegally obtained wildlife issued by PCSD, which allowed the owner to register his animals and therefore keep them. During a visit in DENR-PAWB in Manila we learned of the presence of two animals of yet unknown sex in Ninoy Aquino Wildlife Rescue Center. We negotiated and signed a wildlife loan agreement with DENR within this reporting period, and pending the health check to be done by PAWB vets, the animals will be brought back to Palawan.

Like other porcupine species in the Indomalayan Region, also the Palawan Porcupine is increasingly under threat through hunting and trapping for bushmeat, medicine for the pet trade. In Palawan it is the second-most important game species for Tagbanua communities in southern Palawan, after Palawan Bearded Pig *Sus ahoenobarbus* (Lacerna and Widmann 1998). During the Global Mammal Assessment for the Philippines in 2006 the species was up-listed from “Least Concern” to “Vulnerable” based on information provided by KFI.

Nursery

A new and more permanent nursery compartment was constructed with support from Christine Shanks and Susan Hillard from the USA.

A total of 1,400 trees were planted in the KIEBC compound between 2009 and 2011. Another ca. 600 trees were planted from January to August, and ca 500 seedlings were given out to a local university, a high school and a government department. As of end of the reporting period 1,779 seedlings of 28 native and two exotic plant species were present in the nursery. The exotic species include Mahogany *Swietenia*

macrophylla (20 seedlings) and Horseradish Tree *Moringa oleifera* (430 seedlings). The latter is a locally important food plant of the cockatoo, which is massively planted on the mainland opposite of Rasa to avoid food conflicts with people.

Perimeter fencing and others

We continued fencing few meters of concrete posts and compacting rice hulls on established trails. Repainting of the caretaker's house was completed and cabinets were properly installed.

The SMR for the 1st quarter was submitted to authorities on April and August 2012.

Constraints and measures taken

- We need to secure the perimeters of KIEBC the soonest to protect from theft and intrusion.
- Our electric supply from main line to KIEBC has to be improved. Our posts need immediate replacement. A transformer is needed in the future. We had initial discussions with the Palawan Electric Company and the cost for such changes is high.
- The future of the August repatriated turtles is still blurred; it needs funds to identify collection site to eventually return them. For now they are still in quarantine.
- We need funds to divide the *S. leytensis* enclosures into two so that we can keep all individually and connect to the filter tank system.
- High levels of nickel in the ground water of KIEBC calls for municipal-wide analysis of water recourses. Chances are high that the ground water in wide areas of the municipality is contaminated with heavy metals in

relation to past and current mining activities.

Continue submitting proposals to other potential donors

- Three proposals submitted to different funding agencies were rejected within the reporting period.
- Community-based conservation of the Palawan-endemic Philippine Forest Turtle *Siebenrockiella leytensis* through information education to Turtle Conservation Fund (granted March 15, 2012).
- Proposal for provincial financial assistance for 2013 wardening scheme implementation in Narra, Rizal and Dumarán was submitted for review and consideration.
- Proposal for provincial financial of the 2013 World Turtle Day (WTD) celebration submitted on May 7 was partly approved on May 29 but the money was not released as of now.
- The proposal "Critical habitat management on Dumarán Island" was approved by the Philippine Tropical Forest Conservation Foundation in July to start in September.
- The proposal "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; however proposed budget had been reduced. Agreement was signed on August 17. Part of this project is the development of an educational turtle trail in KIEBC.
- A proposal on trade forensics of *S. leytensis* to curb down illegal trade was submitted to IUCN SOS fast action grant on August 28.



Figure 49: Our new nursery holds native trees and we had been supporting reforestation efforts of government and non-government agencies in Narra (upper pictures). The newly painted caretaker's house equipped with new painted cabinets and dividers. Concrete fabricated posts were erected at the boundaries behind the KIEBC. ©KFI

Output 8. Cockatoo Advocacy

Our visits to Iwahig yielded regular sightings of cockatoos. For months January and February numbers were from 15-23 individuals in scattered locations inside the Iwahig Penal Colony. However, in the latter months within the reporting period, the counts were erratic, probably; they were already in nesting trees for the breeding activities.

For the months of June and July, sightings of cockatoos in WESCOM were predictable on a daily basis. From our sources, records ranged from two to 12 individuals and these are around the military compounds to include the Naval Force area. On July 28, J-Kris, our education officer sighted three low-flying cockatoos at Malvar St. in Puerto Princesa at 9:45am. They were heading towards the WESCOM compound. We suspect these birds come from Iwahig based on the route they are taking probably crossing the Puerto Bay to forage at WESCOM area. This was corroborated by our informant from Iwahig Penal Colony who spotted three flocks of Philippine Cockatoos on July 3 crossing from Puerto Bay entering to the estuary and passing the Iwahig River on its way to the cemetery area in Iwahig. First flock had six birds and each two succeeding flocks had seven birds totalling to 20 birds sighted at dusk on that day.

In Montible sub-penal colony, we confirmed cockatoo roosting in a coconut tree near the guard house. An Apitong tree which has three cavities at different branches is suspected nest for cockatoo, Blue-naped Parrot and Hill Myna respectively.



Figure 50: Philippine cockatoos roosting on a coconut tree in Montible sub-penal colony. ©C. Socrates

Meanwhile, we continue receiving reports of cockatoo sightings around the forests of the Puerto Princesa Subterranean River and National Park (PPSRNP).

Cockatoo confiscation

On June 28, we aided the confiscation of an unregistered Philippine Cockatoo in Puerto Princesa. After surveillance and confirmation, we reported the illegal owner to PCSDS legal team which immediately acted on the report. The confiscation was done but no case was filed to the illegal pet owner. According to PCSDS legal team, an investigation is still in progress.

Other highlights

Other reported wildlife within the reporting period:

IUCN 2012: CR (Critically Endangered), EN (Endangered), NT (Near Threatened), VU (Vulnerable).

Palawan Bearded Pig *Sus ahoenobarbus* (VU): Rarely encountered on Pandanan during patrolling.

Long-tailed Macaque *Macaca fascicularis* (NT): Commonly recorded in Culasian, Pandanan and less so in Dumaran.

Large Flying Fox *Pteropus vampyrus*: Commonly reported from Rasa and Pandanan.

Palawan Flying Squirrel (NT): Regularly recorded from Pandanan.

Palawan Pangolin *Manis culionensis* (NT): A slaughtered individual was reported in March by wardens from Culasian. The scales were reportedly sold by the trapper to a middleman. The price is 5,500 PhP per kg (about 106 Euro). The demand for scales was said to be quite recent. In Dumarán there is no more evidence that the species is traded, unlike in previous years; in Rizal scales and meat are regularly bought by at least one trader as reported earlier (Widmann et al. 2012).

Balabac Mouse-deer *Tragulus nigricans* (EN): tracks and fleeting glimpses of this highly restricted mammal species were obtained during field work on Bugsuk. The species is only recorded from Balabac, Bugsuk and Ramos, offshore southern Palawan, and is certainly one of the ungulate species with the smallest overall range.

Chinese Egret *Egretta eulophotes* (VU): Occurs regularly in all Palawan project sites during the reporting period, but cannot be told apart from other egret species by wardens.

Grey Imperial-pigeon *Ducula pickeringii* (VU): Occurs sparsely in Rasa and Dumarán, but commonly on Pandanan. Wardens still have difficulty to tell this species apart from Green Imperial-pigeon.

Nicobar Pigeon *Caloenas nicobarica* (NT): This species is regularly encountered during monitoring activities on Pandanan, indicating that the island is of some importance for this species.

Blue-headed Racquet-tail *Prioniturus platenae* (VU): Flocks of up to 30 birds are regularly observed on Bugsuk and Pandanan. In Dumarán seven nest trees were occupied and 16 birds fledged; one nest tree was taken over by wild honey bees, another one by termites. Highest number per flock observed there were 16 individuals on August 11; up to 25, 20 and

20 birds in a flock were recorded from Pandanan in June, July and August respectively.

Blue-naped Parrot *Tanygnathus lucionensis* (NT): Flocks of up to 79 birds are regularly reported from Culasian and up to 15 birds on Pandanan; in Dumarán nine nest trees were occupied and 19 birds fledged; flocks of up to six birds were observed in Manambaling Cockatoo Reserve, Dumarán; up to 25, 35 and 10 birds daily were reported from Pandanan in June, July and August respectively during patrolling; 39 nests were occupied in Pandanan, which produced 76 fledglings.

Mantanani Scops-Owl *Otus mantananensis* (NT): This small island specialist is regularly recorded on Rasa and Pandanan.



Figure 51: Palawan hornbill is sighted frequently in Poblacion area in particular near the KEEC. ©MPlazos

Palawan Hornbill *Anthracoceros marchei* (VU): Daily counts of up to 30 birds are regularly made on Pandanan. Flocks of up to 15 birds were reported from Culasian, however, the only known breeding attempt there failed. In Dumarán one nest produced three fledglings and another one was flooded during heavy rain and strong winds and consequently abandoned; up to six birds per flock were observed during patrolling in Dumarán; four birds were sighted by the Municipal

Planning and Development Officer of Dumarán near her house; up to nine and 14 birds feeding in a fig tree in Pandanan in July and August respectively; highest daily number were 20 birds on August 16 on Pandanan; highest flock numbers in Culasian were six birds in July.

Great Slaty Woodpecker *Mulleripicus pulverulentus* (VU): Daily counts of up to 30 birds are regularly made on Pandanan. The breeding habitats in Dumarán are remarkable: the species is rare within the remaining dry forest patches, but we were able to obtain two breeding records for this reporting period, one within mangroves in a *Sonneratia* sp., and another from an old coconut, within the plantations where also the cockatoo roost site is situated; two birds were drumming noisily on July 6 in Pandanan;

Palawan Forest Turtle *Siebenrockiella leytenensis* (CR): rarely encountered during patrolling in Dumarán.

Malayan Box Turtle *Cuora amboinensis* (VU): occasionally encountered during patrolling in Dumarán.

Philippine Common Cobra *Naja philippinensis* (NT): One individual each was encountered during patrolling in Culasian on June 1 and 21.

Hawksbill Turtle *Eretmochelys imbricata* (CR): One individual was recorded in waters near Pandanan on February 20, 2012.

Lecture in Chester Zoo, UK

In March, Indira and Peter were invited by Dr. Roger Wilkinson in Chester Zoo to share activities and results of the Philippine Cockatoo Conservation Programme, a project supported by the Chester Zoo since its inception. This opportunity was best to meet colleagues from Chester in particular those engage in one way or the other with the PCCP. We met Roger's wonderful team, Andrew Owen, Andrew Woolham, Anne and Paul

Morris (the latter was our visiting expert for the experimental translocation in 2007) and Maggie Esson. There was also the great small talk with the renowned Dr. Carl G. Jones. After the said sharing, we were as well invited by Dr. Esson to talk before Manchester University masteral students of conservation biology.



Figure 52: Indira posing beside the cockatoo display in Chester Zoo, UK. ©PWidmann

PBFD Diagnostic Tests and DNA Sexing

Results of the PBFD Circo virus tests on five cockatoo feather samples were negative. Three out of five samples were tested for DNA sexing. Collection of samples was permitted through GP 2012-001. CITES Export Permit was secured to send samples to Biobest in the UK.

Visit of Dr. Frey, Marion Packer Trust, USA

In May, Dr. Walter Frey of Marion Packer Trust, USA visited the project in Narra to see the plans for the cockatoo quarantine and observe banding of hatchlings in Rasa Island. Dr. Frey and his son, Mitchell, appreciated all the work of the KFI and were happy to support the construction of the quarantine area. Dr. Frey also had audience with former Mayor Lucena Demaala during the visit. Dr. Frey committed to extend financial grant to maintain the nursery in KIEBC.



Figure 53: Dr. Frey and son Mitchell during a meeting with KFI staff regarding the construction of the bird quarantine building in KIEBC. ©KFI

Dr. Frey sits in the board of the Marion Packer Trust and is a legal pet owner of Philippine Cockatoos in the USA.

Participation to the SEP 20th Anniversary

KFI through the PCCP and PFTCP actively participated in the celebration of the 20th anniversary of the Strategic Environmental Plan of Palawan or the Republic Act 7611. We put up exhibits in consonance to its conference theme “SEP+20 Conference - showcasing Sustainable Development Perspectives, Initiatives, and Worldviews”. Katala, our mascot entertained 125 students from schools in Puerto who were invited to view the exhibits. Peter, Indira and Sabine attended the said conference as well.

Papers published, submitted for publication to relevant journals, relevant reports and media mileage

- PWidmann contributed to Bird-Life International (BLI) reviews for Philippine Cockatoo, Blue-headed Racquet-Tail, Palawan Hornbill and Storm’s Stork.
- PCCP: A community-based species conservation concept. Presented at Chester Zoo, UK. 7-8 March 2012.

- Katala Pride Campaign. Presented at Chester Zoo, UK. 7-8 March 2012.
- The 2011 annual report of the Philippine Freshwater Turtle Conservation Program was submitted to concerned authorities on 22 March 2012.
- In compliance with SEP Clearance KFI-121506-006 and the DENR ECC No. 4B-042-PA-5012-2007 we submitted the KIEBC annual report for 2011 on 4 April 2012.
- 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.
- "Protecting the last frontier" is in Philippine Airline’s Mabuhay Magazine April issue. It featured the Philippine cockatoo and the Palawan Forest Turtle.
- TCF0166 2012 technical and financial interim report submitted on May 12
- Chester posted repatriation blog <http://www.chesterzoo.org/conservation-and-research/latest-field-news/rare-turtles-returned-home-on-May-25>.
- Final report of “Adopt an Animal” was submitted to ZGAP on May 30.
- 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" on June 28 (<http://ph.news.yahoo.com/ph-forest-turtle--bakoko--in-danger.html>).
- Press release about release of repatriated turtle in Barangay Tagabinet on June 29.
- Carpus features *S. leytensis* assurance colony and related activities in their newsletter and

encourages potential donors to support on June 30.

- TV Patrol Palawan of ABS CBN featured the PCSDS and KFI MOA

signing and the latest repatriation of *S. leytensis* on August 3.

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



Figure 54: KFI through the PCCP and PFTCP displayed exhibits during the SEP Anniversary of PCSDS. Students from different colleges in the city enjoyed the short talks and games conducted by Kris and Rene in our booth. ©KFI

Summary of relevant seminars, and workshops organized and attended

- Planning Workshop and Staff Meeting, Narra, Palawan. 10 January 2012.
- Zookeepers Workshop, Quezon City. 23-25 February 2012.
- Lecture on the Conservation of the Philippine Cockatoo and the Katala Pride Campaign, Chester Zoo, Chester, UK. 7-8 March 2012.
- Presentation at WPU during 3rd Agriculture-Fisheries Fair (connectivity of turtles to the environment, agriculture and fisheries). 01 March 2012.
- Participatory Local and Regional Economic Development (LRED) Planning Workshop, Narra, Palawan. 19-20 June 2012. Sponsored by GIZ, LGU and DTI.
- SEP+20 Conference and Exhibit by PCSDS, Legend Hotel, Puerto Princesa City, Palawan. 5 July 2012.
- KFI board meeting and staff meeting headed by KFI President J.M. Zubiri, Bakers Hill, PPC 2 August 2012. Among other KFI Resolution 2012-02 regarding *S. leytensis* husbandry in PPC was approved and signed.
- Philippine College of Chest Physicians (PCCP) Mid-Year Conference, Legend Hotel, Puerto Princesa City. 2-3 August 2012. KFI President J.M. Zubiri was Keynote Speaker.



Figure 55: Katala, the mascot, enjoyed the company of doctors during the opening of exhibits at Legend Hotel, Palawan with KFI Pres. J.M. Zubiri as Keynote Speaker of the event. ©JKCGaño

- Meeting with new DENR-Regional Technical Director (RTD) Region 4B, PENRO Office, Puerto Princesa City. 10 August 2012. PENRO called for a meeting of all PASu to discuss status and issues of NIPAS protected areas under their respective jurisdictions. KFI and other NGOs working with protected areas were invited as well. This was to formally introduce the new DENR RTD Gwendolyn “Mutya” Bambalan and to familiarize her with the various protected areas in Palawan. Sabine, who represented KFI in this, introduced KFI and its programs, especially our involvement in the establishment and management of RIWS. She mentioned that one of the largest challenges is the sustainability of the wardening scheme for without this the protection of the area cannot be granted.
- Uniting the Country, Uniting the Reefs’ Conference, Metro Centre Hotel, Tagbilaran City. 8 August 2012. Indira served as *Knowledge Facilitator* during the group workshop and *Guest* during the graduation ceremony of the 12 PRIDE campaigns in the Philippines.

Personnel

Two wardens from Rizal resigned from work while one warden from Pandanan also resigned.

Tirso Sy, our wildlife warden from Dumaran died in June due to cardiac arrest. He is a great loss to the group. We are blessed though since his family supports his work and commits to continue monitoring the cockatoos at the traditional roosting site which they privately own.

We hired an assistant keeper in KIEBC since July who is under probation.

Equipment status

- We had finally disposed our old car and bought a brand new 4x4 car.
- Tricycle in Narra underwent repairs and tune up.
- Our photocopier was repaired and damaged spare parts were replaced.
- Service boat in Narra was repaired; but will need an overhaul.
- Service boat in Pandanan needs a new engine.
- Printer in main office needs replacement.
- Our fax machine needs repair.

Implications for further work

- Conservation education and advocacy work by KFI since many years in Iwahig Penal Colony may have contributed that incidents of poaching and hunting are declining. Consequently cockatoo observations are increasing and getting more regular. Despite limitations of access, the area is emerging as a habitat for one important sub-population of the species with potential as future project site.
- Increasing concentration of cockatoos in relatively few sites and increasing

human pressures overall make re-introduction of cockatoos an ever more important tool to increase the prospects of the species further. The SOS-co-funded project will contribute to the identification of potential sites within the historical range of the species within the next year and preparation of the most promising site until end of 2013.

- The project “Critical habitat Management on Dumaran Island, Palawan” co-funded by the Philippine Tropical Forest Conservation Foundation (PTFCF) expands on PCCP’s forest conservation and rehabilitation measures on the island. The main objective of the project is the conservation of the remaining lowland forest ecosystem on Dumaran Island. Specifically it is intended 1) to declare the area encompassing the remaining forest patches on Dumaran Island, Palawan a Local Critical Habitat; 2) to establish a management scheme for the critical habitat, and 3) to restore and protect threatened faunal and floral elements in the critical habitat. Our main stakeholders will be farmers in the vicinity of the existing protected areas and in the corridor between the two PA since it is intended to rehabilitate the area and to provide additional livelihood through agro-forestry activities.
- Ongoing illegal trade in *S. leytensis* needs to be addressed.

Planned targets and activities for the next reporting period**Objective 1: Conservation of cockatoo population on Pandanan and Bugsuk Island, Balabac**

- Warden scheme on Pandanan Island continued
- Monitoring of other breeding cavity-nesting birds

- Establishment of field house
- Conservation education continued

Objective 2: Re-introduction of Philippine cockatoos into parts of the historical range

- Assessment of potential translocation sites and potential remnant populations within the historical range continued.

Objective 3: Conservation of cockatoo population on Rasa Island, Narra

- Warden scheme continued.
- Members of the Local Protected Areas Management Committee capacitated in the management of the Philippine Cockatoo and Rasa Island Wildlife Sanctuary and meetings facilitated.
- Conservation education for stakeholders, particularly in mainland areas which are regularly frequented by cockatoos continued.
- Research on conservation-related aspects of cockatoo biology on Rasa continued, with focus on factors influencing breeding success and foraging ecology.

Objective 4: Conservation of cockatoo population on Dumaran Island, Dumaran

- Warden scheme continued.
- Local Protected Areas Management Committee capacitated in the management of the Philippine Cockatoo and the two cockatoo reserves.
- Buffer zone restoration around existing cockatoo reserves continued.
- Local government assisted in land use planning.

Objective 5: Conservation of cockatoo population in Culasian Managed Resource Protected Area, Rizal

- Warden scheme continued.

- Members of Local Protected Areas Management Committee capacitated in the management of the Philippine cockatoo and Culasian Managed Resource Protected Area and Culasian headwaters within the Mt. Mantalingahan Protected Landscape and meetings facilitated.
- Alternative funding sources for PA management further secured.

Objective 6: Support for Polillo Islands Parrot Project

- Conservation education for threatened parrot species within the archipelago continued.
- Location for locally protected parrot reserve identified and promoted with stakeholders.

Objective 7: Katala Institute for Ecology and Biodiversity Conservation

- Captive management of Philippine Cockatoo and other highly threatened species continued
- Quarantine area to accommodate rescued cockatoos and/or cockatoos destined for translocation improved.
- Landscaping with native species propagated in the Katala nursery continued.
- Allocate funds for captive breeding of *S. leytensis*, repair of existing and construction of additional enclosures.

Objective 8: Cockatoo Advocacy

- Conservation education campaigns conducted in Iwahig Penal Colony and buffer zone of Puerto Princesa Underground River National Park.

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