



In-Situ Philippine Cockatoo Conservation Project

Technical Progress Report

January - July 2014



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TECHNICAL PROGRESS REPORT

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PROJECT TITLE: PHILIPPINE COCKATOO CONSERVATION PROGRAMME

In-situ Conservation Project

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PROJECT COOPERATORS:

Department of Environment and Natural Resources (DENR)
Municipal Government of Narra, Palawan, Philippines
Municipal Government of Dumaran, Palawan, Philippines
Municipal Government of Rizal, Palawan, Philippines
Municipal Government of Balabac, Philippines
Bgy. Culasian Government, Rizal, Palawan, Philippines
Bgy. Pandanan Government, Balabac, Palawan, Philippines
Local Protected Area Management Committees (LPAMC)
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Palawan Council for Sustainable Development Staff (PCSDS)
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EXECUTIVE SUMMARY

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

- A total of 60 nest trees of other cavity nesters were monitored. In total, 104 nestlings were recorded, of which were 94 Blue-naped Parrots, 6 Palawan Hornbills and 4 Hill Mynas.
- As of end of March, 25 hatchlings were present in eleven nests. Two hatchlings were lost. **At the end of May 30 fledglings were recorded, which is the highest number from this project site since its beginning.**
- **Highest numbers counted on the roost site were reached in July, with 203 individuals. This is the highest number of cockatoos counted in Malinsuno since the start of the project.** The recovering cockatoo population in Pandanan shows a similar rate of recovery as the one on Rasa in the earlier years, with relatively slow recruitment initially and hopefully sustained stronger growth subsequently.
- Construction of a hut in the immediate vicinity of the cockatoo roost site in December of 2013 in Malinsuno was reported by wardens, despite an existing barangay ordinance prohibiting such acts to assure that cockatoos remain undisturbed. On January 7, the building was relocated to a new area away from the roost site through the concerted efforts of the barangay officials and KFI.
- Consequent patrolling, including during nighttime seemed to be working. There was no incidence of poaching reported within the reporting period.
- On January 15 a Katala fun day was held at Malinsuno Elementary School, involving the grade 4, 5 and 6 students. In total, 35 students joined and participate at the fun day and IEC, which represent the total number of pupils of the three grades.
- The visit of Chris Shank (USA) and Dorothy Schwartz (UK) in March 11 and 12 resulted in instructive meetings with the wardens and the Barangay council.
- Seedling stock in the month of March reached 520 in Pandanan. From May onwards, with start of the rains, planting of mainly food-providing plants for the cockatoo commenced. A total of 202 trees were planted, mainly to enhance succession in old shifting cultivation sites.

Output 2: Reintroduction of Philippine cockatoos into parts of the historical range

- Preparation of the reintroduction site on Kangbangyo and Poneas Islands, Del Carmen, Surigao del Norte, focused on parameters which were scoring lower in the suitability assessment, particularly “Food sources” and “Poaching”, as well as “Protection feasibility”.
- An immediate intervention was the training and employment of an ex-poacher as wildlife warden on Kangbangyo Island starting from early February. Aside from reporting illegal activities, he is also mapping potential nest trees and takes notes on phenology of food-providing plants.
- One poacher was apprehended during the project implementation resulting in confiscations of Mindanao Tarictic Hornbills and Coletos.
- Members of the Barangay Caub Marine Association established a tree nursery in the village premises. As of July 2014 at total of 9,876 trees have been planted on Kangbangyo Island.
- A collapsible pre-release aviary has been constructed and is stored in Del Carmen. A release site in on Kangbangyo Island was identified.

- Conservation education campaign with focus on the local community of Barangay (village) Caub and youth in Del Carmen was initially conducted by staff of KFI. In May 2014 staff of Surigao State College for Technology-Del Carmen Campus (SSCT) was trained in conducting interviews and education campaigns.
- Conservation education measures involved school visits, focus group discussions supported by cockatoo posters and postcards, as well as radio guesting.

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

- The intention of a claimant to cut of old coconuts was reported by wardens on Rasa. This intention was apparently sanctioned by the Philippine Coconut Authority.
- High volumes of marine products are increasingly gleaned from the tidal flats of Rasa, particularly sea cucumbers. Since gleaning often takes place during nighttime with artificial light sources, gleaners were instructed not to collect near the roost site to avoid disturbance of the birds.
- DENR is increasingly taking over roles in the management of the protected area. This includes hosting of the PAMB meetings and will include updating of the General Management and Financial Plans for the protected area.
- On July 9 the chair of the PAMB, Hon Mayor. L. Demaala was invited to attend a Senate hearing on Senate Bill No. 1901 introduced by Sen Loren Legarda to declare all protected areas with existing Presidential Declaration (which includes Rasa) as protected areas under NIPAS under Republic Act 7586. KFI assisted in drafting a position paper.
- The largest group of visitors comprised of 47 students from Puerto Princesa who observed the roost site on March 8.
- On June 20 this year's Katala Festival was celebrated. Activities commenced with birdwatching at 5.30 a.m. on the mainland opposite of Rasa. This activity was followed by a lecture in birdwatching for a mix of ca. 1,000 elementary and high school students conducted by members of Birdwatch Palawan.
- **This reporting period marked the most successful breeding season since start of the project in 1998!** A total of 43 pairs attempted to breed on Rasa. Wardens recorded 111 eggs of which 19 were lost. Causes for egg losses were suspected infertility and a waterlogged nest hole in one case. **Of the 92 hatchlings 83 were banded and fledged successfully.**
- There is marked shift in preferred or suitable nest trees over the years. In the early stages of the project, nest densities in coastal forests were high in the coastal forest, compared to mangrove with 5.7 and 0.53 pairs/km² respectively (Widmann et al. 2001). The nest density in coastal forest in 2015 increased to 7.6 pairs/km². Nest density in mangrove however increased tenfold compared to 2000 to 5.3 pairs/km².
- **After the breeding season numbers increased dramatically to 317 individuals, no doubt augmented by the high number of fledglings of the 2015 breeding season. This is the highest count on Rasa since the beginning of the project in 1998, and for the first time the 300 individual mark was breached!**

Output 4: Conservation of cockatoo population in the Sulu-Sea coastal plain of Palawan

- An important development in Iwahig Prison and Penal Farm was the discovery of cockatoo roost site in the area in a cockatoo in a coconut plantation. Number of birds increased steadily within the reporting period and reached 71 birds in July.
- On April 29, two cockatoo nestlings which were confiscated by PCSDS in the Montible sub-colony of Iwahig Penal Farm, were handed over to KFI for hand-raising.
- On June 5 Indira and Peter met with the Superintendent Schwartzkopf of Iwahig Prison and Penal Farm (IPPF) to discuss ways of formalizing the long-standing cooperation between IPPF and KFI.
- Rampant cutting was observed in Apis Forest: 15 pieces of hardwood timber were cut. This was reported to authorities for site inspection and documentation.

Output 5: Conservation of cockatoo population on Dumarán Island, Dumarán continued

- On March 18 illegal cutting of trees was observed in Sitio Bulalakaw on Dumarán Island. The timber was allegedly for construction project of the municipality.
- A wildlife enforcement officers training was conducted by the PCSD. Aside from four newly recruited wardens of KFI, also representatives from Dumarán Police Station, Bantay Dumarán, Bantay Palawan and wardens from the protected area for Palawan Forest Turtle in Roxas participated.
- The restoration of the corridor connecting the two cockatoo reserves continued throughout the year 2014. Since inventory in January indicated that 55,483 seedlings were left in the main nursery and in five satellite nurseries that was awaiting planting when the rainy season starts.
- Regular focus-group discussions were conducted with participating farmers to ensure that conflicts are resolved at an early stage, e.g. regarding compensation for earlier delivered seedlings and planting.
- We participated in the annual Kalabukay Festival, organizing a special “Katala Fun Day”. Students from elementary and high schools took part. Parents also who are recipients of the government’s poverty alleviation program participated in the lectures and contests. Activities comprised environmental games, tree-planting and lectures on topics of conservation.
- Laying of eggs seemed to be less synchronized than in previous years. Checking on March 1 in Manambaling Cockatoo Reserve revealed that one nest already contained a clutch of four eggs. On March 28 three chicks were present and still one egg. Another nest still had two eggs on April 26.
- On April 8, one nest tree (which was dead already) collapsed, destroying a clutch of three eggs. In two of the eggs fully developed embryos were recorded.
- By the end of the breeding season, seven hatchlings out of three nests were banded.
- Towards the end of the breeding season numbers at the roost site picked up again with a maximum of 20 birds counted in June and July.
- The two hand-raised birds from Iwahig were released near the Dumarán roost site. Both birds integrated into the wild flock after less than one week.
- One released bird was found dead on November 19, the other is still alive as to date.

Output 7: Conservation of cockatoo population in Culasian Managed Resource Protected Area (CMRPA), Rizal continued

- On May 23 Indira and Peter presented the results of the cavity-nesting bird conservation project to the Protected Area Management Board of the Mt. Matalingahan Protected Landscape in Brooke’s Point. Despite considerable efforts it

was not possible to recover the cockatoo population in the area. Presumably the cockatoo population was already beyond reproductive age, since only a single pair reproduced in the early stage of the project and no reproduction could be recorded anymore in the recent past.

- The CMRPA was integrated in the larger protected landscape. We endorsed the warden scheme to the board, particularly also because of the very high densities of Blue-naped Parrots and Hill Mynas in the area.

Output 8: Education and research at the Katala Institute for Ecology and Biodiversity Conservation

- On February 18, KIEBC was visited by Dr. E. Lastica DVM, who screened the birds and found them healthy, except the persistent feather-plucking problems.
- We received two cockatoo nestlings which were poached and abandoned in Iwahig Prison and Penal Farm. The birds were placed together in a transport box in the bird clinic. After hand-feeding with usual baby formula enriched with minerals and vitamins, the birds were weaned on fruits and vegetables. These then were successively replaced by naturally occurring foods shortly before fledgling-stage. After fledging, the two birds were kept in an indoor aviary for one week and then were transferred to a larger outdoor aviary to allow them to train their flight muscles.
- On July 28 finally two Palawan Porcupines arrived in KIEBC. An earlier schedule on July 14 had to be postponed due to difficulties in issuance of necessary papers. The animals were handed over to KFI by DENR-BMB as a breeding loan.
- With funding from Wildlife Reserves Singapore Reserves a “Cockatoo Garden” was established. The area is situated in the vicinity of the cockatoo aviary and the pavilion. It was planted with six food-providing plant species of the Philippine Cockatoo which were previously propagated in the tree nursery of KIEBC.
- As of end of May 4,567 seedlings in 35 species were present in the nursery, of which 1,660 were “Parina”, an important food-providing tree for cockatoos. .
- The nursery was fenced with hog-wire which was attached to permanent wooden posts on cement foundations.
- In order to give visitors the opportunity to observe the birds for extended periods of time a pavilion was constructed with funding from Wildlife Reserves Singapore Reserves.

Output 9: Cockatoo advocacy

- We participated in a number of local and national workshops, meetings, shows and conferences. Intensive networking with local partners is continued, particularly DENR, PCSD, local governments and administration of Iwahig Prison and Penal Farm.

Other highlights

- Sixteen blood samples were sent to University of Giessen, Germany for a study on parrot haemoparasites under GP 2014-001.

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ACRONYMS

BMB	Biodiversity Management Bureau (formerly PAWB)
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
ELAC	Environmental Legal Assistance Council
IUCN	International Union for the Conservation of Nature and Natural Resources
KEEC	Katala Environmental Education Center
KFI	Katala Foundation, Inc.
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
SDENRO	Special Deputy Environment and Natural Resources Officer
WPU	Western Philippines University
ZGAP	Zoologische Gesellschaft für Arten- und Populationsschutz

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 fifteen years Katala Foundation Inc. (KFI) implements the PCCP in the Philippines. Comprehensive conservation projects are currently undertaken in five sites in Palawan (Fig. 1): Rasa Island (Narra), Dumarán Island (Dumarán), Culasian (Rizal), Pandanan and Bugsuk Islands (Balabac) and the most recently the Sulu Sea plain of Narra, Aborlan and Puerto Princesa. The three former sites contain by now protected areas declared on municipal levels, specifically demarcated to include the remnant cockatoo populations. The Pandanan site is predominantly owned by Jewelmer Corporation, with which KFI has a Memorandum of Agreement for the conservation of the species. The Sulu Sea plain has various ownerships, but the most important site is the Iwahig Penal Farm.

We estimate that between 600–1000 Philippine cockatoos exist in the wild (assuming few populations have been overlooked in recent surveys of historical locations, and 100-150 individuals survive in the Sulus, for which only incomplete information is available).

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, holds possibly the second-most important population with at least 140 (up from 80) 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 five 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, except in Rizal, 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. Sulu Sea coastal plain; 5. Omoi and Manambaling Cockatoo Reserves, Dumaran; 6. Patnanungan Island, Polillo group of Islands, Quezon.

Deliverables

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

- Warden scheme on Pandanan and Bugsuk Island continued and extended to adjacent mainland.
- Monitoring of cockatoo population and habitat on Pandanan and Bugsuk Island continued.
- Networking with local stakeholders, particularly Jewelmer Corporation, the largest private landowner, continued.
- Conservation education in Pandanan Island and adjacent mainland continued.
- Research on conservation-related aspects of cockatoo biology on Rasa continued, with focus on factors influencing breeding success and foraging ecology.
- Small livelihood projects for key-stakeholders continued.

Objective 2: Re-introduction of Philippine Cockatoo

- 2nd Workshop for re-introduction of the Philippine Cockatoo with national and local stakeholders from two selected re-introduction sites conducted.
- Philippine Cockatoo Action Plan published.
- One priority site prepared (habitat rehabilitation, community awareness and acceptance).
- Actual re-introduction initiated.

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

- Warden scheme continued.
- Members of Protected Areas Management Board in the management of the Philippine Cockatoo and Rasa Island Wildlife Sanctuary capacitated and meetings facilitated.
- Conservation education for stakeholders 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 in the Sulu-Sea coastal plain of Palawan

- Monitoring of new mainland flocks initiated (municipalities of Narra, Aborlan), and of existing one (Iwahig Penal Colony) continued.
- Intensive conservation education initiated for communities visited by foraging flocks.
- Potential crop damages assessed and compensation mechanisms developed.
- Networking with Department of Justice, WESCOM and other land owners continued or initiated.
- Habitat restoration and management in Apis, Aborlan continued.

Objective 5: Conservation of cockatoo population on Dumaran Island, Dumaran

- Warden scheme continued.
- Members of Local Protected Areas Management Committee in the management of the Philippine cockatoo, as well as Omoi and Manambaling Cockatoo Reserve assisted and capacitated.
- Research on conservation-related aspects of cockatoo biology on Rasa continued, with focus on factors influencing breeding success and foraging ecology.
- Buffer zone restoration around existing cockatoo reserves continued.
- Creation of forest corridor connecting the two existing cockatoo reserves initiated.

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.
- Handing over of project to Polillo Island Biodiversity Conservation Foundation initiated.

Objective 7: Conservation of Culasian Managed Resource Protected Area

- Warden scheme for cavity-breeding birds continued.

- Members of Local Protected Areas Management Committee in the management of the Philippine cockatoo, as well as Culasian Managed Resource Protected Area assisted and capacitated.
- Potential for cockatoo supplementation explored.
- Handing over to the Protected Area Management Board of the Mt. Mantalingahan Protected Landscape initiated.

Objective 8: Education and research at the 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.
- Landscaping with native species propagated in the Katala nursery continued.
- Educational trail, enclosures and visitors facilities upgraded.
- Modules for guided tours for general public and schools, as well as short courses in conservation awareness prepared and field-tested.
- Proposal submission to other potential donors continued.

Objective 9: Cockatoo Advocacy

- Engagement with the Palawan Council for Sustainable Development and other law-enforcing bodies in formulation and implementation in the fields of wildlife trade, illegal logging, establishment of large-scale agricultural projects, particularly plantations.
- Participating in environmental impact assessment of planned coal plant opposite Rasa Island initiated.
- Advocacy in respect to impacts and perpetrations in cockatoo habitats continued.

Description of Project Sites

Rasa Island, Narra, Palawan

Rasa is a small coral island of 8.34 km² land 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 warden scheme which involves patrolling and protection of the birds during and outside the breeding season.

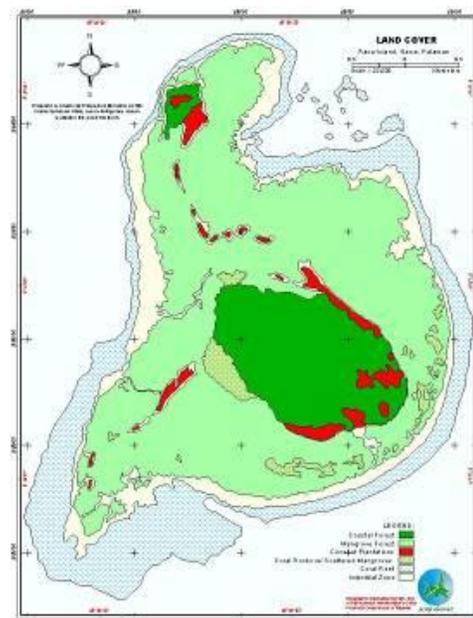


Figure 2. Vegetation and land-use of Rasa Island, Palawan, Philippines.

This scheme has proven to be efficient. It has more than doubled the population of cockatoos on the island over ten years.

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 600 and 1,000. 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 2013), considering the small size of Rasa. Noteworthy among the 109 recorded bird species are Grey Imperial-pigeon *Ducula pickerlingii* and Mantanani Scops-owl *Otus mantananensis*.

Sulu Sea Coastal Plain



This project sites comprises the lowlands of central Palawan facing the Sulu Sea and including areas of Puerto Princesa City, and the municipalities of Narra and Aborlan. The area is bordered by the Victoria-Anepahan Range to the west and the Sulu Sea to east; the northern edge runs roughly along 9° 47' N, the southern along 9° 9' N.

Figure 3. Sites covering Sulu Sea coastal plains in Palawan, Philippines.

Philippine Cockatoos have long been known to persist in the Iwahig Penal Colony south of Puerto Princesa City. More recent are flocks of cockatoos from Rasa feeding on the mainland of Narra and from Iwahig Penal Colony feeding in coastal areas of Puerto Princesa City, particularly in the compound of the Western Command (WESCOM).

Large parts of the coastal plains are cultivated, mainly with coconuts and rice paddies, particularly in Narra and Iwahig, where irrigation is available. Extensive areas of disturbed grassland-forest mosaics persist, which are habitats for a surprisingly high number of Palawan endemics. One explanation for this phenomenon could be that the present vegetation resembles that of some periods in the Pleistocene. These areas are used as pastures, but also for the collection of a wide variety of forest products. Grass fires are a regular occurrence and partly the vegetation is adapted to these occurrences (*Antidesma* fire savanna). Extensive evergreen and semi-evergreen lowland forests exist at the foot of the Victoria Anepahan Range, on fossil limestone reefs in Narra and Aborlan, south of the Bay of Puerto and in the Iwahig Penal Colony. Particularly the latter area is of outstanding conservation importance. All endemic lowland bird species are recorded from the area. Globally threatened species, aside from the cockatoo, include Palawan Peacock-pheasant

Polyplectron napoleonis, Blue-headed Racquet-tail *Prioniturus platenae*, Palawan Hornbill *Anthracoceros marchei*, Great Slaty Woodpecker *Mulleripicus pulverulentus*, Falcated Wren-babbler *Ptilocichla falcata*, and Palawan Flycatcher *Ficedula platenae*. Because of the abundance of brackish and freshwater wetlands Iwahig Penal Colony is an important wintering ground for waterbirds, including the endangered Black-faced Spoonbill *Platalea minor*.

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. seven km wide channel from the mainland.

PCCP currently manages three areas on the island: Omoi and Manambaling Cockatoo Reserves (Fig. 4) 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 136 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 Palawan Forest Turtle *Siebenrockiella leytensis*.

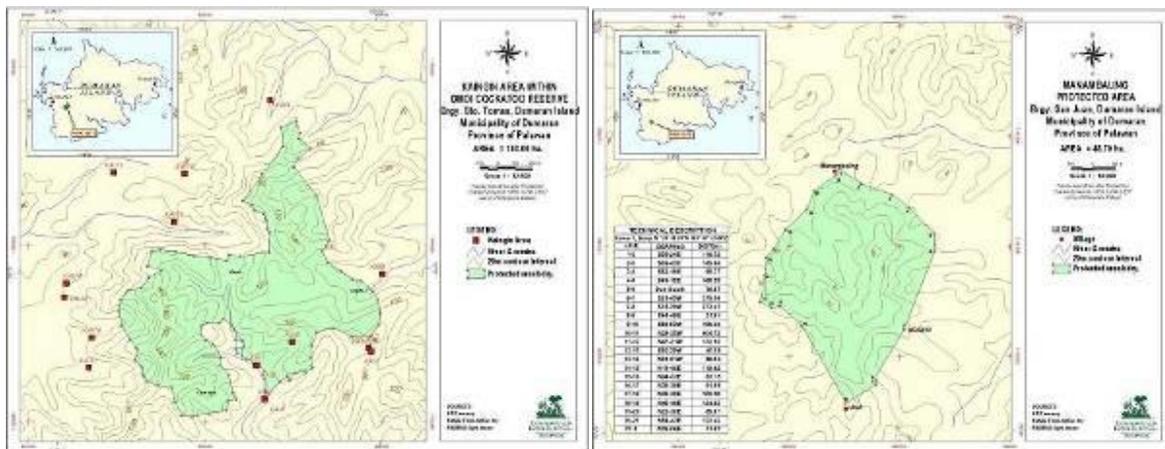


Figure 4. Omoi Cockatoo Reserve (left) and Manambaling Cockatoo Reserve (right) cover the last forest patches on Dumaran Island.

Other species of conservation concern are Palawan Hornbill, Blue-headed Racquet-tail and Palawan Pencil-tailed Tree-mouse *Chiropodomys calamianensis*.

Habitat degradation and destruction, rather than poaching, remain the biggest challenges for cockatoo conservation in Dumaran. In the current phase ca. five hectares of secondary forest and grassland were purchased with support of the Stadtholding Landau in the course of a

carbon-mitigation project. These areas have been rehabilitated and integrated in the buffer zone of the Omoi Cockatoo Reserve.

Culasian Managed Resource Protected Area (CMRPA), Rizal, Palawan

The Protected Area (PA) is located in the southern portion of Palawan Island in the municipality of Rizal. It is situated in the coastal plain facing the South China Sea, between the coordinates 8°52' to 8°47'N and 117°27' to 117°31'E. The PA comprises 1,954 hectares.

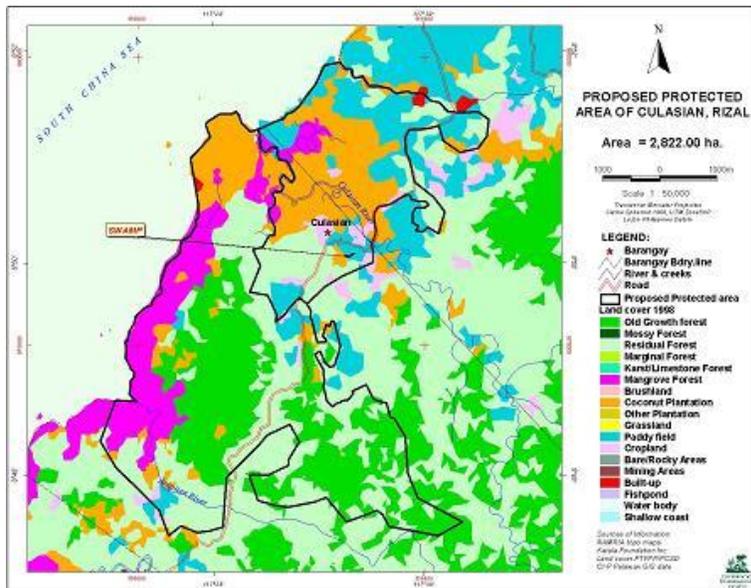


Figure 5. Vegetation, land use and boundaries of Culasian Managed Resource Protected Area, Rizal, Palawan.

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 2013) are particularly the larger tree cavity nesters, like Palawan Hornbill, all three parrot species of Palawan, Philippine Cockatoo, Blue-naped Parrot *Tanygnathus lucionensis* and Blue-headed Racquet-tail *Prioniturus platenae*.

Pandanan Island, Balabac

Pandanan Island in Bgy. Pandanan belongs to the north easternmost municipality of Balabac in Palawan (Fig. 6). 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 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, 74 bird species have been recorded in Pandanan and adjacent Malinsuno, but inventories are still ongoing. Among these are six globally threatened and six near-threatened species (IUCN 2013). Of outstanding conservation concern are particularly the larger tree cavity nesters, like Palawan Hornbill, all three parrot species of Palawan, Philippine Cockatoo, Blue-naped Parrot and Blue-headed Racquet-tail, and other conservation relevant species like Grey Imperial-pigeons and Mantanani Scops-owl (Widmann *et al.* 2008). The first and only record for the Philippines of a Fairy Pitta *Pitta nympha* comes from Malinsuno as a result of the conservation project.

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 159 in 2013.

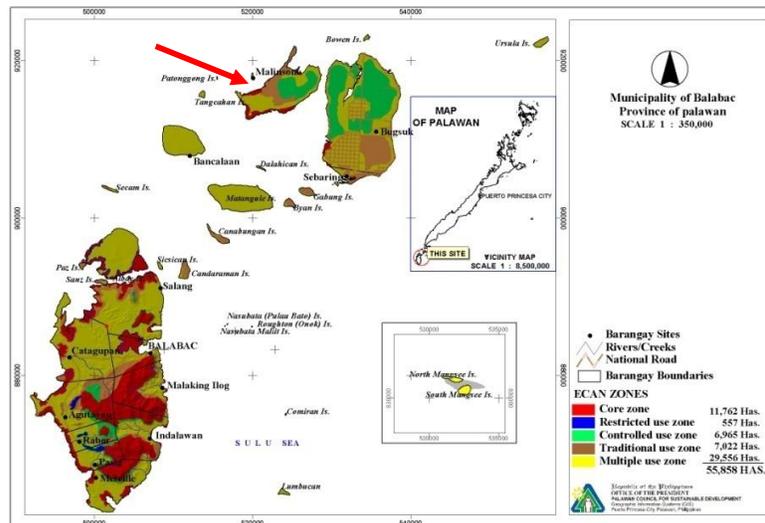


Figure 6. Location map of Pandanan Island indicated by red arrow (Map Source: PCSDS).

Methods

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 warden 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 Dumaran, Rizal, Pandanan and Polillo, movements are observed through wardens monitoring and patrols at protected areas and roost sites.

Monitoring of the population trend on Rasa, Dumaran 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 Dumaran 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 Dumaran. 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 13-0001).

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 Dumarán.

Restoration of mangrove is conducted on Rasa through transplanting of nursery-grown trees. Experimental restoration of lowland forest habitat is done in Dumarán. 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

Warden scheme

Construction of a hut in the immediate vicinity of the cockatoo roost site in December of 2013 in Malinsuno was reported by wardens, despite an existing barangay ordinance prohibiting such acts to assure that cockatoos remain undisturbed. On January 7, the building was relocated to a new area away from the roost site. This was done with the consent of the owner and with support of the barangay council of Malinsuno, as a result of intensive consultation process facilitated by KFI's Rene Antonio.

Coastal and nocturnal patrolling continued during the reporting period. A house of a fisherman from outside the community was recorded from Manas Point in Pandanan in January, but later found dismantled. In July increasing number of stilt houses were reported in Sitio Raketon, Pandanan. Most of these occupants were from the neighboring island of Bancalaan. Sea weeds farming was their main occupation in the area. No proper permission from the Pandanan council existed. The issue was brought before the Barangay Council. The security team of Jewelmer Company also inspected the area and requested the squatters to abandon the site.

Consequent patrolling, including during nighttime seemed to be working. There was no incidence of poaching reported within the reporting period. Shifting cultivation areas in SW of the island are regularly monitored. No snares were found or other suspicious activities observed.

A total of 60 nest trees of other cavity nesters were monitored. In total, 104 nestlings were recorded, of which were 94 Blue-naped Parrots, 6 Palawan Hornbills and 4 Hill Mynas. A solitary nest tree of Blue-headed Racquet-tail was not recorded as occupied, but newly-fledged young were observed within the vicinity of the nest tree being fed by parents.

Cockatoo population and nest monitoring

Breeding

In the first half of January, only two nests were occupied, by the end of the month, the number increased to four. An additional two newly discovered nest trees showed signs of occupation (cut twigs) and eight newly hatched nestlings were already recorded by end of January. As of end of February, nine active nests were recorded.

One dead nestling was found under a nest tree on February 21 during a nest checking round. The cavity of this nest tree is quite shallow and two more nestlings were present in this site. Another nestling was observed to have a dislocated joint between tibiotarsus and tarsometatarsus. No action was taken, because there was no open wound observed and the injury was healed also with the foot fixed in a sprained position. As of end of March, 25 hatchlings were present in eleven nests. Two hatchlings were lost possibly to predation. At the end of May, 30 fledglings were recorded which is the highest number from this project site since its beginning.

Around some occupied nest trees small cockatoo aggregations can be observed, indicating possible helpers, similar to Rasa Island.

An unusual observation was that in one nest tree, twig-cutting by cockatoos, which is a sign for imminent nest occupation, was observed in July, well after the breeding season. No nesting commenced and the reason for this behaviour are unknown.

Roost counts

Strong north-east monsoon winds influenced the roost site from January to April. In addition, numbers of cockatoos recorded was reduced due to the onset of the breeding season, with not only parent birds sleeping in the nest sites, but also a number of non-breeding birds (see previous paragraph). Weather conditions were windy in January accounting for relatively low counts of a maximum of 102 individuals in the Malinsuno roost site. Maximum numbers decreased until March and then rapidly increased towards the end of the breeding season in April. Already in May a high number of immature birds was noted at the roost site and easily discernible by their begging and their parents feeding them. Highest numbers were reached in July, with 203 individuals. This is the highest number of cockatoos counted in Malinsuno since the start of the project (Fig. 7). The recovering cockatoo population in Pandanan shows a similar rate of recovery as the one on Rasa in the earlier years, with relatively slow recruitment initially and hopefully sustained stronger growth subsequently. Maximum numbers of birds counted in the months of July indicate this trend (Fig. 8). Please note that the present roost site was only established in 2010; the project and the slow recovery of cockatoos in this site are older.

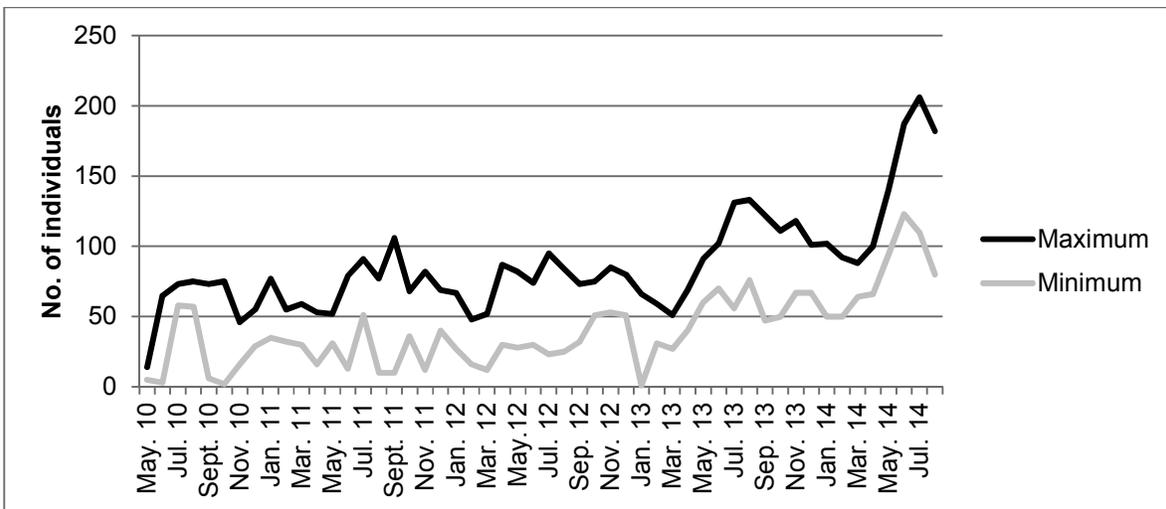


Figure 7. Maximum and minimum monthly counts of cockatoos roosting on Malinsuno, Balabac

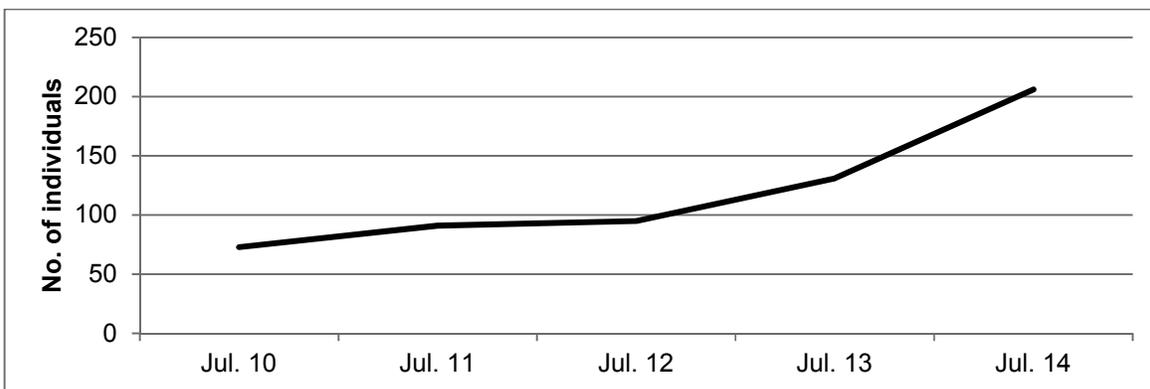


Figure 8. Maximum numbers of cockatoos in Malinsuno roost site in the months of July. Please note that the roost site was only established in 2010

Foraging Ecology

We continued to record inter-island movements of cockatoos to forage. Up to 69 birds were observed to feed on fruits of the mangrove *Sonneratia alba* in January and up to 60 in February in Buliluyan. They returned to Pandanan in the afternoon.

Cockatoos were observed to consume unripe fruit and also parts of flowers of the exotic Kapok *Ceiba pentandra*.

In August existing shifting cultivation sites in the interior of Pandanan were monitored. All sites were planted with rice. No raiding of these crops by cockatoos was recorded by farmers.

By end of April and early May during the height of the dry season, cockatoos could be observed drinking dew in the morning from large-leaved *Terminalia catappa* in Malinsuno.

Conservation education

On January 15 a Katala fun day was held at Malinsuno Elementary School, involving the grade 4, 5 and 6 students. Lectures were focused on the concept of coexistence with our tool poster "Share a place to live". We also discussed on cockatoo habitat conservation and water cycle. Coloring activities were conducted after the lectures. Tarp and other IEC materials was installed and used. In total, 35 students joined and participate at the fun day and IEC, which represent the total number of pupils of the three grades. Assorted school supplies were distributed as prizes together with the button pins, post cards and posters.

The visit of Chris Shank (USA) and Dorothy Schwartz (UK) in March 11 and 12 resulted in instructive meetings with the wardens and the Barangay council. On this occasion the visitors were brought to the forest to witness the cockatoo banding.



Figure 9. Meeting with the Barangay Council of Pandanan (left) and banding of cockatoos (right) during the project visit of Chris Shank and Dorothy Schwartz (Photos: KFI)

Habitat restoration

Seedling stock in the month of March reached 520. From May onwards, with start of the rains, planting of mainly food-providing plants for the cockatoo commenced. A total of 202 trees were planted, mainly to enhance succession in old shifting cultivation sites. As of end of the reporting period, 159 seedlings remain in the nursery.

Four rooted cuttings of *Erythrina orientalis* were planted. The species which is also a food tree for cockatoos is heavily affected by a virus in the Philippines, and populations of resistant lines are slowly built up again in coastal areas of the KFI project sites. Collections of seeds and wildlings for propagation in the tree nursery continued in January.

Constraints and measures taken

- The increasing number of nest trees overwhelms the few climbers in this project site. An additional climber from the Rizal project site therefore was brought in to help out.
- Alarming reports reached KFI that once the long-term lease of Bugsuk and Pandanan would run out a flood of old and new settlers would claim the area. We are supporting Jewelmer in maintaining the area, since the company on the whole maintained the ecosystems of the two islands widely intact.
- Squatting in coastal area is a recurrent problem and needs constant vigilance and close coordination with the local government and Jewelmer security team.

Output 2: Reintroduction of Philippine cockatoos into parts of the historical range

Site preparations of Kangbangyo and Poneas Islands, Del Carmen, Surigao del Norte

Site preparation on Kangbangyo and Poneas Islands addressed lower-scoring parameters of the assessment, particularly “Food sources” and “Poaching”, as well as “Protection feasibility” which were additionally identified as a threat by local stakeholders in the second national workshop on reintroduction of the Philippine Cockatoo which was conducted in December 2013. The project was presented to the Municipal Council of Del Carmen and was formally endorsed on February 10.

An immediate intervention was the training and employment of an ex-poacher as wildlife warden on Kangbangyo Island starting from early February. Aside from reporting illegal activities, he is also mapping potential nest trees and takes notes on phenology of food-providing plants. One poacher was apprehended during the project implementation resulting in confiscations of Mindanao Tarictic Hornbills and Coletos. The warden is supervised by the municipal environment officer of Del Carmen. This measure is employed repeatedly and successfully by Katala Foundation in all project sites with existing cockatoo populations.



Figure 10. Seedlings from the nursery are transported to the restoration site in Kangbangyo Island (Photo: P. Widmann)



Figure 11. Planting was done by community members of Bgy. Caub and representatives of the local college (Photo: P. Widmann)

Through a sub-grant to members to the Barangay Caub Marine Association, who are all inhabitants of the project area, enrichment planting with food-providing trees for the cockatoos and fruit trees for the local community was conducted. Members of the association established a tree nursery in the village premises. As of July 2014 a total of 9,876 trees have been planted on Kangbangyo Island.

A collapsible pre-release aviary has been constructed and is stored in Del Carmen. A release site in on Kangbangyo Island was identified.



Figure 12. Discussion with educators from Surigao State College for Technology-Del Carmen Campus (left); focus group discussion in Bgy.Caub on Kangabngyo Island (right: Photo: P. Widmann)

Conservation education campaign with focus on the local community of Barangay (village) Caub and youth in Del Carmen was initially conducted by staff of KFI. In May 2014 staff of Surigao State College for Technology-Del Carmen Campus (SSCT) was trained in conducting interviews and education campaigns and a MoU was drafted for the college to continue the campaign. A pre-intervention survey was conducted involving members of the target population and a control group on Siargao Island mainland. Conservation education measures involved school visits, focus group discussions supported by cockatoo posters and postcards. A local radio station was airing information on cockatoo ecology and conservation, as well as related topics, like limestone forest and mangrove conservation.

Follow-up Project to IUCN

In June a concept paper for the enhanced conservation of the reintroduction site in Bgy. Caub was drafted by KFI on behalf of Hon. Mayor Coro od Del Carmen and submitted to the Protected Area Management Enhancement (PAME) project of GIZ. After review we invited to submit a full-blown proposal. Unfortunately this was not any more considered. GIZ reasoned out that the proposal did not fit the criteria and that all proposals in Mindanao were put on hold due to the security situation in Mindanao.

Constraints and measures taken

- Due to a tight academic calendar the IEC intervention is not yet finished and post-intervention interviews were not yet conducted by SSCT.
- It is unfortunate that the GIZ proposal did not prosper and lot of time was wasted in preparing a very detailed financial and work plan. The appropriate timing of informing the proponent that the project does not fit the criteria would have been after the submission of the concept paper, not after the preparation of the full proposal. Alternative funding for the project is still sought from other donors.

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

Warden scheme

Preparation for the breeding season included routine activities, like checking nest holes for damage, and doing repairs if this was the case. Signs of occupation were noted starting in January.

During the first half of March and then again in June, coconut plantations of claimants were monitored and no signs of extension or clearing of vegetation (except some removal of grass clumps under coconut) were reported. A plan of a claimant to cut old coconut trees was withheld by the Protected Area Management Board. The permit to cut was apparently sanctioned by the Philippine Coconut Authority without consideration that the area is a protected area.

High volumes of marine products are increasingly gleaned from the tidal flats of Rasa, particularly sea cucumbers. Reports are regularly compiled by wardens. Since gleaning often takes place during nighttime with artificial light sources, gleaners were instructed not to collect near the roost site to avoid disturbance of the birds. A survey of traders indicated that dried sea cucumbers fetch prices between 130 and 3,700 PhP/kg, depending on species and size classes.

Monitoring also increasingly includes boats seeking shelter in the area, after reports of a yacht repeatedly visiting Rasa. However, these reports could not be verified to date.

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

DENR is increasingly taking over roles in the management of the protected area. This includes hosting of the PAMB meetings and will include the final revision of the General Management and Financial Plans for the protected area as explained by DENR Region 4B Technical Dir. G. Bambalan during the PAMB meeting on May 26.

A revised manual of operations for the PAMB was drafted by KFI and is subject for deliberation by the committee and eventually by the Board. The manual includes among others composition and activities of the boards, right and duties of members.

The matter of the sanctioned coconut cutting on Rasa was deliberated. The PASu was instructed to write a letter to the Philippine Coconut Authority to seek Permission from the PAMB first, before issuing permits to cut and transport coconut lumber from Rasa.

On July 9 the chair of the PAMB, Hon Mayor. L. Demaala was invited to attend a Senate hearing on Senate Bill No. 1901 introduced by Sen Loren Legarda to declare all protected areas with existing Presidential Declaration (which includes Rasa) as protected areas under NIPAS under Republic Act 7586. The rationale behind this initiative is the desire to speed up the process to obtain this highest form of legal protection for the majority of existing protected areas in the Philippines. A position paper was requested from the PAMB of Rasa, and KFI assisted in the formulation.

Following the assessment of management effectivity and a row of workshops, the GIZ-funded project on “Realizing biodiversity services and values in Rasa Island Wildlife Sanctuary (RIWS) was approved. Although the focus of the project is to assess the biodiversity services, and to address insufficiently controlled marine resource extraction, members of the PAMB will benefit through capacity development measures in the course of the project.



Figure 13. Members of the PAMB of RIWS including Hon. Mayor L. Demaala and DENR Regional 4B Technical Director G. Bambalan handing over Certificate of Recognition to Katala Foundation for its commitment and dedication to Rasa Island Wildlife Sanctuary. (Photo: KFI)

Conservation education and eco-tourism

Due to the closure of the island during breeding season, visitors on the island were comprised of official cooperators and partners of the project, particularly from DENR, Dir. Gwendolyn Bambalan, Regional Technical Director DENR Reg. 4B and company. The largest group of visitors comprised of 47 students from Puerto Princesa who observed the roost site on March 8. They also received an introduction to the conservation efforts on Rasa and the ecology and status of the Philippine Cockatoo.

On May 14 a film crew of the documentary “Born to be Wild” accompanied the team for bird banding.

On June 20 this year’s Katala Festival was celebrated. Activities commenced with birdwatching at 5.30 a.m. on the mainland opposite of Rasa. This activity was followed by a

lecture in birdwatching for high school students conducted by members of Birdwatch Palawan. The inspirational message given by Kagawad (Council Member) Ryan Maminta before an estimated thousand school children not only touched the kids but also our very own volunteers and wardens. A total of 150 Parina seedlings were planted in the area, and Malunggay seeds were directly sown in previously prepared planting holes. Local KFI staff and mainland volunteers also participated in the affair.



Figure 14. Kgd. Ryan Maminta challenging the school kids to be active environmentalists (left) in his inspiration message. On the right is Rommel Cruz of Birdwatch Palawan who conducted lecture on Birdwatching before active participants. (Photo: KFI)

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

Breeding

This reporting period marked the most successful breeding season since start of the project in 1998! Precipitation was sufficient to provide abundant food supply. It was however not too wet and mite infestation was limited to a manageable level.

A total of 43 pairs attempted to breed on Rasa. Wardens recorded 111 eggs of which 19 were lost. Causes for egg losses were suspected infertility and a waterlogged nest hole in one case. Of the 92 hatchlings 83 were banded and fledged successfully. Known losses for hatchlings included predation (suspected monitor lizard in two cases and bird of prey/owl in two other cases) and mite attack in one case.

There is marked shift in preferred or suitable nest trees over the years. In the early stages of the project, nest densities were high in the coastal forest, compared to mangrove with 5.7 and 0.53 pairs/km² respectively (Widmann et al. 2001). The nest density in coastal forest in 2015 increased to 7.6 pairs/km². Nest density in mangrove however increased tenfold compared to 2000 to 5.3 pairs/km². Reasons for this could be limited nest sites in the coastal forest due to the increasing breeding population, or an increase of mature mangrove trees with suitable cavities due to the protection of the island against illegal logging. The only utilized nest trees in mangrove remain “Pagatpat” *Sonneratia* spp., despite cavities being detected in other mangrove species.

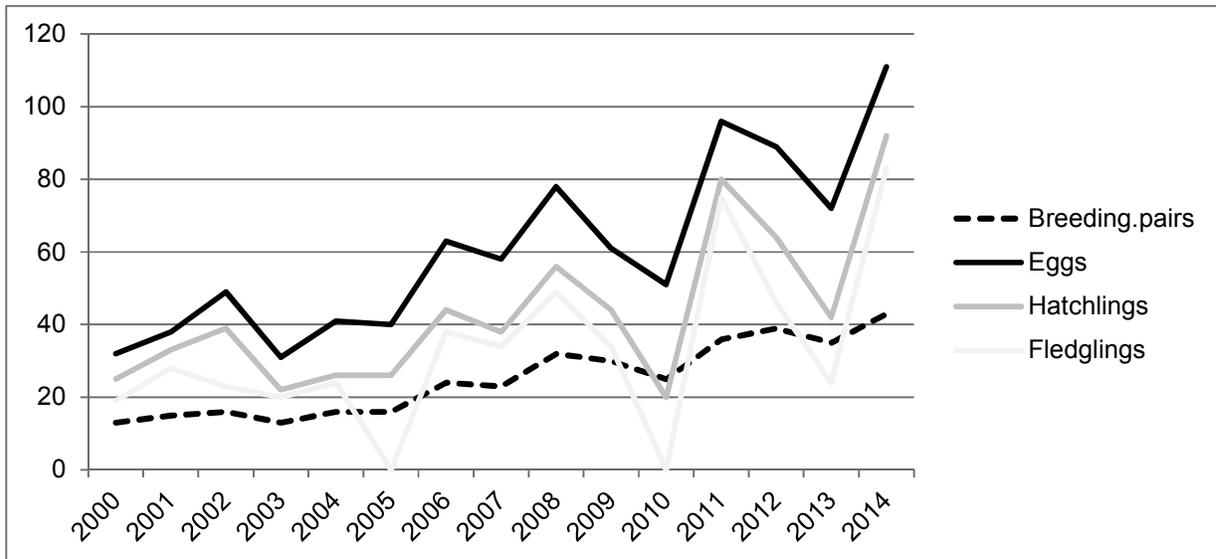


Figure 15. Number of breeding pairs, eggs, hatchlings and fledglings from 2000 to 2015 on Rasa Island Wildlife Sanctuary

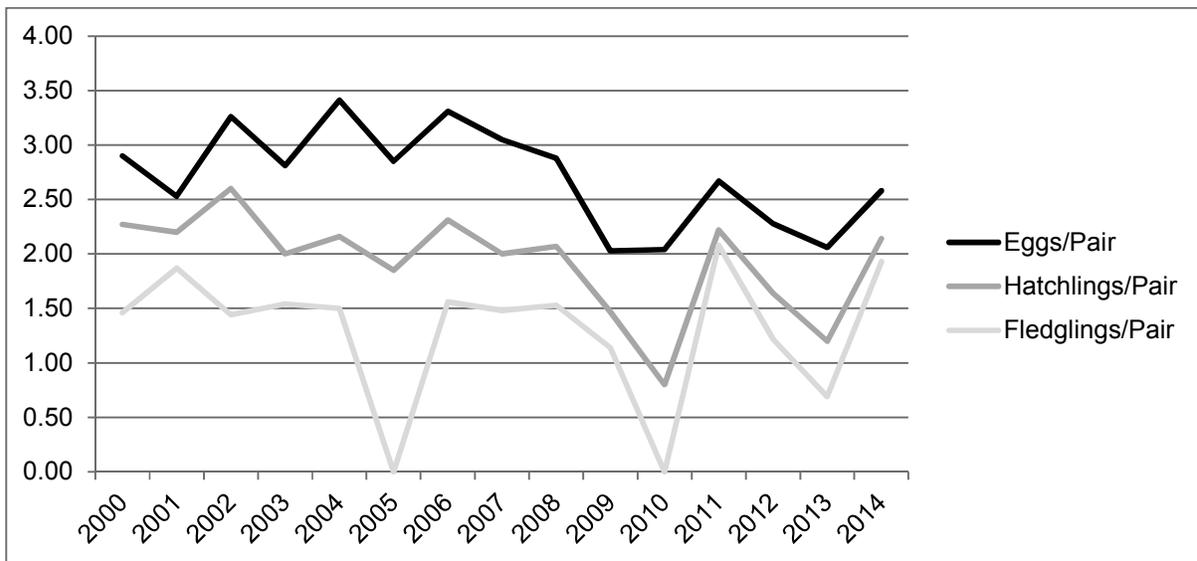


Figure 16. Average number of eggs, hatchlings and fledglings per breeding pair from 2000 to 2015 on Rasa Island Wildlife Sanctuary

Although number of breeding pairs is still increasing in favorable years, and consequently also total numbers of eggs, nestlings and fledglings, the average number of eggs seems to be decreasing, and average numbers of eggs, hatchlings and fledglings is fluctuating from year to year (Figs. 15 and 16).

Banding was witnessed by selected parties, including the DENR Regional Technical Director Gwendelyn C. Bambalan, and a TV crew of the documentary series “Born to be Wild” with host Dr. Nielsen Donato.



Figure 17. Banding of hatchlings by RTD Dir.G. Bombalan (left); with crew members of “Born to be Wild” (right); Photo: KFI)

Roosting

Determining reliable roost counts on rasa remains challenging and can only be obtained through synchronized counts of traditional roost site, temporary sites on Rasa or mainland, as well as of adult birds which remain near the nest trees.

Numbers of birds throughout January to June remained relatively stable with 134 to 162 individuals. After the breeding season numbers increased dramatically to 317 individuals, no doubt augmented by the high number of fledglings of the 2015 breeding season. This is the highest count on Rasa since the beginning of the project in 1998, and for the first time the 300 individual mark was breached!

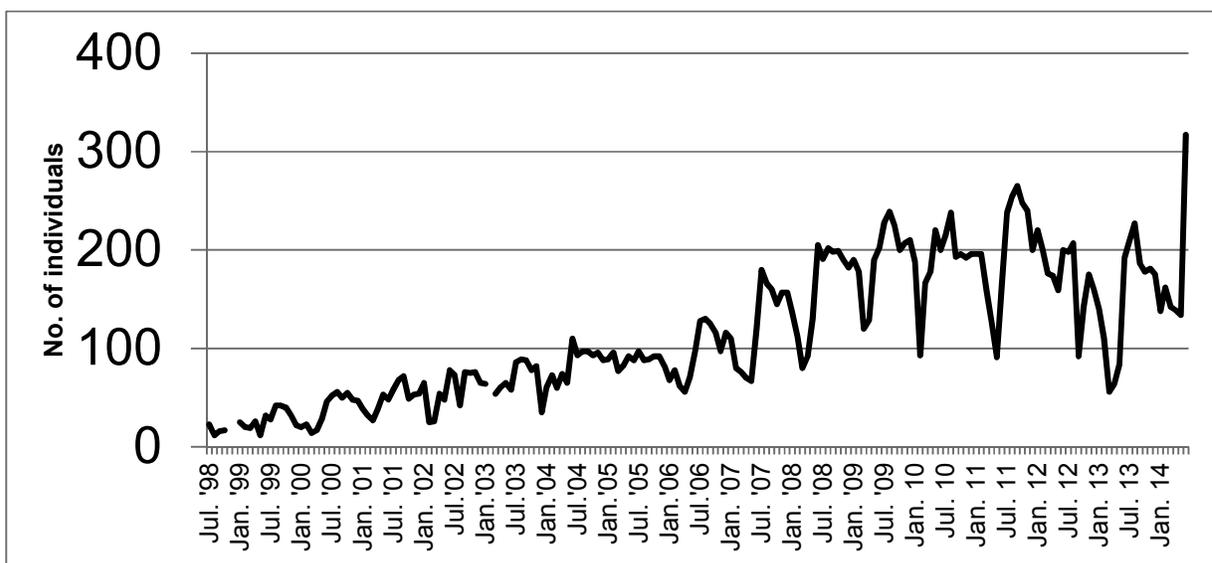


Figure 18. Maximum number of Philippine Cockatoos (simultaneous count) on traditional and temporal roost sites on Rasa Island

Foraging

Seasonal foraging patterns are likely defined by several factors, including number of non-breeders, breeders, food-availability on Rasa and the mainland, which makes interpretation of movements difficult. What remains obvious is that the mainland all-year-round is of crucial importance as feeding ground for the cockatoo population on Rasa. Over the past years this importance increases during the breeding season (possibly if food sources for offspring on the island become scarce) and after the breeding season (when there are overall more birds in the area due to recent fledglings and breeding pairs are not restricted to their nest sites any more).

During this reporting period only one peak was noted in May, still well within the breeding season.

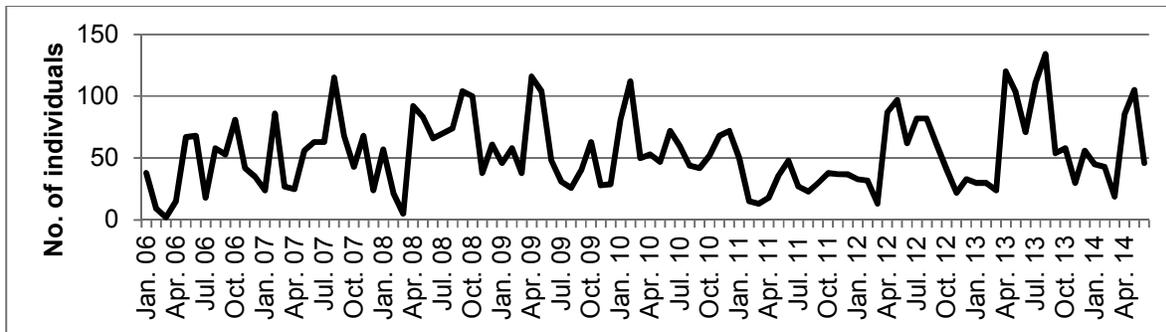


Figure 19. Maximum daily counts of Philippine Cockatoos transferring to mainland opposite of Rasa

Constraints and measures taken

- Extraction of marine resources in the tidal flats of Rasa is apparently on the increase. Since effects on the populations, particularly of sea cucumbers are not known, studies on selected species of high commercial value are recommended.
- Preparation of the requirements for the GIZ-funded project is extremely time-consuming, particularly since the former seem to change without notice.

Output 4. Conservation of cockatoo population in the Sulu sea coastal plain of Palawan

Iwahig

In January larger flocks of cockatoos were observed foraging in Iwahig and Montible. The largest number recorded was on January 4 of 26 birds foraging on unripe fruits and flower buds of Kapok *Ceiba pentandra* in Montible sub-colony.

An important development was the discovery of cockatoo roost site in the area in a cockatoo in a coconut plantation. Number of birds increased steadily within the reporting period and reached 71 birds in July.

On April 29, two cockatoo nestlings which were confiscated by PCSDS from the Montible sub-colony of Iwahig Penal Farm, were handed over to KFI for hand-raising. The birds were transferred to KIEBC on the same day (see Output 8).

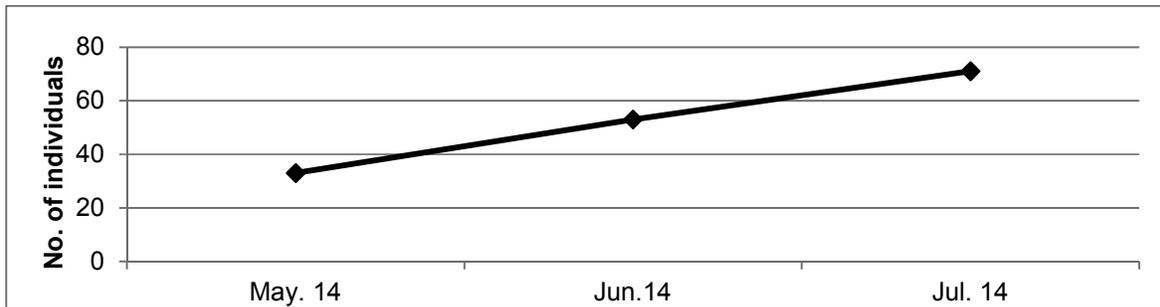


Figure 20. Maximum monthly counts of cockatoos roosting in IPPF



Figure 21. Intact lowland forest in Montible sub-colony of the Penal farm (left); cockatoo roost (right; Photo: P. Widmann)

On June 5 Indira and Peter met with the Superintendent Schwartzkopf of Iwahig Prison and Penal Farm (IPPF) to discuss ways of formalizing the long-standing cooperation between IPPF and KFI. Sup. Schwartzkopf indicated his interest to continue cooperation in the field of conservation, and particularly in the promotion of the area for ecotourism and continued conservation education for inmates and staff. We committed to draft a Memorandum of Understanding and to create and donate two tarps highlighting the endemic bird species of IPPF.

Apis Dipterocarp Forest

Rampant cutting was observed in the area: 15 pieces of hardwood timber were cut. Timber was removed from the area by water buffalo sledge, part of the perimeter fence was destroyed. Tire tracks indicate that timber was removed by truck.

Constraints and measures taken

- The illegal logging incidence in Apis was reported to DENR and the local police station, but no apprehension was done so far. The DENR office in Narra after deliberations inspected and documented the incident.

Output 5. Conservation of cockatoo population on Dumaran Island, Dumaran continued

Warden scheme

Wardens' main tasks for the reporting period was monitoring of nest trees and work in the main and the satellite nurseries.

Minor repairs on nest trees were undertaken while the breeding season was still ongoing, like the installation of iron sheet flushing which got loose, or the experimental installation of a piece of wood in a potential cockatoo nest tree to prevent the nest cavity from getting deeper.

On March 18 illegal cutting of trees was observed in Sitio Bulalakaw. The timber was allegedly for construction project of the municipality. SDENRO Plazos reported the incident to the Mayor's Office. He was instructed to immediately confiscate chainsaws in future incidents of illegal logging. Another modus operandi we uncovered is to cut trees, leave them behind in the forest and request for permit for salvaged lumber in the following year.

A wildlife enforcement officers training was conducted by the PCSDS. Aside from four newly recruited wardens of KFI, also representatives from Dumarán Police Station, Bantay Dumarán, Bantay Palawan and wardens from the protected area for Palawan Forest Turtle in Roxas participated. The training lasted for one week. Successful completion is a precondition to become an accredited enforcement officer by the PCSD. Only KFI among trainees submitted documents necessary for the deputation of enforcement officers. The successful KFI wardens were sworn their oath before the Provincial Governor Jose Pepito Alvarez in May.

Members of Local Protected Areas Management Committee assisted and capacitated

Additional illegal logging cases from the mainland of Dumarán were reported by the representative of the PNP during the 20th LPAMC meeting which was held on March 25. A representative of PCSDS reported that the documents for the proposed Critical Habitat, which is meant to connect the two existing cockatoo reserves and create a wider buffer zone are complete and possibly can already be approved during the next council meeting of the PCSD.

SDENRO S. Diaz presented a municipal resolution from Narra encouraging citizens to report cockatoo observations and suggested that something similar should be adapted for Dumarán.

The municipality of Dumarán committed Two hundred fifty thousand pesos (PhP250,000.00) for 2014 to provide incentives for the warden scheme for the year. Ten wildlife wardens in Dumarán are now active. A proposal is jointly developed by the LGU Dumarán and KFI for funding under the Grassroots Program of the National Government. This is mainly on reforestation project to sustain the activities initiated through the Critical Habitat establishment.

Buffer zone restoration and establishment and management of critical habitat

The restoration of the corridor connecting the two cockatoo reserves continued throughout the year 2014. Since inventory in January indicated that 55,483 seedlings were left in the main nursery and in five satellite nurseries, it was decided not to buy seedlings anymore from farmer collaborators. However, KFI wardens continued collection of seeds and wildlings.

Regular focus-group discussions were conducted with participating farmers to ensure that conflicts are resolved at an early stage, e.g. regarding compensation for earlier delivered seedlings and planting. As of March there were 21 farmers listed as co-operators of this project.

As of end of the reporting period only 949 seedlings were planted due to the late onset of the rainy season. Bio fencing using Bunga bunga has started.

Twenty nine BMS stations have been established and monitoring is done regularly.

Conservation education

We celebrated the annual Kalabukay Festival, organizing a special “Katala Fun Day”. Students from elementary and high schools took part. Activities comprised environmental games, tree-planting and lectures on topics of conservation. Uniquely this year’s festival engaged the 4Ps (a national program on poverty alleviation) beneficiaries as well. A crop production and marketing training workshop was conducted for farmer cooperators in cooperation with the DA-PRES.



Figure 22. (Top) Scenes during the Kalabukay Festival when tree planting commenced early morning on June 18-19, 2014. Hon. Caabay, municipal Admin. Officer led the tree planting. (Below) Scenes taken during the Crop Production Training for our farmer cooperators in Dumaran. (Photo: KFI)

A survey was conducted among a small sample of high school students (n=29). The overwhelming majority (89.7%) listed the Philippine Cockatoo as a wild species they had experienced in their community. When asked what they found special or unique about Palawan, all respondent gave answers which were related to the province’s intact environment and wildlife. However, when asked to list six wildlife species of which they thought that they can only be found in Palawan, most were able to name one or two, nobody was able all six species as requested (Fig. 23).

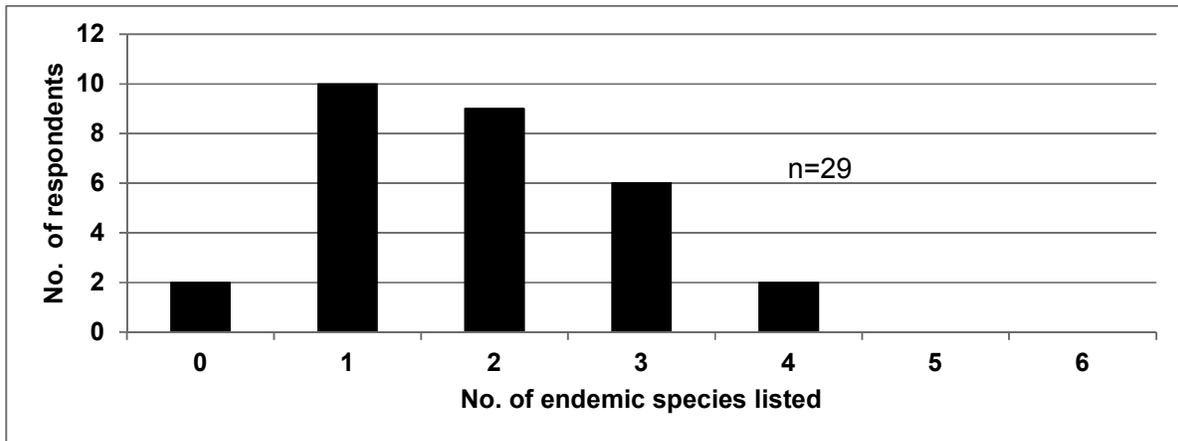


Figure 23. Number of respondents of high school students (n=29) who were able to list up to six wildlife species unique to Palawan

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

Breeding

Nest trees were checked twice a week by wildlife wardens. In January two nest trees already showed signs of occupation with cockatoos around nest holes and inspecting the cavities. Other nest trees did not yet show indirect signs of occupation like faeces and cut twigs. By end of February four nest trees were occupied. In early March cockatoos were still observed to check for suitable nest cavities, including such which were already occupied by Blue-naped Parrots. Like on Rasa, occasionally up to six cockatoos could be observed around nest holes.

Laying of eggs seemed to be less synchronized than in previous years. Checking on March 1 in Manambaling Cockatoo Reserve revealed that one nest already contained a clutch of four eggs. On March 28 three chicks were present and still one egg. The latter was subsequently recorded as rotten. Another nest still had two eggs on April 26.

On April 8, one nest tree (which was dead already) collapsed, destroying a clutch of three eggs. In two of the eggs, fully developed embryos were recorded.



By the end of the breeding season, seven hatchlings out of three nests were banded.

Figure 24. Three of the seven healthy hatchlings successfully banded and fledged this year.

Roosting

Roost counts were low from January to May with only up to 11 to 13 birds present. Towards the end of the breeding season numbers picked up again with a maximum of 20 birds counted in June and July.

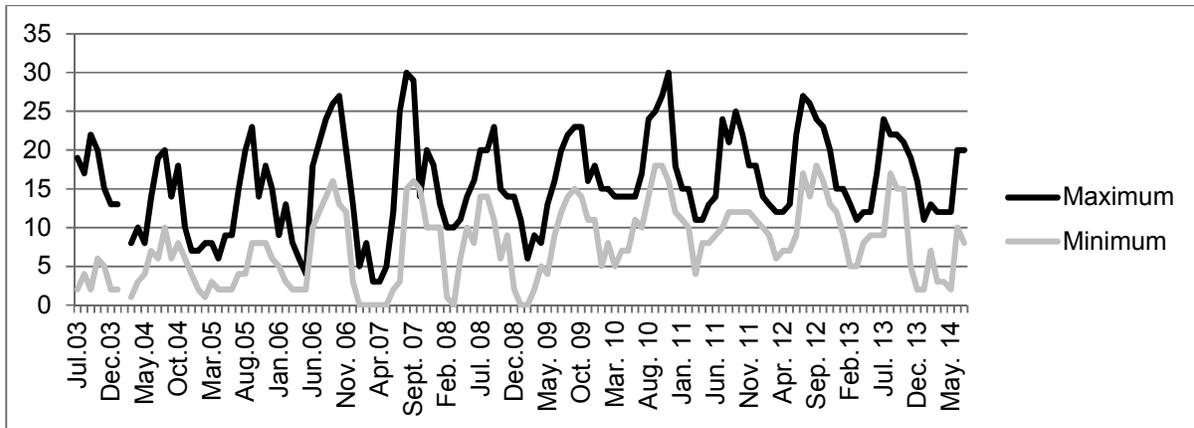


Figure 25. Maximum and minimum monthly counts of cockatoos roosting in Lagan, Dumarán

Foraging

A first record is the consumption of flowers of *Diospyros* in March by cockatoos.

Cockatoo Release

Although marginally beyond the reporting period, the release of two confiscated cockatoos is reported here, since it concludes the previous rescue and hand-raising efforts.

The birds which were rescued on April 29 in Iwahig (Output 4) and raised in KIEBC (Output 8) were released on August 6. We decided on this measure, because (1) currently cockatoos are better protected in Dumarán than they are in Iwahig, (2) the population in Dumarán is still quite small with around thirty individuals and may benefit from supplementation. This was done after permission from the PCSDS consequently issuing transport permit for the birds' release.

Since the birds had ample time to train flight muscles and get used to wild food sources in the flight aviary in KIEBC, we decided to try a "hard release" in the vicinity of the cockatoo roost in Dumarán. Once the first wild birds arrived in the afternoon of August 6, the transport boxes were opened and both birds flew out and landed in the adjacent vegetation. Despite released and wild birds contact-called, the former did not join the roost site on a tall coconut but slept in a tree ca. 30 m away from the roost site, ca. 12 m above the ground.

On the next morning the birds did not connect to the wild flock, but stayed in the general vicinity of the roost site. A feeding station was built and stocked with predominantly wild food items from the vicinity. This was readily accepted. The birds tried several times to approach the personnel involved in monitoring, who in turn had to shoo them away repeatedly, later on with the aid of water pistols.

The feeding station was readily accepted from the first day on. On the second evening the released birds connected to the wild flock, once this returned to the roost site.

The two birds were intensively monitored over the following weeks. They eventually successfully connected to the wild flock and followed them while foraging and roosting. The feeding was gradually reduced.

We also commend the people of Dumarán who are supportive of this effort and was reporting their sightings of the released birds in their areas.

One bird was found dead in the mangrove adjacent on November 19. Although the bird was a bit light (260g) it was still in good condition and without external injuries. The other bird is still alive and connected to the wild flock.



Figure 26. Release of two hand-raised fledglings from the transport box (left; photo: I. Widmann); released bird on first day (right; photo: P. Widmann)



Figure 27. Released cockatoos on feeding station (left); released birds preening on second day after release (right; photos: P. Widmann)

Constraints and measures taken

- Even in the rural setting of Dumarán, knowledge of and attitude towards wildlife is rather abstract, possibly due to the classroom setting of conservation education. Guided

exposures to nature and wildlife are known to be a solution to this, but are hampered by time and personnel constraints.

- Some nest cavities are getting very deep, and it is increasingly difficult to check these. Wardens experimentally installed a piece of wood in nest tree in the bottom of the cavity to reverse this process.
- Hand-raised birds still show some tameness after release. This can be mitigated by shooing away birds within the first week after release. Water pistols are very effective. The hand-raising procedure has to be further refined, e.g. by using puppets for feeding and keeper being hidden, e.g. behind one-way mirror.

Output 6. Support for Polillo Islands Parrot Project

No field activity was conducted within the reporting period.

Output 7. Conservation of cockatoo population in Culasian Managed Resource Protected Area (CMRPA), Rizal continued

Handing over of project site

On May 23 Indira and Peter presented the results of the cavity-nesting bird conservation project to the Local Protected Area Management Board of the Mt. Matalingahan Protected Landscape in Brooke's Point. Despite considerable efforts it was not possible to recover the cockatoo population in the area. Presumably the cockatoo population was already beyond reproductive age, since only a single pair reproduced in the early stage of the project and no reproduction could be recorded anymore in the recent past, despite the past.

The CMRPA was integrated in the larger protected landscape, particularly because of its unique stand of Manggis *Koompassia excelsa*, the tallest hardwood tree species in Asia and at the same time a preferred nesting tree for cavity breeders. We endorsed the warden scheme to the Mt. Mantalingahan Protected Landscape Board, particularly also because of the very high densities of Blue-naped Parrots and Hill Mynas in the area. The report was well received and KFI was thanked for its efforts. DENR Regional Technical Director Gwendelyn C. Bambalan suggested retaining KFI in an advisory function for the larger protected landscape.

Output 8. Katala Institute for Ecology and Biodiversity Conservation

Captive management of Philippine Cockatoo and other threatened target species

Philippine Cockatoo

On February 18, KIEBC was visited by Dr. E. Lastica DVM, who screened the birds and found them healthy, except the persistent feather-plucking problems. She recommended additional means of environmental enrichment, like wire feeders.

We discussed and introduced timed behavioral observations for all captive cockatoos undertaken one hour each in the morning and in the afternoon (e.g. time spent resting, feeding, auto-/allo-preening, auto-/allo-plucking, etc.). However, none of the introduced measures increased significantly time spent for foraging. Since time spent feather-plucking is only a very small fraction of the overall behavior, no significant improvement in plumage was observed either.



Figure 28. Hand-feeding of hatchlings in bird clinic (left); fledglings in indoor aviary (right; Photos: P. Widmann)



Figure 29. Flight aviary is surrounded by a tall bamboo fence to prevent contact with people (left); birds can be monitored through peep-holes (right; Photo: P. Widmann)

We received two cockatoo nestlings which were poached and abandoned in Iwahig Prison and Penal Farm. The birds were placed together in a transport box in the bird clinic. Only zookeeper Angel had access to the clinic, except for Peter for short monitoring visits. After hand-feeding with usual baby formula enriched with minerals and vitamins, the birds were weaned on fruits and vegetables. These then were successively replaced by naturally occurring foods shortly before fledgling-stage. After fledging, the two birds were kept in an indoor aviary for one week and then were transferred to a larger outdoor aviary to allow them to train their flight muscles. This aviary was surrounded by a tall bamboo fence to prevent the birds of getting accustomed to people. Only Angel was allowed inside the compound for feeding and for necessary cleaning. The two birds were transferred to Dumaran for release in early August (Output 8).

Wild cockatoos keep visiting the area, but only two observations have been made during the reporting period with 8 birds foraging on April 18 and one bird on July 23.

Palawan Porcupines

After a long wait for the animals to shed some weight before they were allowed to travel, on July 28 finally two Palawan Porcupines arrived in KIEBC. An earlier schedule on July 14 had to be postponed due to difficulties in issuance of necessary papers. The animals were handed over to KFI by DENR-BMB as a breeding loan.

The animals were released from their crates in their spacious enclosure which was funded by ZGAP. Municipal Mayor L. Demaala was present as were representatives of DENR (Dr. Oscar Jhon Cabonaya (veterinarian) and Armando Ramos Jr. (property officer BMB) and the local government. The porcupines started feeding and exploring the enclosure immediately, despite the bright daylight. They then retired in their dens after about forty minutes. The animals settled in well and switched back to a nocturnal lifestyle.



Figure 30. The arrival of the porcupines is well documented (left); tour of KIEBC with Hon. Mayor L. Demaala on the occasion of the porcupine arrival (right; Photo: KFI)



Figure 31. After leaving the transport boxes (left) the porcupines started feeding immediately (right; Photo: P. Widmann)



Figure 32. The elevated ‘Cockatoo Garden’ is freshly planted with food-providing plants for the cockatoo (left); the visitor’s hut was manufactured by a local carpenter and will be installed in some distance from the cockatoo aviary (right; Photos: P. Widmann)

Landscaping with native species propagated in the Katala nursery continued

With funding from Wildlife Reserves Singapore Reserves a “Cockatoo Garden” was established. With the onset of the rainy season in June an area of ca. 4x6m was backfilled with topsoil to prevent dampening of roots and covered with rice husks to prevent drying out of the newly planted trees. The area is situated in the vicinity of the cockatoo aviary and the pavilion. It was planted with six food-providing plant species of the Philippine Cockatoo which were previously propagated in the tree nursery of KIEBC: *Moringa oleifera*, *Albizia procera*, *Pterocymbium tinctorium*, *Micromelum compressum*, *Garuga floribunda* and *Terminalia catappa*. All species, except *Moringa* are indigenous to Palawan. Depending on performance other species will be added.

Nursery work concentrated on propagation of food-providing plants for cockatoos. Of particular interest is the so-far unidentified “Parina”, which is fast-growing. There is no competition in this species with humans, unlike with the popular Horseraddish Tree.

As of end of May 4,567 seedlings in 35 species were present in the nursery, of which 1,660 were “Parina”.



Figure 33. The nursery in this reporting period was dominated by the fast-growing and food- providing Parina seedlings (Photos: P. Widmann)

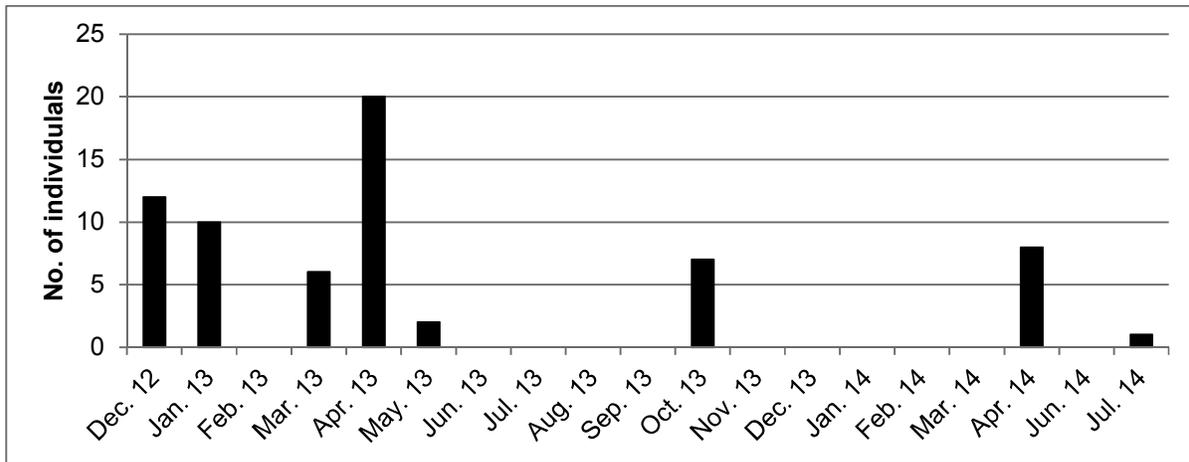


Figure 34. Monthly cumulative numbers of wild cockatoos visiting KIEBC

Educational trail, enclosures and visitors facilities upgraded

The nursery was fenced with hog-wire which was attached to permanent wooden posts on cement foundations.

In order to give visitors the opportunity to observe the birds for extended periods of time a pavilion was constructed with funding from Wildlife Reserves Singapore Reserves. The job was given to a local carpenter who is specialized in the construction of rest houses using native materials. The pavilion consists of a sturdy bamboo frame and is thatched with *Imperata* grass, which is held in place by nylon netting. There are benches along all inside walls, which gives visitors the opportunity to rest and observe the birds.

In order to elevate the pavilion to trail level and to make it likewise flood-proof, a cement foundation was constructed in front of the cockatoo aviary. It consists of four posts and a frame. The bamboo posts of the pavilion will be attached to the foundation through steel bars. Six culverts were constructed for all sites where the loop trail traverses a drainage canal.

Constraints and measures taken

- Hand-raised cockatoos still are relatively tame. Contact to the keeper has to be further reduced through e.g. one-way mirrors and puppets for hand-feeding. Possibly aversion behavior towards people should be trained before release.

Output 9. Cockatoo Advocacy

Workshops and Conferences

- In January, we met with the Southeast Asean Renewable Energy People’s Assembly (SEAREPA) Coordinator to discuss the possibility of holding the SEAREPA Meeting in Palawan.
- End of February Angel represented KFI during the Bird Festival of the Wild Bird Club of the Philippines in Zamboanga. KFI had its own booth with information materials and displays related to cockatoo conservation. Angel gave informal lectures to visiting students.

- On March 3, Kataly, our mascot, joined in the World Wildlife Day celebrated at the Puerto Princesa City Hall.
- On March 10 Peter participated in a workshop to update and fine-tune the national red list of threatened species. The affair was organized by the Biodiversity Management Bureau of DENR and was held in Quezon City.
- Indira and Peter participated in the annual conference of the Biodiversity Conservation Society of the Philippines in Cebu City from April 1-3. They participated in a workshop on updating criteria for Key Biodiversity Areas organized by Dr. Tom Brooks, IUCN.
- On April 10 Peter took part in the creation of the PCSDS-initiated “Palawan Knowledge Platform”, a website which is intended to make available biodiversity-related information in the province as mandated by the Convention on Biological Diversity. The site is by now online: www.pkp.pcsd.gov.ph
- On the occasion of Earth Day on April 22 the Palawan Alliance for Clean Energy hosted a press conference. Indira gave a presentation on “Biodiversity and Climate Change in Palawan”.
- On April 23 Peter participated in a workshop organized by PCSDS with the aim to update the red-listing of aquatic species in Palawan.
- On August 1 a similar workshop by PCSDS for red-listing was attended for terrestrial fauna of Palawan.
- On June 10 meeting on the clearing-house mechanism for biodiversity hosted by PCSDS was attended by Peter.
- On June 17 the 4th Meeting of the World Network on Island and Coastal Biosphere Reserves was held in Puerto Princesa City and Peter attended.
- On July 11 a meeting hosted by the London Zoological Society on Edge Birds was attended by Peter in Quezon City.
- Intensive networking with local partners is continued, particularly DENR, PCSD, local governments and administration of Iwahig Prison and Penal Farm.



Figure 35. Kataly, our mascot joined the celebration of the World Wildlife Day held at the Puerto Princesa City Hall and at the Robinson’s Mall, Puerto Princesa from March 3-5, 2014. (Photo: Vivian Soriano)

Other highlights

Other reported wildlife within the reporting period:

Philippine Pangolin *Manis culionensis*; IUCN: Endangered. One juvenile was handed over to the police in Dumarán on April 28 and was released back into Omoi Cockatoo Reserve by KFI wildlife wardens.

Grey-faced Buzzard *Butastur indicus*; IUCN: Least Concern. Between March 10 and 17 a total of 77 individuals was migrating northwards in Pandanan and Malinsuno, despite strong NE monsoons. The birds were recorded by R. Antonio in the course of the Raptor watch initiative.

Pied Imperial-pigeon *Ducula bicolor*; IUCN: Least Concern. A flock of 60 birds was recorded on February 23 near Pandanan Island.



Figure 36. Philippine Blue-throated Bee-eater (Photo: P. Widmann)



Figure 37. Southern Rufous Hornbill (Photo: P. Widmann)

Nicobar Pigeon *Caloenas nicobarica*; IUCN: Near-threatened. The species remains common with daily numbers of up to ten individuals in April in Pandanan.

Philippine Blue-throated Bee-eater *Merops americanus*; IUCN: Least Concern. A breeding colony with nest holes dug in horizontal soil surface and adults carrying food was recorded in July in a coconut plantation in SW Dumarán Island. This is the only recent record of the species breeding in the Palawan Faunal Region.

Palawan Hornbill *Anthracoceros marchei*; IUCN: Vulnerable. High daily numbers were recorded on Pandanan on February 21 and 22, with 22 individuals respectively, and up to 55 in March.

Mindanao Tarictic Hornbill *Penelopides affinis*; IUCN: Least Concern. Several were observed on Kangbangyo and Poneas Islands, Del Carmen, Surigao del Norte between 24-28 July.

Southern Rufous Hornbill *Buceros mindanensis*; IUCN: Vulnerable. Two individuals were observed on Poneas Island, Del Carmen, Surigao del Norte on 28 July.

Hawksbill Turtle *Eretmochelys imbricata*; IUCN: Critically Endangered. A dead individual was recorded on February 9 in western Pandanan. No scutes were left in the carapace. It is unclear if these fell caused by grinding on the beach or if they

were removed purposely.

Green Turtle *Chelonia mydas*; IUCN: Endangered. Two individuals were observed grazing in seagrass on May 29 in northern Pandanan. One dead individual was found on July 6 in Pandanan. No external wounds were observed. The animals were buried, with local police serving as witnesses.

Cooperations

- We continued our cooperation with the Raptor Watch initiative and provide numbers of migrating birds of prey from the Pandanan project site.
- Sixteen blood samples were sent to University of Giessen, Germany for a study on parrot haemoparasites. Procurement of CITES permit in Palawan is still very time-consuming.



Figure 38. Medalya ng Karangalan by the Municipality of Narra for outstanding achievements in cockatoo conservation were awarded by Hon. Mayor Demaala and Hon Vice-Mayor Lumba (left); Plaque awarded to KFI by DENR Reg. 4 (right; Photos; KFI)

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

- Following her visit during the reporting period, Dorothy Schwartz submitted a manuscript for publication in the Magazine of the Parrot Society of the United Kingdom.
- Peter prepared a case study on the conservation of the Philippine Cockatoo for the BirdLife International-Haribon publication “State of the Philippine Birds” which was published in July (Appendix 1; scan in B/W because of light blue font in the original).
- A coffee table book on threatened species project was published by DENR with photos of Peter of the Philippine Cockatoo.

Awards and recognitions

- On June 20 PCCP was awarded with the Medalya ng Karangalan by the Municipality of Narra for outstanding achievements in cockatoo conservation on Rasa. Wildlife warden Agui and Admin. Assistant Yvonne accepted the medal in behalf of the KFI.
- KFI received a plaque from the DENR Region 4 in recognition of the Philippine Cockatoo Conservation Program.
- We got our accreditation from municipalities of Narra, Dumarán and Puerto Princesa City.

Implications for further work

Considerable fundraising efforts have to be undertaken to maintain the current level of project implementation.

Due to increasing pressure on lowland habitats, including cockatoo habitats, networking and advocacy with government agencies needs to be further intensified. Critical habitat declaration in these areas are urgently needed to prevent continued loss of habitats in lowland, particularly forest patches, wetlands and other restricted ecosystems.

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Appendix 1

THE STATE OF PHILIPPINE BIRDS **CASE STUDIES**

Distribution decline of the Philippine Cockatoo (a Katala Foundation Case Study)

Philippine Cockatoo was formerly distributed over all larger, and many dozens of smaller islands in the country. The species suffered mainly from destruction and degradation of its lowland forest habitats, trapping for the pet trade and persecution as an agricultural pest. Its demise was rapid and almost complete, except in Sulu (where very little is known of the cockatoo population) and Palawan, the species' current stronghold.

Members of Katala Foundation started a conservation project for the species on Rasa Island in southern Palawan in 1988. Only 23 to 25 birds were left on the island at that time. Due to intensive management, particularly involvement of parrot poachers as wildlife wardens, the population increased to presently between 260 and 300 individuals. An additional four project sites have been added to the Philippine Cockatoo Conservation Program since, three of them in Palawan and one in the Polillo group of islands.

Research conducted is mostly applied. Information on breeding biology helps to manage nests more efficiently, for example to prevent nest predation, control parasite infestations, or help to decide when to commence supplementary feeding of starving nestlings in drought years. Reforestation trials with native plants, including cockatoo food- and nest-providing trees, were preconditions for habitat restoration projects, like those currently underway in Dumaran, Palawan. Additionally, potential sites for re-introduction of the species are presently assessed outside of Palawan, in the hope of bringing the cockatoo to back parts of its historical range.

Most of these measures are long-term in nature and only possible due to the continued commitment of the Katala Foundation's wardens in the Philippine Cockatoo Conservation Program internationally. These include Loro Parque Foundation, North of England Zoological Society, Zoologische Gesellschaft für Arten- und Populationsschutz, Conservation des Espèces et des Populations Animales, as well as the Department for Environment and Natural Resources within the country.

Although cockatoos in PCCP sites recovered markedly, pressure on the species is mounting again. A project to convert cockatoo



Habitats into large-scale Jatropha plantations on Dumaran Island, Palawan have been prevented in 2012

An even bigger threat is still looming. DMCI Power Corporation is planning to put up a 15 MW coal-fired power plant only about a kilometer away from Rasa Island Wildlife Sanctuary which by now harbors at least one quarter of the global Philippine Cockatoo population. Katala Foundation voiced out its serious concerns regarding the project and stated that the coal plant would result in inevitable casualties due to collisions and electrocution at the feeder power lines. Even more seriously, the power plant would block the flight path of the birds' foraging area from the mainland to the island, which in turn would result in a reduction of the carrying capacity of Rasa Island for this species, since parent birds could not any more provide their young with sufficient food. The power plant has therefore the potential to advance as the single-most serious site-based threat factor for this already Critically Endangered species.

Despite massive opposition from local communities, the affected municipal government of Narra, national and international environmental groups, and ignoring the recommendations of its own technical staff, the Palawan Council for Sustainable Development endorsed the power plant project of DMCI. Katala Foundation and other Philippine-based non-governmental organizations are currently organizing the protest against this controversial and unsustainable project.

Palawan is still the stronghold for the Philippine Cockatoo, but it may not be its safe haven any longer

Peter and Indira Widmann,
 Katala Foundation, Inc.,
 Palawan

**Critically Endangered
 Philippine Cockatoo
 Photo by Katala
 Foundation**

