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Department of Environment and Natural Resources
Provincial Environment and Natural Resources Office
MIMAROPA Region
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RED

December 20, 2022

DENR MIMAROPA RECORDS SECTION
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MEMORANDUM

FOR : The Regional Executive Director
DENR MIMAROPA
1515 DENR By the Bay Building, Roxas Blvd.
Barangay 668, Ermita, Manila

THRU : The OIC, ARD for Technical Services

FROM : The Provincial Environment and
Natural Resources Officer

SUBJECT : **PCCP PATROL REPORTS IN THREE PROJECT SITES FOR THE MONTH OF OCTOBER CY 2022**

Forwarded are copies of Katala Foundation Incorporated (KFI) patrol and monitoring reports on forest and biodiversity in three (3) Project Sites for the month of October CY 2022 to wit:

1. Dumaran Island Critical Habitat, Dumaran, Palawan;
2. Iwahig Prison and Penal Farm (IPPF), Puerto Princesa City; and
3. Rasa Island Wildlife Sanctuary (RIWS), Narra, Palawan.

For information and record.

"For the PENRO"

RHODORA B. UBANI
Supervising ECOMS/CDS Chief
In charge, Office of the PENRO

Conservation and Development Section
RELEASED
BY
DATE 12-21-22
CN 992
11543

DENR-PALAWAN
PENRO-RECORDS
RELEASED
By:
Date: 21 DEC 2022
CN 22-3441

KFI PATROL AND MONITORING REPORT ON FOREST AND BIODIVERSITY

October 2022 SUMMARY
Dumaran Island Critical Habitat
Dumaran, Palawan

32

Bilang ng nagawang patrolya

229.82

Kabuuang kilometrong naabot ng patrolya

85.04

Kabuuang oras ng patrolya

6,453

Bilang ng natanim

3

Bilang ng naikabit na ANB

0

Bilang ng ilegal na gawain na naobserba

28

Pinakamataas na bilang sa tulugan ng Katala

3

Pinakamataas na grupong Talusi na nakita

55

Nakitang namumunga at namumulaklak na puno

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PHILIPPINE COCKATOO CONSERVATION PROGRAMME

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Katala Foundation
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KFI PATROL AND MONITORING REPORT ON FOREST AND BIODIVERSITY
Dumaran, Palawan

October 2022

Prepared by:

Michael F. Plazos, Lemuel Pabico, Peter Widmann and Indira D. L. Widmann

I. GENERAL DESCRIPTION OF THE CONSERVATION AREA, CONSERVATION OBJECTIVES, CONSERVATION TARGETS AND METHODS.

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 the 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.

On Dumaran Island only a 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 populations 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* (CR). Other species of conservation concern are Palawan Hornbill *Anthracoceros marchei* (VU), Blue-headed Racquet-tail (VU), and Palawan Pencil-tailed Tree-mouse *Chiropodomys calamianensis* (DD).

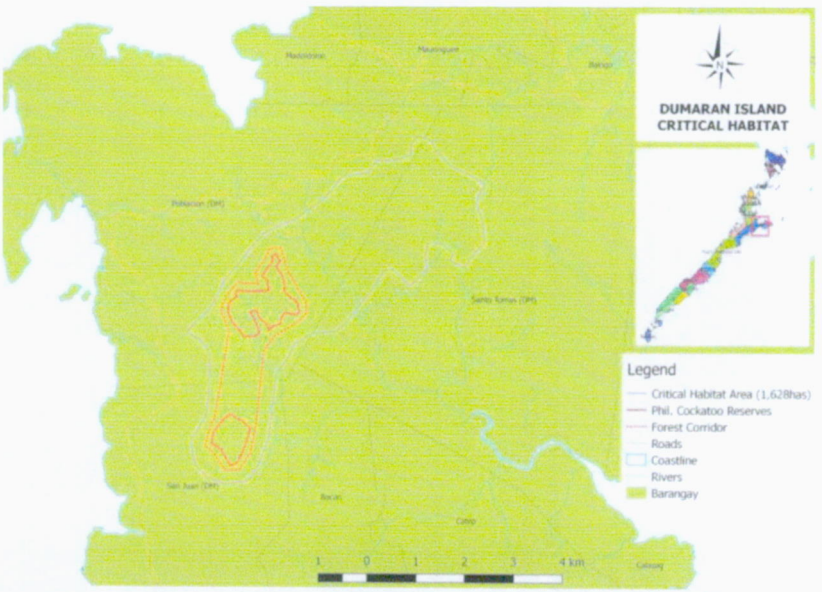

Figure 1. Dumaran Island Critical Habitat connects two locally declared cockatoo reserves and establishes a corridor through reforestation and assisted regeneration.

Habitat degradation and destruction, rather than poaching, remain the biggest challenge for cockatoo conservation in Dumaran.

The Dumaran Island Critical Habitat (DICH), comprising 1,628 ha, was established through PCSD Resolution No. 14-513 that connects the two existing cockatoo reserves through a corridor and extends to include remaining forest fragments in the area (Fig. 1). This is the first critical habitat established in the Province of Palawan. A Local Protected Area Management Committee (LPAMC) functions as its interim management body.

Conservation Objectives

1. Maintain the species diversity and function of ecosystems and species within the declared Critical Habitat.
2. Identify and preserve priority sites for conservation and maintain their ecological functions.
3. Prevent and report to enforcement agencies illegal activities that compromise the integrity of the conservation area.

Conservation Targets

1. Increased number of Philippine Cockatoo breeding pairs on Dumaran by at least 20% by 2024 (Baseline: average breeding pairs 2019 to 2021: 5.0);
2. Increased percentage points in KAPP survey results by at least 20%;
3. Pursued supplementation of Philippine Cockatoos using suitable rescued birds;
4. Reforested or enrichment-planted at least eight hectares per year;
5. Reduced threats in the area by 50% from 2022-2024.

Methods

Deputized wardens patrol by foot within site and there are times by boat especially when patrolling is done along the mangroves area or within the separate island. Patrol members use a technology-based system to register all observations (threats, status, and wildlife data) in the android and transferred them to a smart application to generate reports (Critchlow et al., 2017; Teacher et al., 2013). Species to be monitored are based on their red-list status and their value as bio-indicators (IUCN, 2019). Ease of identification in the field was considered as well. The maps are generated and analyzed through ArcGIS. Patrols are coordinated with the concerned barangay, LGU, and Bantay-Dumaran wherever it applies.

II. PATROL TEAM AND EFFORT

KFI team regularly patrolled the forested area inside and outside DICH: **Michael Plazos, Nestor Arzaga, Orlando Balmonte, Felipe Condesa, Eddie Derecho, Angelu Paduga, and volunteers Domingo Sy, Andres Aurelio, Rodolfo Comedia and Miguel Nadayao Jr**. They have recorded fruiting trees, threats, and other wildlife observed. Suitable driftwoods to be used as artificial nest boxes (ANB) were also collected if available. Monthly patrols covered 229.82km distance from 32 patrols and 85.04 hours within the Omoi and Manangbaling Protected Areas, forested area within Bulalakaw, Camaya, Candez, Kasipulo, Bohol, Poblacion, and San Juan. No threats were observed during monitoring. Five driftwoods of Tabigue tree were collected by monitoring wardens.

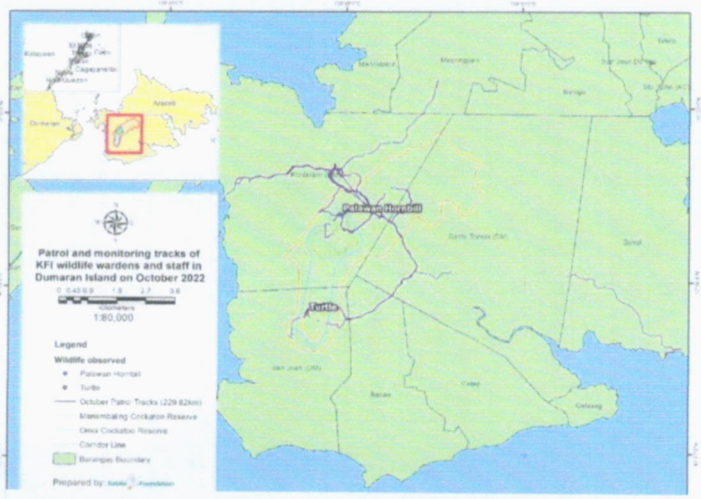

Figure 2. Patrol tracks of wildlife wardens in October

Regular monitoring at the roost was conducted for the month where 10-28 cockatoos were observed. There were mostly 13 in the roost every morning (9 times) and afternoon counts (10 times). Cloudy and fair weather was observed with ten days of rainfall.

A survey to locate other cockatoo roosting sites was conducted at Bgy. Bacao last 22-23 October which yielded seven cockatoos seen feeding on Malunggay fruiting tree nearby the Bgy. Hall of Bgy. Bacao around 2:10PM and heard voices of passing cockatoos within the barangay. Malunggay tree was the only fruiting tree observed within the area. There were nine cockatoos seen roosting on a coconut plantation on the 22th of October. According to residents and KFI volunteer, there were 6-15 cockatoos seen passing, making noise, perching and feeding on Malunggay fruiting trees almost everyday for this month.

Figure 3. Roosting cockatoos in Bgy. Bacao (left); and foraging cockatoo in the same barangay (right) @KFI

PATROL OBSERVATIONS

Supplementation of natural population

Released birds in recent years were now foraging and inhabiting the island just like the wild cockatoos. They were sighted passing, perching, and feeding on wild fruits at Omoi, Candez Area, Bgy. Poblacion, Bgy. Bacao, and Bgy. San Juan.

ANB construction made out of plywood and driftwood was continuous. Two ANBs for hornbill were installed at Aranlegan and one ANB for Scops Owl was installed at Omoi. Two ANBs suited for the Philippine Cockatoo are ready to be installed should good weather come.

Figure 4. Installation of ANB to aid in the breeding of cavity nesters @KFI

Foraging

A single Kulayan tree was fruiting in Omoi and Manambaling plot respectively. While no fruiting trees were recorded in Candez nor in Lagan. The same tree was flowering in Omoi while the Kulayan tree and an Amuraon tree were flowering in Manambaling. Most of the plots in Lagan have flowering Pagatpat trees. Trees in these plots are in various stages of leaf growth and abscission.

Fifty-five food-providing trees were recorded during this month. These includes Agboy, Apitong Baboy, ,Amumusing Amuraon, Anagas, Anan, Antipulo, Apatot, Balonsaging, Balite, Banaba, Banga, Bangkal, Bangkudo, Barok, Basa, Beri, Binatalan, Binunga, Biton-Biton, Bugo, Bunog, Bunuang, Bunot-Bunot, Catmon, Dulo, Kalampinay, Kapok, Kirag-Kirag, Kulayan, Kuliat, Ilang-Ilang, Imamangal, Inagdong, Iniam, Ipil, Lanite, Lapnog, Luwas-Luwas, Malunggay Maranggo, Mulawin, Narra, Orabsik, Pagatpat, Panapuan, Saleng, Somalagen, Tagalilong, Tagpe, Talisay, and Tebey

Figure 5. Fruiting Ipil-ipil and Botabon observed during monitoring @KFI.

Palawan Hornbill Monitoring

There were two to six hornbills observed during monitoring on six areas in the island namely: Omoi, Candez, Kasipulo, Manangbaling, Bacao, and Aranlegan. They were observed perching, making noise on Kulayan, Acacia, Gmelina, and Cashew trees/ Cashew plantation, and looking for food on fruiting Mango tree.

Other wildlife species

Thirty-five species were observed in the Biodiversity Monitoring System (BMS) stations in DICH while 38 species were recorded at the reforestation site. Twenty-one species were recorded in both areas and these are: Ashy Drongo, Barred Button-quail, Blue-headed Racket-tail, Blue-naped Parrot, Common Iora, Dollar Bird, Grey-cheeked Bulbul, Hill Mynah, Hooded Pitta, Lovely Sunbird, Monitor Lizard, Olive-winged Bulbul, Palawan Hornbill, Red Junglefowl, Spot-throated Woodpecker, Spotted Dove, Spangled Drongo, Squirrel, White-collared Kingfisher, and Zebra Dove.

Ground camera traps recorded several wildlife including the Northern Palawan Tree Squirrel, Philippine Megapode, Long-tailed Macaque, Red Junglefowl, Civet Cat, Palawan Crow, Rail, Skink, and Rat.

Figure 6. Wildlife recorded in ground camera traps: Red Junglefowl (top-left); Philippine Megapode (top-right); Palawan Crow (bottom-left); and Northern Palawan Tree Squirrel (bottom-right) @KFI

III. OTHER HIGHLIGHTS

There are currently 10,838 wildlings in the main nursery after, 560 were collected by wildlife wardens, no wildlings died nor released for planting. Most of the wildlings are Palomaria, Nato, and Lamoto. The same number of wildlings were recorded in Candez satellite nursery (1289); no wildlings died nor were released in the said nursery. In Manambaling satellite nursery there are only 52 wildlings after 1206 were released for planting. There are no wildlings in the growth chamber. Regular activities in the nursery e.g., potting, watering, weeding and cleaning, were continuous.

Figure 7. Checking of status of wildlings (left); and healthy wildlings in the nursery (right) @KFI

A total of 6,453 wildlings from eleven species were planted for this month. The most commonly planted wildlings were Palomaria (1442), Magabo (1327), and Lamoto (1129). Highest rainfall record was recorded in Candez monitoring station i.e., 505mm followed by Omoi monitoring station i.e., 449mm. Lagan experienced the least rainfall, with only 259mm rainfall.

Figure 8. Rainfall data of Dumaran Island (top); and planting of wildlings inside the DICH during the rainy season (bottom) @KFI

The distribution of housing aid for the victims of Typhoon Odette was concluded this month. Monitoring of each household will be continually moving forward. Construction of the KEEC was finished likewise.

Several local meetings were also attended including Municipal Development Council (24 Oct) regarding revision of supplemental Annual Investment Program No. 3- 2022 and Solid Waste Management (25 Oct) in which there will be a search for the BLGU with the best practices in solid waste management.

Figure 9. The completed KEEC (top); and finished houses with housing materials from KFI and partners (bottom) @KFI

IV. ISSUES, CONSTRAINTS AND ACTIONS TAKEN

With the change in the local administration in Dumaran, we are hoping to continue the fruitful endeavor on the island in partnership with the local government unit. Enforcement should be strengthened to prevent mismanagement of forested areas and resources, inside and outside the critical habitat. Kaingin practices should be monitored so that they will not extend inside the DICH especially in the two cockatoo reserves.

Threats to be mitigated by the presence of patrollers include increased forest encroachment, including the creation and widening of logging trails, as well as timber poaching of standing trees outside CH that may span inside.

ACKNOWLEDGEMENT

Thank you very much to the LGU-Dumaran through the leadership of the newly-elected Mayor Richard R. Herrera, Vice Mayor Caabay and their able staff, MENRO Caabay, all department heads, barangay officials, and everyone in the LGU for helping us always with the utmost attention.

We are indebted to our deputized wardens of Dumaran: Nestor Arzaga, Orlando Balmonte, Felipe Condesa, Eddie Derecho, Angelu Paduga, and volunteers Domingo Sy, Andres Aurelio, Rodolfo Comedia and Miguel Nadayao Jr. for their services and efforts provided to the KFI-PCCP Dumaran project.

Great thanks also to the PCSDS and DENR-ROXAS for their support. We are grateful to the whole KFI family and supporters for their help, assistance, and sharing expertise and ideas.

We are indebted to the following organizations and agencies for providing funds for this project

Anonymous Donor

Department of Environment and Natural Resources
Biodiversity Management Bureau

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- IUCN (2016). IUCN Red List of Threatened Species. Version 2016.1. (www.iucnredlist.org).
- Teacher, A.G.F., Griffiths, D.J., Hodgson, D.J., and Inger, R. (2013). Smartphones in ecology and evolution: a guide for the app-rehensive. Ecology and Evolution *3*, 5268-5278.

KFI PATROL AND MONITORING REPORT ON FOREST AND BIODIVERSITY

OCTOBER 2022 SUMMARY

IPPF-PPC, Palawan

18

Bilang ng nagawang patrolya

280.31

Kabuuang kilometrong naabot ng patrolya

75.55

Kabuuang oras ng patrolya

6

Bilang ng illegal na aktibidades

0

Bilang ng naaresto

1634

Bilang ng halaman sa nursery

92

Pinakamataas na bilang sa tulugan ng Katala

3

Pinakamataas na grupo ng Talusi na nakita

25

Pinakamataas na bilang ng katala sa kinakainan

Katala Foundation INCORPORATED

ZGAP FbP SPS BEAUVAL NATURE LORO PARQUE FUNDACIÓN CHESTER ZOO ACT FOR WILDLIFE

ICTSI Foundation, Inc. Anonymous Donor LAGOLA ZOO HEIDELBERG

Department of Environment and Natural Resources Biodiversity Management Bureau

PHILIPPINE COCKATOO CONSERVATION PROGRAMME

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Katala Foundation
INCORPORATED

KFI PATROL AND MONITORING REPORT ON FOREST AND BIODIVERSITY IWAHIG PRISON AND PENAL FARM (IPPF)

October 2022

Prepared by:

Matt Brian P. Ong, Vicente Abendan Jr., Joshuael Nuñez, Peter Widmann and Indira D.L. Widmann

I. GENERAL DESCRIPTION OF THE CONSERVATION AREA, CONSERVATION OBJECTIVES, CONSERVATION TARGETS, AND METHODS

IPPF is part of a larger landscape, the Sulu Sea plain, which 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 the east; the northern edge runs roughly along 9° 47' N, the southern along 9° 9'N.

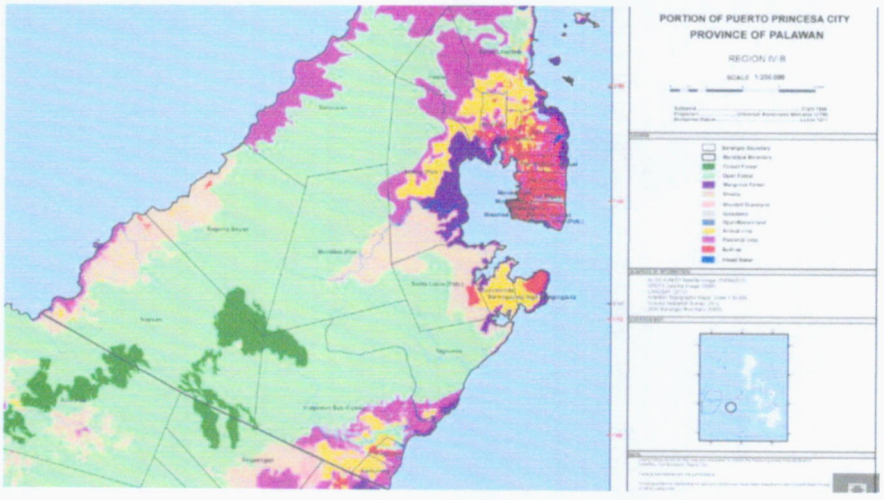

Figure 1. Land use of southern Puerto Princesa, including IPPF according to NAMRIA. Large areas were classified as open forest (bright green signature); this is not in line with observations on site, where large areas of closed forests were recorded particularly in portions of Iwahig, Tagburus ("Zigzag") and Montible (Source: NAMRIA)

Philippine Cockatoos have long been known to persist in the IPPF 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) and Bgy. Bancao-Bancao.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*, Red-headed Flameback *Chrysocolaptes erythrocephalus* 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*.

Conservation Objectives

1. Maintain the species diversity and function of ecosystems and species within Iwahig Prison and Penal Farm (IPPF).
2. Identify and preserve priority sites for conservation and maintain their ecological functions.
3. Prevent or report to enforcing agencies illegal activities that compromise the integrity of the conservation area.

Conservation Targets

1. Increased number of Philippine Cockatoo breeding pairs in Iwahig Prison and Penal Farm by at least 10% by 2024 (Baseline: average breeding pairs 2019 to 2021: 9.3).
2. Reduced threats in the area by 50% from 2022 to 2024.
3. Restored at least two hectares of cockatoo breeding and foraging habitats annually by 2024
4. Established a critical habitat for the Philippine cockatoo and other threatened wildlife species within the Iwahig Prison and Penal Farm and support the protection of the proposed Montible watershed.

Methods

Deputized wardens patrol by foot or by boat monthly within site. Patrol members use a technology-based system to register all observations (threats, status and wildlife data) in the android and transferred them to a smart application to generate report (Critchlow et al., 2017; Teacher et al., 2013). Species to be monitored are based on their red-list status and their value as bioindicators (IUCN, 2019). Ease of identification in the field was considered as well. The maps are generated and analyzed through QGIS.

Patrols are coordinated with the concerned barangay, prison farms, protected area office wherever it applies.

II. PATROL TEAM AND EFFORT

The patrol team composed of KFI, DENR, IPPF personnel, and wildlife wardens conducted a two-day nest, habitat, roosting, and foraging areas monitoring within the city, breeding habitat, and the surroundings of the penal farm. The team covered a total of **280.31 km in October**. Please refer to the list of team members on the last page.

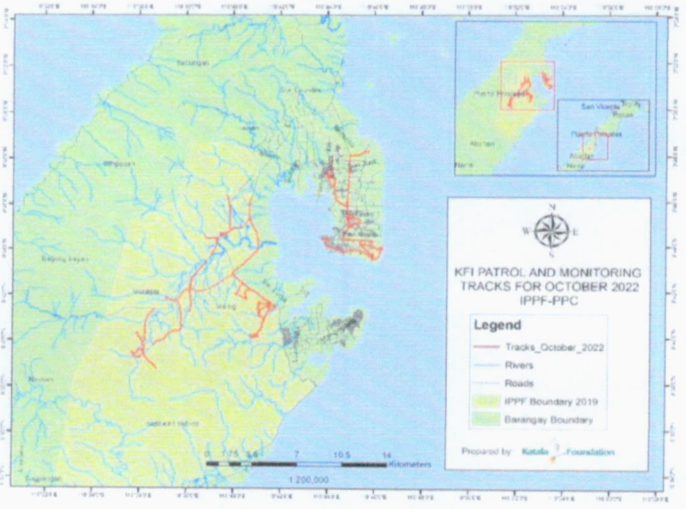

Figure 2. Patrol tracks for October 2022 ©KFI

III. PATROL OBSERVATIONS
A. WILDLIFE OBSERVATIONS

- *Intensive monitoring in foraging and roosting areas continued.* The highest count in the city was recorded on October 18 when we recoded 92 individuals. At daytime (5:25 am – 5:35 pm), cockatoos were observed preening on the Pagatpat tree before they disperse to forage in different parts of the city and in the surroundings of the penal farm. A maximum of 25 cockatoos were seen perching in a Kapok tree in San Miguel area heading to Hartman beach, while some cockatoos were also observed foraging on African Tulip tree in San Pedro area within the national road going to Abanico road. Other sightings of Katala in the city were also sent through are social media page. Meanwhile KFI conducted a 3-day synchronized counting of Katala in the city and the surroundings of the penal farm. Strategic vantage points were identified prior to the monitoring. The average number of cockatoos during the count was 64 and the highest was 79 individuals. Cockatoos were observed in all strategic vantage points except in Montible. No cockatoo sightings were reported in the Montible Sub-colony during the monitoring period.
- *Habitat monitoring, nest characterization and artificial nest boxes installation.* Last September we were able to characterize seven nest trees, for October we continued the habitat monitoring and nest characterization in Sta. Lucia, Luzviminda and Montible. While the other team of KFI conducted a seven transect walks for the distance sampling of cavity nester where at least 14 species were recorded. Eight nest tree/ANBs were characterized for this month. The average height of the nest tree recorded is 43 meters where 66 meters is the highest, the mean of the diameter above breast height (DBH) was 3.98m where the highest is 7.35m. Nest of cockatoos were also noted to be in the trees that were emergent or in the canopy level. Other parameters like vegetation type, canopy coverage, and number of woody species were also recorded. Meanwhile the team also installed five artificial nest boxes (ANB) in Sta Lucia and in Montible to supplement the scarcity of nest trees that was felled by the typhoon last year.

Figure 3. Snapshots during ANB installation within IPPF. ©MBOng KFI

- *Observation of wildlife and other cavity nesters monitoring.* Palawan Hornbill, Blue-naped parrots, Blue-headed racket-tail, Spot-throated Flameback, Dollarbird, Sulphur bellied and Palawan Bulbul, Rufous-tailed tailorbirds, Great Slaty Woodpeckers, Yellow-throated leafbird, Palawan peacock pheasant (calls), Hill myna, Black-headed Bulbul, Garden Sunbird, Black-naped Oriole, Common Iora, Palawan Drongo, Palawan fairy blue-bird, Brown Shrike, White-vented Shama, Pink-necked Green-pigeon, and Hooded Pitta. Non-avian species include the Palawan-flying Squirrel, Palawan Tree Squirrel, Palawan Stink badger, Palawan bearded pig tracks.

B. THREAT OBSERVATIONS

In Luzviminda, the team heard chainsaw being operated near a known nest tree of Katala but we were not able to apprehend the individual since no security escort was present during the monitoring. Felled trees, dead monitor lizard (eaten), plantation of egg plants and other vegetables, were also seen along the trails of Luzviminda/Sta Lucia. Meanwhile encroachment and clearing of lands were still prominent in the area, during our visit at least two area were being cleared and some charcoal pits were also being operated.

Figure 4. Charcoal pits and felled trees along the trails of Luzviminda/Sta Lucia. ©MBOng KFI

IV. ISSUES, CONSTRAINTS, AND ACTIONS TAKEN

- Increased patrolling in the sites is necessary to avert further destruction of lowland forests. Authorities should monitor diligently rattan collectors in Montible for possible illegal activities.
- The expansion of encroachment in Luzviminda area is very alarming. Law enforcement agency should patrol and conduct an inventory of individuals encroaching in the area.
- Continued tree planting within these areas is a must.

V. RECOMMENDATIONS

Policies on and better enforcement of lowland forest protection and conservation must be implemented and sustained, especially within IPPF and the Victoria Anepa'an Mountain Range (VAMR)! Lowland forests harbor more biodiversity than montane forests; thus, they should be protected against encroachment and further destruction.

ACKNOWLEDGEMENT

We are grateful and appreciative to our partners from the DENR-CENRO Puerto Princesa City through CENRO Office and Palawan Council for Sustainable Development Staff (PCSDS) through Atty. Matta, Western Command, and Iwahig Prison and Penal Farm (IPPF) through the leadership of CSupt. Joel R. Calvelo and CSupt. Garry A. Garcia for their unrelenting support.

We also appreciate the help of CTOIII Earl Jude A. Arias from the IPPF. We also want to thank those community members who send us their cockatoo sightings in the city.

To all those who, in one way or the other, had contributed to the achievement of our shared vision for the conservation of biodiversity in the IPPF, great thanks!

We are indebted to the following organizations and agencies for providing funds for this project:

Anonymous Donor

Department of Environment and Natural Resources
Biodiversity Management Bureau

References

- Critchlow, R., Plumptre, A.J., Alidria, B., Nsubuga, M., Driciru, M., Rwetsiba, A., Wanyama, F., and Beale, C.M. (2017). Improving Law-Enforcement Effectiveness and Efficiency in Protected Areas Using Ranger-collected Monitoring Data. Conservation Letters *10*, 572-580.
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- Teacher, A.G.F., Griffiths, D.J., Hodgson, D.J., and Inger, R. (2013). Smartphones in ecology and evolution: a guide for the apprehensive. Ecology and Evolution *3*, 5268-5278.

Figure 6. Snapshots during ANB installation and nest characterization in Montible, Sta. Lucia and Luzviminda ©MBOng KFI

KFI PATROL AND MONITORING REPORT ON FOREST AND BIODIVERSITY
October 2022 SUMMARY
Rasa Island Wildlife Sanctuary and its environs, Narra, Palawan

22

Bilang ng nagawang patrolya

165

Kabuuang kilometrong naabot ng patrolya

61

Kabuuang oras ng patrolya

0

Bilang ng illegal na kailangang aksyunan

0

Bilang ng mga issues na nai-report sa PAMO

0

Bilang ng naaresto

199

Pinakamataas na bilang sa tulugan ng Katala

33

Bilang ng ibang uri ng ibon na nakita

68

Pinakamataas na bilang ng Katala sa kinakainan

9

Uri ng halamang namumunga

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Katala Foundation
INCORPORATED

KFI PATROL AND MONITORING REPORT ON FOREST AND BIODIVERSITY RASA ISLAND WILDLIFE SANCTUARY

OCTOBER 2022

Prepared by:

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I. GENERAL DESCRIPTION OF THE CONSERVATION AREA, CONSERVATION OBJECTIVES, CONSERVATION TARGETS AND METHODS

Rasa is a small coral island of 8.34 km^2 land area situated in the Sulu Sea, just offshore of the Municipality of Narra, Palawan, Philippines (Fig. 1). About 1.75 km^2 are covered with coastal forest, mangrove (5.60 km^2), cultivated areas (predominantly coconut; 0.39 km^2), 0.60 km^2 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 manages the Rasa Island Wildlife Sanctuary (RIWS). In 2008, RIWS was chosen as Top 13 Bird Watching Sites in the Philippines by the Department of Tourism.

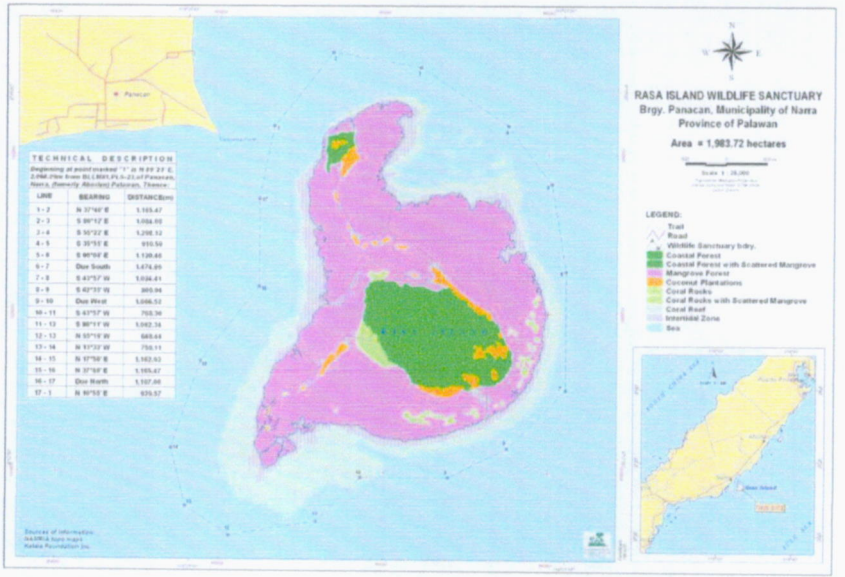

Figure 1. Landuse map of Rasa Island Wildlife Sanctuary in Narra, Palawan, Philippines

The island is the pilot site of the Philippine Cockatoo Conservation Program since 1998. Due to intensive poaching, only 23-25 Philippine cockatoos were left on the island then. Key component of this project site is the warden scheme which involves ex-poachers as wildlife wardens whose main task is to patrol and protect the wildlife in particular the Philippine Cockatoo during and outside its breeding season. This scheme has proven to be efficient and lead to the dramatic recovery of the Philippine Cockatoo population to nearly 400 individuals as of to date. This makes RIWS the most important population of the species in the wild!

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 2019), considering the small size of Rasa. Noteworthy among the 112 recorded bird species are Red-headed Flameback *Chrysocolaptes erythrocephalus* (EN), Grey Imperial-pigeon *Ducula pickeringii* (VU) and Mantanani Scops-owl *Otus mantananensis* (NT).

Conservation Objectives

1. Maintain the species diversity and function of ecosystems and species within Rasa Island Wildlife Sanctuary.
2. Identify and preserve priority sites for conservation and maintain their ecological functions.
3. Prevent or report to enforcing agencies illegal activities that compromise the integrity of the conservation area.

Conservation Targets

1. To stabilize number of Philippine Cockatoo breeding pairs on Rasa Island and vicinity by 2024 (Baseline: average breeding pairs from 2019 to 2021: 33.0).
2. Conduct weekly patrol and permanent presence of wildlife wardens with daily reports during breeding season per year.
3. Conduct at least 12 school/community visits (with at least 20 percentage point increase in KAPP survey results for individual interventions) and one festival annually.
4. Rehabilitate at least one hectare per year through reforestation or enrichment planting within cockatoo foraging area.
5. Monitor and reduce threats in the area by 50% from 2022-2024; if any.

Methods

Deputised wardens patrol by foot or by boat monthly within site. Patrol members use a technology-based system to register all observations (threats, status and wildlife data) in the android and transferred to a smart application to generate report (Critchlow et al., 2017; Teacher et al., 2013). Species to be monitored are based on their red-list status and their value as bioindicators (IUCN, 2019). Ease of identification in the field was considered as well. The maps are generated and analyzed through QGIS/ArcGIS. Patrols are coordinated with the concerned barangay and protected area office wherever it applies.

II. PATROL TEAM AND EFFORT

The patrol and monitoring team members are our wildlife wardens and mainland volunteers: **REYNALDO ALBELAR, LORETO ALISTO, BERNITO BASIO, EDWIN BATAC, MARIO BATAC, LUCITO DANGIS,** Veronica Marcelo, Danilo Villaruz, Monico Beleg and Antonio Marcelo. Wardens' teams covered **165kms** of nest checking, wildlife monitoring and patrol around Rasa. Total of precipitation in October 2022: **206mm** on Rasa, **107mm** at Panacan 2 and **160mm** on Katala Institute, Antipuluan.

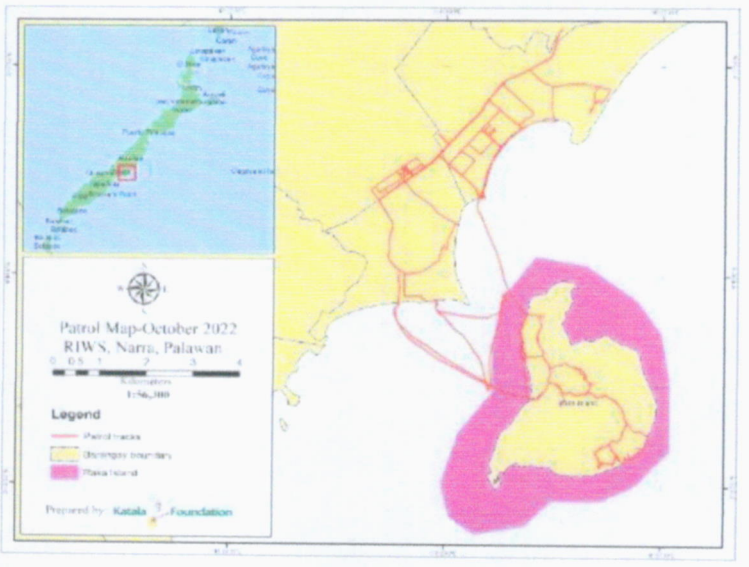

Figure 2. Patrol tracks in red marks in October 2022

In October 2022, 14 nest trees were characterized; six camera traps were deployed around Rasa while two were at hanging aviary; and 15 data loggers were checked. Preparation for the release of two cockatoos on Rasa and for nest flushing occurred.

III. PATROL OBSERVATIONS

A. WILDLIFE OBSERVATIONS

This year's fledglings were still observed with adult cockatoos during wildlife monitoring both on Rasa and mainland. Loreto counted **199 cockatoo individuals** in Oct. 21, 2022 from 5:40-6:19a.m. at traditional roosting site on Rasa while 197ind were recorded on Oct. 20 from 5:46-6:22p.m. at the same area. Previously, in the first half of the month, he noted 166ind from traditional roosting site and Lucito counted 9ind from three nest trees on Oct. 9. The latter noted no sleeping cockatoos at Alisto area in Oct. 9. No cockatoos were also observed at Borbon roost site during monitoring.

Veronica monitored **68 cockatoo individuals** flying from Rasa to Borbon, Panacan from 6:09-7:13a.m. on Oct. 4. In the morning on Oct. 14, a total of 57ind were recorded from Borbon and Parco station, with 49ind and 8ind respectively, flying from Rasa. Meanwhile, the highest count at foraging area (Marcelo area) were 18ind recorded on Oct. 18. This month, cockatoos were still noted in the afternoon from 1:39-5:10p.m. at foraging area, Princess Urduja and Panacan Pier while one cockatoo was seen flying at 11:20a.m. on Oct. 27 in Princess Urduja. During our timed monitoring in October 2022, less cockatoos were observed foraging on mainland, probably because of monsoon and frequent rain. Lesser cockatoos were also noted in the afternoon. Both earliest and latest foraging were recorded at 6:02a.m. and 6:45p.m. at Borbon station.

In October 2022, we noted three individuals of Red-headed Flameback feeding on termites near cockatoo nest tree on Oct. 21, 2022 at 11a.m. A camera trap was installed at mangrove areas near boardwalk where Mario and Loreto saw a pair of Mantanani Scops-owl. The Blue-naped Parrot was not observed or heard on Rasa this month. Reynaldo observed three individuals of marine turtles on mangrove entrance to camp on Oct. 4. Less nests and individuals of Rufous Night-heron were noted on roosting site at Panacan 2 on Oct. 19 at 4:42p.m (Fig. 4). A beehive was observed near nest 76 on Oct. 25 (Fig. 4). Other monitored species on Rasa were Nicobar Pigeon, Blue-headed Racquet-tail, Tabon Scrubfowl, Western Osprey, Egret sp., Mantanani-Scops-owl, Spotted Wood-owl, Changeable Hawk-eagle, White bellied sea-eagle, Great-billed Heron, Rufous Night-heron, Stork-billed Kingfisher, Oriental Dwarf-kingfisher, White-collared Kingfisher, Copper-throated Sunbird, Palawan Bulbul, Swiftlet sp., Whimbrel, Large-tailed Night-jar, Ashy Drongo, Blue-Paradise Flycatcher/ Black-naped Monarch, Reef Egret, Greater Coucal, Common Koel, Pipits, Emerald Dove, Pied-fantail, Rail, Rufous-tailed Tailor-bird, Asian Glossy Starling, Dollarbird and Zebra Dove.

Figure 3. Wardens team with KFI staff take off to monitor on Rasa (left); Bernito paints plain sheets in preparation of nest flushing (right) ©KFI

Figure 4. Bernito and Loreto measure DBH of Pagatpat *Sonneratia alba* (left) while Edwin assessed the canopy (right), during nest characterization in preparation for next breeding season ©KFI

Release of rescued Philippine Cockatoos

Observations on Angel and Anna, the cockatoos inside hanging aviary on Rasa Island, continued this month. The proposed release for the two will be in the first week of November 2022 with prior preparations and assessment especially on the health status of the birds.

Figure 5. Lucito and Mark weigh and assess health condition of cockatoos in Rasa aviary ©KFI

Vegetation assessment

Vegetation on Rasa is on green state in October 2022 (Fig. 6). Inventoried food-plants on Rasa are fruiting less though the following fruiting trees and vines sufficed: Magtalisay, Balete, Buntot-daga, Tubo-bato, Balindadagat, Tabangaw, Tulang-manok, Lanete, Kanumay and other mangrove species. Flowering ones are Gatasan, Tulang-pagi, Tubo-bato, sp. 2 and mangrove species. Malunggay trees at Panacan and Panacan 2, Narra are fruiting as much as with the previous months except on the two stations in Panacan 2 which are not fruiting this month. Malunggay trees at Villaruz area are still fruiting more abundantly than on other areas.

Three trees of Rotok-rotok, a mangrove species fell due to decomposition on Oct. 25 at southeast Rasa (Fig. 6). This month, frequent precipitation distributed more volume of which on three stations at Panacan, Panacan 2 and Antipuluan than last month.

Figure 6. Green vegetation of coastal and mangrove forest on Rasa Island in October 2022 (top); Mario gathers phenology of food-plant species on Rasa digitally (left bottom); decaying mangroves fell at southeast Rasa (right bottom) ©KFI

B. THREAT OBSERVATION

No adverse human activities observed on Rasa during monitoring. No expansion was noted on lobster fry pens at Borbon and the floating fish cage is still at the area.

III. OTHER HIGHLIGHTS

Monitoring on coconut plantations and marine resources on Rasa. On Oct. 6, four persons collected 3000pcs of copra from C. Batac area in a week while on Oct. 10, five persons gathered 3700pcs of copra at Espinosa area in five days. On Oct. 10, one person harvested 15kgs of mangrove crabs near Alisto and Agui area for three days. Meanwhile, two persons gathered 15kgs of Lato at camp entrance within 3hrs on Oct. 11. Lucito collected 4kgs of mangrove crabs in four days of leaving the traps at B. Batac and Deig area.

KFI wardens and staff maintained the Katala lot at Panacan 2, Narra on Oct. 28, 2022 (Fig. 7). Grasses were trimmed and fence was repaired. Trees were also measured for monitoring. 60% of Malunggay seedlings and cuttings beside the fenced road survived. Malunggay cuttings were also collected in preparation for tree planting on new Barangay Hall and covered court at Barangay Antipuluan. A total of 96 Malunggay cuttings from the council and collected from Panacan 2, and 250 seedlings of Narra, Ipil, *Gyrocarpus* sp., Balindadagat, Malugai and Siar from Katala Institute were planted at Bgy. Antipuluan, Narra on Oct. 29 (Fig. 7).

Anna and Mark resumed IEC with 88 participants at Bgy. Aramaywan, Narra on Oct. 20th (Fig. 9). In the next day, Anna talked with 240 participants at Bgy. Calategas, Narra. Implementation

of Philippine Cockatoo Conservation Program (PCCP) was tackled that emphasized on KFI's conservation message "Share a place to live". Hundreds of posters were distributed. The IEC schedules were coordinated with the municipal links of 4Ps in Narra, Palawan.
Mark and Reynaldo joined the team which composed of DENR, LGU, PCG and Narra MPS on installation of buoys around Rasa Island on Oct. 6 (Fig. 10).
Energy Development Corporation (EDC)-BINHI program personnel visited KI and handed three species of wildlings namely *Diospyros transita* (from Brooke's Point), *Embolanthera spicata* (Estrella Village in Narra) and *Barringtonia ridsdalei* (Estrella Village, Narra), to raise in KI nursery on Oct. 7 (Fig. 10). In celebration of 19th Palay Festival in Narra, Palawan, KFI staff joined parade on Oct. 21.

Figure 7. Edwin fixes the fence while Loreto measures trees (above); Collection and hauling of Malunggay cuttings and native seedlings for tree planting at Antipuluan (below); ©KFI

Figure 8. Barangay Antipuluan council, KFI, MENRO and RIWS-PAMO enjoin for tree planting at Antipuluan on Oct. 29th, for the objective of providing food for the cockatoos in Narra, Palawan (above); Mark, Joshuael and Mario collect parameters for monitoring of planted seedlings ©KFI

Figure 9. Barangay Aramaywan community actively participates in the presentation on cockatoo conservation @KFI

Figure 10. Installation of buoys around Rasa (left); Mr. Ronino Gibe shares best ways of potting the wildlings (right) ©KFI

IV. ISSUES, CONSTRAINTS AND ACTIONS TAKEN

Owners of lobster traps at Borbon, Panacan must be continuously informed to not encroach inside Rasa boundary. Prescriptions for each zonation must be disseminated by PAO and with other PAMB members to encourage more active role in protection. Update on pending cases e.g. establishment of fish corral on Rasa is appreciated. Vigilance as to collection of fossilized Taklobo must continue; monitoring around Rasa at night is also encouraged.

V. ACKNOWLEDGEMENT

The PCCP acknowledges the key players on the ground: our wildlife wardens and mainland volunteers: REYNALDO ALBELAR, LORETO ALISTO, BERNITO BASIO, EDWIN BATAC, MARIO BATAC, LUCITO DANGIS, Veronica Marcelo, Danilo Villaruz, Monico Beleg and Antonio Marcelo.

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