



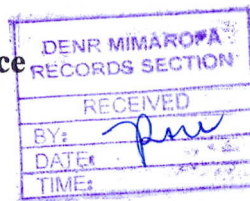
Republic of the Philippines  
Department of Environment and Natural Resources  
**Provincial Environment and Natural Resources Office**

**MIMAROPA Region**

Bgy. Sta. Monica, Puerto Princesa City, Palawan

E-mail: [penropalawan@denr.gov.ph](mailto:penropalawan@denr.gov.ph)

Telfax No. (048) 433-5638 / (048) 433-5638



April 4, 2023

**MEMORANDUM**

**FOR :** The Regional Executive Director  
DENR MIMAROPA  
1515 DENR By the Bay Bldg., Roxas Boulevard,  
Barangay 668, Ermita Manila

**THRU :** The OIC Regional Assistant Director for Technical Services

**FROM :** The Provincial Environment and  
Natural Resources Officer

**SUBJECT :** **KATALA FOUNDATION INCORPORATED PATROL AND  
MONITORING ON FOREST AND BIODIVERSITY AT RASA  
ISLAND WILDLIFE SANCTUARY FOR DECEMBER 2022 TO  
JANUARY 2023**

Forwarded is the memorandum dated March 8, 2023 from CENRO Quezon along with the Report on Patrol and Forest Biodiversity Monitoring conducted by Katala Foundation Incorporated in Rasa Island Wildlife Sanctuary (RIWS) for December 2022 to January 2023.

For information and record.

*[Signature]*  
**FELIZARDO B. CAYATOC**





Republic of the Philippines  
Department of Environment and Natural Resources  
**Provincial Environment and Natural Resources Office**  
**MIMAROPA Region**

Bgy. Sta. Monica, Puerto Princesa City, Palawan

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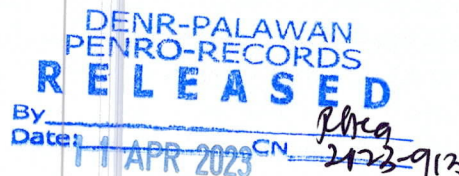
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Natural Resources Officer

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For information and record.

  
FELIZARDO B. CAYATOC





Republic of the Philippines  
Department of Environment and Natural Resources  
MIMAROPA Region  
**COMMUNITY ENVIRONMENT AND NATURAL RESOURCES OFFICE**  
National Highway, Bgy. Alfonso XIII, Quezon, Palawan  
Email: cenroquezon@denr.gov.ph

March 8, 2023

**MEMORANDUM**

**FOR :** The Provincial Environment and  
Natural Resources Officer  
Sta. Monica, Puerto Princesa City

**FROM :** The OIC-Community Environment and  
Natural Resources Officer/Concurrent PASu MMPL  
Quezon, Palawan

**SUBJECT :** **KATALA FOUNDATION INCORPORATED PATROL AND  
MONITORING ON FOREST AND BIODIVERSITY AT  
RASA ISLAND WILDLIFE SANCTUARY FROM MONTH  
OF DECEMBER 2022 TO JANUARY 2023**

**DENR PENRO  
PALAWAN RECORDS  
RECEIVED**

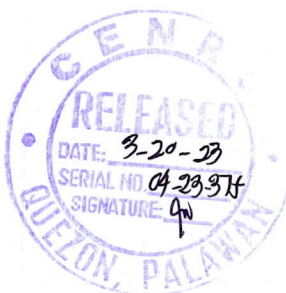
BY:   
DATE: 03-24-2023 GN 23-2689

Respectfully forwarded is the memorandum dated February 20, 2023 of PAMO-RIWS, Protected Area Superintendent, Ma. Teresa V. Ayson regarding the above-cited subject.

Please be informed, that the KFI conducted patrolling and monitoring within Rasa Island Wildlife Sanctuary from December 2022 to January 2023.

For your information and record.

  
**RENATO S. GONZAGA**



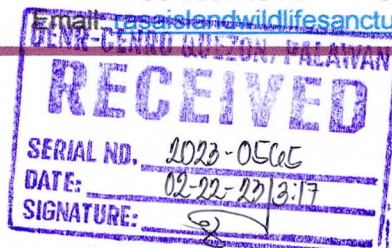




Republic of the Philippines  
Department of Environment and Natural Resources  
MIMAROPA Region

**COMMUNITY ENVIRONMENT AND NATURAL RESOURCES OFFICE**  
**PROTECTED AREA MANAGEMENT OFFICE – RASA ISLAND WILDLIFE SANCTUARY**  
National Highway, Antipuluan, Narra, Palawan  
Contact No.: 0917-160-4920

Email: [rasaislandwildlifesanctuary@gmail.com](mailto:rasaislandwildlifesanctuary@gmail.com)



February 20, 2023

**MEMORANDUM**

**FOR** : The OIC, Community Environment and  
Natural Resources Officer  
Quezon, Palawan

**FROM** : The Rasa Island Wildlife Sanctuary  
Protected Area Superintendent

**SUBJECT** : **KFI PATROL AND MONITORING REPORT ON FOREST AND  
BIODIVERSITY AT RASA ISLAND WILDLIFE SANCTUARY FROM  
MONTH OF DECEMBER 2022 TO JANUARY 2023**

Respectfully forwarded herewith the KFI Patrol and Monitoring Report on Forest Biodiversity of Rasa Island Wildlife Sanctuary for the month of December 2022 and January 2023 received by this office dated February 15, 2023.

For your information and further instruction.

**MA. TERESA V. AYSON**



KATALA Foundation, Inc.  
P.O. Box 390  
5300 Puerto Princesa City  
Palawan, Philippines



Phone/Fax: +63 48 434 7693  
[kficacatua2016@gmail.com](mailto:kficacatua2016@gmail.com)  
[www.philippinecockatoo.org](http://www.philippinecockatoo.org)

14 February 2023

**MA. TERESA V. AYSON**  
PASu, RIWS  
Narra, Palawan

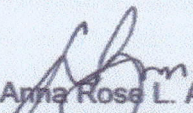
**Dear Ma'am Ayson:**

Greetings!

We furnish herewith our January 2023 patrol report on Rasa Island Wildlife Sanctuary (RIWS), Narra, Palawan.

We greatly appreciate acknowledgement of the attached report as well as copy of its endorsement to the CENRO-Quezon, PENRO and DENR MIMAROPA Region. Thank you.

Sincerely,

  
Anna Rose L. Agullo  
Education Coordinator, PCCP



**KFI PATROL AND MONITORING REPORT ON  
FOREST AND BIODIVERSITY  
January 2023 SUMMARY  
Rasa Island Wildlife Sanctuary and its environs,  
Narra, Palawan**



**14**

**Bilang ng nagawang  
patrolya**



**0**

**Bilang ng illegal na  
kailangang aksyunan**



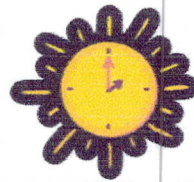
**180**

**Kabuuang kilometrong naabot  
ng patrolya**



**0**

**Bilang ng mga issues na  
nai-report sa PAMO**



**69.9**

**Kabuuang oras ng  
patrolya**



**0**

**Bilang ng naaresto**



**140**

**Pinakamataas na bilang sa  
tulugan ng Katala**



**35**

**Bilang ng ibang uri ng  
ibon na nakita**



**144**

**Pinakamataas na bilang  
ng Katala sa kinakainan**



**11**

**Uri ng halamang namumunga**



**09675176935**



**048-434-7693**



**kficacatua2016@gmail.com**

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

**JANUARY 2023**

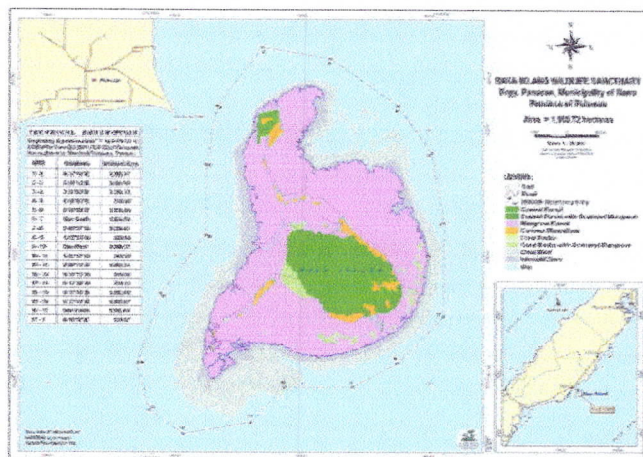
Prepared by:

**Anna Rose Aquillo, Mark Quinit, Peter Widmann and Indira D. L. Widmann**

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

Rasa is a small coral island of 8.34 km<sup>2</sup> land area situated in the Sulu Sea, just offshore of the Municipality of Narra, Palawan, Philippines (Fig. 1). About 1.75 km<sup>2</sup> are covered with coastal forest, mangrove (5.60 km<sup>2</sup>), cultivated areas (predominantly coconut; 0.39 km<sup>2</sup>), 0.60 km<sup>2</sup> 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 180kms of nest visits, wildlife monitoring and patrol around Rasa. Total of precipitation in January 2023: 398mm on Rasa, 352mm at Panacan 2 and 370mm on Katala Institute (KI), Antipuluan.

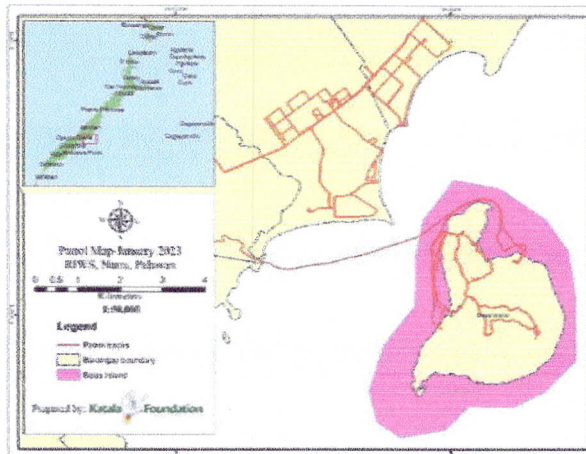


Figure 2. Patrol tracks in red marks in January 2023

Three teams of wardens conducted monitoring on 61 nest trees. The teams observed away from the nest trees for 20min to not disturb activities of cockatoos. Repair of metal sheets concluded with additional ones for four nest trees which have not been visited and occupied by cockatoos in the past years. Six camera traps were deployed on Rasa. 14 data loggers collected. Construction of new hatchling area and repair of improvised ladder completed.





Figure 3. Wardens repair metal sheets on a nest tree to ascertain that no land predators can climb for the safety of eggs or cockatoos on nest (left); One of Terracotta bowls distributed on Rasa to catch rains for drinking and bathing of fauna on Rasa (right) ©KFI



Figure 4. Repair of improvised ladder for nest checking and construction of hatchling box ©KFI

### III. PATROL OBSERVATIONS

#### A. WILDLIFE OBSERVATIONS

Warden teams observed for 15-20min on each cockatoo nest tree. Most indications of occupation of cockatoos occurred on nest trees occupied last year. On Jan. 6, 3ind were perching on Bogo nest tree, 1ind came inside the hole while 1ind perched on nest hole. At 8:10a.m., 1ind came out, another one came out perching on branch then all left at 8:32a.m. On Jan. 22 at 11:40a.m., two cockatoos just arrived, calling on Pagatpat nest tree on Rasa north. Early on Jan. 3 at 8:00a.m., five cockatoos were calling around on Pagatpat nest near mangrove channel to boardwalk. At 8:20a.m., 1ind entered the nest while another one stayed on nest opening, three cockatoos were heading to coastal forest and one cockatoo came outside after 5min. On the same date at noon, four cockatoos were calling around Pagatpat nest on west Rasa, then one entered nest while 2ind left the nest tree. The highest recorded cockatoo on visited nest trees were 6ind around three Bogo nest trees on coastal forest and one Pagatpat nest tree on south Rasa.

Lucito recorded 140 cockatoos and some more could not be counted inside the mangroves on traditional roosting site on Jan. 23 from 6:23-6:29p.m. On Jan. 24, early at 6:00 to 6:05a.m., cockatoos dispersed from the site due Dapdap area, east and inner mangrove forest. On Jan. 16, 5:51-6:17p.m., Loreto counted 134ind on traditional roost site while on Jan. 17, 5:50-6:25a.m., he counted 137ind on the same site. On Jan. 30 at 6:20p.m., Veronica noted 19



cockatoos in a flock that tried five times to cross to Rasa but could not pursue due to strong northeast monsoon. The flock stayed on coconut tree on Borbon. Veronica left at 7:00p.m. Early on the next morning as Veronica resumed monitoring at 5:50a.m., the flock was still on the same coconut tree. There was still strong wind and drizzle.

During our timed count on Jan. 17, on a fine weather with moderate wind, a total of 144 cockatoos were counted at stations Borbon, Panacan (70ind, 6:30-7:15a.m.) and Parco beach, Antipuluan (74ind, 6:41-7:08a.m.) flying from Rasa. A total of 78ind flew back to Rasa (73ind from Borbon and 5ind from Parco beach) until 11:10a.m. after the timed count on the same date. Earlier on Jan. 13, Veronica and Mark counted a total of 60ind from their stations at Borbon (30ind, 6:33-7:20a.m.) and Parco beach (30ind, 6:39-7:07a.m.) respectively while 29ind flew back to Rasa until 10:30a.m. from the same stations. Later this month during our timed counts, most cockatoos struggled to cross from mainland to Rasa. On Jan. 30, in the afternoon, a total of 59ind crossed back to Rasa from the same stations, Borbon with 39ind at 5:06-6:20p.m. and Parco beach with 16ind at 5:26-6:01p.m. All cockatoos that crossed from Borbon station had several turns and some rested on nearest coconut trees at Borbon before leaving to Rasa.

The highest count recorded at Marcelo station which foraged around was 35 cockatoos on Jan. 10 from 6:45-7:49a.m. At Princess Urduja, Monico's station, 50ind were counted at 6:50a.m. on Jan. 4. Danilo noted 17ind crossing at Panacan Pier on Jan. 28 at 5:15p.m. No cockatoos were noted during timed counts at the beach of Batang-batang. While docking at Malinao channel, Loreto noted 8 cockatoos flying to Tugbuan on Jan. 15 at 7:30a.m.

In January, beside Philippine Cockatoo other noted species were Tabon Scrubfowl, Blue headed-Racquet-tail, Nicobar Pigeon, Osprey, Egret sp., Spotted Wood-owl, Changeable Hawk-eagle, White-bellied Sea-eagle, Green Imperial-pigeon, Great-billed Heron, Stork-billed Kingfisher, Oriental-dwarf Kingfisher, White-collared Kingfisher, Rufous Night-heron, Copper-throated Sunbird, Large-tailed Nightjar, Whimbrel, Common Tern, Greater Coucal, White-vented Shama, Ashy Drongo, Palawan Bulbul, Blue-paradise Flycatcher, Fruit-dove sp., Reef Egret, Pipit, Common Koel, Rufous-tailed Tailorbird, Waterhen, Asian Glossy Starling, Emerald Dove, Dollarbird, Pied Fan-tail and Zebra Dove. Monitor Lizards were frequently seen on Rasa. Loreto noted ca. 5,000ind of Flying Fox hanging on mangroves at Villarias area on Jan. 13 at 7:20a.m. Loreto observed 2ind of Mantanani Scops-owl on Jan. 11 perching on mangrove and did not fly away at 7:20a.m. at mangrove channel near camp.

#### **Monitoring on rescued cockatoos**

On Jan. 4 at 12:57p.m., five cockatoos flew from coastal to Bogo at campsite while 1ind perched on vine. Lucito and Bernito took a closer look and found out it was Anna (DENR 131-22) through its fading blue stains on wings. It crawled to Tubo-bato ca. 5m high. One cockatoo came closer to Anna which was probably Angel (DENR-70-22). At 1:05p.m., the four cockatoos flew followed by Anna and Angel due west. It was raining and cloudy. On Jan. 5 at 3:00p.m., 3ind including Angel and Anna were near birdwatch tower. They were looking at Bernito and Lucito then at 3:10p.m., the cockatoo flew including Angel followed by Anna. The two wardens confirmed they were the two released cockatoos.

#### **Vegetation assessment**

This month, all the three stations of collection of precipitation data exhibited more volume and more frequent rains compared to the collected data in the same month in 2022: 352mm at Panacan 2, 370mm at KI, and 398mm at Rasa. Vegetations were still greener. Among inventoried plants, the flowering with a score of 1 were Barimbing, *Ceriops*, *Rhizophora*, Sp. F2, Albotra (vine), Paitan (vine) and Siar while those with scale of 2 were Banaro and *Ceriops*. The inventoried fruiting plants with a score of 1 were *Rhizophora*, E2, E3, Banaro, Malacandis, Balindadagat, Siar and Balete scored 2. Other not inventoried plants but flowering were



Kalampinay, Paitan, Taluto and Barenben, and fruiting were Tulang Pagi, Wild Orange, Banese, Kalampinay, Tonton Bay'o and Barenben.



Figure 5. Green vegetations on Rasa Island (top) and fallen flowers of Banaro (bottom) ©KFI



Figure 6. Fruiting food-plant species for cockatoos and other wildlife on Rasa (clockwise): Balete (top left), Balindadagat, Siar, Wild orange (vine), Tulang Pagi (vine) ©KFI







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[www.philippinecockatoo.org](http://www.philippinecockatoo.org)

06 February 2023

**MA. TERESA V. AYSON**  
PASu, RIWS  
Narra, Palawan

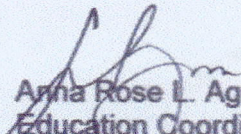
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We greatly appreciate acknowledgement of the attached report as well as copy of its endorsement to the CENRO-Quezon, PENRO and DENR MIMAROPA Region. Thank you.

Sincerely,

  
Anna Rose L. Agullo  
Education Coordinator, PCCP



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



**28**

**Bilang ng nagawang  
patrolya**



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**Bilang ng illegal na  
kailangang aksyunan**



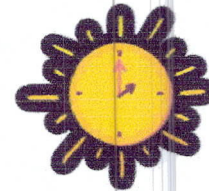
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**Kabuuang kilometrong naabot  
ng patrolya**



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**Bilang ng mga issues na  
nai-report sa PAMO**



**77**

**Kabuuang oras ng  
patrolya**



**0**

**Bilang ng naaresto**



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**Pinakamataas na bilang sa  
tulugan ng Katala**



**33**

**Bilang ng ibang uri ng  
ibon na nakita**



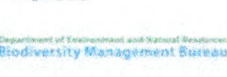
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**Uri ng halamang namumunga**



**72**

**Pinakamataas na bilang  
ng Katala sa kinakainan**



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048-434-7693



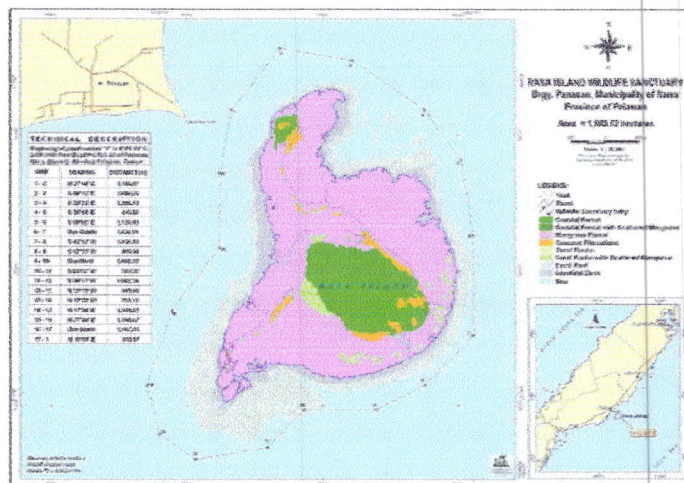
kficacatua2016@gmail.com

## DECEMBER 2022

**Anna Rose Agullo, Mark Qunit, Peter Widmann and Indira D. L. Widmann**

Rasa is a small coral island situated in the Sulu Sea, just offshore of the Municipality of Narra, Palawan, Philippines (Fig. 1). About 1.75 km<sup>2</sup> are covered with coastal forest, mangrove (5.60 km<sup>2</sup>), cultivated areas (predominantly coconut; 0.39 km<sup>2</sup>), 0.60 km<sup>2</sup> 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



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).



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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.

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### 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 BATAK, MARIO BATAK, LUCITO DANGIS, Veronica Marcelo, Danilo Villaruz, Monico Beleg and Antonio Marcelo.** Wardens' teams covered 268kms of nest visits, wildlife monitoring and patrol around Rasa. Total precipitation in December 2022: 550mm on Rasa, 479mm at Panacan 2 and 438mm on Katala Institute (KI), Antipuluan.

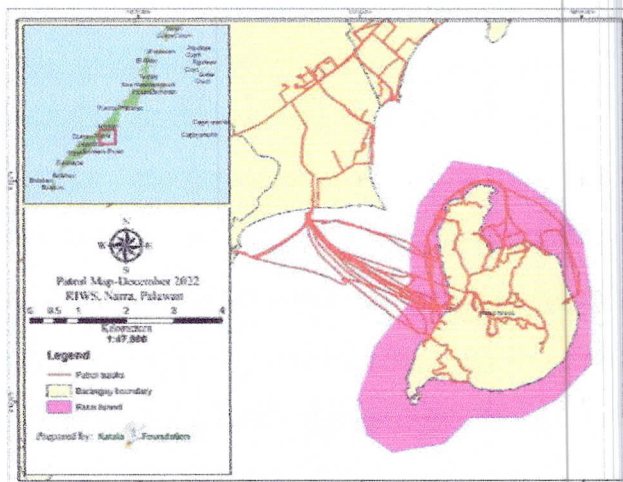


Figure 2. Patrol tracks in red marks in December 2022

The team resumed gathering data to update parameters of 70 active nest trees including three new potential nest trees (NPTs) and installed plain sheets on 12 nest trees to deter predation. 11 data loggers were collected. Six camera traps were deployed on Rasa while four were retrieved (Fig. 3). Hatching area was partially renovated while repairing the improvised ladder.





**Figure 3.** Wardens conduct nest characterization, nest flushing, collection of data loggers and mounting of camera traps ©KFI

### III. PATROL OBSERVATIONS

#### A. WILDLIFE OBSERVATIONS

During nests visits in December 2022, old and new cut twigs were present on and around some active nest trees and NPTs. Cockatoos were always observed around the nest trees especially those active and occupied last year. On Dec. 9, we observed one NPT with no cut twigs and feces but cockatoo feathers were present in the chamber. The highest recorded cockatoo on visited nest trees were 6ind on two Bogo nest trees in coastal forest while two Pagatpat nest trees on western Rasa.

Edwin counted **182 individuals** in the morning of Dec. 9 at traditional roost site. In the afternoon of Dec. 8, 178ind were also counted at the site. Meanwhile, Loreto recorded 93ind gathering at the roost site from 6:05-6:25p.m. on Dec. 12. Number of roosting cockatoos at traditional roost site is lower as expected probably due to the northeast monsoon and the upcoming breeding season when most parent cockatoos stay in nests. No cockatoos were observed at Borbon roost site during monitoring. Veronica recorded **72 individuals** dispersing from Rasa to her station, at Purok Borbon, Panacan from 6:17-7:19a.m. on Dec. 8. On our synchronized counting on Dec. 1, we counted 39ind flying back to Rasa recorded from Borbon (with 8ind from 3:55-4:55p.m.) and Parco at Antipuluan (31ind at 5:07p.m.) stations. On Dec. 12, no crossing cockatoo was observed in the afternoon at Borbon station though Veronica observed one flying from Borbon due north at 4:30p.m. while, Mark counted 10ind flying back from Parco to Rasa at 4:58-5:16p.m. This month, more foraging cockatoos were crossing frequently to mainland in the morning than in the afternoon. This is very likely affected by the strong winds in the afternoon till dusk. Three individuals had several turns before finally crossing back to Rasa on Dec. 19 at 8:47a.m. and 8:58a.m.



Mark observed one cockatoo on Dec. 8, 7:39a.m. feeding on Malunggay at Vice-Mayor Calso's residence at Poblacion and he had a quick talk with him about the frequenting cockatoos (Fig. 4). VM said he was happy especially if more cockatoos visited his area. Mark also noted 8ind flying from Enojas to Panacan Pier at 8:14a.m. on this date. At Panacan Pier, monitoring station assigned to Danilo, 44ind foraged then perched on coconut tree at 7:10a.m. and 8:10a.m. on Dec. 3 (Fig. 4). The flock stayed for an hour due to strong winds then left due Borbon. 39ind were the highest count recorded at Marcelo area (foraging area) on Dec. 6 from 7:05-7:42a.m. The earliest foraging record was at 6:10a.m. at Panacan Pier while the latest foraging record was at 5:41p.m. at Malinao area.

One Mantanani Scops-owl was caught through camera trap perching on mangrove near Pagatpat nest on Nov. 30 3:20, 3:25p.m., 5:58p.m. and Dec. 4 5:52p.m (Fig. 5). One woodpecker called near PNT at Villanueva area on Dec. 1 during nest visit. Spotted Wood-owl, Red-headed Flameback, Blue-headed Racquet-tail and Kingfishers were also frequently seen on Rasa. The Blue-naped Parrot was not observed or heard on Rasa this month. Other species noted in this period were Nicobar Pigeon, Tabon Scrubfowl, Dollarbird, Palawan Bulbul, Blue-Paradise Flycatcher, Osprey, Changeable Hawk-eagle, Green Imperial-pigeon, Great-billed Heron, Stork-billed Kingfisher, Whimbrel, Oriental Dwarf-kingfisher, Egret sp., Reef Egret, Emerald Dove, Common Koel, Greater coucal, White bellied sea-eagle, Zebra Dove, Rufous Night-heron, Ashy Drongo, Pipits, Rufous-tailed Tailor-bird, Asian Glossy Starling, White-vented Shama, Copper-throated Sunbird, Swiftlet sp. and White-collared Kingfisher.

The team observed one individual of Nicobar Pigeon flying near Bogo nest on coastal forest on Dec. 4. Meanwhile on Dec. 8, a White-bellied Sea-eagle was flying near Pagatpat nest on southern Rasa. On Dec. 9, Great-billed Heron was noted perching peacefully on mangrove near Villarias channel (Fig. 6). This was possibly a fledgling as it flew weak and did not go farther. Wardens encountered two beehives during nest visits in which according to Mario and Bemito, honey production might be lower than expected due to frequent rains (Fig. 6). Tabon Scrubfowls were also captured by camera traps in the last quarter of 2022 (Fig. 7). A snake (4m long) was likewise seen crawling near Bogo nest on northern coastal forest on Dec. 28. Monitor Lizards were frequently encountered on Rasa. On Dec. 3, at 10:29p.m., one rat was also caught on camera trap on the mangrove where the Mantanani usually sleeps (Fig. 8). One Horseshoe crab was observed crawling on the sand near Panaguiton tidal flat on Dec. 1 (Fig. 8) while one marine turtle swam on tidal flat on east Rasa on Dec. 13.



**Figure 4.** Cockatoo feeds on Malunggay of Vice-Mayor Calso's residence at Poblacion (left) and Two flocks of cockatoos from Purok Enojas perched on coconut tree near Panacan Pier (right) ©Mark and Danilo



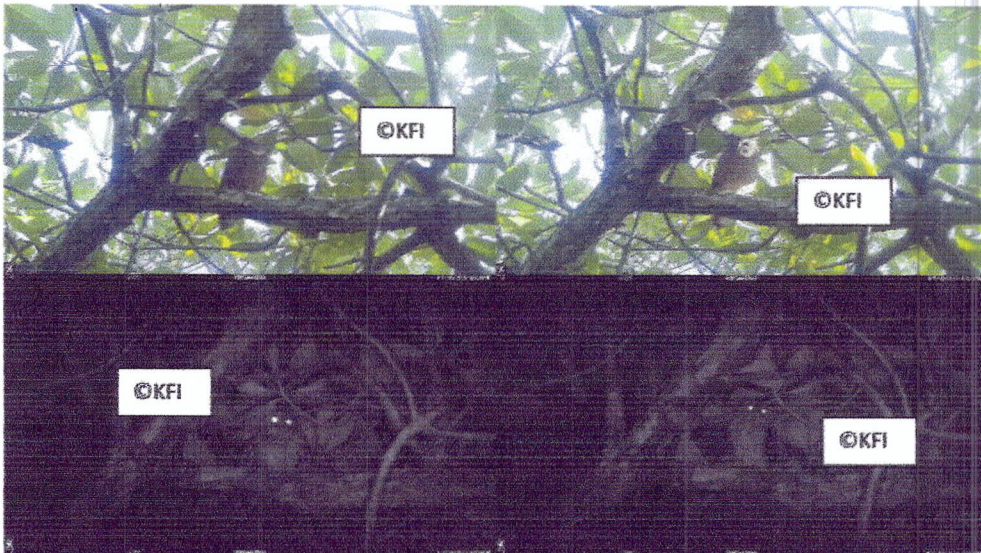


Figure 5. Mantanani Scops-owl perching on mangrove on western Rasa



Figure 6. Possibly a young Great-billed Heron resting on mangroves on Rasa (left); Beehive near campsite with few fills as effect of frequent rains (right) ©KFI



Figure 7. Tabon Scrubfowl observed at Kabaguhan area on Rasa ©KFI



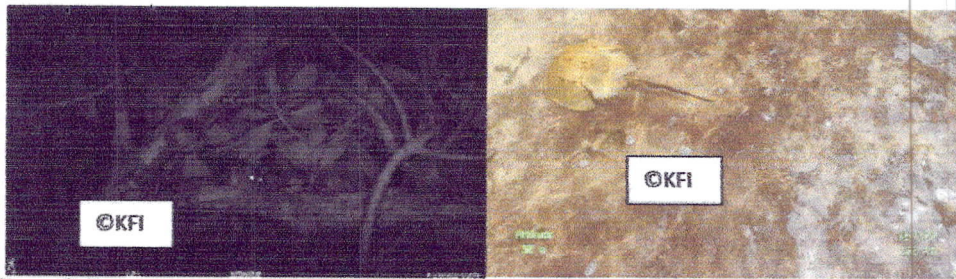


Figure 8. Rat on mangrove on west Rasa (left); Horseshoe crab on tidal flat near Panaguiton area (right) ©KFI

#### Vegetation assessment

Most frequent and heaviest rains were experienced in December 2022 on our monitoring stations in Narra: Rasa with 550mm, Marcelo area at Pancan 2 with 479mm and Katala Institute (KI) with 438mm (Fig. 9). This probably affected vegetations where most plants had a score of 1 for fruiting and flowering out of 0-3 scale (lowest-highest), both on Rasa and on mainland. Rasa coastal and boundary and mangroves exhibited green vegetation (Fig. 10). Among inventoried plants on Rasa, Tulang Pagi, Kasuy-Kasuy and *Rhizophora* sp. were fruiting while Pagatpat, Gindaon, Ginlalid, wild orange (vine) and Tubo Bato were likewise fruiting (Fig. 11). Flowering plants among inventoried were *Rhizophora* sp. Barimbing, *Ceriops* sp., sp. F1, F2, E2, E3, Banaro, Albotra and Paitan (vine).

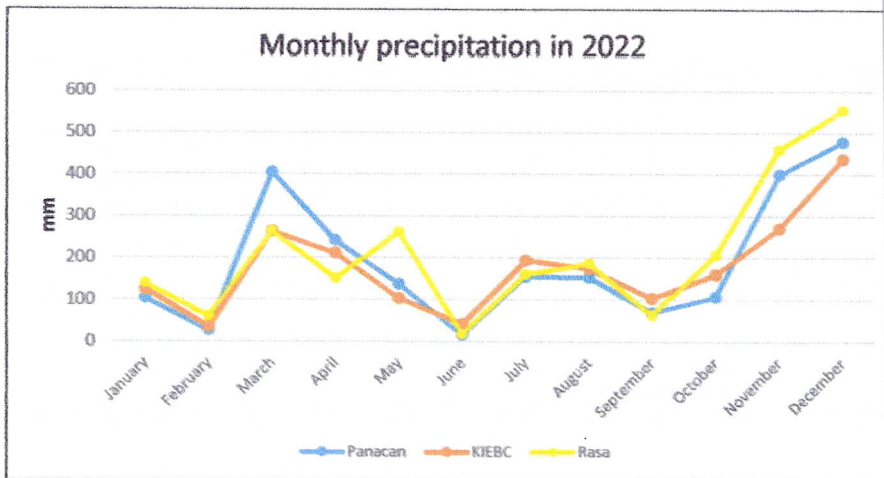


Figure 9. Monthly precipitation at three stations: Rasa, KI and Panacan 2 in 2022





**Figure 10.** Green vegetation on Rasa coastal forests, boundary areas and mangroves ©KFI





Figure 11. Fruiting food-plant species for cockatoos and other wildlife on Rasa (clockwise): Gindaon (top left), wild orange, Tubo Bato, Ginlialid ©KFI

## B. THREAT OBSERVATION

No adverse human activity was encountered in December.

## III. OTHER HIGHLIGHTS

*Monitoring on marine resources and coconut plantations on Rasa.* On Dec. 6, two persons gleaned 35kgs *Tuway* bivalve at near Villanueva area in 4hrs. On Dec. 7, 100kgs of copra were collected by five persons from Alisto area in two days. On Dec. 8, three persons gleaned 10kgs of *Sikad-sikad* jumping shells at tidal flat near Satina area in 4hrs, two persons gathered 0.5kgs of *Lato* sea grapes (Fig. 12) likewise two more persons collected 3kgs of *Tuway* from tidal flat near Satina area in 2hrs. On Dec. 9, two persons gleaned 7kgs of *Bakalan* bivalve on tidal flat near Danao area for 3hrs while one person gathered 100kgs of copra for two days at Panaguilton coconut area.

We tried to assess sustainability of catch and harvest of natural resources on Rasa by comparing effort needed per yield for comparison between years. Seaweed harvest is increasing with same harvesting effort, indicating that this utilization is sustainable. On the other hand, catch of mangrove crabs is declining with same collection effort, suggesting that this resource is in decline and possibly would benefit from reduced utilization. Other resources show no clear trend.



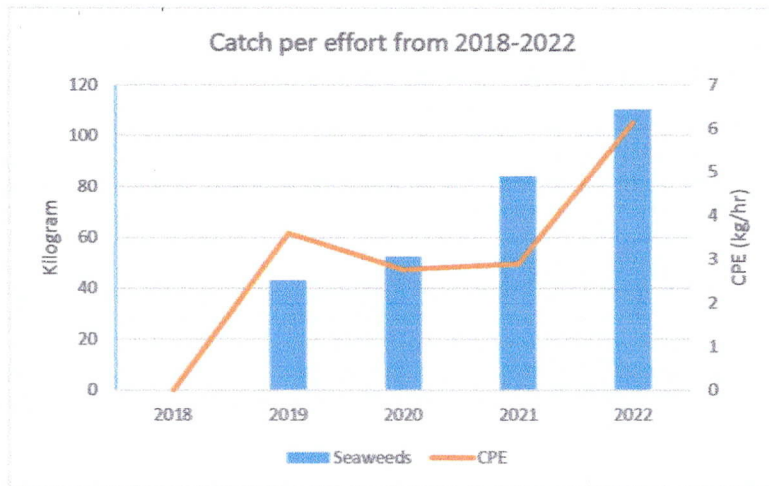


Figure 12. Catch per effort for seaweed collection at RIWS ©KFI

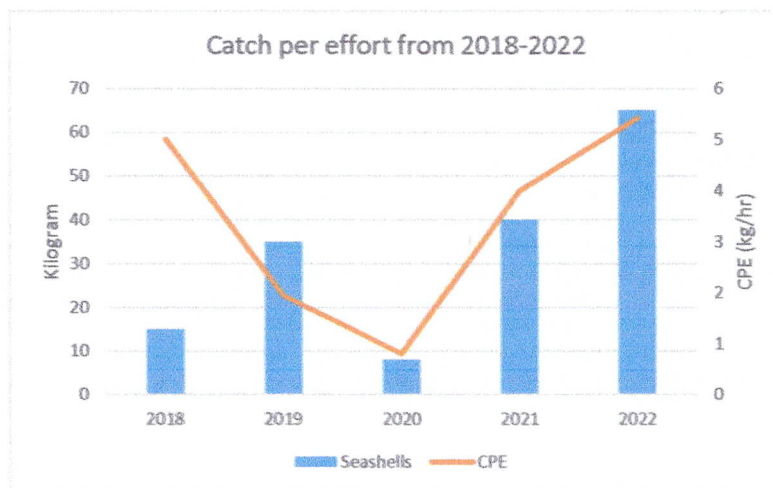


Figure 13. Catch per effort for sea shells collection at RIWS ©KFI



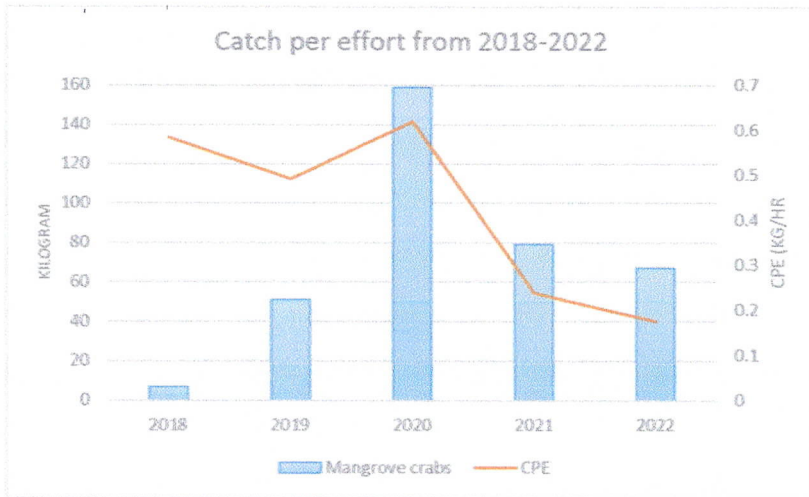


Figure 14. Catch per effort for mangrove crabs collection at RIWS ©KFI

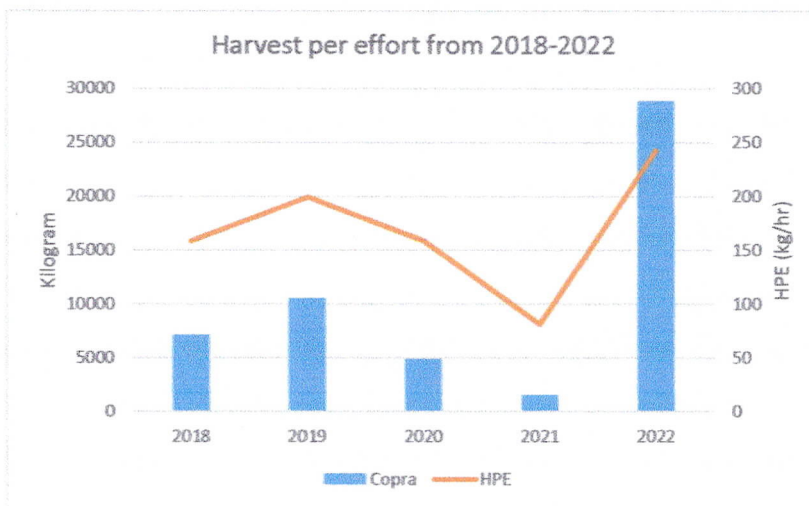


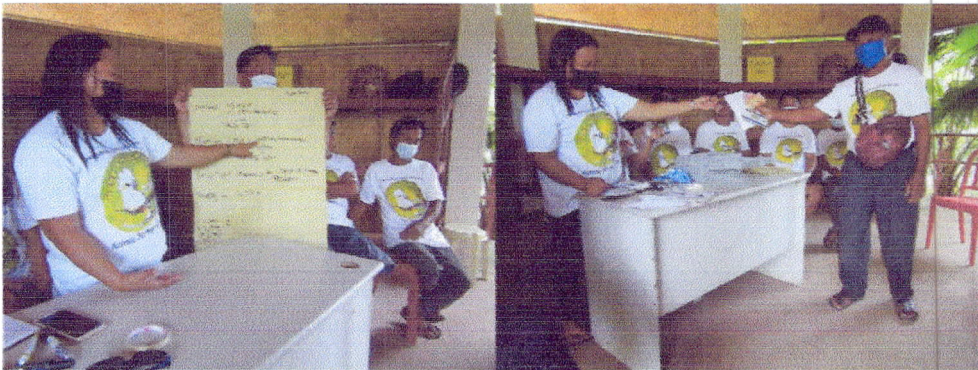
Figure 15. Copra harvests on RIWS ©KFI





**Figure 16.** Fishers collect seaweeds on Dec. 8 on tidal flat near Satina area (left) and hauling of materials for hatchling area and improvised ladder to Rasa (right) ©KFI

**Katala savings club.** Katala savings club members conducted last meeting in 2022 on Dec. 10 (Fig. 17).



**Figure 17.** Last meeting and payout of Katala Savings Club members established in 2022 ©KFI

#### IV. ISSUES, CONSTRAINTS AND ACTIONS TAKEN

The incidence of cut Magtalisay tree is reported to PAO. The trunk remains in the area for monitoring on possible transporter. 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.

We suggest and kindly request additional monitoring around Rasa both at day and night starting January 2023 in order to augment wardens' efforts especially that wardens will get occupied with breeding season from then on. This is also to have more visibility by law enforcement agencies.



## V. ACKNOWLEDGEMENT

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