Republic of the Philippines
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Telfax No. (048) 433-5638 / (048) 433-5638

Region

November 11, 2022

MEMORANDUM

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

THRU : The Assistant Regional Director for
Technical Services

FROM : The Provincial Environment and
Natural Resources Officer

SUBJECT : **ACTIVITY REPORT ON THE CONDUCTED COASTAL AND MARINE RESOURCE ASSESSMENT AND MONITORING FOR WET SEASON IN SNAKE ISLAND NCMCR ON OCTOBER 24-28, 2022**

Respectfully submitted the Memorandum dated November 8, 2022 from Marine Biologist Genesis Ustares regarding the above-mentioned subject.

As per report, a total of thirty-one (31) individuals conducted the monitoring activity, seventeen (17) males and fourteen (14) females with representatives from ERDB- Coastal Zone and Freshwater Ecosystems Research Division, BMB- Coastal and Marine Division, MIMAROPA Region-Conservation and Development Division, PENRO Palawan-Conservation and Development Section, CENRO Puerto Princesa- Conservation and Development Section, Palawan Council for Sustainable Development Staff (PCSDS), City ENRO, and Snake Island Management Office (SIMO) as host of the activity. The general observations and recommendations regarding the conducted activity were included in the activity report as well as the photo documentation.

Please be informed that we will furnish your copy of the report once it is available. This document will serve as the Means of Verification (MoV) for Snake Island NCMCR CY 2022 activities. Attached herewith is the activity report with photo documentation.

For information and record.

Conservation and Development Section
RELEASED
BY
DATE 11/11/22
850

DENR-PALAWAN
PENRO-RECORDS
RELEASED
By
Date: 11 NOV 2022
22-3030

"For and in the absence of the PENRO"

JIMMY C. VILLAREAL
LMO III/ Chief, RPS
In-Charge, Office of the PENRO

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8 November 2022

MEMORANDUM

DENR PENRO
PALAWAN RECORDS
RECEIVED
BY:
DATE: 11.09.2022 CN22-10276

FOR : The Provincial Environment and Natural Resources Officer

THRU : The OIC Chief, Technical Services Division

FROM : The Chief, Conservation and Development Section
Snake Island Management Officer in concurrent capacity

SUBJECT : **ACTIVITY REPORT ON THE CONDUCTED COASTAL AND MARINE RESOURCE ASSESSMENT AND MONITORING FOR WET SEASON IN SNAKE ISLAND NCMCR ON OCTOBER 24-28, 2022**

Respectfully submitted is the activity report of Mr. Genesis Ustares, Marine Biologist of SIMO re the conducted coastal and marine resource assessment and monitoring from wet season in Snake Island – National Coastal and Marine Center for Research on October 24-28, 2022.

As per report, A total of thirty-one (31) individuals conducted the monitoring, seventeen (17) males and fourteen (14) females with representative from ERDB – Coastal Zone and Freshwater Ecosystems Research Division, BMB – Coastal and Marine Division, MIMAROPA Region – Conservation and Development Division, PENRO Palawan – Conservation and Development Section, CENRO Puerto Princesa - Conservation and Development Section, Palawan Council for Sustainable Development Staff (PCSDS), City ENRO, and Snake Island Management Office (SIMO) as host of the activity. General observations and recommendation regarding on the conducted assessment was included in the report as well as the photo documentation.

Please be informed that as per approved Operational Plan and institutional arrangement of Snake Island, the ERDB as lead of the research component, they have been tasked to lead the conduct of assessment including the analysis, interpretation of gathered data as well as the technical report writing. We will furnish you the copy of report once it is available. Hence, this activity report with photo documentation will serve as the Means of Verification (MoV) for Snake Island NCMCR CY 2022 activities.

For your information and further instructions.

RHODORA B. UBANI

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ACTIVITY REPORT ON THE CONDUCTED COASTAL AND MARINE RESOURCE ASSESSMENT AND MONITORING FOR WET SEASON IN SNAKE ISLAND NATIONAL COASTAL AND MARINE CENTER FOR RESEARCH

October 24-28, 2022

Snake Island is declared as DENR National Coastal and Marine Center for Research thru DENR Administrative Order No. 12 series of 2011 with functions as the field station for applied research, field laboratory for the implementation of ICM Program and serve as model for sustainable coastal and marine management. Based on the Coastal Resources Inventory (CRI) report conducted by Ecosystems Research and Development Bureau (ERDB) on April 2016, the island harbors 16 species of mangroves, 7 species of seagrass, a mean coral cover of 46.25% that supports to 106 species belonging to 28 families with a total biomass ranged from 9.85 to 28.71-mt km^2. The inventory was conducted following the standard methods used for the assessment of benthic lifeforms, fish assemblages, seagrass community and associated fauna, mangrove vegetation, plankton community, water quality and socioeconomic conditions.

Under the Program 1 of Operational Plan, the ERDB was tasked to lead the conduct of annual coastal and marine resource monitoring. This is to regularly monitor these resources and results from these monitoring activity will evaluate what and how conservation and protection interventions need to consider. This activity was participated by ERDB, BMB, MIMAROPA Region, PENRO Palawan, CENRO Puerto Princesa, PCSDS, City ENRO and Snake Island Management Office (SIMO).

The following components was monitored using the BMB Technical Bulletin No. 2017-05 and 2019-04: coral reefs, fish assemblages, seagrass & associated macrobenthos, mangroves, fauna community and water quality.

A total of thirty-one (31) individuals conducted the monitoring, seventeen (17) males and fourteen (14) females with representative from ERDB – Coastal Zone and Freshwater Ecosystems Research Division, BMB – Coastal and Marine Division, MIMAROPA Region – Conservation and Development Division, PENRO Palawan – Conservation and Development Section, CENRO Puerto Princesa - Conservation and Development Section, Palawan Council for Sustainable Development Staff (PCSDS), City ENRO, and Snake Island Management Office (SIMO) as host of the activity.

On day 1, upon arrival of the participants on the island, a leveling-off meeting was done led by the undersigned that includes the team designation, method orientation, materials preparation and house rules. On the succeeding days, the assessment proper was done. The following team were assigned in respective components:

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Corals & Fish	Mangroves	Seagrass	Macrobenthos	Avifauna/ Fauna	Water Quality
November Romena (ERDB)	Alvin Gestiada (ERDB)	Mariche Natividad (ERDB)	Annieraj Velasco (ERDB)	Alon Velasquez (ERBD)	Lea Avilla (BMB)
Lea Avilla (BMB)	Mark Angel Lito (SIMO)	Michael Cornito (BMB)	Fatima Grate (Region)	Dr. Rizza Salinas (BMB)	Michael Cornito (BMB)
Joaquin Silvestre (BMB)	Jessie Escandalio (C-PPC)	Jet Fabellon (Region)	Julius Landrito (SIMO)	Pola Bumanglag (BMB)	Genesis Ustares (SIMO)
Criselda Castor (BMB)		Demi Decena (PENRO)	Crishell Rose Corpuz (PENRO)	Jessie Escandalio (C-PPC)	
Genesis Ustares (SIMO)		Rugymel Monicod (SIMO)		Myla Adriano (City ENRO)	
Jamael Masacal (SIMO)				Alonzo Padon (City ENRO)	
Martin Caligdong (PCSDS)				Hazzel Valones (City ENRO)	
				Joy Viterbo (City ENRO)	

Coral Reefs & Fish Assemblages:

The team were able to assessed all six (6) monitoring stations. Coral recruits are visible in the area but as well as the algae succession are observed in all stations. Low visibility was mostly observed in deep transects (8 – 12 meters). This occurring concern in sedimentation can only be address through reduction of the land-based threats such as pollution, nutrient loading and the condition of rivers and tributaries in front of Snake Island which is listed as high priority on Research Agenda for Snake Island.

Some of the colony of *Acropora* tabulate near the transect lines were overturned due to unstable substrate. Without stabilize substrate, fast growing corals such as *Acropora* will not able to grow in massive colonies hence, the undersigned recommends the possibility to conduct substrate stabilization in Snake Island.

In regards with the fish assemblages, videos of fish encountered within 5 meters above the transect line was recorded as well as census was gathered and identified. Since the FVC is

an observers biased method, the SIMO will request for trainings particularly on fish identification, survey methodologies and Open Water SCUBA diving to have a dedicated staff to do the FVC every assessment and practice the efficiency. This will further maintain the uniformity and standardized of observation, size and count estimates.

The processing of CPCE coral reef data and fish visual census were tasked to SIMO and will be submitted to ERDB for analysis, interpretation and technical writing.

Seagrass & Associated Macrobenthos:

The seagrass beds of Snake Island were co-dominated by *Thalassia, Cymodocea* and *Enhalus* species with a substrate of sandy to rubble. The team generally observed the increase of *Enhalus* species in Station 2 and plenty of patches. This may be due to laid transect differs from the previous assessment last dry season.

The increase of *Canarium urceus* and sea urchin (tirek) was observed in Stations 3 and 4, respectively. Inversely, the decrease of *Rhinoclavis vertagus* was observed in Station 3. Further, the presence of molted carapace of Horseshoe Crab in Station 3 was likewise observed. The increase of *C. urceus* may indicates the absence gleaning activity in that area may be due to consecutive bad weather conditions that hinders the fisherfolks to glean in that area before the assessment.

Raw data for both seagrass and macrobenthos were already obtained and processed by the ERDB technical personnel for the analysis, interpretation and technical writing.

Mangroves:

A total of 17 permanent monitoring stations with 10m x 10m plots were surveyed in Snake Island using transect line, measuring tape, caliper and global positioning system (GPS). Species richness, abundance, density and diversity were recorded. Presence of damaged mangroves by Typhoon Odette still observed specifically in Station 4. Silvicultural treatments is recommended to include in policies/Operational Plan and should be carried out to maintain the ecological functions that mangroves may offer.

Raw data of mangroves were already obtained and processed by the ERDB technical personnel for the analysis, interpretation and technical writing.

Fauna:

Visual encounter surveys were used in avifauna assessment. The assessment was only focused on three taxa: Aves, Mammalia and Reptilia – but a lot attention was paid to the water birds richness. Birds species was identified thru the use of binoculars and pictures. It was observed that despite the migration season, the island still not yet visited by migratory birds.

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Rodent traps were also installed in five (5) different site. Likewise, traps for *Varanus palawanensis* were installed in random sites. The coral reef component spotted and documented a Dugong in Station 2 and no sighting of sea snakes and sea turtles during the assessment.

Raw data of fauna were already obtained and processed by the ERDB technical personnel for the analysis, interpretation and technical writing. Moreover, the data obtained by City ENRO on avian survey will be forwarded to ERDB once it was received by the SIMO.

Water Quality:

Surface water samples were analyzed *in situ* using the HORIBA U-53 Water Quality Checker. The following parameters were measured: temperature, pH, oxidation-reduction potential (ORP), conductivity, turbidity, dissolved oxygen, total dissolved solids (TDS) and salinity. As per baseline data on year 2016, out of 14 stations, only 6 stations were sampled which are the coral reefs monitoring stations due to limited manpower and time. The seagrass stations were also sampled *in situ* as additional site.

The undersigned recommends to assigned a dedicated personnel solely for water quality analysis in order to survey all the established stations and at the same time to do it simultaneously with the corals and seagrass components.

The raw data of water quality were obtained by SIMO and will be forwarded to ERDB for interpretation and technical writing.

This report will serve as the Means of Verification (MoV) for Snake Island NCMCR CY 2022 activities. Attached is the photo documentation of the activity and attendance sheet. For your information and further instructions.

Prepared by:

GENESIS Z. USTARES
Marine Biologist II

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PHOTO DOCUMENTATION


Leveling off meeting: designation of task, methodology orientation and material preparation

Photo opportunity of all participants after the leveling-off meeting

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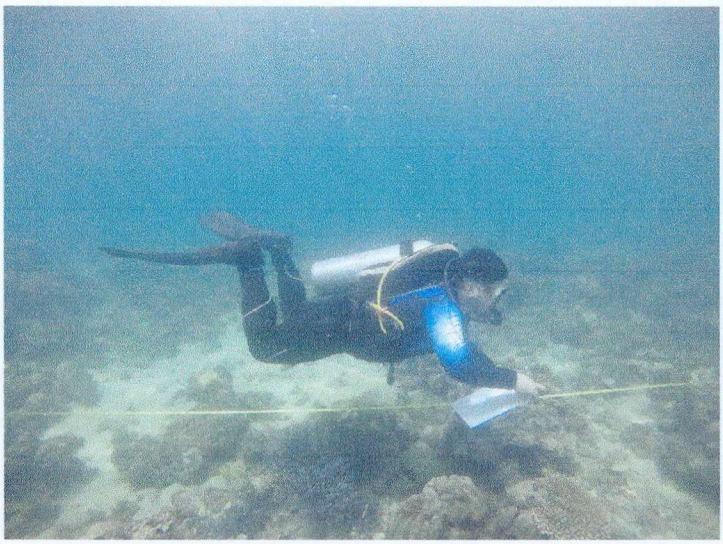
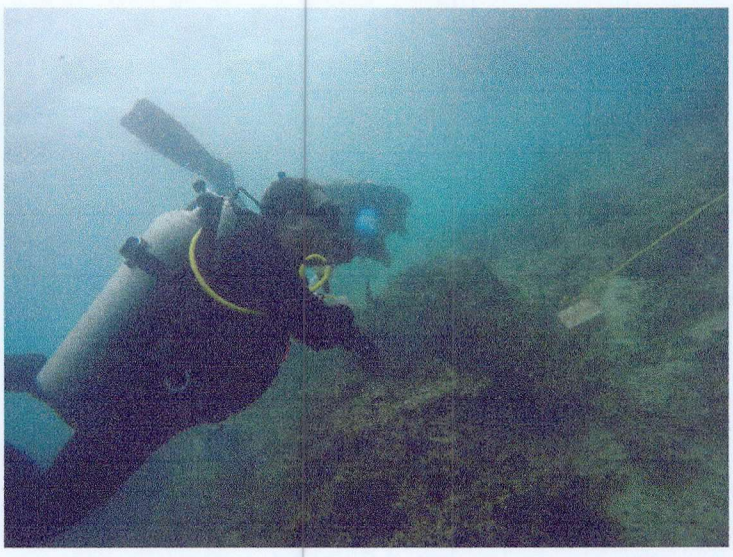
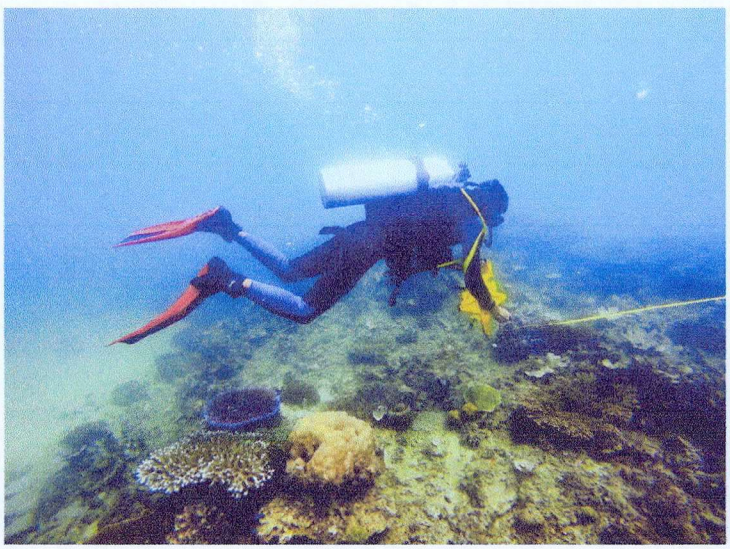
The corals and fish component team





Mr. Caligdong of PCSDS (left) and Mr. Romena of ERDB (right) doing the fish visual census



Mr. Masacal of SIMO reeling (left) and laying (right) the transect lines

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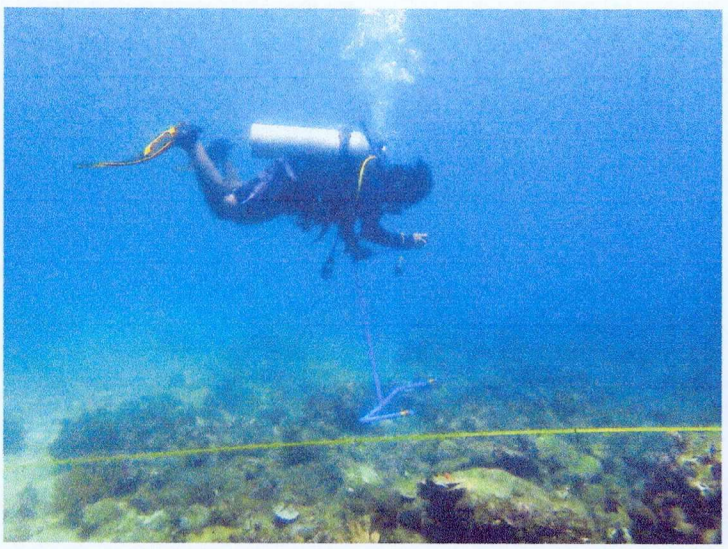
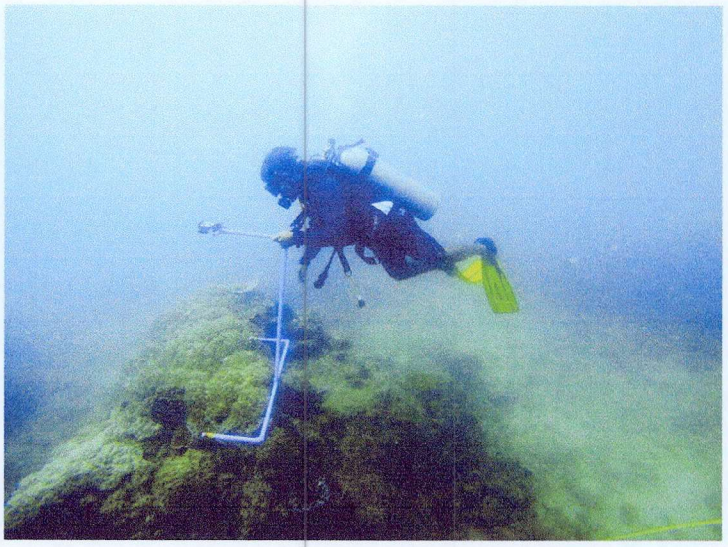
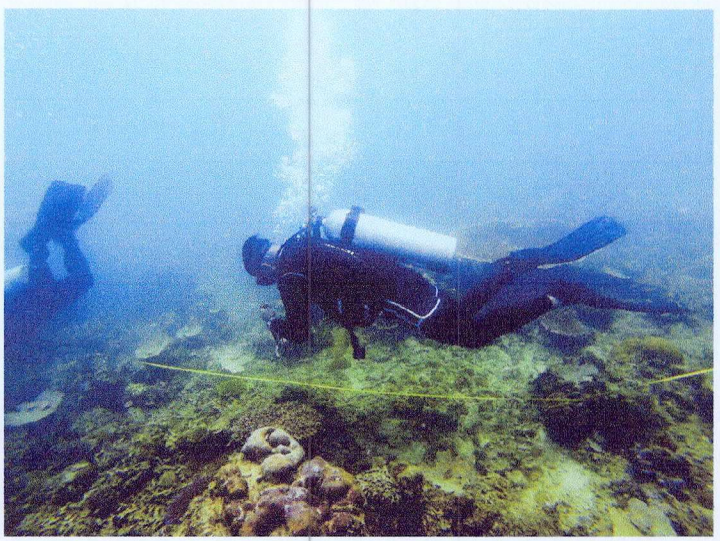



The undersigned doing the photo transect method for coral reefs



Mr. Silvestre and Ms. Avilla of BMB (left) and Mr. Silvestre (right) doing the rugosity chain method

Group photo of corals and fish component team

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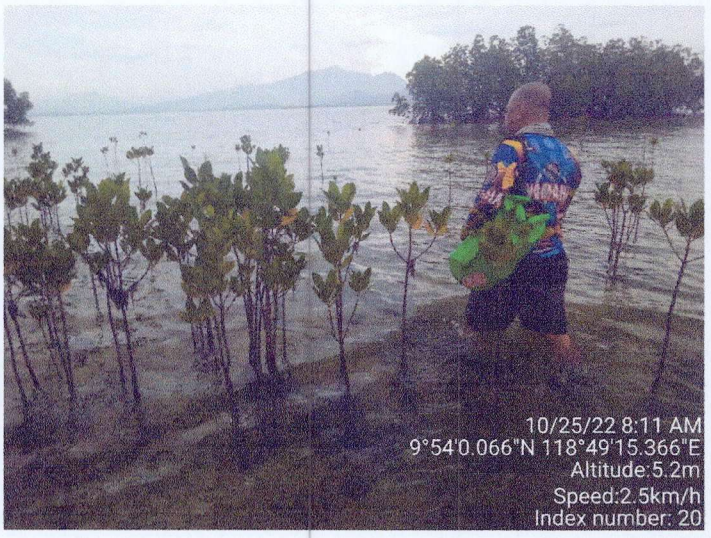

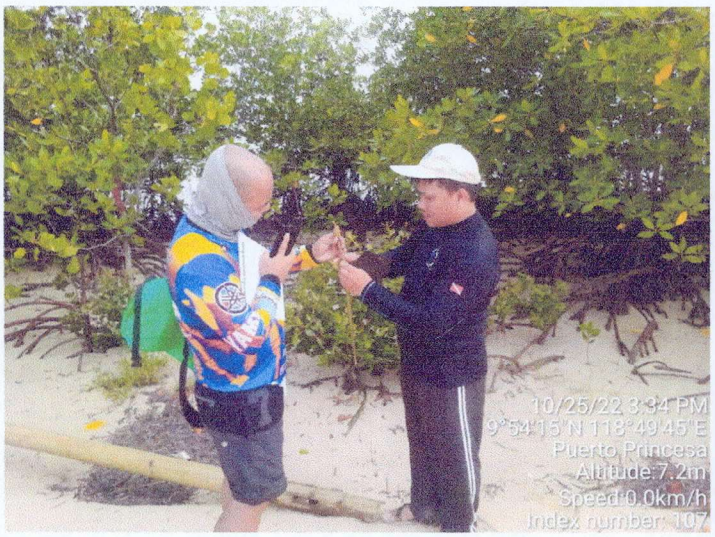

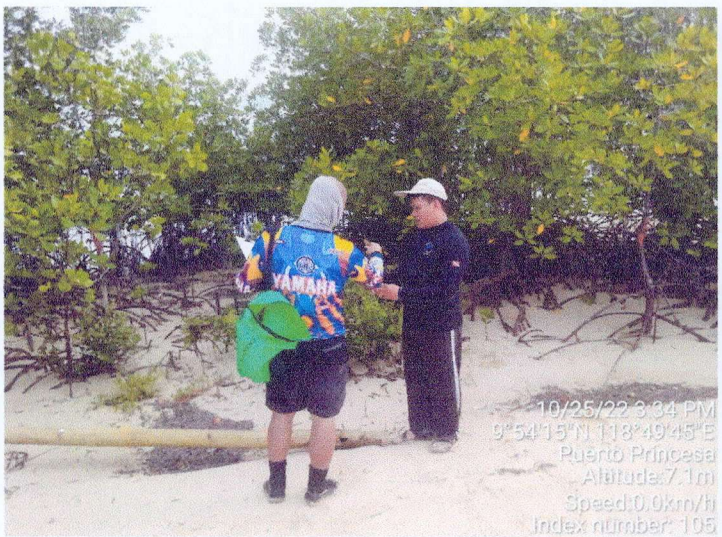

The mangrove component team during the assessment and the group picture

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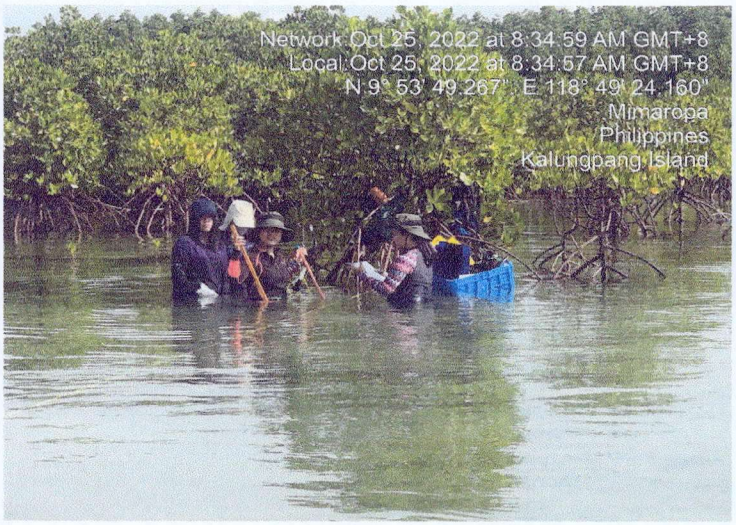

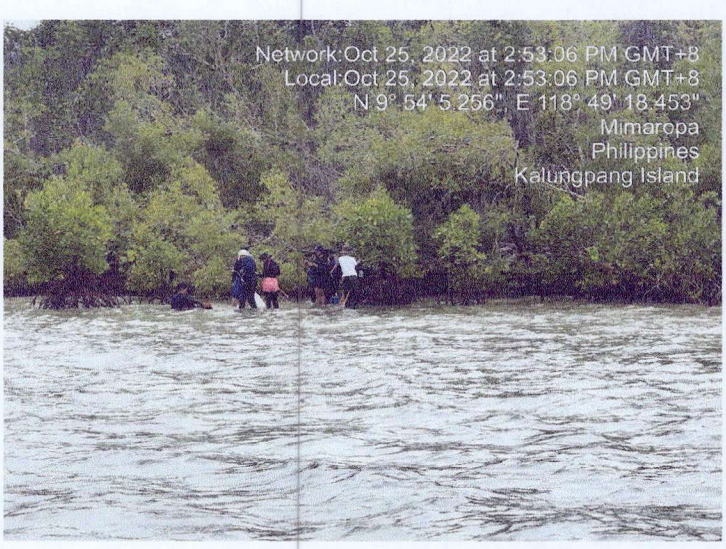

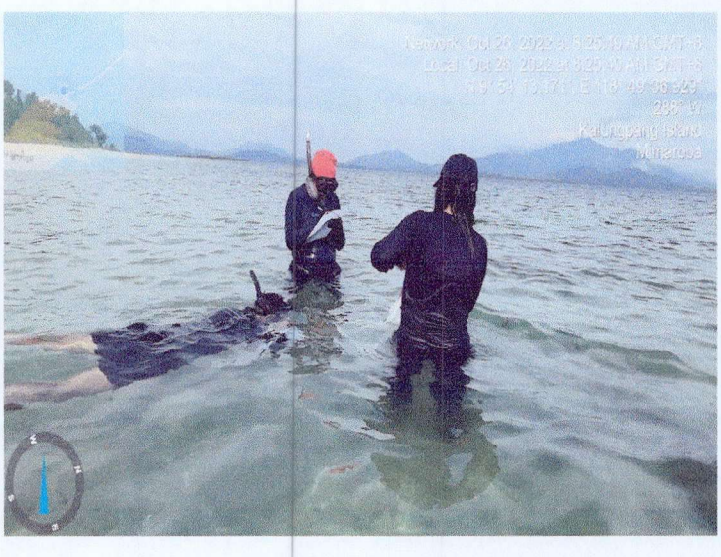

The seagrass and macrobenthos component team during the assessment and the group picture

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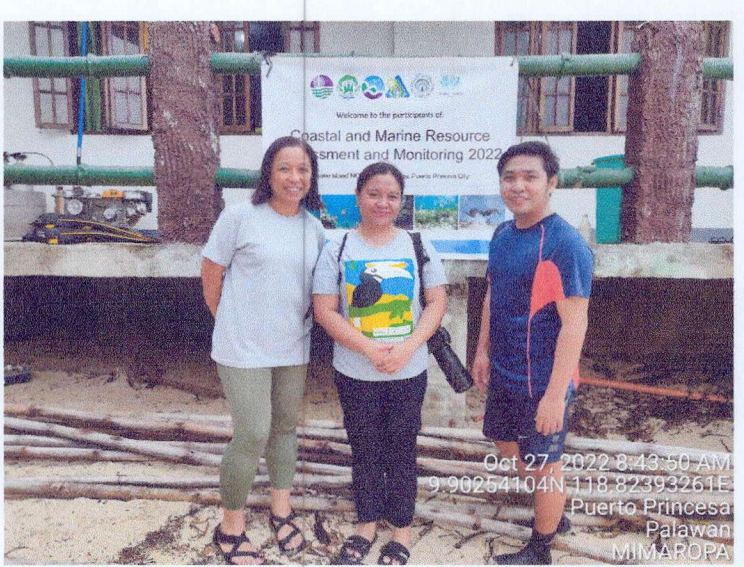
The fauna component team during avian survey and setting-up of traps



Group photo of fauna component team

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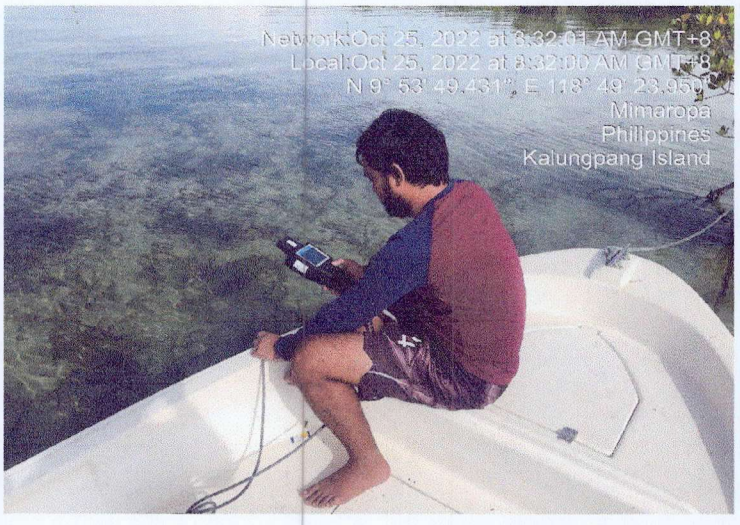

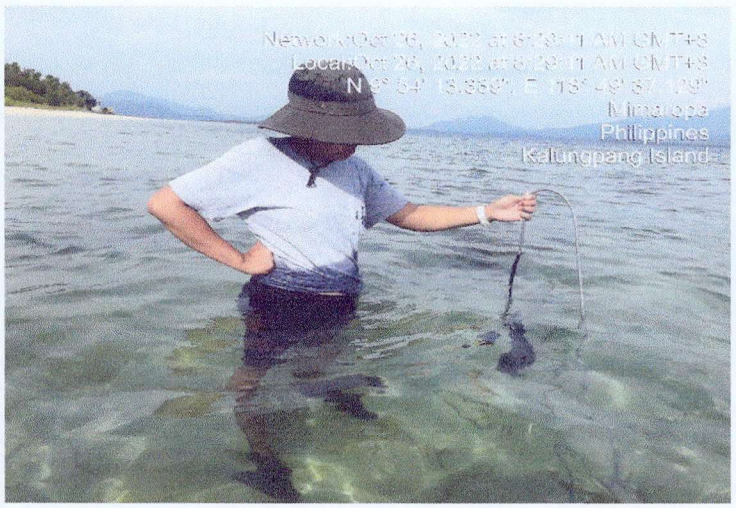

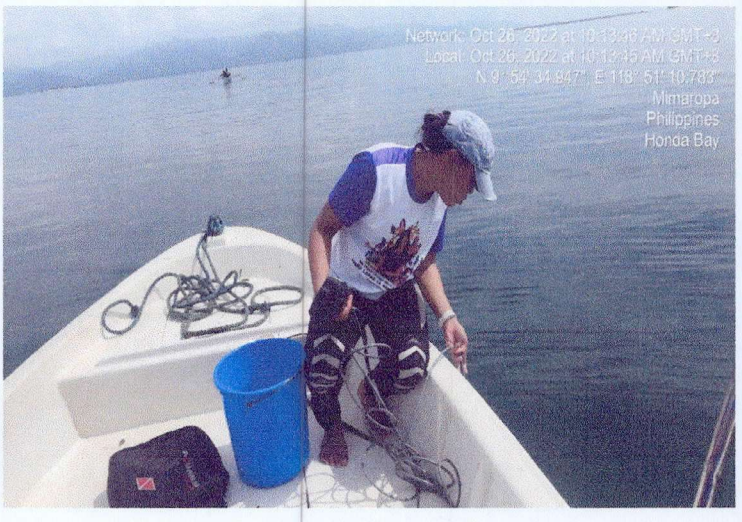

The water quality component team during the water sampling

The coastal resource assessment teams during their meals