



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

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

DENR MIMAROPA	
RECORDS SECTION	
RECEIVED	
BY:	
DATE:	
TIME:	

April 12, 2023

MEMORANDUM

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

THRU : The OIC, ARD for Technical Services

FROM : The Provincial Environment and
Natural Resources Officer

SUBJECT : **1ST QUARTER ACCOMPLISHMENT REPORT ON WATER
QUALITY MONITORING WITHIN PROCLAIMED NIPAS
PROTECTED AREA UNDER MARINE PROTECTED AREA
STRENGTHENING AND NETWORKING OF EL NIDO
MANAGED RESOURCE PROTECTED AREA (ENMRPA) FOR
CY 2023**

Respectfully forwarded is the memorandum dated March 22, 2023 of CENRO Taytay, Palawan along with the report re: the above subject.


Please be informed that the said activity was conducted by the ENMRPA-PAMO together with Provincial Environmental Management Unit (PEMU) Palawan last January 31, 2023 within proclaimed National Integrated Protected Areas System (NIPAS) Protected Area of ENMRPA, El Nido, Palawan to wit: El Nido bay (10 stations), Bacuit (Maremegmeg-Corong-corong) (6 stations) and Bacuit Bay (Coastal) (4 stations).

Moreover, primary parameters per DAO 2016-08 were recorded and analyzed on-site such as: Dissolve Oxygen, pH and temperature while the results from laboratory analyses for fecal coliforms was requested to DENR-EMB MIMAROPA Regional Office per letter dated March 20, 2023.


This serves as **Means of Verification (MoV)** for target activities of CY 2023.

For information and record.




FELIZARDO B. CAYATOC

**DENR-PALAWAN
PENRO-RECORDS
RELEASED**

By: 
Date: 17 APR 2023 CN 2023-1009



Republic of the Philippines
Department of Environment and Natural Resources
Region IV- MIMAROPA
COMMUNITY ENVIRONMENT AND NATURAL RESOURCES OFFICE
by the National Highway, Poblacion, Taytay, Palawan 5312
Contact No.: 09265059335 (Globe) / 09121713889 (Smart)
Email address: cenrotaytay@denr.gov.ph

DENR PENR
PALAWAN RECORDS
RECEIVED

March 22, 2023

MEMORANDUM

BY: [Signature]
DATE: 4/03/2023 CN 23-3066

FOR : The Provincial Environment and Natural Resources Officer- Palawan

FROM : The Community Environment and Natural Resources Officer

SUBJECT : **ACCOMPLISHMENT REPORT ON ACTIVITY PER WFP
El Nido-Taytay Managed Resource Protected Area (ENTMRPA)**

Activity: Water Quality Monitoring within Legislated NIPAS PAs				
Performance Indicator: Number of PAs monitored on water quality parameters				
Frequency of submission: Monthly monitoring of forty-eight (48) stations and quarterly report				
Current submission: Memo report of Assistant Protected Area Superintendent/PMF Jenuel P. Casel dated March 20, 2023 (CN 1934 in the eDATS) submitting the 1 st quarter accomplishment report on WQMA monitoring within proclaimed NIPAS protected area for Protected Area Management Office of El Nido-Taytay Managed Resource Protected Area (ENTMRPA).				
Attachment: 1. Memoranda report with photo documentation of Park Ranger Steven John B. Andao for the month of January, February and March dated March 20, 2023, respectively. Accordingly, the WQMA monitoring conducted by the PAMO together with PEMU is within the forty-eight (48) established monitoring sites. A total of fifty (50) stations were monitored.				
Gender & Development (GaD) data	Male = 4	Female = 1	LGBTQ+ = 0	Prefer not to say = 0
Age Grouping	60 and above	18-59	17 and below	TOTAL
	0	5	0	5
Environmental Management System (EMS Compliance)	✓ Compliant to 5S organization techniques (SORT – keep only necessary items, SET IN ORDER – arrange items to promote efficient workflow, SHINE – clean the work area so it is neat and tidy, STANDARDIZE – set standards for a consistently organized workplace and SUSTAIN – maintain and review standard)			

Explanation: The monthly report of PR Andao was forwarded to PENR Office-Palawan on March 22, 2023.

This shall form as part of the **Means of Verification (MoV)** on the activity. Please confirm your receipt hereof. Thank you.

DENR CENRO
TAYTAY, PALAWAN
RELEASED

CONRADO M. CORPUZ

Copy furnished:
PAMO-ENTMRPA

BY: [Signature]
DATE: MAR 23 2023 CN 1184



Republic of the Philippines
Department of Environment and Natural Resources
MIMAROPA Region
Community Environment and Natural Resources
EL NIDO MANAGED RESOURCE PROTECTED AREA
Calle Real, Barangay Masagana, El Nido, Palawan, 5313
Contact No. LANDLINE (0917-1103-262)
Email: entmrpa@gmail.com

MAR 20 2023

MEMORANDUM

FOR : The Community Environment and
Natural Resources Officer
Taytay, Palawan

FROM : The Protected Area Superintendent
El Nido-Taytay Managed Resource Protected Area

SUBJECT : ACCOMPLISHMENT REPORT ON WATER QUALITY
MONITORING WITHIN PROCLAIMED NIPAS PROTECTED
AREA UNDER MARINE PROTECTED AREA
STRENGTHENING AND NETWORKING OF EL NIDO
MANAGED RESOURCE PROTECTED AREA (ENMRPA) FOR
THE FIRST QUARTER OF CY 2023

This pertains to the accomplished activity under the Water Quality Monitoring within proclaimed National Integrated Protected Areas System (NIPAS) Protected Area under Marine Protected Area Strengthening and Networking of El Nido Managed Resource Protected Area (ENMRPA) for the First Quarter of CY 2023.

Please be informed that personnel of this office together with Provincial Environmental Management Unit (PEMU) Palawan conducted the above-mentioned activity on January 31, 2023 at El Nido Bay Ten (10) Stations, Bacuit (Maremegmeg-Corong corong cove) six (6) stations and Bacuit Bay (Coastal) four (4) stations, February 8, 2023 at twenty (20) Bacuit Bay Tourist Island Destinations and March 20, 2023 at El Nido Bay ten (10) Stations, respectively.

Primary parameters per DAO 2016-08 were recorded and analyzed on-site such as Dissolved Oxygen, pH and Temperature while the results for laboratory analyses for fecal coliforms is being requested to DENR-EMB MIMAROPA Regional Office per letter dated March 20, 2023. Other parameters such as conductivity, Total Dissolved Solid, Salinity and turbidity were also recorded.

This served as our **Means of Verification** for First Quarter of CY 2023.

For information and record.

DENR - PAO
ENTMRPA,
El Nido, Palawan
RELEASED
By: [Signature]
Date: 03-20-2023
C.N.: 2023-0262

For the PASu.

JENUEL P. CASEL
PMF/Asst. Protected Area Superintendent



Republic of the Philippines
Department of Environment and Natural Resources
MIMAROPA Region
Community Environment and Natural Resources
EL NIDO MANAGED RESOURCE PROTECTED AREA
Calle Real, Barangay Masagana, El Nido, Palawan, 5313
Contact No. LANDLINE (0917-1103-262)
Email: entmrpa@gmail.com

MAR 20 2023

MEMORANDUM

FOR : The Community Environment and
Natural Resources Officer
Taytay, Palawan

FROM : The Protected Area Superintendent
El Nido-Taytay Managed Resource Protected Area

SUBJECT : ACCOMPLISHMENT REPORT ON WATER QUALITY
MONITORING WITHIN PROCLAIMED NIPAS PROTECTED
AREA UNDER MARINE PROTECTED AREA
STRENGTHENING AND NETWORKING OF EL NIDO-
TAYTAY MANAGED RESOURCE PROTECTED AREA
(ENTMRPA) FOR JANUARY CY 2023

DENR CENRO
TAYTAY, PALAWAN
RECEIVED
3-21-23 CN 1993

Respectfully forwarded is the memorandum dated March 20, 2023 from Park Ranger Steven John B. Andao pertaining to the accomplished activity under the Water Quality Monitoring within proclaimed National Integrated Protected Areas System (NIPAS) Protected Area under Marine Protected Area Strengthening and Networking of El Nido-Taytay Managed Resource Protected Area (ENTMRPA) for month of January 2023.

Please be informed that personnel of this office together with Provincial Environmental Management Unit (PEMU) Palawan conducted the above-mentioned activity particularly in the established monitoring sites namely El Nido Bay Stations, Bacuit (Maremegmeg-Corong corong cove) and Bacuit Bay (Coastal).

Results of laboratory analysis for the collected water samples was already requested to DENR-EMB MIMAROPA Regional Office per letter dated March 20, 2023.

This served as our **Means of Verification** for month of January 2023.

For information and record.

DENR - PAO
ENTMRPA,
El Nido, Palawan
RELEASED
By: [Signature]
Date: 03-20-2023
C.N.: 2023-02603

For the PASu.

JENUEL P. CASEL
PMF/Asst. Protected Area Superintendent



March 20, 2023

MEMORANDUM

FOR : The Protected Area Superintendent
El Nido-Taytay Managed Resource Protected Area

FROM : The Park Ranger
El Nido-Taytay Managed Resource Protected Area

SUBJECT : REPORT ON WATER QUALITY MONITORING WITHIN PROCLAIMED NIPAS PROTECTED AREA UNDER MARINE PROTECTED AREA STRENGTHENING AND NETWORKING OF EL NIDO-TAYTAY MANAGED RESOURCE PROTECTED AREA (ENTMRPA) FOR MONTH OF JANUARY CY 2023

This pertains to the target activity on Water Quality Monitoring within Proclaimed NIPAS Protected Area Under Marine Protected Area Strengthening And Networking of El Nido-Taytay Managed Resource Protected Area (ENTMRPA) for the month of January 2023. Please be informed that on January 31, 2023, the undersigned together with Provincial Environmental Management Unit (PEMU) Palawan personnel conducted water quality monitoring within the jurisdiction of ENTMRPA particularly in the following established sites such as El Nido Bay Stations, Bacuit (Maremegmeg-Corong corong cove) and Bacuit Bay (Coastal) with on-site analyses, to wit:

El Nido Bay Stations (10 stations)

- | | |
|-----------------|-------------------|
| 1. So. Caalan | 6. Lamoro Beach |
| 2. Caalan Beach | 7. Calitang Beach |
| 3. Lio Runway | 8. Twin Beach |
| 4. Lio Port | 9. Nacpan Port |
| 5. Lio Beach | 10. Nacpan Beach |

PRIMARY PARAMETERS

Table 1. Dissolved Oxygen (DO).

SITES	Date	Dissolved Oxygen(mg/L)	Water Body Classification (Class SA or Class SB (6 minimum))
So. Caalan	January 31, 2023	6.36	Pass
Caalan Beach		6.14	Pass
Lio Runway		7.44	Pass
Lio Port		7.37	Pass
Lio Beach		6.38	Pass
Lamoro Beach		7.09	Pass
Calitang Beach		7.27	Pass
Twin Beach		7.62	Pass
Nacpan Port		7.49	Pass
Nacpan Beach		6.36	Pass

Table 1 shows that all sites passed the required/desired Dissolved Oxygen (DO) for protected waters and recreational waters.

Table 2. pH.

SITES	Date	pH	Water Body Classification, Class SA or SB (7-8.5)
So. Caalan	January 31, 2023	8.22	Pass
Caalan Beach		8.14	Pass
Lio Runway		7.94	Pass
Lio Port		7.9	Pass
Lio Beach		8.03	Pass
Lamoro Beach		7.9	Pass
Calitang Beach		7.96	Pass
Twin Beach		8.01	Pass
Nacpan Port		7.93	Pass
Nacpan Beach		7.98	Pass

Table shows that all sites passed the desired pH for Protected and Recreational waters.

Table 3. Temperature.

SITES	Date	Temperature(°c)	Water Body Classification, Class SA or SB (26-30)
So. Caalan	January 31, 2023	31.24	Fail
Caalan Beach		31.02	Fail
Lio Runway		30.78	Fail
Lio Port		30.68	Fail
Lio Beach		30.64	Fail
Lamoro Beach		30.34	Fail
Calitang Beach		30.17	Fail
Twin Beach		30.27	Fail
Nacpan Port		30.14	Fail
Nacpan Beach		30.28	Fail

Table 3 shows that all sites failed the desired temperature for Protected and Recreational waters which is not less than twenty-six (26) degrees Celsius or not greater than thirty (30) degrees Celsius. However, based on the notes in table 3 (Water Quality Guidelines for Primary Parameter) of DENR Administrative Order (DAO) 2016-08 stated as follow: “(b) The natural background temperature as determined by EMB shall prevail if the temperature is lower or higher than the WQG; provided that the maximum increase is only up to 10 percent and that it will not cause any risk to human health and the environment.”

OTHER PARAMETERS

Table 4. Conductivity, Turbidity, Salinity and Total Dissolved Solid.

SITES	Date	Conductivity (mS/cm)	Total Dissolve Solid(g/L)	Salinity(ppt)	Turbidity (NTU)
So. Caalan	January 31, 2023	41.4	25.2	26.49	0
Caalan Beach		41.6	25.4	26.54	0
Lio Runway		15.5	8.33	7.92	0
Lio Port		15.6	8.37	7.96	0
Lio Beach		40	24.4	25.54	0
Lamoro Beach		26.5	15	15.42	0
Calitang Beach		31	17.7	18.72	0
Twin Beach		21.2	11.8	11.74	0
Nacpan Port		20.6	11.5	11.36	0
Nacpan Beach		40.1	24.5	25.61	0

Table 4 shows the recorded conductivity, turbidity, salinity and total dissolved solid. These parameters are not directly affecting the water quality unless there are significant or drastic changes.

Bacuit (Maremegmeg-Corong corong Cove 6 Stations)

1. Maremegmeg Cove 3

2. Maremegmeg Cove 2

3. Maremegmeg Cove 1
4. Corong-corong Cove 3

5. Corong-corong Cove 2

6. Corong-corong Cove 1

PRIMARY PARAMETERS

Table 5. Dissolved Oxygen (DO).

SITES	Date	Dissolved Oxygen(mg/L)	Water Body Classification (Class SA or Class SB (6 minimum))
Maremegmeg Cove 3	January 31, 2023	6.89	Pass
Maremegmeg Cove 2		7.05	Pass
Maremegmeg Cove 1		6.34	Pass
Corong-corong Cove 3		6.76	Pass
Corong-corong Cove 2		7.32	Pass
Corong-corong Cove 1		6.58	Pass

All sites passed the required/desired Dissolved Oxygen (DO) for protected waters and recreational waters.

Table 6. pH.

SITES	Date	pH	Water Body Classification, Class SA or SB (7-8.5)
Maremegmeg Cove 3	January 31, 2023	7.96	Pass
Maremegmeg Cove 2		7.93	Pass
Maremegmeg Cove 1		8.02	Pass
Corong-corong Cove 3		7.99	Pass
Corong-corong Cove 2		7.91	Pass
Corong-corong Cove 1		7.93	Pass

All sites passed the required/desired pH for protected waters and recreational waters.

Table 7. Temperature.

SITES	Date	Temperature(° c)	Water Body Classification, Class SA or SB (26-30)
Maremegmeg Cove 3	January 31, 2023	30.41	Fail
Maremegmeg Cove 2		30.38	Fail
Maremegmeg Cove 1		30.73	Fail
Corong-corong Cove 3		31.07	Fail
Corong-corong Cove 2		31.03	Fail
Corong-corong Cove 1		31.46	Fail

All sites failed the required/desired Temperature for protected waters and recreational waters. However, based on the notes in table 3 (Water Quality Guidelines for Primary Parameter) of DENR Administrative Order (DAO) 2016-08 stated as follow: “(b) The natural background temperature as determined by EMB shall prevail if the temperature is lower or higher than the WQG; provided that the maximum increase is only up to 10 percent and that it will not cause any risk to human health and the environment.”

OTHER PARAMETERS

Table 8. Conductivity, Turbidity, Salinity and Total Dissolved Solid.

SITES	Date	Conductivity (mS/cm)	Total Dissolve Solid(g/L)	Salinity(ppt)	Turbidity (NTU)
Maremegmeg Cove 3	January 31, 2023	30.5	17.4	18.41	0
Maremegmeg Cove 2		25.2	14.3	14.68	0
Maremegmeg Cove 1		40.6	24.7	25.86	0
Corong-corong Cove 3		35.4	20.9	21.93	0
Corong-corong Cove 2		15.2	8.20	7.75	0
Corong-corong Cove 1		37.7	22.6	23.70	0

The table shows the recorded conductivity, turbidity, salinity and total dissolved solid. These parameters are not directly affecting the water quality unless there are significant or drastic changes.

Bacuit Bay Stations (Coastal 4 Stations)

1. Masagana

2. Maligaya
- 3.Buena suerte

5.Lugadya

Table 9. Dissolved Oxygen (DO).

SITES	Date	Dissolved Oxygen(mg/L)	Water Body Classification (Class SA or Class SB (6 minimum))
Masagana	January 31, 2023	7.75	Pass
Maligaya		7.57	Pass
Buena suerte		7.79	Pass
Lugadya		6.58	Pass

All sites passed the desired Dissolved Oxygen based on the Water Quality Guidelines for protected area.

Table 10. pH.

SITES	Date	pH	Water Body Classification, Class SA or SB (7-8.5)
Masagana	January 31, 2023	7.80	Pass
Maligaya		7.78	Pass
Buena suerte		7.74	Pass
Lugadya		7.93	Pass

All sites passed the desired pH based on the Water Quality Guidelines for protected area.

Table 11. Temperature.

SITES	Date	Temperature(°c)	Water Body Classification, Class SA or SB (26-30)
Masagana	January 31, 2023	31.04	Fail
Maligaya		30.73	Fail
Buena suerte		30.82	Fail
Lugadya		31.46	Fail

All sites failed the required/desired Temperature for protected waters and recreational waters. However, based on the notes in table 3 (Water Quality Guidelines for Primary Parameter) of DENR Administrative Order (DAO) 2016-08 stated as follow: “(b) The natural background temperature as determined by EMB shall prevail if the temperature is lower or higher than the WQG; provided that the maximum increase is only up to 10 percent and that it will not cause any risk to human health and the environment.”

OTHER PARAMETERS

Table 12. Conductivity, Turbidity, Salinity and Total Dissolved Solid.

SITES	Date	Conductivity (mS/cm)	Total Dissolve Solid(g/L)	Salinity(ppt)	Turbidity (NTU)
Masagana	January 31, 2023	5.76	2.55	2.41	0
Maligaya		19.6	10.9	10.70	0
Buena suerte		15.6	8.38	7.96	0
Lugadya		37.7	22.6	23.70	0

The table shows the recorded conductivity, turbidity, salinity and total dissolved solid. These parameters are not directly affecting the water quality unless there are significant or drastic changes.

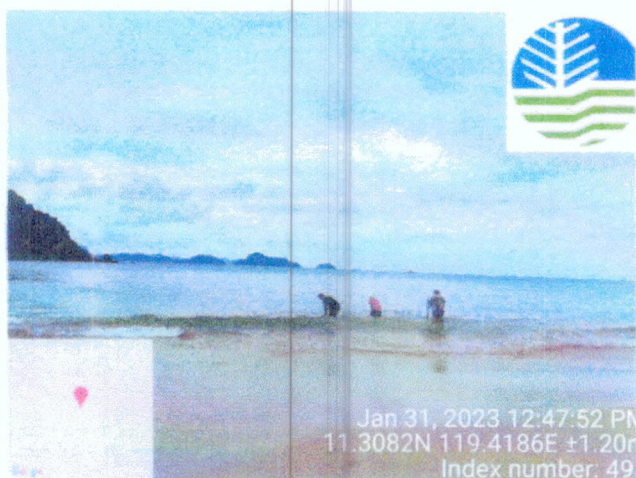
The Water Body Classification and Water Parameters are based on DENR Administrative Order2016-08 Table 2 and Table 3. Please be also informed that data for fecal coliforms will be submitted by the EMB MIMAROPA Regional Office. A letter requesting for the results of the said parameter was already sent and will be submitted once the requested data is available.

This served as our **Means of Verification** for month of January 2023. Attached herewith are Attached herewith are the geotagged photos and field data form for reference.

For information and record.


STEVEN JOHN B. ANDAO

PHOTO DOCUMENTATION



CERTIFICATION

This is to certify that the above photos were true and correct and taken during the Water Quality Monitoring activity of ENTMRPA for the month of January 2023.


STEVEN JOHN B. ANDAO
Park Ranger



WATER QUALITY MONITORING FIELD DATA FORM

Name of Waterbody: El Rhodo Bay

Address: 31 No. 1, Calapan

Date of Sampling: JAN 31, 2025

Sampling Team:

Parameter	Sampling Site				
	1	2	3	4	5
	Solo Cavan	Castan Beach	Lin Runway	Lin Port	Lin Beach
GPS Coordinates					
Time of Sampling	4:25 PM	4:22 PM	1:34 PM	1:45 PM	1:38 PM
Air Temperature	36 °C	36 °C	37 °C	37 °C	37 °C
Cloud Cover, %	50 %	50 %	50 %	50 %	50 %
Weather Condition	FAIR	CLOUDY	SUNNY	SUNNY	SUNNY
Visual Color of Water	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
Other Observation	High tide DROWN BOATS	High tide NO TOURIST DROWN	Strong wave NO TOURIST NEARBY	Strong wave NEARBY RIVER	Strong wave NEARBY RIVER
On-Site Analysis	Strong wave RIVER				
pH	8.22	8.14	7.94	7.90	8.03
Temperature	31.24	31.02	30.78	30.68	30.64
DO	6.36	6.14	7.44	7.37	6.38
Conductivity	41.4	41.6	15.5	15.6	40.0
TDS	25.2	25.4	8.33	8.37	24.4
Salinity	26.49	26.64	7.92	7.96	25.54
Turbidity					

Sample for Laboratory Analysis

Parameters for Analysis	Sample Volume (mL)	Container Type	Sampling Method	Preservation Done
Fecal Coliform	125mL	Glass	GRAB	ICE
TSS, NITRATES, PHOSPHATES, pH, TEMPERATURE, DO	1000	PLASTIC	GRAB	ICE

SAMPLED BY: (signature over printed name)

STEVEN JUAN ANILAO
KREM A. ANILAO
RLO REYES
PETER A. ANILAO



WATER QUALITY MONITORING FIELD DATA FORM

Name of Waterbody: San Juan River

Address: San Juan River

Date of Sampling: JAN 21, 2022 Sampling Team: _____

Parameter	Sampling Site				
	1	2	3	4	5
	Linggo Beach	Caltang Beach	Twin Beach	Nagpan Port	Nagpan Beach
GPS Coordinates					
Time of Sampling	1:10 PM	12:46 PM	12:29 PM	12:21 PM	12:07 PM
Air Temperature	36 °C	36 °C	36 °C	36 °C	36 °C
Cloud Cover %	60%	60%	60%	60%	60%
Weather Condition	FAIR	FAIR	FAIR	FAIR	FAIR
Visual Color of Water	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
Other Observation	NO TOURIST NORMAL WAVES	NORMAL NO TOURIST	Strong wind high tide with some waves	Strong wind high tide with some waves	Strong wind high tide with some waves
On Site Analysis					
pH	7.90	7.96	8.01	7.93	7.93
Temperature	30.34	30.17	30.27	30.14	30.28
DO	7.09	7.27	7.62	7.49	6.96
Conductivity	26.5	31.0	21.2	20.6	40.1
TDS	15.0	17.7	11.8	11.5	24.5
Salinity	15.42	18.72	11.74	11.36	25.61
Turbidity					

Sample for Laboratory Analysis

Parameters for Analysis	Sample Volume (mL)	Container Type	Sampling Method	Preservation Done
Fecal Coliform	125mL	Sterilized Glass Bottle	GRAB	ICE
TSS, NITRATES, PHOSPHATES, pH, TEMPERATURE, DO	1000mL	PLASTIC	GRAB	ICE

SAMPLED BY: (signature over printed name)

STEVEN J. ANDAO

KIEM A. MABQUKO

ALDO M. REYES

PETER A. ROT



WATER QUALITY MONITORING FIELD DATA FORM

Name of Waterbody: BACUIT6(MAREMEGMEG CORONG CORONG COVE)

Address: El Nido, Palawan

Date of Sampling: JAN. 31, 2023

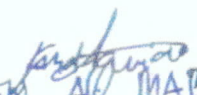
Sampling Team:


Parameter	Sampling Site					
	1 MAREMEGME G COVE-3	2 MAREMEGME G COVE-2	3 MAREMEGME G COVE-1	4 CORONG2x COVE-3	5 CORONG2x COVE 2	6 CORONG2x COVE-1
GPS Coordinates	11°44'14.4 121°14'24.4	11°44'20.1 121°14'24.4	11°44'30.1 121°14'24.4	11°44'30.1 121°14'24.4	11°44'30.1 121°14'24.4	11°44'30.1 121°14'24.4
Time of Sampling	2:56 PM	3:04 PM	3:11 PM	3:22 PM	3:29 PM	3:42 PM
Air Temperature	37°C	37°C	37°C	37°C	37°C	37°C
Cloud Cover, %	25%	25%	25%	25%	25%	25%
Weather Condition	SUNNY	SUNNY	SUNNY	SUNNY	SUNNY	SUNNY
Visual Color of Water	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
Other Observation	STRONG WIND WITH TOURIST	WITH TOURIST NO DEBRIS	WITH DEBRIS SOLID WASTE	WITH DEBRIS LEAVES/FISH DROPPED CARCASS IN FRONT OF LOG	DOCKING BOAT BUDDIES DEBRIS	BOATS DEBRIS HIGHTIDE
On-Site Analysis	DEBRIS/SEA WEEDS					
pH	7.96	7.93	8.02	7.99	7.91	7.93
Temperature	30.41	30.98	30.73	31.07	31.03	31.46
DO	6.89	7.05	6.34	6.76	7.32	6.58
Conductivity	30.5	25.2	40.6	35.4	15.2	37.7
TDS	17.4	14.3	24.7	20.9	8.20	22.6
Salinity	18.41	14.68	25.86	21.93	7.75	23.70
Turbidity						



Sample for Laboratory Analysis

Parameters for Analysis	Sample Volume (mL)	Container Type	Sampling Method	Preservation Done	
Fecal Coliform	125mL	Sterilized Glass Bottle	GRAB		ICE
pH, DO, TSS, NITRATE TEMPERATURE Phosphate,	1000mL	PLASTIC	GRAB		ICE

SAMPLED BY: (signature over printed name)

KIEM 
MABAQUIAO

RIO 
REYES


PETER 
BOBOT

CORONADO JOHN ANDAO



WATER QUALITY MONITORING FIELD DATA FORM

Name of Waterbody: BACUIT BAY (COASTAL)

Address: El Nido, Palawan

Date of Sampling: Jan. 31, 2023 Sampling Team:

Parameter	Sampling Site			
	1	2	3	4
	Masagana	Maligaya	Buena Suerte	Lugadya
GPS Coordinates	11° 11' 1" N 119° 23' 33" E	11° 10' 52" N 119° 23' 26" E	11° 10' 49" N 119° 23' 19" E	11° 05' 45" N 119° 23' 56" E
Time of Sampling	4:46 PM	4:47 PM	5:05 PM	8:38 PM
Air Temperature	36 °C	36 °C	36 °C	36 °C
Cloud Cover, %	60 %	60 %	60 %	40 %
Weather Condition	FAIR	FAIR	FAIR	SUNNY
Visual Color of Water	CLEAR	CLEAR	CLEAR	CLEAR
Other Observation	STRONG WAVES DOCKING BOATS DEBRIS.	STRONG WAVES Boat, high tide	STRONG WAVES DOCKING BOATS DEBRIS/COULD SEAWARD / waste	DOCKING BOATS DEBRIS, NEARBY ESTABLISHMENT HIGH TIDE
On-Site Analysis				
pH	7.80	7.78	7.74	7.93
Temperature	31.04	30.73	30.82	31.46
DO	7.75	7.57	7.79	6.58
Conductivity	5.76	19.6	15.6	37.7
TDS	2.55	10.9	8.38	22.6
Salinity	2.41	10.70	7.96	23.70
Turbidity				

Sample for Laboratory Analysis

Parameters for Analysis	Sample Volume (mL)	Container Type	Sampling Method	Preservation Done
FECAL COLIFORM	125	GLASS	GRAB	ICE
pH, TEMPERATURE, DO, TSS NITRATES, PHOSPHATES	1000			

SAMPLED BY: (signature over printed name)

STEVEN JOHN ANOAO

KIEM A. MAGAQUAN

RW M. REYES

PETER ANOAO



Republic of the Philippines
Department of Environment and Natural Resources

MIMAROPA Region
Community Environment and Natural Resources
EL NIDO MANAGED RESOURCE PROTECTED AREA
Calle Real, Barangay Masagana, El Nido, Palawan, 5313
Contact No. LANDLINE (0917-1103-262)
Email: entmrpa@gmail.com

MAR 20 2023

MEMORANDUM

FOR : The Community Environment and
Natural Resources Officer
Taytay, Palawan

FROM : The Protected Area Superintendent
El Nido-Taytay Managed Resource Protected Area

DENR CENRO
TAYTAY, PALAWAN
RECEIVED
DATE: 3-21-23 CN 1927

SUBJECT : ACCOMPLISHMENT REPORT ON WATER QUALITY
MONITORING WITHIN PROCLAIMED NIPAS PROTECTED
AREA UNDER MARINE PROTECTED AREA
STRENGTHENING AND NETWORKING OF EL NIDO
MANAGED RESOURCE PROTECTED AREA (ENMRPA) FOR
FEBRUARY CY 2023

Respectfully forwarded is the memorandum dated March 20, 2023 from Park Ranger Steven John B. Andao pertaining to the accomplished activity under the Water Quality Monitoring within proclaimed National Integrated Protected Areas System (NIPAS) Protected Area under Marine Protected Area Strengthening and Networking of El Nido Managed Resource Protected Area (ENMRPA) for month of February 2023.

Please be informed that personnel of this office together with Provincial Environmental Management Unit (PEMU) Palawan conducted the above-mentioned activity particularly in the established Bacuit Bay Twenty (20) Tourist Island Destinations monitoring sites.

Results of laboratory analysis for the collected water samples was already requested to DENR-EMB MIMAROPA Regional Office per letter dated March 20, 2023.

This served as our **Means of Verification** for month of February 2023.

For information and record.

For the PASu.

JENUEL P. CASEL
PMF/Asst. Protected Area Superintendent

DENR - PAO
ENTMRPA
El Nido, Palawan
RELEASED
By:
Date: 03-20-2023
C.N.: 2023-0240



Republic of the Philippines
Department of Environment and Natural Resources
MIMAROPA Region
Community Environment and Natural Resources
EL NIDO MANAGED RESOURCE PROTECTED AREA
Calle Real, Barangay Masagana, El Nido, Palawan, 5313
Contact No. LANDLINE (0917-1103-262)
Email: entmrpa@gmail.com

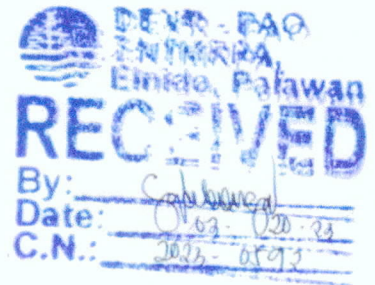
March 20, 2023

MEMORANDUM

FOR : The Protected Area Superintendent
El Nido-Taytay Managed Resource Protected Area

FROM : The Park Ranger
El Nido-Taytay Managed Resource Protected Area

SUBJECT : **REPORT ON WATER QUALITY MONITORING WITHIN PROCLAIMED NIPAS PROTECTED AREA UNDER MARINE PROTECTED AREA STRENGTHENING AND NETWORKING OF EL NIDO MANAGED RESOURCE PROTECTED AREA (ENTMRPA) FOR MONTH OF FEBRUARY CY 2023**



This pertains to the target activity on Water Quality Monitoring within Proclaimed NIPAS Protected Area Under Marine Protected Area Strengthening And Networking of El Nido Managed Resource Protected Area (ENMRPA) for the month of February 2023. Please be informed that on February 28, 2023, the undersigned together with Provincial Environmental Management Unit (PEMU) Palawan personnel conducted water quality monitoring within the jurisdiction of ENMRPA particularly in the following established monitoring sites (twenty Bacuit Bay Tourist Island Destinations) with on-site analyses, to wit:

- | | |
|------------------------|---------------------|
| 1. Pinagbuyutan Island | 11.Pasandigan Beach |
| 2. Cathedral Cave | 12.Paradise Beach |
| 3. Snake Island | 13.Bukal Beach |
| 4. Codugnun | 14. Cadlao Lagoon |
| 5. Entalula Island | 15.Hidden Beach |
| 6. Simizu Island | 16.Matinloc Shrine |
| 7. Big Lagoon | 17.Talisay Beach |
| 8. Small Lagoon | 18.Secret Beach |
| 9. Seven Command Beach | 19.Secret Lagoon |
| 10. Helicopter Island | 20.Papaya Beach |

PRIMARY PARAMETERS

Table 1. Dissolved Oxygen (DO).

SITES	Date	Dissolved Oxygen(mg/L)	Water Body Classification (Class SA or Class SB (6 minimum))
Pinagbuyutan Island	February 28, 2023	5.51	Fail
Cathedral Cave		5.64	Fail
Snake Island		6.92	Pass
Codugnun		6.71	Pass
Entalula Island		6.42	Pass
Simizu Island		6.85	Pass
Big Lagoon		6.48	Pass
Small Lagoon		6.62	Pass
Seven Command Beach		6.86	Pass

Helicopter Island		6.34		Pass
Pasandigan Beach		6.59		Pass
Paradise Beach		6.85		Pass
Bukal Beach		6.8		Pass
Cadlao Lagoon		7.36		Pass
Hidden Beach		6.98		Pass
Matinloc Shrine		6.89		Pass
Talisay Beach		5.93		Pass
Secret Beach		7.2		Pass
Secret Lagoon		5.8		Fail
Papaya Beach		6.86		Pass

Table 1 shows that seventeen (17) sites passed the required/desired Dissolved Oxygen (DO) for protected waters and recreational waters while three (3) sites failed.

Table 2. Temperature

SITES		Date	Temperature (°C)	Water Body Classification (Class SA or Class SB (26-30))
Pinagbuyutan Island		February 28, 2023	30.27	Failed
Cathedral Cave			29.96	Passed
Snake Island			30.66	Failed
Codugnun			30.81	Failed
Entalula Island			30.25	Failed
Simizu Island			30.21	Failed
Big Lagoon			30.22	Failed
Small Lagoon			30.24	Failed
Seven Command Beach			30.02	Failed
Helicopter Island			30.12	Failed
Pasandigan Beach			30.36	Failed
Paradise Beach			29.9	Passed
Bukal Beach			30.5	Failed
Cadlao Lagoon			30	Passed
Hidden Beach			30.03	Failed
Matinloc Shrine			29.79	Passed
Talisay Beach			29.58	Passed
Secret Beach			29.65	Passed
Secret Lagoon			29.98	Passed
Papaya Beach			30.02	Failed

Table 2 shows that seven (7) sites passed the desired temperature for Protected and Recreational waters while thirteen (13) sites failed. However, based on the notes in table 3 (Water Quality Guidelines for Primary Parameter) of DENR Administrative Order (DAO) 2016-08 stated as follow: “(b) The natural background temperature as determined by EMB shall prevail if the temperature is lower or higher than the WQG; provided that the maximum increase is only up to 10 percent and that it will not cause any risk to human health and the environment.”

Table 3. pH.

SITES	Date	pH	Water Body Classification (Class SA or Class SB (7-8.5))
Pinagbuyutan Island	February 28, 2023	8.28	Pass
Cathedral Cave		8.27	Pass
Snake Island		8.25	Pass
Codugnun		8.33	Pass
Entalula Island		8.31	Pass
Simizu Island		8.28	Pass
Big Lagoon		8.23	Pass
Small Lagoon		8.33	Pass
Seven Command Beach		8.2	Pass
Helicopter Island		8.22	Pass
Pasandigan Beach		8.17	Pass
Paradise Beach		8.19	Pass
Bukal Beach		8.22	Pass
Cadlao Lagoon		8.22	Pass
Hidden Beach		8.28	Pass
Matinloc Shrine		8.24	Pass
Talisay Beach		8.24	Pass
Secret Beach		8.22	Pass
Secret Lagoon		8.26	Pass
Papaya Beach		8.2	Pass

Table 3 shows that all sites passed the desired pH for Protected and Recreational waters which is not less than seven (7) or not greater than eight point five (8.5).

OTHER PARAMETERS

Table 4. Conductivity, Turbidity, Salinity and Total Dissolved Solid.

SITES	Date	Conductivity (mS/cm)	Total Dissolved Solid (g/L)	Salinity (ppt)	Turbidity (NTU)
Pinagbuyutan Island	February 28, 2023	40.6	24.8	25.96	0
Cathedral Cave		41.4	25.3	26.52	0
Snake Island		29.2	17.4	18.03	0
Codugnun		40.3	24.6	25.71	0
Entalula Island		40.7	24.8	26.01	0
Simizu Island		40.7	24.8	26	0
Big Lagoon		39.5	24.1	25.16	0
Small		40.2			

Lagoon		24.5	25.62	0
Seven Command Beach	39.7	24.2	25.38	0
Helicopter Island	39.5	24.1	25.14	0
Pasandigan Beach	40.4	24.6	25.7	0
Paradise Beach	40.4	24.6	25.77	0
Bukal Beach	39.5	23.9	25.13	0
Cadlao Lagoon	35.9	21.4	22.61	0
Hidden Beach	36.4	21.8	22.96	0
Matinloc Shrine	32.6	19.7	20.38	
Talisay Beach	39.4	24	25.14	0
Secret Beach	19.2	10.8	10.81	0
Secret Lagoon	41.4	24.2	26.43	0
Papaya Beach	39.7	24.2	25.38	0

Table 4 shows the recorded conductivity, turbidity, salinity and total dissolved solid. These parameters are not directly affecting the water quality unless there are significant or drastic changes.

The Water Body Classification and Water Parameters are based on DENR Administrative Order 2016-08 Table 2 and Table 3. Please be also informed that data for fecal coliforms will be submitted by the EMB MIMAROPA Regional Office. A letter requesting for the results of the said parameter was already sent and will be submitted once the requested data is available.

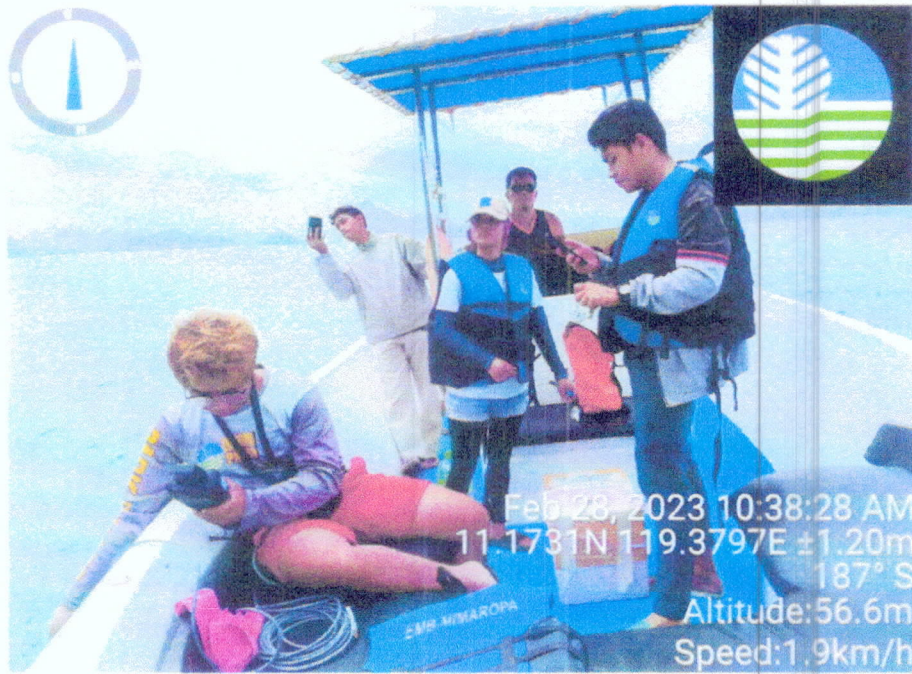
This served as our **Means of Verification** for month of February 2023. Attached herewith are the geotagged photos and field data form for reference.

For information and record.



STEVEN JOHN B. ANDAO

PHOTO DOCUMENTATION



CERTIFICATION

This is to certify that the above photos were true and correct and taken during the Water Quality Monitoring activity of ENMRPA for the month of February 2023.


STEVEN JOHN B. ANDAO
Park Ranger



WATER QUALITY MONITORING FIELD DATA FORM

Name of Waterbody:

BACUIT BAY TOURIST ISLAND DESTINATIONS

Address:

El Nido, Palawan

Date of Sampling:

FEBRUARY 28, 2023

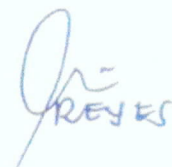
Sampling Team: PGM, RMR, SJA + KAM

Parameter	Sampling Site				
	1	2	3	4	5
	PINAGBUYUTAN ISLAND	CATHEDRAL COVE	SNAKE ISLAND	COQUITION ISLAND	ENTALULA ISLAND
GPS Coordinates	11° 07' 12" N 119° 23' 40" E	11° 04' 33" N 119° 23' 04" E	11° 05' 40" N 119° 20' 25" E	11° 05' 40" N 119° 20' 25" E	11° 03' 21" N 119° 19' 19" E
Time of Sampling	1:40 P.M	1:30 P.M	1:13 P.M	1:22 P.M	1:05 P.M
Air Temperature	36°C	36°C	36°C	36°C	36°C
Cloud Cover, %	25%	25%	25%	25%	25%
Weather Condition	SUNNY	SUNNY	SUNNY	SUNNY	SUNNY
Visual Color of Water	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
Other Observation	NO TOURIST NO DEBRIS	NO BOATS NO TOURIST	NO TOURIST HIGH TIDE NO DEBRIS	Boat Repair Painting NO TOURIST	Docking Boats WITH TOURIST DEBRIS
On-Site Analysis					
pH	8.28	8.27	8.25	8.33	8.31
Temperature	30.27	29.96	30.66	30.81	30.25
DO	5.51	5.64	6.92	6.71	6.42
Conductivity	40.6	41.4	29.2	40.3	40.7
TDS	24.8	25.3	17.4	24.6	24.8
Salinity	25.94	26.52	18.03	25.71	26.01
Turbidity					

Sample for Laboratory Analysis

Parameters for Analysis	Sample Volume (mL)	Container Type	Sampling Method	Preservation Done
FECAL COLIFORM	125	GLASS	GRAB	ICE
pH, DO				

SAMPLED BY: (signature over printed name)

RIO  REYES

STEVEN JOHN ANDAD

 PETER ABOBOT

KIEM MABABUAD



WATER QUALITY MONITORING FIELD DATA FORM

Name of Waterbody:

BACUIT BAY TOURIST ISLAND DESTINATIONS

Address:

El Nido, Palawan

Date of Sampling:

FEBRUARY 28, 2023

Sampling Team:

PGA, RMR, STA + KKM

Parameter	Sampling Site				
	6	7	8	9	10
	SPIRIT ISLAND	HIG LAGOON	SMALL LAGOON	SEVEN COMMANDER ISLAND	HELICOPTER CRANE
GPS Coordinates	11° 03' 18" N 119° 19' 04" E	11° 06' 07" N 119° 19' 31" E	11° 06' 21" N 119° 19' 19" E	11° 10' 22" N 119° 20' 47" E	11° 11' 41" N 119° 20' 25" E
Time of Sampling	12:23 P.M.	12:28 P.M.	12:31 P.M.	10:38 A.M.	11:13 A.M.
Air Temperature	36 °C	36 °C	36 °C	36 °C	36 °C
Cloud Cover, %	28 %	28 %	28 %	20 %	25 %
Weather Condition	SUNNY	SUNNY	SUNNY	SUNNY	SUNNY
Visual Color of Water	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
Other Observation	NO TOURIST NO DEBRIS	NO TOURIST NO DEBRIS DOCKING KAYAK	NO TOURIST NO DEBRIS KAYAKS FISHES, corals	NO TOURIST NO DEBRIS	NO TOURIST NO DEBRIS
On-Site Analysis					
pH	8.28	8.23	8.33	8.20	8.22
Temperature	30.21	30.22	30.24	30.02	30.12
DO	6.85	6.48	6.62	6.86	6.34
Conductivity	40.7	39.5	40.2	39.7	39.5
TDS	24.8	24.1	24.5	24.2	24.1
Salinity	26.00	25.16	25.62	25.38	25.14
Turbidity					

Sample for Laboratory Analysis

Parameters for Analysis	Sample Volume (mL)	Container Type	Sampling Method	Preservation Done
FECAL COLIFORM	125	GLASS	GRAB	ICE
pH, DO				

SAMPLED BY: (signature over printed name)

Rib
Rojas

STEVEN

JOHN ANDAO

KRM

MARABUAD

PETER
ROBOT



WATER QUALITY MONITORING FIELD DATA FORM

Name of Waterbody:

BACUIT BAY TOURIST ISLAND DESTINATIONS

Address:

El Nido, Palawan

Date of Sampling:

FEBRUARY 28, 2023

Sampling Team: RMR, PCA, STA & KAM

Parameter	Sampling Site				
	11	12	13	14	15
	PASANDIGAN BEACH	PARADISE ISLAND	BUKAL BEACH	CADLAD LAGOON	HIDDEN BEACH
GPS Coordinates	11° 12' 16" N 119° 21' 36" E	11° 12' 01" N 119° 22' 23" E	11° 12' 28" N 119° 22' 40" E	11° 12' 40" N 119° 20' 34" E	11° 11' 20" N 119° 16' 57" E
Time of Sampling	11:06 A.M	10:54 A.M	10:47 A.M	11:07 A.M	11:26 A.M
Air Temperature	26°C	26°C	26°C	26°C	26°C
Cloud Cover, %	25%	25%	25%	25%	25%
Weather Condition	SUNNY	SUNNY	SUNNY	SUNNY	SUNNY
Visual Color of Water	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
Other Observation	NO TOURIST WITH DEBRIS SOLID WASTE	NO TOURIST WITH DEBRIS	DOCKING BOAT CLEANING	NO TOURIST CONCRETE	NO TOURIST STRONG WAVES CONCRETE
On-Site Analysis	HIGH TIDE		NO TOURIST		
pH	8.17	8.19	8.22	8.22	8.28
Temperature	30.36	29.90	30.50	30.00	30.03
DO	6.59	6.85	6.80	7.36	6.98
Conductivity	40.4	40.4	39.50	35.9	36.4
TDS	24.6	24.6	23.9	21.4	21.8
Salinity	25.70	25.77	25.13	22.61	22.96
Turbidity					

Sample for Laboratory Analysis

Parameters for Analysis	Sample Volume (mL)	Container Type	Sampling Method	Preservation Done
FECAL COLIFORM	125	GLASS	GRAB	ICE
pH, DO				

SAMPLED BY: (signature over printed name)

RIO REYES

STEVEN JOHN ANDAD

PETER ARBOROT

KIM MABARQUED



WATER QUALITY MONITORING FIELD DATA FORM

Name of Waterbody:

BACUIT BAY TOURIST ISLAND DESTINATIONS

Address:

El Nido, Palawan

Date of Sampling:

FEBRUARY 28, 2023

Sampling Team: PCA, RMR, STA + KAM

Parameter	Sampling Site				
	16	17	18	19	20
	MATINLOC SHRINE	TALISAY BEACH	SECRET BEACH	SECRET LAGOON	PAPAYA BEACH
GPS Coordinates	11° 12' 07" N 119° 16' 31" E	11° 11' 43" N 119° 16' 18" E	11° 10' 38" N 119° 16' 51" E	11° 08' 43" N 119° 18' 46" E	11° 12' 28" N 119° 22' 40" E
Time of Sampling	11:40 A.M	11:43 A.M	11:48 A.M	12:11 P.M	10:34 A.M
Air Temperature	37 °C	37 °C	37 °C	37 °C	38 °C
Cloud Cover, %	29 %	30 %	30 %	30 %	28 %
Weather Condition	SUNNY	SUNNY	SUNNY	SUNNY	SUNNY
Visual Color of Water	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
Other Observation	NO TOURIST NO DEBRIS	NO TOURIST NO DEBRIS	NO TOURIST STRONG WAVES	NO TOURIST STRONG WAVES	NO TOURIST CORAL
On-Site Analysis					
pH	8.24	8.24	8.22	8.26	8.20
Temperature	29.79	29.58	29.65	29.98	30.02
DO	6.89	5.93	7.20	5.80	6.86
Conductivity	32.6	39.4	19.2	41.4	39.7
TDS	19.7	24.0	10.8	24.2	24.2
Salinity	20.38	25.14	10.81	26.43	25.38
Turbidity					

Sample for Laboratory Analysis

Parameters for Analysis	Sample Volume (mL)	Container Type	Sampling Method	Preservation Done
FECAL COLIFORM	125	GLASS	GRAB	ICE
pH, DO				

SAMPLED BY: (signature over printed name)

RIO FREYTS

STEVEN JOHN ARDAD

PETER ARDAD

KIEN MARABUAD



Republic of the Philippines
Department of Environment and Natural Resources
MIMAROPA Region
Community Environment and Natural Resources
EL NIDO MANAGED RESOURCE PROTECTED AREA
Calle Real, Barangay Masagana, El Nido, Palawan, 5313
Contact No. LANDLINE (0917-1103-262)
Email: entmrpa@gmail.com

MAR 20 2023

MEMORANDUM

FOR : The Community Environment and Natural Resources Officer
Taytay, Palawan

FROM : The Protected Area Superintendent
El Nido-Taytay Managed Resource Protected Area

SUBJECT : ACCOMPLISHMENT REPORT ON WATER QUALITY MONITORING WITHIN PROCLAIMED NIPAS PROTECTED AREA UNDER MARINE PROTECTED AREA STRENGTHENING AND NETWORKING OF EL NIDO MANAGED RESOURCE PROTECTED AREA (ENMRPA) FOR MARCH CY 2023

DENR CENRO
TAYTAY, PALAWAN
RECEIVED
DATE: 3-21-23 CH 1930

Respectfully forwarded is the memorandum dated March 20, 2023 from Park Ranger Steven John B. Andao pertaining to the accomplished activity under the Water Quality Monitoring within proclaimed National Integrated Protected Areas System (NIPAS) Protected Area under Marine Protected Area Strengthening and Networking of El Nido Managed Resource Protected Area (ENMRPA) for month of March 2023.

Please be informed that personnel of this office together with Provincial Environmental Management Unit (PEMU) Palawan conducted the above-mentioned activity particularly in the established El Nido Bay ten (10) monitoring sites.

Results of laboratory analysis for the collected water samples was already requested to DENR-EMB MIMAROPA Regional Office per letter dated March 20, 2023.

This served as our **Means of Verification** for month of March 2023.

For information and record.

DENR - PAO
ENTMRPA
El Nido, Palawan
RELEASED
By: [Signature]
Date: 03-20-2023
C.N.: 2023-0261

For the PASu
JENUEL P. CASEL
PMF/Asst. Protected Area Superintendent



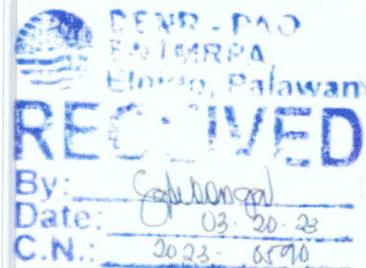
Republic of the Philippines
Department of Environment and Natural Resources
MIMAROPA Region
Community Environment and Natural Resources
EL NIDO MANAGED RESOURCE PROTECTED AREA
Calle Real, Barangay Masagana, El Nido, Palawan, 5313
Contact No. LANDLINE (0917-1103-262)
Email: entmrpa@gmail.com

March 20, 2023

MEMORANDUM

FOR : The Protected Area Superintendent
El Nido-Taytay Managed Resource Protected Area

FROM : The Park Ranger
El Nido-Taytay Managed Resource Protected Area



SUBJECT : **REPORT ON WATER QUALITY MONITORING WITHIN PROCLAIMED NIPAS PROTECTED AREA UNDER MARINE PROTECTED AREA STRENGTHENING AND NETWORKING OF EL NIDO MANAGED RESOURCE PROTECTED AREA (ENTMRPA) FOR MONTH OF MARCH CY 2023**

This pertains to the target activity on Water Quality Monitoring within Proclaimed NIPAS Protected Area Under Marine Protected Area Strengthening And Networking of El Nido Managed Resource Protected Area (ENMRPA) for the month of March 2023. Please be informed that on March 20, 2023, the undersigned together with Provincial Environmental Management Unit (PEMU) Palawan personnel conducted water quality monitoring within the jurisdiction of ENMRPA particularly in the following established monitoring sites (El Nido Bay 10 Stations) with on-site analyses, to wit:

- | | |
|-----------------|------------------|
| 1. So. Caalan | 6.Lamoro Beach |
| 2. Caalan Beach | 7.Calitang Beach |
| 3. Lio Runway | 8.Twin Beach |
| 4. Lio Port | 9. Nacpan Port |
| 5. Lio Beach | 10.Nacpan Beach |

PRIMARY PARAMETERS

Table 1. Dissolved Oxygen (DO).

SITES	Date	Dissolved Oxygen(mg/L)	Water Body Classification (Class SA or Class SB (6 minimum))
So. Caalan	March 20, 2023	7.62	Pass
Caalan Beach		5.96	Fail
Lio Runway		5.86	Fail
Lio Port		6.76	Pass
Lio Beach		6	Pass
Lamoro Beach		5.8	Fail
Calitang Beach		6.01	Pass
Twin Beach		6.82	Pass
Nacpan Port		6.92	Pass
Nacpan Beach		5.31	Fail

Table 1 shows that six (6) sites passed the required/desired Dissolved Oxygen (DO) for protected waters and recreational waters while four (4) sites failed.

Table 2. Temperature

SITES	Date	Temperature (°C)	Water Body Classification (Class SA or Class SB (26-30))
So. Caalan	March 20, 2023	36.46	Fail
Caalan Beach		36.17	Fail
Lio Runway		31.19	Fail
Lio Port		31.75	Fail
Lio Beach		31.74	Fail
Lamoro Beach		32.35	Fail
Calitang Beach		31.42	Fail
Twin Beach		31.57	Fail
Nacpan Port		31.53	Fail
Nacpan Beach		30.58	Fail

Table 2 shows that all sites failed the desired temperature for Protected and Recreational waters. However, based on the notes in table 3 (Water Quality Guidelines for Primary Parameter) of DENR Administrative Order (DAO) 2016-08 stated as follow: “(b) The natural background temperature as determined by EMB shall prevail if the temperature is lower or higher than the WQG; provided that the maximum increase is only up to 10 percent and that it will not cause any risk to human health and the environment.”

Table 3. pH.

SITES	Date	pH	Water Body Classification (Class SA or Class SB (7-8.5))
So. Caalan	March 20, 2023	8.51	Fail
Caalan Beach		7.89	Pass
Lio Runway		8.28	Pass
Lio Port		8.23	Pass
Lio Beach		8.25	Pass
Lamoro Beach		8.27	Pass
Calitang Beach		8.23	Pass
Twin Beach		8.27	Pass
Nacpan Port		8.21	Pass
Nacpan Beach		8.21	Pass

Table 3 shows that nine (9) sites passed the desired pH for Protected and Recreational waters which is not less than seven (7) or not greater than eight point five (8.5) while one (1) site failed.

OTHER PARAMETERS

Table 4. Conductivity, Turbidity, Salinity and Total Dissolved Solid.

SITES	Date	Conductivity (mS/cm)	Total Dissolved Solid (g/L)	Salinity (ppt)	Turbidity (NTU)
So. Caalan	March 20, 2023	41.2	25.1	26.27	0
Caalan Beach		23.2	13.4	13.21	0
Lio Runway		41.1	25	26.27	0

Lio Port		38.6	23.5		24.49	0
Lio Beach		41.1	25.1		26.53	0
Lamoro Beach		42.1	25.7		27.02	0
Calitang Beach		40.7	24.8		26.23	0
Twin Beach		41.5	25.3		26.57	0
Nacpan Port		40.9	25		26.17	0
Nacpan Beach		39.8	24.2		25.36	0

Table 4 shows the recorded conductivity, turbidity, salinity and total dissolved solid. These parameters are not directly affecting the water quality unless there are significant or drastic changes.

The Water Body Classification and Water Parameters are based on DENR Administrative Order 2016-08 Table 2 and Table 3. Please be also informed that data for fecal coliforms will be submitted by the EMB MIMAROPA Regional Office. A letter requesting for the results of the said parameter was already sent and will be submitted once the requested data is available.

This served as our **Means of Verification** for month of March 2023. Attached herewith are the geotagged photos and field data form for reference.

For information and record.


STEVEN JOHN B. ANDAO

PHOTO DOCUMENTATION



CERTIFICATION

This is to certify that the above photos were true and correct and taken during the Water Qulaity Monitoring activity of ENMRPA for the month of March 2023.


STEVEN JOHN B. ANDAO
Park Ranger



WATER QUALITY MONITORING FIELD DATA FORM

Name of Waterbody: El Nido Bay

Address: El Nido, Palawan

Date of Sampling: 3-20-2023

Sampling Team: EMB, PAMO JLGU

Parameter	Sampling Site				
	1	2	3	4	5
	Sitio Caalan	Caalan Beach	LiO Runway	LiO Port	LiO Beach
GPS Coordinates	11 11'13.00"N 119 23'35.00"E	11 11'29.00"N 119 23'47.00"E	11 12'27.00"N 119 24'53.00"E	11 12'43.00"N 119 24'54.00"E	11 12'36.00"N 119 24'59.00"E
Time of Sampling	4:46 PM	4:33 PM	3:55 PM	3:50 PM	3:42 PM
Air Temperature	38°C	38°C	38°C	38°C	38°C
Cloud Cover, %	10%	10%	10%	10%	10%
Weather Condition	SUNNY	SUNNY	SUNNY	SUNNY	SUNNY
Visual Color of Water	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
Other Observation	CALM WITH DEBRIS DOCKING BOATS	CALM DOCKING BOATS	CALM NO DEBRIS	CALM WITH DEBRIS & DEBRIS WITH TRIBUTARIES	SOFT WINDS CALM NO TRIBUTARIES
On-Site Analysis					
pH	8.51	7.89	8.28	8.23	8.25
Temperature	36.46	36.17	31.19	31.75	31.74
DO	7.62	5.96	5.86	6.76	6.00
Conductivity	41.2	23.2	41.1	38.6	41.1
TDS	25.1	13.4	25.0	23.5	25.1
Salinity	26.27	13.21	26.27	24.49	26.53
Turbidity					
Sample for Laboratory Analysis					
Parameters for Analysis	Sample Volume (mL)	Container Type	Sampling Method	Preservation Done	
Fecal Coliform	125mL	Sterilized Glass Bottle	GRAB	ICE	
pH, DO, TEMPERATURE, TSS, NITRATES, PHOSPHATES	1000	PLASTIC	GRAB	ICE	

SAMPLED BY: (signature over printed name)

RIO REYES

STEVEN JOHN ANOAO

PETER ARBOBOT

KIEM A MABAQUIAO



WATER QUALITY MONITORING FIELD DATA FORM

Name of Waterbody: El Nido Bay

Address: El Nido, Palawan

Date of Sampling: 3-20-2023

Sampling Team: EMB, PAMO & LGU

Parameter	Sampling Site				
	6	7	8	9	10
	Lamoro Beach	Calintang Beach	Twin Beach	Nacpan Port	Nacpan Beach
GPS Coordinates	11°13'50.00"N 119°25'19.00"E	11°18'29.00"N 119°25'5.00"E	11°18'41.00"N 119°25'8.00"E	11°18'52.00"N 119°18'52.00"E	11°19'1.00"N 119°25'30.00"E
Time of Sampling	3:17 PM	2:42 P.M	2:24 P.M	2:14 P.M	2:03 P.M
Air Temperature	38 °C	38 °C	38 °C	38 °C	38 °C
Cloud Cover, %	10%	10%	10%	10%	10%
Weather Condition	SUNNY	SUNNY	SUNNY	SUNNY	SUNNY
Visual Color of Water	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
Other Observation	NO DEBRIS NO TOURIST	CALM NO DEBRIS DOCKING BOATS	CALM NO DEBRIS WITH TOURIST	NO DEBRIS WITH TOURIST	CALM NO DEBRIS NO SWIMMING
On-Site Analysis					
pH	8.27	8.23	8.27	8.21	8.21
Temperature	32.35	31.42	31.57	31.53	30.58
DO	5.80	6.01	6.82	6.92	5.31
Conductivity	42.1	40.7	41.5	40.9	39.8
TDS	25.7	24.8	25.3	25.0	24.2
Salinity	27.02	26.23	26.57	26.17	25.36
Turbidity					

Sample for Laboratory Analysis

Parameters for Analysis	Sample Volume (mL)	Container Type	Sampling Method	Preservation Done
Fecal Coliform	125mL	Sterilized Glass Bottle	GRAB	ICE
pH, DO, TEMPERATURE, TSS, NITRATES, PHOSPHATES	1000mL	PLASTIC	GRAB	ICE

SAMPLED BY: (signature over printed name)

RIO REYES

STEVEN JOHN ANDAD

PETER ANIBOT

KIEM A. MABAQUIAD