



June 07, 2021

MEMORANDUM

**FOR : The Regional Executive Director
DENR MIMAROPA REGION**

**FROM : The Regional Director
EMB MIMAROPA REGION**

**SUBJECT : COMMENTS ON THE WATER QUALITY MONITORING AND
ASSESSMENT MADE ON APO REEF NATURAL PARK (ARNP)
IN SABLAYAN, OCCIDENTAL MINDORO**

This pertains to the Memorandum of the Regional Executive Director on the report made on Apo Reef as mentioned in the above subject.

The report was forwarded to the Environmental Monitoring and Enforcement Division for the evaluation on the conducted monitoring activity. Enclosed are the comments and recommendations made on the report submitted.

For the Regional Executive Director's information and further instructions.


ATTY. MICHAEL DRAKE P. MATIAS





WATER QUALITY MONITORING REPORT ON APO REEF NATURAL PARK

COMMENTS

- 1. Waters classified as Class SA are waters whose beneficial use are as follows:
 - a. Protected Areas or waters designated as national or local marine parks, reserves, sanctuaries, and other areas established by law (Presidential Proclamation 1801 and other existing laws), and/or declared as such by appropriate government agency, LGUs, etc.
 - b. Fishery Water Class I – Suitable for shellfish harvesting for direct human consumption.

As per DAO 2016-08, no numerical value is assigned to the GES (general effluent standards) for all parameters because NO DISCHARGE is ALLOWED in Class SA waters. This means that there must be no physical permanent structures built and that there must be no source of any kind of pollution permitted such as comfort rooms and kitchen discharges.

Currently, the water of Apo Reef is not yet officially classified. No preliminary study was ever made to set the numerical baseline values. Classification of a waterbody consists of twelve (12) sampling frequencies for the determination of fecal coliform while it needs at least ten (10) sampling episodes for the determination of its other physicochemical parameters as indicated in the Table 3 of the DAO 2016-08. The analysis of secondary parameters must be at least once every quarter for the whole monitoring year.

- 2. There should be no BOD analysis made since the samples are Marine Water. Salinity is an interference of BOD Analysis.
- 3. The WQG for Class SA for Fecal Coliform is <1.1 MPN/100 mL. The result obtained with a value of <1.8 MPN/100 mL cannot be interpreted as <1.1 MPN/100 mL. A value of <1.8 MPN/100 mL could be ≤ 1.7 but cannot be concluded as ≤ 1.1. Considering that the monitoring was not performed with the prescribed number or frequency of water sampling, the results obtained can only represent the quality of the water body at the time the sample was collected. The same principle applies to all other parameters measured in this study. (See Section 6.3 of the DAO 2016-08)
- 4. Section 6.2 of the DAO 2016-08, “Guidelines for Groundwater Quality” states that groundwater shall be maintained at a quality consistent with its intended beneficial usage.

Table 7. Groundwater Quality Guidelines

Intended Beneficial Use	Groundwater Quality Guidelines
Source of Potable Water and Other Domestic Use	Adopt Class A WQG (Except BOD and Dissolved Oxygen)
Bathing and Other Primary Contact Recreation	Adopt Class B WQG (except BOD and Dissolved Oxygen)
Irrigation, Fish Culture, Livestock Watering	Adopt Class C (except BOD, Dissolved Oxygen and Total Suspended Solids)

Therefore, the sample collected from Groundwater Well must be compared to at least one of the above-mentioned surface freshwater classifications. The intended use of the groundwater must be determined to know the specific WQG to be used in the interpretation of its water quality.






RECOMMENDATIONS

1. **Section 3 of DAO 2016-08:** Important considerations in the frequency of water quality monitoring are stated in this section as follows:
 - a. Annual average of at least 10 data sets for primary parameters except for fecal coliform
 - b. Annual average of at least 4 data sets for secondary inorganic parameters
 - c. Geometric mean of at least three data sets per quarter for fecal coliform. Further, maximum allowable limit for fecal coliform is twice the WQG per sample.
2. **Tables 3-6 of the DAO 2016-08:** The water quality guidelines (WQG) to be maintained in every water body are provided in these tables, both primary and secondary parameters.
3. **Water Quality Monitoring Plan** shall be in accordance with the EMB Memorandum Circular No. 2008-08, Water Quality Monitoring Plan Volume I for Ambient Waters and Volume II for Effluent/Wastewater.
4. In order to arrive on a more comprehensive and precise assessment report on the water quality of the natural park, it is best to identify and delineate the monitoring sites into the following as stated in the Annex I of the Guidelines released in the monitoring of NIPAS MPAs: (1) areas within the Strict Protection Zone, (2) Multiple Use Zone and (3) River Mouth. Proper categorization of every established sampling station would not only lead to better water quality monitoring but to a comprehensive and more appropriate action plan in the protection of the natural park.

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