

DRAFT ONLY

The Water Mondriaan: An Overview Map of the Water Quality of Laguna de Bay

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The Laguna Lake Development Authority (LLDA) started its regular monitoring of the water quality of Laguna de Bay and the tributary rivers in 1973 with technical and financial assistance from the United Nations Development Program and the Asian Development Bank. A water quality laboratory was set up for this purpose, which in later years expanded its analysis not only for ambient monitoring but also for point sources of pollution.

The two main objectives of the water quality monitoring program are as follows:

1. To accurately assess the suitability of the lake for all its present and intended beneficial uses;

2. To evaluate the impact of development activities on the lake's water important criteria for environmental planning

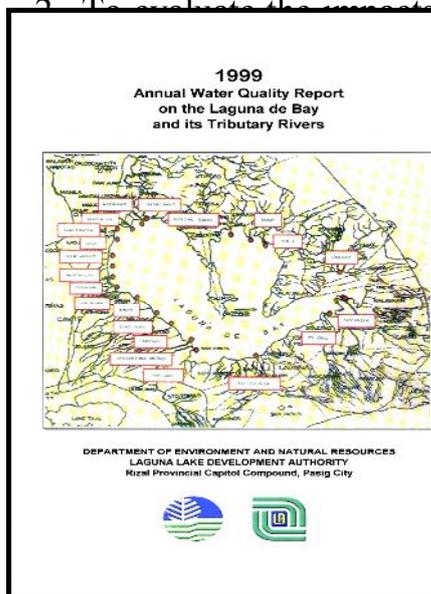


Figure 1. The LLDA's conventional way of publishing water quality data.

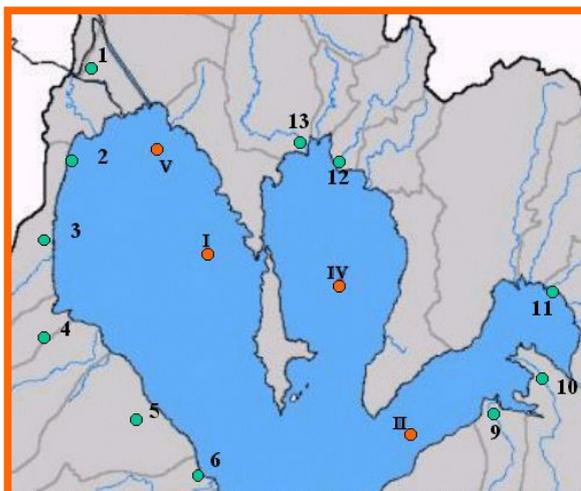
In 2003, an information system for storage, processing and analysis of environmental data was set up as a major component of the project “Sustainable Development of the Laguna de Bay Environment,” funded by the Royal Dutch Government. A simple yet informative system of presenting the water quality of the lake and the tributaries rivers were developed. It is patterned after the Water Mondriaan which is a take off from the *'Victory Boogie Woogie'*, the last painting of famous Dutch artist Piet Mondriaan (Figure 2).



Figure 2. Piet Mondriaan’s Victory Boogie Woogie

The monitoring stations in the lake and the rivers were presented schematically (Figures 3,4, and 5) with the use of simple colors representing their different water quality status and is referred to as the Water Mondriaan. The water quality parameters focus on factors of significant ecological, human health and resource use importance or on the processes that are crucial to them:

- oxygen and oxygen demand (%DO, BOD₅ and COD)
- bacterial pollution (Total Coliforms, Fecal Coliforms)
- eutrophic level (phosphate, dissolved nitrogen, chlorophyll-a and phytoplankton abundance)



Station	Description
I	Central West Bay
II	East Bay
IV	Central Bay
V	Northern West Bay
VIII	South Bay
1	Marikina
2	Mangagate
3	Tunasan
4	San Pedro
5	Cabuyao
6	San Cristobal
7	San Juan

Figure 3. The LLDA Monitoring Stations

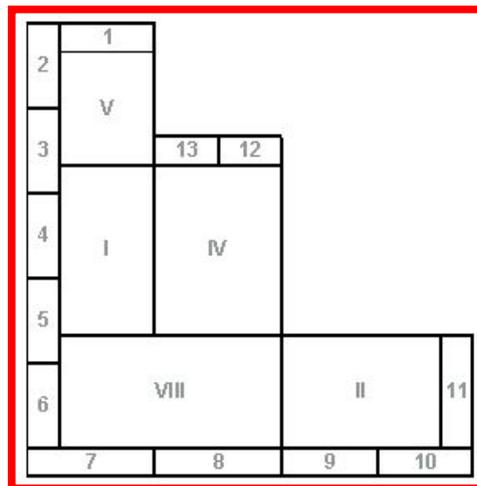


Figure 3. Schematic diagram of the lake and river monitoring stations

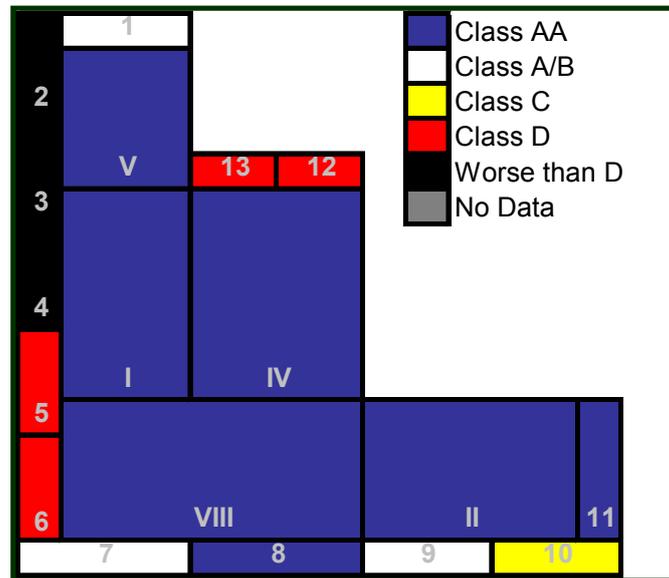


Figure 5. Example of the Water Mondriaan for BOD₅

The monitoring results are likewise compared with the existing water quality criteria and in the absence of any criteria for certain parameters such as COD, pathogens, chlorophyll-a, and phytoplankton abundance, the LLDA gives its expert opinion and expressed them in terms of ‘very low’, ‘low’, ‘medium’, ‘high’ and ‘very high’.