

**ASSESSMENT OF SELECTED WATER QUALITY PARAMETERS IN
KAKKAITHEEVU LAGOON, JAFFNA, SRI LANKA.**

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ABSTRACT

Kakkaitheevu is part of the Jaffna lagoon and is known for its fish production. The area consists of sewerage and solid waste disposal plant. The objective of the study was to investigate the changes in selected physical, chemical, and biological parameters in randomly selected four sites each at different depths from the coastline in August and September 2020. Three samples were taken from each site in each month at equal depth. Temperature, pH, Dissolved Oxygen (DO), and salinity were measured in the field using environment probes. Turbidity was measured using UV-Vis Spectrophotometer. 5-day Biological Oxygen Demand (BOD₅) was measured by Winkler's method. The coliform count was taken by the Most Probable Number (MPN) method. Variations in water quality were observed among sites when comparing mean values of Coliform count, Turbidity and BOD₅ of the water. The site near to transition area showed the highest mean BOD₅ and turbidity values. The rainfall which might have caused runoffs from garbage disposal area to lagoon might be the reason for a high number of Coliform values which vary between 96/100 ml to 210/100 ml. Hence, the study has limited time and sample numbers, a more comprehensive study is warranted to assess the quality of the lagoon.

Keywords: Coliform, Diagnosis, Lagoon, Pollution, Turbidity