

PHYSICO-CHEMICAL CHARACTERISTICS OF THE BATTICALOA LAGOON

P. Vinobaba

Department of Zoology, Eastern University, Sri Lanka, Vantharumoolai, Chenkalady

ABSTRACT

The water quality parameters were measured to reveal the present condition of the Batticaloa lagoon. Among the water quality characteristics, physical parameters such as temperature, pH, conductivity, salinity, turbidity and chemical parameters such as dissolved oxygen, nitrate, nitrite, phosphate, sulphate, total iron, and free chlorine were measured.

The higher degree of water quality parameter fluctuations were observed in Kattankudy, Urani, and along the agricultural area based lagoon sites, where more chemicals and effluents enter into the Batticaloa lagoon.

This study elucidated that the Batticaloa lagoon water parameter change fall within the acceptable level for aquatic organisms living conditions. The water quality parameters of the study sites are given as follows; Temperature 28°C – 34°C; pH 6.64 - 8.06; Salinity 0.00 – 27 PSU; Turbidity 5-94 FAU; Dissolved oxygen 4.5 – 5.9 mg/l; Nitrates 0.01–4.0 mg/l; Nitrites 1 – 13 mg/l; Phosphates 0.11 – 1.68 mg/l; Sulphates 15 – 656 mg/l; Total iron 0.07 – 2.30 mg/l; Free chlorine 0.01 – 0.75 mg/l.

The available literature does not fulfill the water quality measures in the Batticaloa lagoon. Only a few reports are available regarding the presence of pollutants in the Batticaloa lagoon. A complete water quality data base is urgently needed to advice the organizations, funding agents and individuals, who are interested in promoting the aquatic food production such as fish, shrimp, crab and oyster farming. At this juncture, it is essential to prevent further pollution and to preserve the uninterrupted ecosystem services for a long lasting future.

Key words: Batticaloa lagoon, Chemical parameters, Dissolved oxygen, Nitrate, pH, Phosphate, Physical parameters, Shrimp, Water quality.