

EVALUATION OF THE LIMNOLOGICAL STATUS AND WATER QUALITY INDEX OF MALLATHAHALLI LAKE, BENGALURU, INDIA

Vidya Padmakumar

Department of Studies and Research in Biosciences, Mangalore University, Mangalagangothri,
Mangalore, Dakshina Kannada, Karnataka-574199, India.

Shine P Joseph

Department of Studies and Research in Biosciences, Mangalore University, Mangalagangothri,
Mangalore, Dakshina Kannada, Karnataka-574199, India.

Abstract

A study was conducted from May 2018 to May 2019 to understand and re-establish the surface water quality and characteristics of underlying sediments of the Mallathahalli Lake and the current limnological status. The surface water samples collected were subjected to Physico-chemical analyses including Ca^{2+} , Mg^{2+} , Na^+ , K^+ , Fe^{2+} , HCO_3^- , Cl^- , SO_4^{2-} , NO_3^- , F^- , PO_4^{3-} and general parameters like pH, EC, TDS, alkalinity, total hardness, DO, BOD, COD, CO_2 , SiO_2 , colour, turbidity, etc. The Water Quality Index was determined from the parameters and the value remained at 130.5 ± 1.2 which shows that the lake falls in the poor water quality category. Increased values of nitrogen and phosphorous indicate that the lake is eutrophic in nature. Lake sediments had high organic matter content and nutrient concentrations. There were no significant variations noted in the water and sediment quality between sampling. The lake is used as a source of irrigation by farmers in the agricultural lands lying adjacent to the lake and there are also fishing activities happening in the lake waters. The study revealed that the surface water of the lake requires proper treatment before usage and it is essential to protect them from the perils of contamination. Anthropogenic activities also significantly affect the quality of the lake.