

ASSESSMENT OF SEASONAL VARIATION IN WATER QUALITY AND WATER QUALITY INDEX (WQI) OF HIMAYAT SAGAR AND OSMAN SAGAR LAKES, HYDERABAD CITY, TELANGANA STATE

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Abstract

Surface water quality is an important factor that determines its usage for drinking and irrigational purposes. This study was carried out along a major irrigation water source of Himayat Sagar and Osman Sagar Lakes, Hyderabad City, Telangana State. Wetlands are transition zones on earth that play a major role in nutrient dynamics and govern primary productivity. Its urban conglomerates are comprised of many man-made wetlands that were built for various hydrological purposes to serve the needs and water demand of the city. Hyderabad wetlands have been experiencing anthropogenic stress, especially due to sustained inflow of sewage thus altering the chemical integrity of wetlands. The present study was carried out to evaluate seasonal variation in physico-chemical parameters in terms of water quality and to compute a water quality index. Water samples were collected from 2016 to 2020 and analyzed for pH, electrical conductivity (EC), total dissolved solids (TDS), dissolved oxygen (DO), chemical oxygen demand (COD), biochemical oxygen demand (BOD), total hardness (TH), calcium (Ca), magnesium (Mg), chlorides (Cl) and nitrate (NO₃) based on standard methods. Seasonal variations in water quality parameters were recorded compared with standards, and pollution status was studied using water quality index.

Keywords: Physico-chemical parameters, Drinking and Irrigation and Water quality Index (WQI)