

Nutrient Enrichment and Proliferation of Invasive Macrophytes in Urban Lakes

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ABSTRACT Sewage generated in urban households is either untreated or partially treated, which finally let into water bodies through storm water network. Sustained inflow of sewage into water bodies though maintained the water levels in the system of interconnected lakes has contributed to the nutrient enrichment of surface as well as groundwater sources. Nutrient enrichment in urban water bodies has become one of the major environmental concerns in rapidly urbanizing towns and cities in India. In this context, the current study carries out comparative analysis of water quality and ecological health of twelve urban wetlands in Bangalore. Principal component analysis (PCA) and Cluster analysis (CA) were done to assess the ecological integrity of wetlands based on the data of 15 physico-chemical parameters. The loadings of the first and second principal components explain the pollution. CA grouped the wetlands into four distinct clusters: less polluted, moderately polluted, highly polluted and severely polluted based on the water quality parameters. This analyses brings out the importance of regular monitoring and the need to restore and sustainable management of wetlands. The sustained inflow of untreated and partially treated sewage, urban runoff, etc. are the drivers of wetlands quality deterioration.