

Assessment of Water Quality of Selected Lakes of Coimbatore District, Tamil Nadu, India

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Abstract : Degradation of lake water quality is one of the serious environmental threats for the last few decades, particularly, the lakes situated in and around urban and industrial areas. The present study aimed to analyze the physicochemical and biological parameters, and metal elements to determine the water quality of Krishnampathi, Ukkadam, Kurichi, Sulur and Singanallur Lakes. Of the 23 physicochemical parameters analyzed in the five lakes, except TDS, Chloride and Total hardness values all the 20 parameters were found within the prescribed limit as recommended by World Health Organization (WHO) and Bureau of Indian Standards (BIS). In case of biological parameter, both Total Coliform and Fecal Coliform bacteria (*Escherichia coli*) were identified. This indicates the contamination of lakes by fecal matter, and warns of potential of disease causing by viruses, bacteria and other organisms. Among the twelve metal elements (Al, Cr, Mn, Fe, Ni, Cu, Zn, As, Se, Mo, Cd and Pb) determined by inductively coupled plasma-mass spectroscopy, except Cd (for all lakes), and Pb (for Ukkadam, Kurichi, Sulur & Singanallur), all the elements were found above the prescribed limits of BIS. The results of the present study revealed that all the five major lakes of Coimbatore were contaminated. It is recommended that proper implementation of the new wetland waste management system and monitoring of water quality be of the urgent need to sustain the water bodies for future generations.

Keywords : heavy metals, inductively coupled plasma-mass spectroscopy, physicochemical and biological parameters, water quality

Conference Title : ICEEB 2018 : International Conference on Environment, Ecology and Biotechnology

Conference Location : Zurich, Switzerland

Conference Dates : January 15-16, 2018