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**Assessment of Surface Water Quality of an Urban Wetland: Thalangama Wetland, Colombo, Sri Lanka**

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**Abstract**

Thalangama wetland is situated within the Kelani river basin, Colombo District, Sri Lanka. It is one of the most attractive landscapes in Colombo that provides a wide range of ecological, social and economic functions. Wetland water supports aquatic life and is being prominently used for agriculture and bathing and contact recreational activities without knowing if the water quality is appropriate for such uses. This study was therefore conducted to assess the surface water quality of Thalangama wetland using key-physicochemical parameters and to examine the suitability of wetland waters for bathing and contact recreational water, aquatic life, irrigation and other agricultural activities. A total of 10 water quality parameters covering temperature, pH, salinity, TDS, EC, DO, BOD, COD, nitrate, and total phosphate were measured at eight sampling sites of the wetland. The study was conducted in August 2020. The spatial variation of water quality parameters was assessed using one-way ANOVA followed by Tukey's pairwise comparison. Results were compared with ambient water quality standards of Sri Lanka. The study revealed that the surface water quality parameters including temperature, EC, TDS, DO, BOD, COD, nitrate and total phosphate show a significant spatial variation among the sampling sites. Surface water pH and BOD at all the sampling sites were within the ambient water quality standards for water suitable for bathing and contact recreational water and water suitable for aquatic life, irrigation and agricultural activities. EC at all the sampling sites were within the limits of water suitable for irrigation and agricultural activities. Nitrate and total phosphate concentrations at all the sampling sites were within the limits of water suitable as bathing and contact recreational water and water suitable for aquatic life. DO at six out of eight sampling sites were within the limits of water suitable as bathing and contact recreational waters and water suitable for aquatic life, irrigation and agricultural activities. COD at all the sampling sites were not within the limits of water suitable as bathing and contact recreational water and water suitable for aquatic life. The study identifies agricultural practices, livestock rearing, construction activities and urban discharges as major anthropogenic influences that degrade the surface water quality of the wetland. Hence, the study determines the necessity for effective management of the surface water of Thalangama wetland to prevent pollution and to ensure the water quality of the wetland is within the recommended standards.

**Keywords:** Urban wetlands, Surface water quality, Spatial variation, Physicochemical parameters, Ambient water quality standards