

**AN ASSESSMENT OF THE WATER QUALITY AND
POLLUTION LEVEL IN BOMURUELLA RESERVOIR,
NUWARAELIYA, DISTRICT**

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by

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Abstract

Bomuruella Reservoir which feeds Uma Oya is an important water source in the NuwaraEliya District. The reservoir is surrounded by Kadapola – SeethaEliya Forest Reserve. The Reservoir is used for various purposes such as fishing, agricultural activities, drinking, cleaning and washing purposes by those who live in the surrounding area.. This study was mainly focused to estimate water quality of the reservoir to assess its health and identify the factors that affect on pollution of the reservoir.

The mean average values of nitrate, nitrite, phosphate, alkalinity, Ca and, total hardness Biological Oxygen Demand (BOD) and Dissolved oxygen (DO) concentration in Bomuruella Reservoir were 0.09 ± 0.58 mg/L, 0.08 ± 0.26 mg/L, 0.007 ± 0.69 mg/L, 37.5 ± 131.93 mg/L, 10.42 ± 9.49 mg/L, 38 ± 0.51 mg/L, 3.4 ± 3.71 mg/L and 6.25 ± 1.62 mg/L 3.4 ± 3.71 mg/L and 6.25 ± 1.62 mg/L respectively. According to the results most sample points which is located in near to the land treatment leachate and agricultural area did not satisfy the specified standards of Central Environmental Authority, Sri Lanka.

This concludes that the reservoir was contaminated with high loads of organic waste. Furthermore, the effluent from the land treatment area has recorded higher levels of conductivity, nitrate, Chemical Oxygen Demand, ammonia while recording low values for BOD and DO which indicating the impact of land fill treatment water to the reservoir .The main cause of pollution of the reservoir is the discharge of agricultural runoff, industrial and hospital waste directly into the reservoir, raw sewage and domestic wastes. It can be recommended that standard limit for discharge of effluents into surface waters should be followed when discharging effluents into water bodies and there should be proper monitoring mechanism.