

Assessment of Water Quality Based on Physico-Chemical and Microbiological Parameters in Batllava Lake, Case Study Kosovo

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Abstract : The purpose of this study is to determine the water quality in Batllava Leka through which a part of the population of the Prishtina region is supplied with drinking water. Batllava Leka is a lake built in the 70s. This lake is located in the village of Btlava in the municipality of Podujeva, with coordinates 42 ° 49'33 " V 21 ° 18'25 " L, with an area of 3.07 km². Water supply is from the river Brvenica- Batllavë. In order to take preventive measures and improve water quality, we have conducted periodic/monthly monitoring of water quality in Lake Batllava, through microbiological and physico-chemical indicators. The monitoring was carried out during the period December 2020 - December 2021. Samples were taken at three sampling sites: at the entrance of the lake, in the middle and at the overflow, on two levels, water surface and at a depth of 30 cm. The microbiological parameters analyzed are: total coliforms, fecal coliforms, fecal streptococci, aerobic mesophilic bacteria and actinomycetes. Within the physico-chemical parameters: Dissolved Oxygen, Saturation with O₂, water temperature, pH value, electrical conductivity, total soluble matter, total suspended matter, turbidity, chemical oxygen demand, biochemical oxygen demand, total organic carbon, nitrate, total hardness, hardness of calcium, calcium, magnesium, ammonium ion, chloride, sulfates, flourine, M-alkalines, bicarbonates and heavy metals, such as: Fe, Pb, Mn, Cu, Cd. The results showed that most of the physico-chemical and microbiological parameters are within the limit allowed by the WHO, except in the case of the rainiest season that exceeded some parameters.

Keywords : batllava lake, monitoring of water, physico-chemical, microbiological, heavy metals

Conference Title : ICWQAM 2022 : International Conference on Water Quality Assessment and Monitoring

Conference Location : Lisbon, Portugal

Conference Dates : April 14-15, 2022