World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:17, No:01, 2023

Evaluation of Biochemical Oxygen Demand and Dissolved Oxygen for Thames River by Using Stream Water Quality Model

Authors : Ghassan Al-Dulaimi

Abstract : This paper studied the biochemical parameter (BOD5) and (DO) for the Thames River (Canada-Ontario). Water samples have been collected from Thames River along different points between Chatham to Woodstock and were analysed for various water quality parameters during the low flow season (April). The study involves the application of the stream water quality model QUAL2K model to simulate and predict the dissolved oxygen (DO) and biochemical oxygen demand (BOD5) profiles for Thames River in a stretch of 251 kilometers. The model output showed that DO in the entire river was within the limit of not less than 4 mg/L. For Carbonaceous Biochemical Oxygen Demand CBOD, the entire river may be divided into two main reaches; the first one is extended from Chatham City (0 km) to London (150 km) and has a CBOD concentration of 2 mg/L, and the second reach has CBOD range (2–4) mg/L in which begins from London city and extend to near Woodstock city (73km).

Keywords : biochemical oxygen demand, dissolved oxygen, Thames river, QUAL2K model
Conference Title : ICW 2023 : International Conference on Water
Conference Location : Zurich, Switzerland
Conference Dates : January 16-17, 2023