WATER QUALITY ASSESSMENT OF SG SERIN, SARAWAK

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Abstract

Due to its importance as a water supply and drinking source, the water quality of Sg Serin was assessed in this study from January to March 2009 based on temperature, pH, dissolved oxygen (DO), 5-day biochemical oxygen demand (BOD_5), organic phosphorus (P_o), inorganic phosphorus (P_{io}) and trace metals (Ni, Zn, Pb). Results show that temperature ranged from 23.53 - 25.36°C while pH ranged from 6.47 - 7.44 and that the sampling stations were all found to fall under Class II of the Interim National Water Quality Standards for Malaysia (INWQS) for pH. Measured DO ranged from 2.24 - 5.00 mg/L while BOD_5 ranged from 1.86 - 7.99 mg/L where the lowest DO and highest BOD_5 was measured in Sg Pam, a tributary of Sg Serin. This puts Sg Pam under Class IV for DO and Class III for BOD_5 and its poor water quality can be attributed to discharge from animal farms. High BOD_5 was also found in another two tributaries; Sg Bukah (7.22 mg/L) and Sg Penat (6.85 mg/L) whereby the high BOD_5 can be associated with crop production and fish farming respectively. Sg Serin however falls under Class III for DO and Class II for BOD_5. Measured P_o and P_{io} ranged from 0.45 - 21.11 mg/L and 0.04 - 4.64 mg/L respectively where the highest P_o and P_{io} were both measured at Sg Pam and can be associated with oxidation pond effluent from animal farms. Ni concentration ranged from 0.011 - 0.020 ppm whereas Zn concentration ranged from 0.068 - 0.128 ppm and both trace metals were found to be at natural levels as specified under the INWQS. Pb however ranged from 0.018 - 0.114 ppm