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 (BOD5), organic phosphorus (Po), inorganic phosphorus (PiO) 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 BOD5 ranged from 1.86 - 7.99 mg/L where the lowest DO and highest BOD5 was measured in Sg Pam, a tributary of Sg Serin. This puts Sg Pam under Class IV for DO and Class III for BOD5 and its poor water quality can be attributed to discharge from animal farms. High BOD5 was also found in another two tributaries; Sg Bukah (7.22 mg/L) and Sg Penat (6.85 mg/L) whereby the high BOD5 can be associated with crop production and fish farming respectively. Sg Serin however falls under Class III for DO and Class II for BOD5. Measured Po and PiO ranged from 0.45 - 21.11 mg/L and 0.04 - 4.64 mg/L respectively where the highest Po and PiO 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.