Hydrology, water quality and land-use assessment of Tasik Chini’s feeder rivers, Pahang, Malaysia

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Abstract

This study was carried out in October and December 2004, February, March and April 2005 to assess the hydrological characteristics and water quality of the seven feeder rivers of Tasik Chini, in the Malaysian state of Pahang. A total of nine sampling stations was selected in this study: namely Sg. Datang, Sg. Cenahan, Hilir Sg. Gumum, Pertengahan Sg. Gumum, Sg. Kura-kura, Sg. Melai, Hilir Kuala Merupuk, Hulu Kuala Merupuk, and Sg. Jemberau. Nine water quality parameters (pH, dissolved oxygen, conductivity, temperature, turbidity, Ammonical nitrogen, Nitrate, Phosphate, Sulphate) were analyzed based on in-situ and ex-situ analyses during two season periods; and a laboratory analysis was carried out according to the HACH and APHA methods. Stream flow was determined during the sampling days with a range of 0.0042 to 0.9083 m³/sec or an average of 0.1674 m³/sec. The annual rainfall for the lake ranged from 1487.7 to 3071.4 mm. Of late, illegal logging, farming and other unsustainable development undertakings had occurred in the surrounding areas of the lake. The impact of these activities may cause some real environmental problem to the Lake Chini and adjacent areas by changing the area’s hydrological characteristics which in the long run may lead to deterioration.

Keywords: environmental problem, feeder river, hydrological characteristics, Lake Chini, stream flow, water quality parameters