RIVER WATER QUALITY ASSESSMENT OF SELECTED HEAVY METALS IN SUNGAI MICHU AND SUNGAI LANGAT

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MAY 2010

ABSTRACT

This study was conducted to assess the extent of heavy metals pollution in the Michu River and Langat River. A total of 7 monitoring stations were established along the Michu River and the section of Langat River. Surface water samples (n=94) were collected from the closed Ampang Landfill after 11 years of closure until the downstream route of the Langat river near the Puncak Niaga Water Treatment Plant. Samplings were conducted three times over a period of 3 months from October 2009 to December 2009 during different season (dry and rainy day). The statistical analysis shows significant different ($P<0.05$) between Cd,Cu and Zn except Pb with different season. Water quality parameters such as temperature,turbidity,pH,conductivity and suspended solid were monitored to determine their status in relation to the health of the river ecosystem. The results were then compared where possible to the Standard A, Regulation Effluent Discharge, 1979, EQA.There have violation of Pb during both season and it present most at each sampling points. But the Cd most present and violate during rainy day compared than hot day.The Atomic Absorption Spectrometer (AA400) Pelkin Elmer techniques were employed for the determination of selected heavy metals in the samples. Elemental concentrations of Cd,Pb,Cu and Zn were measured. The trends of selected heavy metals and statistical analysis of the results were obtained. The trends of heavy metals in water of the Michu River and Langat River is Pb>Cd>Cu>Zn. Correlations exist between selected heavy metals and its physical factors. The secondary data for treated water (Puncak Niaga Water Intake Point) was collected from Health District office for determine the potential health effects among the community at study area. About 200 questionnaires was sent to the community at Michu River Village (case study) and Puncak Alam (control study) to determine the association between risk factor and disease status and thus epidemiology risk assessment developed. There are association between respondent and drinking water and health symptoms when the (p Value <0.05).

TABLE OF CONTENTS