

**WATER QUALITY AND DISSOLVED METALS ASSESSMENT IN FOUR
SELECTED URBAN RIVERS IN KUANTAN, PAHANG**

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ABSTRACT

WATER QUALITY AND DISSOLVED OF METALS ASSESSMENT IN FOUR SELECTED URBAN RIVERS IN KUANTAN, PAHANG

This study was done to determine the water quality status and heavy metals concentration along four selected urban rivers in Kuantan, Pahang. Samples from four selected urban rivers was being analyzed twice which were during October and November 2014. The sampling rivers were Beserah River, Belat River, Kuantan River and Karang River. Five physiochemical parameters were analyzed which were Biochemical Oxygen Demand (BOD), Dissolved Oxygen (DO), pH, temperature and Suspended Solids (SS) by using the YSI 556 MPS Handheld Water Quality Meter and four heavy metals were analyzed were Chromium, Cadmium, Copper and Zinc. Graphite Flame Atomic Absorption Spectroscopy (GFAAS) was applied to identify the heavy metals concentration in the water samples for two different weather conditions. Point sources and non-point sources were the main factors of the river pollution for the water quality changes. One way analysis of variance (ANOVA) was used to analyze any significant different between sampling sites and different weather condition. Interim National Water Quality Standard (INWQS) was used to determine the river water quality status. Almost all the parameters showed no significant differences as the ($p > 0.05$) for October and November 2014 for each urban rivers with the confidence level of 95% except for Biochemical Oxygen Demand (BOD) and temperature which were showed significant differences ($p < 0.05$). Yeh River was used as the control river. The BOD classes for the Beserah River in Class IV while Belat River, Karang River and Kuantan River in Class III. The DO class for the Beserah River, Belat River, Karang River and Kuantan River are in Class IV. The pH classes for Beserah River, Karang River and Kuantan River are in Class II while the Belat River in Class I. The SS class for the Beserah River, Belat River, Karang River and Kuantan River are in Class I. The temperature class for the Beserah River, Belat River, Karang River and Kuantan River are in Class II.