

Laporan Geran Penyelidikan

**Pencirian Hidrokimia Dinamik Sungai Kimanis
dan Sungai Mandahan, Papar.
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ABSTRAK

Kajian ke atas kandungan nutrien (nitrat dan fosfat) dan beberapa parameter kualiti air lain di Sungai Kimanis telah dilakukan di tiga lokasi di sepanjang sungai tersebut. Turut dikaji adalah kualiti air di Sungai Mandahan dan muara Sungai Benoni. Sampel-sampel air sungai dan di muara sungai diperolehi selama tiga bulan bermula dari Oktober hingga Disember 2002. Kerja-kerja penganalisan telah dilakukan di makmal Universiti Malaysia Sabah. Hasil kajian menunjukkan julat kepekatan bagi nitrat, $0.00 - 0.4 \text{ mg l}^{-1}$ dan fosfat, $0.03 - 0.24 \text{ mg l}^{-1}$. Kepekatan nutrien di Sungai Kimanis adalah relatif lebih tinggi pada bulan Oktober berbanding dengan bulan-bulan kemudiannya, yang diakibatkan oleh luahan air sungai yang lebih banyak pada bulan tersebut. Parameter-parameter seperti suhu, pH, DO, BOD, kemasinan, kekonduksian elektrik, minyak dan gris telah menunjukkan Sungai Kimanis masih berada dalam kategori kelas II mengikut piawaian kualiti air negara. Kualiti air di muara Sg. Benoni dan Sg. Kimanis dipengaruhi oleh air pasang surut. Kandungan Zn dalam sedimen sungai agak rendah, manakala Cu adalah agak tinggi nilainya.

ABSTRACT

A study on the nutrients (nitrate and phosphate) concentration and a few other water quality parameters of the Kimanis river was carried out. Samples were taken at three locations along the river. Water quality at the river mouth of Mandahan and Benoni rivers were also studied. The river water samples were obtained in the months of October, November, and December 2003. Water analyses were done at the laboratory of Universiti Malaysia Sabah. It was found that the concentrations of nitrate were between $0.04 - 0.4 \text{ mg l}^{-1}$ and phosphate were between $0.03 - 0.24 \text{ mg l}^{-1}$. Both parameters showed relatively higher concentration in the month of October compared to the following months, attributed to higher river discharge in the former month. Based on parameters such as temperature, pH, DO, BOD, salinity, electrical conductivity, oil and grease, Kimanis river is categorized as class II under the national water quality standard. Water quality of the river mouth at Benoni and Kimanis rivers are influenced by the tidal effects. Zn content in the river sediment was found to be low, whereas Cu concentration was slightly high.

