NERUS RIVER WATER QUALITY ACCORDING TO THE DEPARTMENT OF ENVIRONMENT WATER QUALITY INDEX

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"I hereby declare that this thesis is the result of my own research except the materials as cited in references."

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ABSTRACT

A study to assess the water quality of Nerus River according to the Department of Environment Water Quality Index was carried out from August 2002 to November 2002. Water quality samples were sampled for four times at eight stations along the Nerus River. The six water quality parameters that were sampled were pH, dissolved oxygen, biochemical oxygen demand, chemical oxygen demand, total suspended solids and ammoniacal nitrogen. Dissolved oxygen and pH were both determined *in situ* using the YSI Multi Parameter Water Quality Data Logger. Meanwhile the other parameters were determined according to the standard methods by the America Public Health Association (APHA). Based on the results obtained, the water quality index was calculated and the value was classified according to the Interim National Water Quality Standard. Other than that, the various values for each parameter were also classified according to the Interim National Water Quality Standard. The results revealed that the water quality index for Nerus River was 83.65 and was classified as class II with the status clean. For each of the parameter it was found that DO, AN and BOD_5 are in class I according to the INWQS classification. The value of COD was found to be in class II while pH and TSS were both found to be in class III.

ABSTRAK

Satu kajian untuk menilai kualiti air Sungai Nerus berdasarkan Indeks Kualiti Air Jabatan Alam Sekitar telah dijalankan dari bulan Ogos 2002 sehingga November 2002. Pensampelan air sebanyak empat kali telah dijalankan di lapan buah stesen sepanjang Sungai Nerus semasa kajian. Enam parameter yang telah dipantau ialah oksigen terlarut, pH, keperluan oksigen biokimia, keperluan oksigen kimia, pepejal terampai dan ammonikal nitrogen. Oksigen terlarut dan pH telah ditentukan secara *in situ* dengan menggunakan YSI Multi Parameter Water Quality Data Logger. Manakala parameter yang lain telah ditentukan berdasarkan kaedah piawai oleh America Public Health Association (APHA). Indeks Kualiti Air Sungai Nerus dikira dan diklasifikasikan berdasarkan *Interim National Water Quality Standard*. Selain itu nilai untuk setiap parameter dibandingkan dan diklasifikasikan berdasarkan *Interim National Water Quality Standard*. Hasil yang didapati dari kajian ini ialah indeks kualiti air Sungai Nerus ialah 83.65 dan diklasifikasikan dalam kelas II dengan status bersih. Oksigen terlarut, ammonikal nitrogen dan keperluan oksigen biokimia berada di dalam kelas I berdasarkan *Interim National Water Quality Standard*. Keperluan oksigen kimia adalah di dalam kelas II manakala pepejal terampai dan pH didapati berada di dalam kelas III.