

DISTRIBUTION OF NUTRIENTS AND
CHLOROPHYLL a IN NERUS RIVER

LIEW BOON HOW

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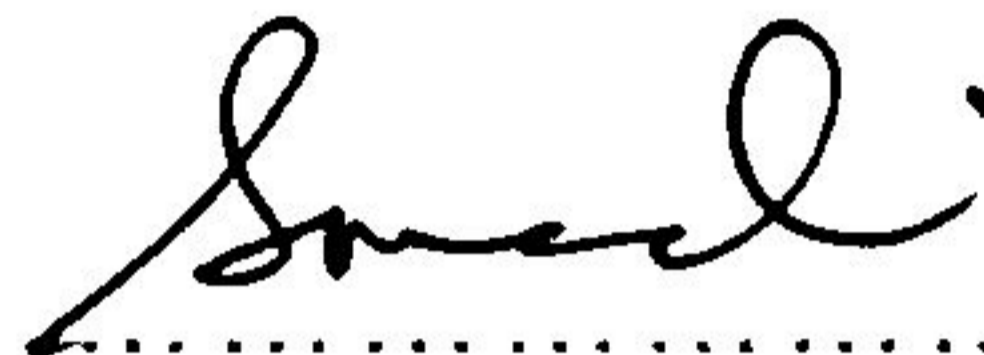
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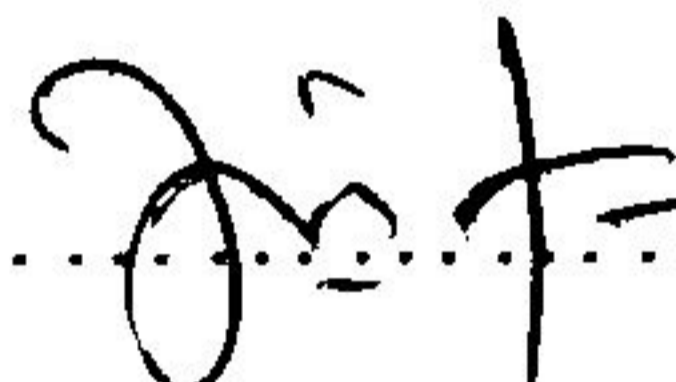
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DISTRIBUTION OF NUTRIENTS AND CHLOROPHYLL *a* IN NERUS RIVER

LIEW BOON HOW

**Thesis Submitted in Fulfillment of the Requirements for the Degree of Bachelor of
Technology (Environmental Technology)**

PERPUSTAKAAN SULTANAH NUR HIRAH
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To my loves one Poi Leng for her loves and support

PERPUSTAKAAN SULTANAH NUR ZAHIRAH

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ABSTRACT

A study to determine the distribution of nutrients and chlorophyll *a* were carried out at Nerus River from August to November 2002. Four samplings were performed at the eight identified stations along the Nerus River. Physical parameters such as temperature, pH, dissolve oxygen and salinity were recorded. The concentration of the orthophosphate range from 0.02 to 0.178 ppb P, total phosphorus from 0.096 to 0.717 ppb P, nitrite from 1.011 to 1.511 ppb N, nitrate from 0.532 to 1.305 ppb N, total nitrogen from 53.02 to 116.71 ppb N while the chlorophyll *a* concentration range from 0.069 mg/L to 1.904 mg/L. Study showed that the physical parameters did not contribute in controlling the concentration of nutrients in Nerus River. Correlation studies between orthophosphate, total phosphorus, nitrite, nitrate, total nitrogen and chlorophyll *a* showed a moderate correlation. Results showed that distribution of chlorophyll *a* was controlled by distribution of nutrients in Nerus River. Nutrients level in Nerus River was classified as Class I category, which is natural status according to the Interim National Water Quality Standard (INWQS).

ABSTRAK

Satu kajian untuk menentukan taburan nutrien dan klorofil *a* telah dijalankan di sepanjang Sungai Nerus dari bulan Ogos hingga ke November 2002. Empat kali persampelan telah dijalankan di lapan stesen sepanjang Sungai Nerus. Pengukuran in situ bagi fizikal parameter seperti suhu, pH, oksigen terlarut dan saliniti juga diambilkira. Kepekatan ortofosfat berada dalam julat 0.02 – 0.178 ppb P, jumlah fosfat dalam julat 0.096 – 0.717 ppb P, nitrit dalam julat 1.011 – 1.511 ppb N, nitrat dalam julat 0.532 - 1.305 ppb N, jumlah nitrogen dalam julat 53.02 - 116.71 ppb N. Kajian ini menunjukkan fizikal parameter tidak memainkan peranan dalam taburan nutrien dalam Sungai Nerus. Kajian mengenai hubungan kolerasi antara ortofosfat, jumlah fosfat, nitrit, nitrat, jumlah nitrogen dan klorofil *a* menunjukkan hubungan yang sederhana kuat. Keputusan menunjukkan taburan klorofil *a* dikawal oleh taburan nutrient di Sungai Nerus. Kandungan nutrien dalam Sungai Nerus diklasifikasikan sebagai Kelas I, dimana ia berada dalam keadaan semulajadi berdasarkan Piawai Interim Kualiti Air Kebangsaan (INWQS).