

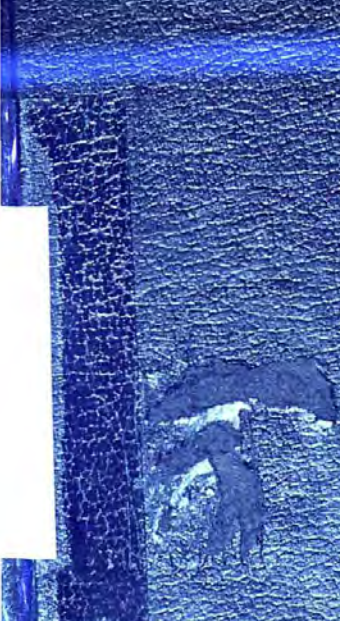
KESAN PASANG SURUT KEPADA PENEMBUSAN CAHAYA DI MUARA
SUNGAI TERENGGANU

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UNIVERSITI PUTRA MALAYSIA TERENGGANU

TERENGGANU

2000



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Kesan pasang surut kepada penembusan cahaya di muara sungai Terengganu / Tan Men Giap.

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KESAN PASANG SURUT KEPADA PENEMBUSAN CAHAYA DI
MUARA SUNGAI TERENGGANU

Oleh

Tan Men Giap

Laporan Projek ini merupakan sebahagian
daripada keperluan untuk mendapatkan
Ijazah Bacelor Sains (Sains Samudera)

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PENGHARGAAN

Saya ingin mengambil kesempatan di sini untuk mengucapkan ribuan terima kasih kepada penyelia projek tahun akhir saya, Prof. Madya Dr. Mohd. Nasir Saadon di atas tunjuk ajar dan panduan yang telah banyak diberikannya sepanjang projek ini dijalankan.

Penghargaan juga ingin saya sampaikan kepada ibu bapa, semua ahli keluarga serta kawan-kawan yang telah banyak memberi dorongan serta sokongan moral kepada saya selama ini.

Tidak lupa juga saya ingin mengucapkan ribuan terima kasih kepada semua kakitangan Universiti Putra Malaysia Terengganu yang telah banyak membantu saya menyiapkan projek tahun akhir ini.

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ABSTRAK

Kajian terhadap kesan pasang surut kepada penembusan cahaya di muara Sungai Terengganu telah dijalankan. Kajian ini melibatkan kedua-dua musim monsun Barat Daya dan Timur Laut. Dalam kajian ini, data dikutip antara bulan Mei hingga bulan Disember 1999.

Keputusan kajian ini mendapati bahawa kesan pasang surut kepada penembusan cahaya di kawasan kajian hanya wujud di stesen yang paling dekat dengan Laut China Selatan sahaja. Tiada kesan yang ketara dapat dilihat di kawasan yang jauh dari mulut sungai. Bacaan cakera Secchi yang tidak melebihi 5 m telah dicatat sepanjang kajian. Purata kedalaman minimum yang dicatat hanyalah 0.248 m sahaja manakala kedalaman maksimum yang dicatat pula ialah 4.866 m.

Jumlah pepejal terampai (TSS) didapati lebih tinggi semasa air surut berbanding air pasang tetapi ia tidak mempunyai hubungan secara langsung dengan takat penembusan cahaya. Selain itu, takat penembusan cahaya juga tidak berubah mengikut musim.

Nilai TSS yang maksimum dicatat adalah 89.5 mg.l^{-1} manakala nilai minimum pula hanya 1.60 mg.l^{-1} . Bagaimanapun, secara amnya nilai TSS di muara Sungai Terengganu tidak melebihi takat kritikal kualiti air ($<80 \text{ mg.l}^{-1}$), oleh itu ia sesuai

dijalankan aktiviti akuakultur sangkar. Kekeruhan air di Sungai Nerus didapati berubah dengan julat yang lebih besar berbanding dengan Sungai Terengganu.

The tidal effect to light penetration in Terengganu estuary was investigated. This study involved both Southwest and Northwest monsoon seasons. Data were collected from May until December 1999.

It has been observed that the effect of the tide to the light penetration can only be seen in stations which are nearer to the South China Sea. No significant effect is observed in stations which are far from the river mouth. The depth of the Secchi disc, less than 5 m, has been recorded during the investigation. The average maximum depth that has been recorded is just 0.248 m and the minimum is 4.365 m.

Total suspended solids (TSS) are higher during the low tide as compared to during high tide. However, it does not have any direct relationship to the light penetration. Besides, no seasonal change to the limit of light penetration has been observed.

The maximum TSS value that has been recorded is 82.3 mg.l⁻¹ and minimum is only 1.09 mg.l⁻¹. However, in general, the TSS value in Terengganu estuary does not exceed the control value of water quality (<30 mg.l⁻¹). Therefore it is safe for cage aquaculture activities. Also, it has been observed that the water turbidity in Nerus River is much higher than other rivers in Terengganu.

ABSTRACT

The tidal effect to light penetration in Terengganu estuary was investigated. This study involved both Southwest and Northeast monsoon seasons. Data were collected from May until December 1999.

It has been observed that the effect of the tide to the light penetration can only be seen in station which is nearest to the South China Sea. No significant effect is observed in stations which are far from the river mouth. The depth of the Secchi disk less than 5 m has been recorded during the investigation. The average minimum depth that has been recorded is just 0.248 m and the maximum is 4.866 m.

Total suspended solids (TSS) are higher during the low tide as compared to during high tide. However, it does not have any direct relationship to the light penetration. Besides, no seasonally change to the limit of light penetration has been observed.

The maximum TSS value that has been recorded is 89.5 mg.l^{-1} and minimum is only 1.60 mg.l^{-1} . However, in general, the TSS value in Terengganu estuary does not exceed the critical value of water quality ($<80 \text{ mg.l}^{-1}$). Therefore it is safe for cage aquaculture activities. Also, it has been observed that the water turbidity in Nerus River changes with greater range as compared to Terengganu River.