

PRIMARY PRODUCTIVITY STUDY :
DIURNAL VARIATION IN PHOTOSYNTHETIC VALUES AND
INORGANIC NUTRIENT CONTENTS OF SUNGAI
MANIR AND SUNGAI IBAI, TRENGGANU
WITHIN A GIVEN TIDAL CYCLE

BY

MOHD. KEAIRUDDIN BIN ABU BAKAR

FACULTY OF FISHERIES AND MARINE SCIENCE
UNIVERSITI PERTANIAN MALAYSIA
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A project report submitted in partial fulfilment
of the requirement for the Degree of Bachelor of
Science (Fisheries).

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MARCH 1983

1000382369

UNIVERSITI PERTANIAN MALAYSIA
FACULTY OF FISHERIES AND MARINE SCIENCE

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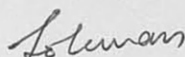
The undersigned certify that they have read and commend to the Faculty of Fisheries and Marine Science, for the acceptance, a research project report entitled :

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Submitted by :

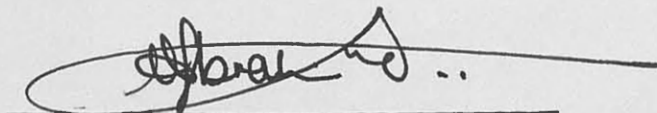
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ACKNOWLEDGEMENT

I am greatly indebted to my supervisor,
Encik Lokman Hj. Shamsudin, Faculty of Fisheries
and Marine Science, Universiti Pertanian Malaysia
for his invaluable guidance, advice and suggestions
throughout the course of the study.

I would like to thank Encik Razali Nasir,
Encik Khaizam Othman and Encik Engku Indong Engku
Embong, for assisting me during the project.

Finally, I would like to express my deep
gratitude to my parents whose never failing
encouragement and sacrifices have been a major
inspiration throughout my years of study.

ABSTRAK

Satu kajian nilai fotosintesis, kandungan nutrien bukan organan dan faktor-faktor alam sekitar yang berkaitan telah dijalankan di Sungai Ibai dan Sungai Manir, Trengganu dalam masa lingkaran air pasang-surut.

Perbezaan harian dalam nilai fotosintesis bersih dan kandungan nutrien bukan organan telah didapati di kedua-dua stesyen dalam masa lingkaran air pasang-surut. Daripada kajian yang telah dijalankan, didapati bahawa kandungan bukan organan dan nilai fotosintesis bersih adalah tinggi semasa air surut dan sebaliknya rendah sewaktu air pasang di kedua-dua stesyen. Tambahan lagi, kajian profil dalam ke atas fotosintesis bersih, nitrojen ammonium dan nitrojen nitrit di kedua-dua sungai menunjukkan penurunan nilai mereka mengikut kedalaman pada mana-mana masa yang ditetapkan.

Kenaikan nilai kemasinan dan pH mengikut kedalaman semasa air pasang di kedua-dua sungai menunjukkan berlakunya kemasukan air laut daripada

Laut China Selatan ke dalam muara sungai. Kandungan nitrogen ammonium adalah tinggi berbanding dengan nitrogen nitrat di mana ini menunjukkan peningkatan proses pereputan dan mineralisasi dalam kedua-dua sungai tersebut.

ABSTRACT

A study on photosynthetic values, inorganic nutrient contents and the related environmental factors was conducted at Sungai Manir and Sungai Ibai, Trengganu within a tidal cycle.

A diurnal variation in net photosynthetic values and inorganic nutrient contents were observable at both stations within a tidal cycle. The present finding shows that the inorganic contents and net photosynthetic values were found to be relatively high during the low tides and vice-versa during high tide at both stations. Furthermore, depth profile studies of net photosynthesis, ammonium nitrogen and nitrite nitrogen at both rivers demonstrated a decrease in their values with depth at any given times.

Increase in values of salinity and pH with depth especially during high tides at both rivers indicate an intrusion of seawater from the open South China Sea into the river-mouth. Ammonium nitrogen content was relatively higher than that

of nitrate nitrogen indicating an increased process of decomposition and mineralisation in the rivers.

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