

A STUDY OF PHYTOPLANKTON DIVERSITY AND
ABUNDANCE IN KERTEH RIVER, TERENGGANU

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FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
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**A STUDY OF PHYTOPLANKTON DIVERSITY AND ABUNDANCE IN
KERTEH RIVER, TERENGGANU**

By

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DECLARATION AND VERIFICATION REPORT
FINAL YEAR RESEARCH PROJECT

It is hereby declared and verified that this research report entitled:

A Study of Phytoplankton Diversity And Abundance In Kerteh River, Terengganu by Nazirah Bt Muhamad Haitamin, Matric No. UK17106 have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment towards obtaining the Degree of Marine Biology, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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LIST OF ABBREVIATIONS

%	-	percent
°C	-	Celsius
L	-	litre
ml	-	millilitre
mg	-	milligram
ppt	-	part per thousand
m	-	metre
μ	-	micron

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ABSTRACT

The study of abundance and diversity of phytoplankton was conducted at Kerteh River, Terengganu. Eleven stations at the estuary of Kerteh River were selected for sampling area. Sampling has been done twice on 2010, which is on the April and October. Samples were collected by using water pump and filtered with 20 μ m plankton net at the depth of 0.5m. Physical parameter of water such as DO (Dissolved oxygen), salinity, temperature and pH were also recorded. Samples were preserved in 5% formalin and brought back to the laboratory for further analysis and identification. Phytoplankton identification and counting were done by using Lackey's drop method. Phytoplankton abundance was expressed as cells per litre. Diversity and evenness index was calculated. The sample was classified to the lowest taxon as possible. Phytoplankton from 28 genera from 6 different phyla were identified. Diatoms were the most abundant group of phytoplankton in this study. *Chaetoceros* spp was the most abundant species found on the first sampling while *Coscinodiscus* spp in the second sampling. Both species come from the phylum Bacillariophyta.

KAJIAN DIVERSITI DAN KELIMPAHAN FITOPLANKTON DI SUNGAI KERTEH, TERENGGANU

ABSTRAK

Kajian mengenai kepelbagaian dan jumlah fitoplankton telah dijalankan di Sungai Kerteh, Terengganu. 11 stesen di sekitar mengabang Sungai Kerteh telah dipilih sebagai kawasan penyampelan. Penyampelan telah dijalankan sebanyak 2 kali pada tahun 2010. Penyampelan pertama telah dijalankan pada bulan April dan penyampelan kedua pada bulan Oktober. Air sampel telah dikutip untuk menggunakan pam air dan telah difilter menggunakan jala plankton bersaiz 20 μ m pada kedalaman 0.5m. Parameter air juga telah direkodkan antaranya ialah DO (Oksigen Terlarut), salinity, suhu air dan pH. Sampel telah diawet di dalam 5% formalin. Dan dibawa pulang ke makmal untuk kajian seterusnya. Fitoplankton telah dikenal pasti dan bilangannya dikira dengan menggunakan kaedah Lackey's drop. Jumlah fitoplankton telah dikira dalam bentuk sel per liter. Indeks kepelbagaian dan kerataan juga dikira. Sampel telah diklasifikasikan ke peringkat terendah. 28 genera daripada 6 filum yang berbeza telah dikenalpasti. Diatom merupakan kumpulan fitoplankton yang paling banyak ditemui. Spesis *Chaetoceros* merupakan spesis yang paling banyak dijumpai pada penyampelan pertama, manakala spesis *Coscinodiscus* pula merupakan spesis yang paling banyak ditemui untuk penyampelan kedua. Kedua-dua spesis merupakan spesis dibawah filum Bacilariophyta.