

A STUDY OF MARINE DEBRIS ON BEACH  
OF BIDONG ISLAND, TERENGGANU

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**A STUDY OF MARINE DEBRIS ON BEACH OF BIDONG ISLAND,  
TERENGGANU**

**By**

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**Research Report Submitted in partial fulfilment of  
the requirements for the degree of  
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DECLARATION AND VERIFICATION REPORT  
 FINAL YEAR RESEARCH PROJECT

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

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## LIST OF ABBREVIATIONS

<b>GPS</b>	-	Global Positioning System
<b>FASM</b>	-	Faculty of Aquaculture and Food Science
<b>FMSM</b>	-	Faculty of Maritime Science and Marine Science
<b>kg</b>	-	kilogram
<b>m</b>	-	meter
<b>UMT</b>	-	Universiti Malaysia Terengganu

## LIST OF ABBREVIATIONS

<b>°</b>	-	Degree
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# **A STUDY OF MARINE DEBRIS ON BEACHES OF BIDONG ISLAND, TERENGGANU**

## **ABSTRACT**

The analysis of marine debris composition and abundance using strandline method was conducted on three beaches of Bidong Island. The analysis was conducted twice which was from 25<sup>th</sup> till 28<sup>th</sup> of March 2010 for the first time and from 6<sup>th</sup> till 8<sup>th</sup> August 2010 for the second time. The sampling area is located in the northeast of Kuala Terengganu city and Merang town with 5°37'N 103°04'E off the coast of Terengganu in the South China Sea. The beach profile for the beach was recorded in order to see if there is a significant effect of beach slope on the debris accumulation. The marine debris composition analysis was recorded in both weight and item percentage abundance. The total weight of marine debris collected from the both sampling was 103.64 kg with 38.8% of it was plastic, 13.7% of glass, 5.8% of styrofoam, 5.5% of rubber and the rest of it is from others categories (36.2%). It is observable that most of the debris was accumulated at the Strandline 1 near the vegetation line where 63.5% of the debris collected from this strandline. In the mean time, most of the weight debris item such as metal, glass, asbestos and fabric tends to accumulate at the Strandline 3 near the water's edge. The variation of marine debris composition and percentage abundance is related to human's activity and behavior. The relatively high composition of marine debris at Station 1 is associated with the beach management where there's no constant debris management been done on the island. For conclusion, cooperation and concern from both public (island visitor) and the authorities party are important in dealing with the marine debris problems.

## **KAJIAN MENGENAI SAMPAH MARIN DI PANTAI PULAU BIDONG, TERENGGANU**

### **ABSTRAK**

Kajian mengenai komposisi dan jumlah timbunan sampah marin telah dijalankan di tiga Pantai Pulau Bidong dengan menggunakan kaedah garisan pantai. Kajian tersebut dijalankan sebanyak dua kali iaitu pada 25-28 Mac 2010 untuk kali pertama dan 6-8 Ogos 2010 untuk kali kedua. Kawasan kajian adalah terletak di bahagian timur laut Bandar Kuala Terengganu dan Merang dengan kedudukan  $5^{\circ}37'N$   $103^{\circ}04'E$  di luar pantai Terengganu di Laut China Selatan. Profil pantai untuk ketiga-tiga pantai Pulau Bidong diukur dan dicatat bagi mendapatkan kesan yang signifikansi antara kecerunan pantai dan timbunan sampah marin. Kedua-dua jumlah berat dan jumlah peratusan bilangan sampah marin yang ditemui dicatat. Jumlah berat keseluruhan sampah marin yang ditemui adalah sebanyak 103.64 kg dengan 38.8% daripada berat keseluruhan tersebut adalah daripada sampah jenis plastik. Selain itu, 13.7% daripada keseluruhan berat sampah itu adalah daripada sampah jenis kaca, 5.8% daripada sampah jenis styrofoam, 5.5% daripada jenis getah dan selebihnya adalah daripada sampah jenis lain-lain (36.2%). Kebanyakan sampah marin ini berkumpul di kawasan Garisan 1 yang berdekatan dengan kawasan tumbuhan dimana kawasan ini mencatatkan sejumlah 63.5% sampah terkumpul. Sementara itu, kebanyakan sampah yang berat seperti besi, kaca dan kain berkumpul di Garisan 3 yang berdekatan dengan gigi air. Variasi taburan sampah marin ini adalah berkait rapat dengan aktiviti dan sikap manusia. Jumlah sampah di Stesen 1 yang tinggi adalah disebabkan tiada sebarang sistem pengurusan sampah dilakukan di pulau ini. Kesimpulannya, kerjasama dan keprihatinan pelawat dan pihak yang bertanggungjawab adalah penting dalam menangani masalah sampah marin ini.