

**SOLID WASTE DEBRIS MANAGEMENT ON SELECTED BEACHES
IN MALAYSIA**

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ABSTRACT

Solid waste debris on beaches had caused environmental, aesthetical, economic and social problems in Malaysian beaches. This study discussed solid waste debris management on selected Malaysian beaches namely, Teluk Kemang, Pasir Panjang, Batu Burok, Seberang Takir, Tanjung Aru and Teluk Likas. The objectives of the study are to determine the abundance, composition, rate of accumulation, and the sources of debris on these beaches. It also aims to investigate the current beach management in Malaysia and beach users' opinion and attitude towards marine pollution issues. Debris from a total area of 60 m along each beach were collected, separated, counted, and weighed. As for the users' opinion, a total number of 180 beach users were interviewed. Results indicated that the highest abundance of debris was found in Seberang Takir beach at a density of 15.5 g/ m² with approximately 138 items every 10 m² areas. Plastic was the most abundant type of debris found regardless of the function of the beach. Recreational, fishing and shipping activities are among the sources of debris on studied beaches. Natural event such as monsoon, and beach management also played a significant factor to the presence of debris on beaches. Beach users were found to have low awareness regarding marine pollution issues. Therefore, future beach management should look into all aspects of concern in order to mitigate the debris problem on Malaysian beaches.

ABSTRAK

Kehadiran sisa di pantai-pantai Malaysia memberi kesan negatif kepada alam sekitar, nilai estetika, ekonomi dan sosial. Kajian ini membincangkan mengenai pengurusan sisa di pantai-pantai terpilih seluruh Malaysia iaitu Teluk Kemang, Pasir Panjang, Batu Burok, Seberang Takir, Tanjung Aru dan Teluk Likas. Kajian ini bertujuan untuk menentukan jumlah, komposisi, kadar pengumpulan dan sumber-sumber sisa yang terdapat di pantai-pantai tersebut. Kajian ini juga bertujuan untuk memahami pengurusan terkini pantai-pantai di Malaysia, selain menentukan pendapat dan sikap pengguna pantai terhadap isu-isu pencemaran alam sekitar marin. Kesemua sisa di dalam kawasan kajian sepanjang 60 m di setiap pantai dikumpul, diasingkan, dikira dan ditimbang. Sejumlah 180 pengguna pantai juga ditemubual. Pantai Seberang Takir mencatatkan jumlah sisa tertinggi, iaitu seberat 15.5 g/ m² dan lebih kurang 138 item setiap 10 m². Plastik merupakan jenis sisa yang paling kerap ditemui, walaupun pada pantai dengan fungsi yang berbeza. Aktiviti rekreasi, perikanan dan perkapalan adalah antara penyumbang sisa di pantai-pantai kajian. Keadaan semulajadi seperti monsun, dan pengurusan pantai didapati memainkan peranan yang signifikan terhadap kehadiran sisa di pantai. Pengguna pantai didapati mempunyai kesedaran yang rendah terhadap isu-isu pencemaran marin. Pengurusan pantai di masa hadapan perlu mengambilkira semua aspek berkaitan untuk mengatasi masalah sisa di pantai-pantai Malaysia.

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