

CORAL MAPPING OF RUTJAU BIRONG
USING HYDROACOUSTIC SEAFLOOR
CLASSIFICATION SYSTEM.

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SCHOOL OF AGROTECHNOLOGY AND FOOD SCIENCE
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**CORAL MAPPING OF PULAU BIDONG
USING HYDROACOUSTIC SEAFLOOR CLASSIFICATION SYSTEM**

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**This project report is submitted in partial fulfillment of the requirement of the
degree of Bachelor of Applied Science (Fisheries)**

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ABSTRACT

This study aimed to map out coral types via hydroacoustic method of coral reef using a RoxAnn™ hydroacoustic in the Pulau Bidong and to compare this method with scuba diving. Thirteen major reef substrates were identified from this study. Live hard coral represents a total coverage of 49.53% from the 7955.67m² total length of transects recorded from Pulau Bidong. As for Pulau Bidong, soft coral was the dominant coral type contributing to 35.69% of the total 2839.50m² of track run. The real time track data were also interpolated using Surfer 7.0 for thematic maps. In this survey, RoxAnn™ Hydroacoustic method shows strongly to be a better alternative to be conventional traditional methods in terms of time and cost spent. This survey point out that the technology use a powerful underwater sonic searchlight to detect and enumerate physical and biological features of coral reefs. This enables faster and more accurate ground-truthing and mapping than the traditional scuba surveys which carry an element of subjective interpretation with observation and therefore the possibility of human error.

ABSTRAK

Kajian ini bertujuan untuk memetakan jenis terumbu karang dengan menggunakan kaedah hidroakuastik RoxAnn™ di Pulau Bidong dan membandingkan kaedah ini dengan kaedah selaman. Terdapat tiga belas jenis terumbu karang yang dikenalpasti dalam kajian ini. Sebanyak 49.53% terumbu karang yang hidup merangkumi kawasan seluas 7955.67 m² di Pulau Bidong telah direkodkan. Di dapati sepsies paling dominant di Pulau Bidong adalah karang lembut sebanyak 35.69% daripada jumlah keluasan 2839.50 m². Maklumat trek semasa juga boleh diinterpolatkan menggunakan Surfer 7.0. Dalam kajian ini, kaedah hidroakuastik RoxAnn™ menunjukkan kaedah alternatif yang lebih baik berbanding kaedah tradisional, dari segi masa dan kos. Dalam kajian ini menunjukkan teknologi 'sonic' dapat mengesan bentuk fizikal dan biologi terumbu karang dengan lebih spesifik. Ini membolehkan 'ground-truthing' dan pemetaan terumbu karang dengan lebih cepat dan tepat berbanding kaedah selam yang berisiko dan keputusan yang tidak tepat disebabkan oleh kesilapan manusia.