IMPACT OF RECTREATIONAL DIVERS ON CORAL REEFS

MOHAMED AHUSAN

FACULTY OF MARITIME STUDIES AND MARINE SCIENCE UNIVERSITI MALAYSIA TERENGGANU 2011 Ch. 191

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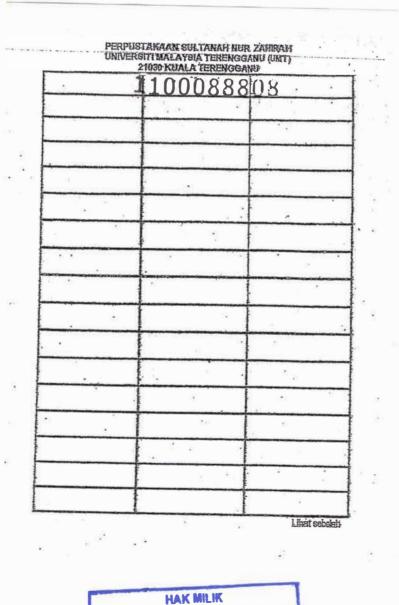
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PERPUSTAKAAN SULTANAH NUR ZAHIRAH UNT

IMPACT OF RECTREATIONAL DIVERS ON CORAL REEFS

By

Mohamed Ahusan

Research Report submitted in partial fulfillment of the requirements for the degree of Bachelor of Science (Marine Biology)

Department of Marine Science Faculty of Maritime Studies and Marine Science UNIVERSITI MALAYSIA TERENGGANU 2011



DEPARTMENT OF MARINE SCIENCE FACULTY OF MARITIME STUDIES AND MARINE SCIENCE UNIVERSITI MALAYSIA TERENGGANU

DECLARATION AND VERIFICATION REPORT

FINAL YEAR RESEARCH PROJECT

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

Empact of recreational divers on wral reefs

by <u>Mahaned</u> <u>Ahusan</u>, Matric No. <u>WF-</u>16841. 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 <u>B</u>: <u>Sc. in</u> <u>Mania</u> <u>B</u>iology</u>. Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

Verified by:

Principal Supervisor Name: Official stamp:

PEOF MABYA LIEW HOCK CHARK Pensyarah Jabatan Sains Marin Fakulti Pengajian Maritim Dan Saing Me-Universiti Malaysia Terenggan 21030 Kuala Terenggan

Second Supervisor Name:

Official stamp:

Institute Of Oceanography Universiti Malaysia Terengganu 21030 Kuala Terengganu, Terengganu

Head of Department of Marine Science

Name: Dr. Razak bin Zakariya

Official stamp:

DR. RAZAK ZAKARIYA Ketua Jabatan Sains Marin Fakulti Pengajian Maritim dan Sains Marin Univertiti Malaysia Terengganu (UMT) Date: 2 5 7011

Date: 2/5/2011

Date:

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LIST OF ABBREVIATIONS

- SCUBA-Self Contained Underwater Breathing Apparatusd-SLR-Digital single lens reflexmin-Minutes
- SE Standard error

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ABSTRACT

Recent research has shown that recreational SCUBA divers have the potential to negatively affect the benthic communities of coral reefs. This study was carried out in order to estimate the amounts and types of damages caused by divers on reefs of Redang Island Marine Park. SCUBA divers from two resorts operating in Redang Island were accompanied and observed for duration of 10 minutes. During the observations, the number of times each diver makes contact with the benthic substrate, part of the body that contacted, and the resulting damage caused by each contact were recorded. Observation of 95 divers revealed that more than half, 56%, made at least one contact with the reef where 48.76% of all contacts occurred on living surfaces. On average, 1.7 contacts per diver per 10 min were recorded with 57.5% of the contacts from the fins of the diver. Fin contacts were also responsible for causing eight out of the nine breaking incidents recorded. It was also found that a higher number of male divers, 66%, compared to females, 39%, and divers who practiced photography, 77%, compared to those who did not, 47%, made benthic contacts during the observation period. The activity of photography was seen as the single most cause leading to benthic contacts. Recommendations to limit the detrimental impacts of recreational divers on the reefs around Redang Island are proposed in this report.

IMPAK PENYELAMAN REKREASI KE ATAS TERUMBU KARANG

ABSTRAK

Penyelidikan terkini menunjukkan bahawa aktiviti rekreasi SCUBA berpotensi memberikan kesan negatif terhadap komuniti bentik kawasan terumbu karang. Kajian ini dijalankan untuk menganggar jumlah dan jenis kerosakan yang disebabkan oleh penyelam SCUBA terhadap kawasan terumbu karang di Taman Laut, Pulau Redang. Para penyelam SCUBA dari dua resort yang beroperasi di Pula Redang akan telah diperhatikan selama sepuluh minit. Semasa pemerhatian, bilangan setiap kali penyelam melakukan sentuhan dengan substrat bentik, bahagian badan yang bersentuhan dan kerosakan yang disebabkan oleh setiap sentuhan akan direkod. Pemerhatian ke atas 95% penyelam menunjukkan bahawa lebih daripada 56% penyelam membuat sekurangkurangnya satu sentuhan dengan terumbu karang di mana 48.8% sentuhan adalah pada permukaan hidupan. Secara purata, 1.7 sentuhan bagi setiap selaman selama 10 minit telah direkodkan dengan 57.5% sentuhan adalah berpunca dari sirip kaki penyelam. Sentuhan sirip kaki penyelam juga bertanggungjawab menyebabkan lapan daripada sembilan insiden kerosakan yang direkod. Kajian juga menunjukkan bahawa jumlah sentuhan oleh penyelam lelaki (66%) adalah lebih tinggi berbanding dengan penyelam perempuan (39%). Penyelam yang membuat fotografi juga akan membuat lebih banyak sentuhan (77%) berbanding penyelam yang tidak menjalankan fotografi (47%). Aktiviti fotografi merupakan penyebab utama kepada sentuhan bentik. Cadangan terhadap menghadkan impak kerosakan yang disebabkan oleh penyelam di sekitar Pulau Redang dijelaskan dalam laporan ini.