

# IMPACT OF RECREATIONAL DIVERS ON CORAL REEFS

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**IMPACT OF RECTREATIONAL DIVERS ON CORAL REEFS**

**By**

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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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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 *B.Sc. in Marine Biology* ....., Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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## TABLE OF CONTENTS

	<b>Page</b>
<b>ACKNOWLEDGEMENTS</b>	ii
<b>LIST OF TABLES</b>	vi
<b>LIST OF FIGURES</b>	vii
<b>LIST OF ABBREVIATIONS</b>	viii
<b>LIST OF APPENDICES</b>	ix
<b>ABSTRACT</b>	x
<b>ABSTRAK</b>	xi
<b>CHAPTER 1: INTRODUCTION</b>	1
1.1 Introduction	1
1.2 Objectives	4
<b>CHAPTER 2: LITERATURE REVIEW</b>	5
2.1 Coastal Tourism and its impacts on the marine environment	6
2.2 Impacts from SCUBA diving	7
2.2.1 Impact of divers based on reef topography	10
2.2.2 Photo or videographers and their impacts	10
2.2.3 Other aspects of divers and their impacts	11
2.3 Minimizing impacts from SCUBA divers	12
2.4 Status of research in Malaysia	13

<b>CHAPTER 3: METHODOLOGY</b>	14
3.1 Survey area	14
3.2 Assessment of dive sites	16
3.3 Observation of divers	19
3.4 Statistical analyses	20
<b>CHAPTER 4: RESULTS</b>	22
4.1 Dive operations	22
4.2 Dive sites	23
4.3 Observation of divers	25
4.3.1 Gender variations	27
4.3.2 Underwater photographers	28
4.3.3 Intentional vs. unintentional contacts	29
4.3.4 Causes of substrate contacts	29
4.3.5 Contacts related to diver's experience	31
<b>CHAPTER 5: DISCUSSION</b>	35
5.1 Dive sites	35
5.2 Observation of divers	36
5.2.1 Contacts related to gender of the diver	38
5.2.2 Contacts related to experience of the diver	39
5.2.3 Photographers and contacts	40
5.3 Recommendations	41

<b>CHAPTER 6: CONCLUSION</b>	43
<b>REFERENCES</b>	44
<b>APPENDICES</b>	48
<b>CURICULUM VITAE</b>	59



## LIST OF TABLES

<b>Table</b>		<b>Page</b>
3.1	Percentage categories used in benthic cover estimates.	18
4.1	Summary of sites visited, presence/absence of broken coral colonies, morphology of colony affected and percent benthic cover at the sites	24

## LIST OF FIGURES

<b>Figure</b>		<b>Page</b>
3.1	Google Earth image showing the location of Redang Island.	15
3.2	Commonly used dive sites of Redang Island Marine Park.	16
4.1	Newly broken fragment of branching coral.	23
4.2	Percent of contacts from the respective sources.	25
4.3	A diver's fin resting on a sea anemone.	26
4.4	Percentage of contacts against type of substrate.	27
4.5	Percentage of contacts based on the activity of the divers during the contact.	30
4.6	Percentage of contacts against number of previous dives.	32
4.7	Graph of percent of contacts made on living and non-living surfaces against number of previous dives.	33
4.8	Percentage proportion of intentional and unintentional contacts made in relation to the number of previous logged dives.	34

## LIST OF ABBREVIATIONS

SCUBA	-	Self Contained Underwater Breathing Apparatus
d-SLR	-	Digital single lens reflex
min	-	Minutes
SE	-	Standard error

## LIST OF APPENDICES

<b>Appendix</b>		<b>Page</b>
1	Sample form used to record ambient parameters of the dive site	48
2	Sample questionnaire used to record demographic and other information from the divers	49
3	Number and percentages of contacts and their respective sources	50
4	Percentage of contacts made on life form categories	51
5	Chi square table for comparison of males and females	52
6	Chi square table for comparison of photographers and non-photographers	53
7	Chi square table for comparison of intentional and unintentional contacts	54
8	Percentage of contacts and the activities that lead to the contact	55
9	Percentage of contacts made by number of previous dives and the number of divers in each class	56
10	Percentage of contacts made on living and non-living surfaces by number of previous dives and the number of divers in each class	57
11	Percentage of contacts made intentionally and unintentionally by number of previous dives and the number of divers in each class	58

## **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 Pulau 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 sekurang-kurangnya 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.