

**BIOMASS ESTIMATION OF CORAL REEF FISHES IN  
REDANG AND BIDONG ISLAND BY  
UNDERWATER VISUAL CENSUS METHOD**

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**By**

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**Research Report submitted in partial fulfillment of  
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SCHOOL OF MARINE SCIENCE AND ENVIRONMENT  
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**DECLARATION AND VERIFICATION REPORT**  
**FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled **BIOMASS ESTIMATION OF CORAL REEF FISHES IN REDANG AND BIDONG ISLAND BY UNDERWATER VISUAL CENSUS** by **ABU NAIM UBaidURRAHMAN BIN AHMAD AZLAN** Matric No. **UK27443** have been examined and all errors identified have been corrected. This report is submitted to the School of Marine Science and Environment as partial fulfillment towards obtaining the Degree of Bachelor of Science (Marine Biology) School of Marine Science and Environment, University Malaysia Terengganu.

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## TABLE OF CONTENTS

ACKNOWLEDGEMENT	V
LIST OF TABLE	VI
LIST OF FIGURE	VII
LIST OF ABBREVIATIONS	VIII
LIST OF APPENDICES	IX
ABSTRACT	X
ABSTRAK	XI
<b>CHAPTER 1:INTRODUCTION</b>	<b>1</b>
1.1    Background Study	1
1.1.1    Importance of Coral Reef	2
1.1.2    Significant role of coral reef fish	3
1.2    Definition of Biomass	3
1.3    Estimation on Fish Biomass	4
1.4    Problem Statement	5
1.5    Justification	6
1.6    Objective	6
<b>CHAPTER 2: LITERATURE REVIEW</b>	<b>7</b>
2.1    Coral Reef Fish	7
2.1.1    Status of Coral Reef Fish in the Indo Pacific and Asia	7
2.1.2    Importance of fish study	8
2.2    Coral Reef Census Method	9
2.2.1    Conventional Way of Coral Health Monitoring	9
2.2.2    Reef Check findings	10
2.3    The Study Site	11
2.3.1    Redang Island	11
2.3.2    Bidong Island	12
2.4    Definition of Biomass	12
2.5    Coral Health Index	13
2.5.1    Benthos Community for Coral Health Index	14
2.5.2    Microbial Density for Coral Health Index	14
2.5.3    Biomass of Fish for Coral Health Index	15

2.6	Criteria for Selecting Fish Survey	15
2.7	Determination of Fish Biomass by Using Length-Weight Relationship	16
2.7.1	Fishbase as the Source of Length-Weight Relationship for Biomass Data	16
2.8	Species Diversity, Richness and Evenness	17
2.9	General Study on Commercial Fish	18
2.10	Underwater Visual Census (UVC)	19
2.10.1	Past Census Methodologies	19
2.10.2	Conventional Method of UVC for CHI	19
2.10.3	Belt-Line Transect	20
<b>CHAPTER 3: METHODOLOGY</b>		<b>21</b>
3.1	Materials	22
3.1.1	Books and References	22
3.1.2	Sampling Equipment	22
3.2	Sampling Station	22
3.2.1	Redang Island	22
3.2.2	Bidong Island	23
3.3	Sampling Method	24
3.3.1	Pre-sampling	24
3.3.2	Underwater Visual Census Sampling	24
3.3.3	Post-sampling	25
3.4	Belt Transect Method of Underwater Visual Census	25
3.5	Limitation	26
3.5.1	Fish Length Estimation	26
3.5.2	Fish Count Estimation and limitation	27
3.6	Data Analysis	28
3.6.1	Estimation of Biomass of Coral Reef Fish via Length Weight Relationship	28
3.6.2	Species Diversity Analysis	31
<b>CHAPTER 4: RESULTS</b>		<b>34</b>
4.1	Redang Island	34
4.1.2	Fish Species Occurrence	35

4.1.3.1	Fish Abundance With Respect To Sampling Station	37
4.2	Bidong Island	39
4.2.1	Fish Family Abundance	39
4.2.2	Fish Species Occurrence	40
4.3.1	Length of Redang Fish	44
4.3.2	Length of Bidong Fish	48
4.4	Biomass of Redang and Bidong Island	52
4.4.1	Biomass of Redang Island	52
4.4.2	Biomass of Bidong Island	53
4.4.3	Biomass Comparison of Redang and Bidong Island	54
4.5	CHI of Redang and Bidong Island	55
4.5.1	CHI of Redang Island	55
4.5.2	CHI of Bidong Island	55
4.5.3	Comparison of Coral Health Index of Fishes in Redang and Bidong Island	56
4.6	Species Diversity Analysis	57
4.6.1	Redang Island	57
4.6.2	Bidong Island	60
<b>CHAPTER 5: DISCUSSION</b>		<b>62</b>
5.1	Fish Occurrence, Family, and Species Abundance at Bidong and Redang	62
5.2	Biomass of Redang and Bidong Island	65
5.3	Coral Health Index for Fish Biomass	68
5.4	Obstacles and Disturbance of UVC Survey and the Influence on Biomass and Diversity	69
5.5	Diversity of Coral Reef Fishes	71
<b>CHAPTER 6: CONCLUSION AND RECOMMENDATION</b>		<b>73</b>
REFERENCES		75
APPENDICES		80
Appendix 1		80
Pictures of Dominant Species		80
Appendix 2		82



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## LIST OF TABLE

<b>Table</b>		<b>Page</b>
4.1	Species Occurrence of Redang Fish	36
4.2	Species Occurrence of Bidong Fish	41
4.3 (a)	Length of Redang Fish	45
4.4 (b)	Length of Bidong Fish	49
4.6 (a)	Species Diversity with Respective to Species Abundance	58
4.6 (b)	Species Diversity with Respective to Species Abundance	60

## LIST OF FIGURE

<b>Figure</b>	<b>Page</b>
3.2 (a) Redang Island	23
3.2 (b) Bidong Island	23
3.4 Belt Transect Area of Survey	26
3.6 (a) Formula of Length Weight Relationship	28
3.6 (b) Example of Length use in Length Weight Relationship	29
4.1 (a) Abundance of 5 most dominant fish family at Redang Island	35
4.1 (b) Species Abundance of fish according to sampling station at Redang Island	37
4.1 (c) Top 5 Most abundance species found in Redang Island	38
4.2 (a) Abundance of 5 most dominant fish family at Bidong Island	40
4.2 (b) Species Abundance of fish according to Sampling Station at Bidong Island	42
4.2 (c) Top 5 most abundance species found at Bidong Island	43
4.4 Biomass of Redang Island and Bidong Island	54
4.5 CHI of Redang Island	56
4.6 (a) Fish Diversity and Evenness Index at Redang Island	58
4.6 (b) Dendogram for Bray-Curtis Cluster analysis for Species Composition and Their Abundance at Redang Island	59
4.6 (c) Fish Diversity and Evenness Index at Bidong Island	60
4.6 (d) Dendogram of Species Abundance of Bidong Island Showing the Diversity According to Station	61

## LIST OF ABBREVIATIONS

g/m <sup>2</sup>	gram per meter square
CHI	Coral Health Index
UVC	Underwater Visual Census
ET10	Ekor Tebu Island with 10m Depth
ET3	Ekor Tebu Island with 3m Depth
PL10	Lima Island with 10m Depth
PL3	Lima Island with 3m Depth
PP10	Paku Besar Island with 10m Depth
PP3	Paku Besar Island with 3m Depth
S	Total Number of Species
N	Total Number of Individuals
d	Species Richness (Margaleff's)
J'	Species Evenness (Pielou's)
H'	Shannon Index of Species Diversity
PK10	Karah Island with 10m Depth
PK3	Karah Island with 3m Depth
PB10	Bidong Island with 10m Depth
PB3	Bidong Island with 3m Depth
PG10	Galeria Bidong Island with 10m Depth
PG3	Galeria Bidong Island with 3m Depth
S	Total Number of Species
%	Percentage/Percent
SE	Standard Error
cm	centimetre
m	meter
LWR	Length Weight Relationship

## LIST OF APPENDICES

<b>Appendix</b>		<b>Page</b>
Appendix 1	Pictures of Dominant Species	80
Appendix 2	Underwater Visual Census Sampling Method	82
	Estimation Method by Wooden Block of 15 Length	

## **ABSTRACT**

A research regarding the estimation of biomass of coral reef fishes particularly in Redang and Bidong Island by method of underwater visual census. Estimation refers to estimating the length of fish and its amount, in-situ as accurate as possible with the help of proven method from past research. After recording the data of length and abundance, the data was integrated to biomass and CHI by length weight relationship. Diversity was also done to show species richness, diversity and evenness. CHI was also conducted to show the healthiness of coral reef base on biomass of the fishes. Results of biomass, diversity and CHI were successfully obtained in this research.

## ABSTRAK

Satu kajian mengenai anggaran biomas ikan terumbu karang terutamanya di Pulau Redang dan Pulau Bidong dengan kaedah bancian visual di bawah air. Anggaran merujuk kepada penganggaran panjang ikan dan jumlah ikan, *in-situ* setepat mungkin dengan bantuan kaedah yang terbukti daripada kajian yang lepas. Selepas merekodkan data panjang ikan dan kelimpahan ikan, data di integrasikan kepada biomas dan CHI oleh hubungan panjang-berat-badan. Kepelbagaian spesis juga dilakukan untuk menunjukkan kekayaan spesies, kepelbagaian dan kesamarataan ikan. CHI juga telah dijalankan untuk menunjukkan kesihatan terumbu karang melalui biomas daripada ikan. Keputusan biomass, kepelbagaian spesis dan CHI telah berjaya diperolehi dalam kajian ini.