

EFFECT OF MONSOON ON DISTRIBUTION OF TOTAL AND INORGANIC  
PHOSPHOROUS IN SEDIMENT OF SETIU LAGOON, SOUTH CHINA SEA

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FACULTY OF MARITIME STUDIES AND MARINE SCIENCE  
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**JABATAN SAINS MARIN  
FAKULTI PENGAJIAN MARITIM DAN SAINS MARIN  
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**PENGAKUAN DAN PENGESAHAN LAPORAN  
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

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## LIST OF CONTENTS

<b>CONTENTS</b>	<b>PAGE NUMBER</b>
<b>BORANG PENGESAHAN</b>	II
<b>ACKNOWLEDGEMENTS</b>	III
<b>LIST OF CONTENTS</b>	IV
<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>ABSTRAK</b>	X
<b>ABSTRACT</b>	XI
<b>CHAPTER 1: INTRODUCTION</b>	
1.1 Introduction	1
1.2 Objectives	5
<b>CHAPTER 2: LITERATURE REVIEW</b>	
2.1 Phosphorous	6
2.2 Factor affecting phosphorous concentration	11
2.3 Relationship between phosphorous and eutrophication	13
2.4 Sediment	15
2.5 Sediment as sinker of phosphorous	16
2.6 Estuary and lagoon	17

### **CHAPTER 3: METHODOLOGY**

3.1	Sampling site	19
3.2	Analytical technique	20
3.2.1	Preparation of standard curve of orthophosphate	20
3.2.2	Reagent preparation for orthophosphate	20
3.2.3	Procedures for total phosphorous	22
3.2.4	Recovery test for total phosphorous	23

### **CHAPTER 4: RESULTS**

4.1	Location of Sampling Sites	24
4.2	Hydrological parameter	26
4.3	Phosphorous Distribution in sediment at Setiu Lagoon.	27
4.3.1	Total Phosphorous	27
4.3.2	Inorganic Phosphorous	30

### **CHAPTER 5: DISCUSSION**

5.1	Total and Inorganic Phosphorous in Sediment for All Sampling Period	35
5.2	First Sampling	37
5.3	Second Sampling	39
5.4	Third Sampling	41
5.5	Comparison Total and Inorganic Phosphorous between Water and Sediment.	42
5.6	Comparison of Total Phosphorous Distribution in Sediment in Present Study with Previous Study (Year 2006)	44
5.7	Comparison of Total Phosphorous and Nitrogen in Sediment	45

### **CHAPTER 6: CONCLUSION** 47

### **REFERENCES** 49

### **APPENDICES** 52

### **CURRICULUM VITAE** 70



## LIST OF TABLES

Table 2.1	The safety level of phosphorous in the sediement
Table 2.2	The concentration of phosphorous in the estuary ecosystem.
Table 4.1	The coordinate of each of station at Setiu Lagoon Terengganu.
Table 4.2(a)	Hydrological parameter readings during the first sampling periods, September 2007
Table 4.2(b)	Hydrological parameter readings during the for second sampling periods, 21 October 2007
Table 4.2(c)	Hydrological parameter readings during the for second sampling periods, 21 October 2007
Table 4.3	The mean, standard deviation, range, minimum and maximum value of total phosphorous in Setiu Lagoon in sediment during first, second and third sampling periods
Table 4.4	The mean, standard deviation, range, minimum and maximum value of inorganic phosphorous in Setiu Lagoon sediment during first, second and third sampling periods
Table 5.1	The mean and standard deviation value of total and inorganic phosphorous in water at Setiu Lagoon
Table 5.2	The ratio value of total and inorganic phosphorous in water and sediment at Setiu Lagoon
Table 5.3	The ratio value of total and inorganic phosphorous in water and sediment at Setiu Lagoon

## LIST OF FIGURES

- Figure 1: The aquatic phosphorous cycle.
- Figure 2: Sampling location at Setiu Lagoon
- Figure 4.1: The sampling station at Setiu Lagoon Terengganu
- Figure 4.2: The distribution of total phosphorous in sediment at Setiu Lagoon for each sampling period.
- Figure 4.3: The distribution of total phosphorous in sediment at Setiu Lagoon for each of sampling period.
- Figure 5.1: Monthly rainfall in Kuala Terengganu in difference monsoon season
- Figure 5.2: Total inorganic phosphorous for all sampling station
- Figure 5.3: Relationship of total and inorganic phosphorous with dissolve oxygen
- Figure 5.4: Relationship between phosphorous compounds with dissolve oxygen
- Figure 5.5: Relationship of phosphorous compound with dissolve oxygen for second sampling
- Figure 5.6: Graph comparison of total phosphorous between previous and present study.
- Figure 5.7: Graph comparison between total nitrogen and phosphorous in sediment

## LIST OF ABBREVIATION

DIP	Dissolve Inorganic Phosphorous
DOP	Dissolve Organic Phosphorous
GPS	Global Positioning System
H <sub>2</sub> SO <sub>4</sub>	Hydrogen Sulphate
KH <sub>2</sub> PO <sub>4</sub>	Potassium Dihydrogen Phosphate
M	Molarity
mL	millilitre
mg	milligram
Kg	kilogram
N	Normality
nm	nanometer
(NH <sub>4</sub> ) <sub>6</sub> Mo <sub>24</sub> .4H <sub>2</sub> O	Ammonium paramolybdate
ppm	Part Per Million
TP	Total Phosphorous

## LIST OF APPENDICES

APPENDIX		PAGE
Appendix 1	Standard curve of orthophosphate analysis.	
Appendix 2	Recovery test of total dissolved phosphate	
Appendix 3	Datas collected in Setiu lagoon, Terengganu	
Appendix 4	Range, maximum and minimum value for, Terengganu for total and inorganic phosphorous in sediment.	
Appendix 5	Tidal condition in setiu lagoon, terengganu.	
Appendix 6	Daily observation rainfall data of kuala terengganu.	
Appendix 7	Hydrological parameter	
Appendix 8	Statistical analysis by using anova two way	
Appendix 9	Summary of Methodology	



## ABSTRAK

Kajian projek ini tertumpu kepada kesan monsun terhadap taburan jumlah fosforus dan fosforus tak organik di dalam sedimen di Setiu Lagun. Kajian sebanyak tiga kali telah dilakukan dari September hingga Disember, 2007. 14 stesen dipilih dan sampel sediment diambil di bahagian permukaan. Purata kepekatan jumlah fosforus untuk penyampelan pertama, kedua dan ketiga masing –masing adalah  $3.263 \pm 3.255$  mg/Kg,  $17.168 \pm 2.689$  mg/Kg and  $3.830 \pm 1.008$  mg/Kg. Manakala fosforus tak organik adalah  $1.376 \pm 1.247$  mg/Kg untuk penyampelan pertama,  $14.201 \pm 8.596$  mg/Kg penyampelan kedua dan penyampelan ketiga adalah  $1.881 \pm 1.844$  mg/Kg. Analisis statistik menyatakan terdapat nilai perbezaan ketara ( $P < 0.05$ ) di antara masa penyempelan untuk jumlah fosforus ( $P = 0.000$ ) dan fosforus tak organik ( $P = 0.000$ ). Manakala tidak terdapat nilai perbezaan ketara ( $P > 0.05$ ) di antara stesen penyampelan untuk jumlah fosforus ( $P = 0.070$ ) dan fosforus tak organik ( $P = 0.125$ ). Secara umumnya, jumlah taburan jumlah fosforus dan fosforus tak organik di dalam sedimen tinggi pada pre – monsun, diikuti ketika monsun Timur Laut dan monsun Barat Daya.

## ABSTRACT

This study focused on the monsoon effect on the distribution of the total and inorganic phosphorous in sediment at Setiu Lagoon. Sampling was done three times from September until December 2007. Fourteen sampling stations were chosen and the sediment collected was the surface sediment. The concentration of first, second and third sampling for total phosphorous were 3.263 + 3.255 mg/Kg, 17.168 + 2.689 mg/Kg and 3.830 + 1.008 mg/Kg respectively. Same goes to the inorganic concentration, that is 1.376 + 1.247 mg/Kg, 14.201 + 8.595 mg/Kg and 1.881 + 1.844 mg/Kg for first, second and third sampling period. The statistical analysis shows that, there are significant difference ( $P < 0.05$ ) among the sampling period for total phosphorous ( $P = 0.000$ ) and inorganic phosphorous ( $P = 0.000$ ). Whereas there are no significant difference ( $P > 0.05$ ) among the station for the total phosphorous ( $P = 0.070$ ) and inorganic phosphorous ( $P = 0.125$ ). Generally, the total and inorganic phosphorous is highest during the pre – monsoon, followed by North East monsoon and South West monsoon.