

STUDY OF PHOSPHORUS DISTRIBUTION IN THE BALTIC SEA

RESULTS AND DISCUSSION

PHOSPHORUS DISTRIBUTION IN THE BALTIC SEA
IN THE YEARS 1958-1960

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A study on phosphorus distribution at Tok Bali Lagoon / Zurina Mohd Azhari.



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A STUDY ON PHOSPHORUS DISTRIBUTION AT TOK BALI LAGOON

By

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

**Department of Marine Science
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**JABATAN SAINS SAMUDERA
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**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk :

A STUDY ON PHOSPHORUS DISTRIBUTION AT TOK BALI LAGOON

oleh ZURINA BINTI MOHD AZHARI No.matrik UK 7738 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Samudera sebagai memenuhi sebahagian daripada keperluan memperoleh ijazah SARJANA MUDA SAINS (BIOLOGI MARIN), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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*To mom and dad...
Thanks for being in my life...*

*To sis and bro...
I always love you all...*

*To my housemate...
Hara, Fad, Aishah, Pae, Ain and Mas...
You're the best...*

*To my course mate...
Thanks for giving me a memorable day together...*

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TABLE OF CONTENTS

Content	Page
Title page	i
Approval form	ii
Acknowledgement	iii
Table of content	v
List of table	viii
List of figures	ix
List of abbreviation	x
List of appendices	xi
Abstract	xii
Abstrak	xiii
1.0 INTRODUCTION	1
2.0 LITERATURE REVIEW	
2.1 Nutrient elements	5
2.2 The role of nutrient	6
2.3 Marine pollutants and their sources	6
2.4 Impact of nutrient on the productivity of estuary	8

2.5	Phosphorus compounds in water	10
2.5.1	Orthophosphates	12
2.5.2	Condensed phosphates	12
2.5.3	Organic phosphorus	13
2.6	Phosphorus cycle	13
2.6.1	Uptake of phosphorus	14
2.6.2	Regeneration	15

3.0 MATERIALS AND METHODS

3.1	Study area	16
3.2	Hydrological parameters	17
3.3	Glassware	17
3.4	Sampling techniques	18
3.5	Analytical technique	18
3.5.1	Dissolved phosphorus analysis	19
3.5.2	Total phosphorus analysis	21
3.6	Statistical analysis	23

4.0	RESULT	
4.1	Hydrological parameter	24
4.2	Orthophosphate distribution	33
4.3	Total phosphorus distribution	35
5.0	DISCUSSION	39
6.0	CONCLUSION	47
	References	49
	Appendices	54
	Curriculum vitae	75

LIST OF TABLE

Table 3.1	: Date, season and tide during sampling	16
Table 4.2	: The average of hydrological parameter reading during the sampling	24

LIST OF FIGURES

Figure 2.6 : The phosphorus cycle	13
Figure 3.1 : The sampling station in Tok Bali lagoon, Kelantan	17
Figure 4.1 : Distribution of temperature during non monsoon season and monsoon season at Tok Bali lagoon	26
Figure 4.2 : Distribution of dissolved oxygen during non monsoon season and monsoon season at Tok Bali lagoon	28
Figure 4.3 : Distribution of pH during non monsoon season and monsoon season at Tok Bali lagoon	30
Figure 4.4 : Distribution of salinity during non monsoon season and monsoon season at Tok Bali lagoon	32
Figure 4.5: The concentration of orthophosphate during non monsoon season for high tide and low tide.	33
Figure 4.6 : The concentration of orthophosphate during monsoon season for high tide and low tide.	34
Figure 4.7 : The concentration of total phosphorus in non monsoon season between station for high tide and low tide	36
Figure 4.8 : The concentration of total phosphorus in monsoon season between station for high tide and low tide	37

LIST OF ABBREVIATIONS

1. %	-	percentage
2. °C	-	degree centrifuge
3. ppm	-	part per million
4. ppt or ‰	-	part per thousand
5. mg / L	-	milligram per liter
6. μM	-	micro Molar
7. μg-at P.L ⁻¹	-	microgram atom phosphorus per liter
8. cm	-	centimetre
9. g	-	gram
10. μg	-	microgram
11. L	-	liter
12. mL	-	milliliter
13. TP	-	total phosphorus
14. P	-	phosphorus
15. Ave	-	average
16. LKIM	-	Lembaga Kemajuan Ikan Malaysia
17. mg PL ⁻¹	-	milligram Phosphorus per Liter
18. μg / kg	-	micro gram per kilogram
19. μg P/L	-	micro gram Phosphorus per Liter
20. nm	-	nanometer
21. k Pa	-	kilo Pascal

LIST OF APPENDICES

Appendix I	: Standard curve of orthophosphate analysis in water sample	54
Appendix II	: The latitude and longitude of sampling stations	55
Appendix III	: Tidal condition in Tok Bali lagoon	56
Appendix IV	: Hydrological parameter during sampling	57
Appendix V	: Tide table in Kelantan from September to December	59
Appendix VI	: Raw data collected in first sampling	60
Appendix VII	: Raw data collected in second sampling	62
Appendix VIII	: Raw data collected in third sampling	64
Appendix IX	: Data collected during sampling in μM	68
Appendix X	: Average range, maximum and minimum value for Orthophosphate and total phosphorus	70
Appendix XI	: Statistical analysis using two way ANOVA for orthophosphate	71
Appendix XII	: Statistical analysis using two way ANOVA for total phosphorus	73

ABSTRACT

The distribution of phosphorus in Tok Bali lagoon, Kelantan was studied for the first time. Fourteen sampling stations were chosen for this study and were visited thrice on 17th September, 19th October and 23rd November 2005. Hydrological parameters determined in this study were salinity, dissolved oxygen, pH and temperature. The orthophosphate and total phosphorus concentration were compared between low tide and high tide. The concentration between non monsoon season and monsoon season were also determined. The ranges of orthophosphate concentration during non monsoon season were 0.0763 μM to 2.1228 μM for high tide and for low tide were 0.4286 μM to 4.1028 μM . During the monsoon season the range of values for orthophosphate concentration were 0.1364 μM to 7.546 μM during high tide and 0.2259 μM to 3.9696 μM during low tide. Additionally the ranges of values for total phosphorus for the non monsoon season were 0.4454 μM to 7.5992 μM for high tide and 1.6847 μM to 11.8804 μM during low tide. Total phosphorus concentrations in monsoon season ranged from 2.1744 μM to 15.8342 μM for high tide and 0.3776 μM to 12.13 μM for low tide. There were no significant difference between non monsoon and monsoon season for both concentrations but has a significant difference between low tide and high tide. Further studies need to be conducted in order to relate non monsoon season and monsoon season with the phosphorus concentration.

ABSTRAK

Taburan fosforus di lagun Tok Bali, Kelantan telah dikaji buat pertama kalinya. Sebanyak 14 stesen telah dipilih untuk kajian ini dan tempat kajian ini dilawati sebanyak 3 kali iaitu pada 17 September, 19 October dan 23 November 2005. Parameter hidrologikal turut dikaji dalam kajian ini iaitu saliniti, oksigen terlarut, pH dan suhu. Kepekatan orthofosfat dan jumlah fosforus dibandingkan antara air surut dan air pasang. Kepekatan ini juga turut dibandingkan dengan musim monsun dan musim bukan monsun. Julat kepekatan orthofosfat semasa musim bukan monsun adalah 0.0763 μM hingga 2.1228 μM untuk air pasang manakala 0.4286 μM hingga 4.1028 μM pada air surut. Pada musim monsoon pula, julat bagi kepekatan orthofosfat adalah 0.1364 μM hingga 7.546 μM semasa air pasang dan 0.2259 μM hingga 3.9696 μM semasa air surut. Julat kepekatan jumlah fosforus pada musim bukan monsun adalah 0.4454 μM hingga 7.5992 μM untuk air pasang dan 1.6847 μM hingga 11.8804 μM semasa air surut. Kepekatan jumlah fosforus pada musim monsun berada dalam julat 2.1744 μM hingga 15.8342 μM untuk air pasang dan 0.3776 μM hingga 12.13 μM untuk air surut. Tiada perbezaan yang ketara jika kepekatan orthofosfat dan jumlah fosforus dibandingkan dengan musim monsun dan musim bukan monsun tetapi terdapat perbezaan yang ketara jika kepekatan ini dibandingkan dengan air pasang dan air surut. Kajian lain perlu dibuat bagi perkaitan kepekatan fosforus antara musim bukan monsun dan musim monsun pada masa akan datang.