THE EFFECTS OF MONSOON ON THE DISTRIBUTION OF INORGANIC NITROGEN AND TOTAL NITROGEN IN WATER OF SETIU LAGOON, TERENGGANU, SOUTH CHINA SEA

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By

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:
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Abs	-	Absorbance
APHA	-	American Publish Health Association
BOD	-	Biological Oxygen Demand
°C	-	Degree Celsius
cm	-	Centimeter
DO	-	Dissolved Oxygen
GFC	-	Glass Microfibre Filters
GPS	-	Portable Global Positioning System
mg/L	-	Millie Gram Per Liter
mL	-	Milli Liter
Max	-	Maximum
Min	-	Minimum
N	-	Normality
NH_4^+	-	Ammonium
NO_2^-	-	Nitrite
NO_3^-	-	Nitrate
P	-	Phosphorus
p	-	Probability
ppm	-	Part Per Million
ppt	-	Part Per Trillion (ppt) or g/L
PO_4^{3-}	-	Orthophosphate
TN	-	Total Nitrogen
TP	-	Total Phosphorus
µM	-	Micromolar
%	-	Percentage

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ABSTRACT

The distribution of inorganic nitrogen and total nitrogen in Setiu Lagoon, Terengganu has been study during South West monsoon, Inter-monsoon, and North East monsoon. Three sampling times had been done from September to December 2006. Fourteen sampling stations were established and the water samples from each of these stations were taken. The first sampling was done on 8 September 2007. The mean value of total nitrogen during first sampling was 66.38 ± 17.67-μM .The second sampling was conducted on the 21 October 2007. The mean value of total nitrogen during second sampling was 48.94 ± 28.7 μM. The third sampling was carried out on 29 December 2007 and the mean value of total nitrogen was 98.95 ± 9.9 μM. Total nitrogen had showed no significant difference ($p > 0.05$) among stations during the first, second and third sampling. Somehow, total nitrogen indicated a significant difference ($p < 0.05$) between the first, second and third sampling. The total nitrogen had decreased from the South West monsoon to Inter-North East monsoon and then increased back during North East monsoon season. Generally, the nitrogen level is higher than the phosphorus level in the Lagoon. The N: P ratio for the first, second and third samplings were 33:1, 5:1, and 22:1 respectively. The mean N: P ratio of sampling in Setiu Lagoon was 19:1. Because of the normal N: P ratio for phytoplankton is 16:1 (Redfield, 1963), the limiting growth factor for phytoplankton is probably nitrogen during the inter-monsoon season. While in the South West monsoon and North East

monsoon season, the limiting factor changed to phosphorus. The major source of nitrogen and phosphorus in the Lagoon was probably derive from land runoff and aquaculture wastes.