

DISTRIBUTION OF PHOSPHORUS AND NITROGEN IN COASTAL WATER  
OFF PULAU PERHENTIAN, SOUTH CHINA SEA

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Distribution of phosphorus and nitrogen in coastal water off  
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| Pengarang<br><b>YEW WOUI MENG</b>  |                     | No. Panggilan<br><b>LP 23</b> |                 |
| Judul<br><b>DISTRIBUTION OF PHOSPHORUS &amp; NITROGEN IN COASTAL WATER OFF PULAU PERHENTIAN, SOUTH CHINA SEA / YEW WOUI MENG</b> |                     |                               |                 |
| Tarikh   | Waktu<br>Pemulangan | Nombor<br>Ahli                | Tanda<br>tangan |
| 11/2/04  | 11.00               | uk5994                        | ny              |
| 5/1/05   |                     | uk6403                        | uk6             |
| 1/1/07   | 10.00               | uk6402                        | uk6             |



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**DISTRIBUTION OF PHOSPHORUS AND NITROGEN IN COASTAL  
WATER OFF PULAU PERHENTIAN, SOUTH CHINA SEA**

**BY**

**YEW WOUI MENG**

**This project report is submitted in partial fulfillment of  
the requirements for the Degree of  
Bachelor of Science  
(Marine Science)**

**Faculty of Science and Technology  
COLLEGE UNIVERSITY OF SCIENCE AND TECHNOLOGY  
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## ABSTRAK

Taburan kompaun fosforus dan nitrogen di perairan Pulau Perhentian, Laut China Selatan telah dikaji. Persampelan sebanyak 2 kali diadakan dan sebanyak 12 stesyen sampling telah dikaji. Fosforus and nitrogen adalah nutrien penting dalam penghasilan primari dalam laut. Di Pulau Perhentian, pertambahan pelancong dan aktiviti di darat telah menyumbangkan impak yang besar terhadap kualiti air laut.

Persampelan pertama diadakan pada 15<sup>hb</sup> – 18<sup>hb</sup> April 2002 (Monsun Peralihan). Nilai purata dan lingkungan bagi kepekatan dalam orthofosfat, ammonium, jumlah fosforus dan jumlah nitrogen adalah 0.19  $\mu\text{M}$ , 0.07 – 0.35  $\mu\text{M}$ ; 0.29  $\mu\text{M}$ , 0.02 – 1.27  $\mu\text{M}$ ; 0.58  $\mu\text{M}$ , 0.25 – 1.16  $\mu\text{M}$ ; dan 3.66  $\mu\text{M}$ , 1.02 – 5.54  $\mu\text{M}$  masing-masing.

Bagi persampelan kali kedua pula adalah pada 22<sup>hb</sup> – 25<sup>hb</sup> 2002 (Monsun Barat Daya). Nilai purata dan lingkungan bagi kepekatan dalam orthofosfat, ammonium, jumlah fosforus dan jumlah nitrogen adalah 0.12  $\mu\text{M}$ , 0.04 – 0.43  $\mu\text{M}$ ; 0.7937  $\mu\text{M}$ , 0.09 – 1.51  $\mu\text{M}$ ; 0.72  $\mu\text{M}$ , 0.17 – 1.48  $\mu\text{M}$ ; dan 4.25  $\mu\text{M}$ , 2.22 – 7.37  $\mu\text{M}$  masing-masing.

Taburan fosforus dan nitrogen dalam air adalah kemungkinan kerana kombinasi kesan daripada productivity primer yang aktif, faktor pencairan, proses mineralisasi dan input dari darat.

## ABSTRACT

The distribution of phosphorus and nitrogen in the coastal water off Perhentian Island, South China Sea were studied. 12 sampling stations were established and visited twice. Phosphorus and nitrogen are important nutrients that drive the primary production in the sea. In Perhentian Island, the increase of tourists and activities on land has contributed a great impact on sea water quality.

The first sampling was conducted on 15<sup>th</sup> – 18<sup>th</sup> April 2002 (Inter Monsoon). The mean value and the range of orthophosphate, ammonium, total phosphorus and total nitrogen concentration were 0.19  $\mu\text{M}$ , 0.07 – 0.35  $\mu\text{M}$ ; 0.29  $\mu\text{M}$ , 0.02 – 1.27  $\mu\text{M}$ ; 0.58  $\mu\text{M}$ , 0.25 – 1.16  $\mu\text{M}$ ; and 3.66  $\mu\text{M}$ , 1.02 – 5.54  $\mu\text{M}$  respectively.

For the second sampling, was conducted on 22<sup>nd</sup> – 25<sup>th</sup> September 2002 (Southwest Monsoon). The mean value and the range of orthophosphate, ammonium, total phosphorus and total nitrogen concentration were 0.12  $\mu\text{M}$ , 0.04 – 0.43  $\mu\text{M}$ ; 0.79  $\mu\text{M}$ , 0.09 – 1.51  $\mu\text{M}$ ; 0.72  $\mu\text{M}$ , 0.17 – 1.48  $\mu\text{M}$ ; and 4.25  $\mu\text{M}$ , 2.22 – 7.37  $\mu\text{M}$  respectively.

The distribution of phosphorus and nitrogen in water was probably due to a combination of the effect of active primary productivity, dilution factor, mineralization process, and input from land.