

Nitrate, ammonia and phosphate concentrations in the surface water of Kuala Gula Bird Sanctuary, West. Coast of Peninsular Malaysia

ABSTRACT

This study was undertaken to compare the concentrations of nitrate nitrogen (NO₂-N), total ammonia nitrogen (TAN) and soluble reactive phosphorus (SRP) in the surface intertidal waters of Kuala Gula Bird Sanctuary over a four-month period (June to September, 2007). Three sampling stations were established in the Gula river estuary, labelled as Station 1, Station 2 and Station 3. The highest concentrations of SRP ($55.92 \pm 7.88 \mu\text{g/L}$), nitrate-N ($85.68 \pm 24.33 \mu\text{g/L}$) and TAN ($85.91 \pm 6.54 \mu\text{g/L}$) were recorded in the months of June, July and August, respectively whereas, the lowest concentrations of all the nutrients were recorded in September. The highest concentrations of the nutrients observed for the three months (June, July and August) coincided with the planting season of the nearby paddy fields in Kuala Kurau, Kuala Gula, Salinsing and some parts of Bagan Serai. This might indicate contamination of nitrogen and phosphorus nutrients from fertilizer run-off. Therefore, a continuous monitoring, for the content of nutrient in the surface intertidal waters of the bird sanctuary, is recommended to observe any significant changes which may take place in the area. The results of this study would serve as an important baseline information for future reference.

Keyword: Nitrate (NO₂-N) TAN and SRP concentration; Surface intertidal water; West coast; Kuala Gula Bird