

Relationship between Nitrate and Phosphate content Phytoplankton abundance in the Paki lake, Kampar Kiri Hilir Sub-regency, Kampar Regency, Riau

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ABSTRACT

The aim of this study is to understand the relationship between nitrate and phosphate content phytoplankton abundance in the Paki lake, Kampar Kiri Hilir Sub-regency, Kampar Regency, Riau. This research was conducted on November to December 2007. Method used in this research was a survey method. There were four stations, and in each station, sampling were conducted 3 times, once a week. Sample was analyzed in the Aquatic Ecology Laboratory of Fisheries and Marine Science Faculty, Riau University.

Results shown that the phytoplankton obtained consist of four classes, there were Cyanophyceae (9 species), Bacillariophyceae (4 species), Chlorophyceae (5 species) and Xanthophyceae (1 species). Phytoplankton abundance ranged from 48,400 to 63,367 cells/l. Nitrate concentration ranged from 0.441 to 0.633 mg/l, while phosphate ranged from 0.0581 to 0.0763 mg/l. As the ratio of nitrate and phosphate content was 8.21:1, it indicates that nitrate and phosphate concentration was in the normal level. Results of regression analysis shown that $F_{ratio} 11.776 > F_{table} 5.14$ and it means that the relationship between nitrate-phosphate concentration phytoplankton abundance is significant.

Keywords: *nitrate, phosphate, phytoplankton, danau Paki*

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