

## INTISARI

### KANDUNGAN NITRAT DAN FOSFAT SERTA KELIMPAHAN FITOPLANKTON DI EMBUNG TAMBAKBOYO KABUPATEN SLEMAN

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Peneletian ini bertujuan untuk mengetahui kandungan nitrat dan fosfat serta kelimpahan fitoplankton di Embung Tambakboyo Kabupaten Sleman. Penelitian ini dilakukan selama bulan April-Mei 2015. Pengambilan sample dilakukan di 5 stasiun pengamatan. Setiap stasiun pengamatan, sampel air dan fitoplankton diambil di permukaan air. Pengambilan sampel dilakukan sebanyak 5 kali setiap satu minggu sekali. Parameter yang diukur yaitu kualitas air, kandungan nitrat, kandungan fosfat dan keragaman fitoplankton. Pengambilan sampel menggunakan plankton-net ukuran mata jaring 26. Kandungan nitrat dan fosfat serta keragaman fitoplankton dianalisis menggunakan metode regresi linier.

Hasil penelitian menunjukkan perairan Embung Tambakboyo mengandung nitrat (0,7 ppm) dan fosfat (0,06 ppm). Keragaman fitoplankton dipengaruhi oleh kandungan nitrat dan fosfat sebagai pembentuk nutrien. Keragaman fitoplankton ditemukan 38 genera yang termasuk ke dalam 8 divisi yaitu Divisi *Pyrrhophyta*, *Chlorophyta*, *Euglenophyta*, *Bacillariophyta*, *Chrysophyta*, *Cyanophyta*, *Ochrophyta*, dan *Cyanobacteria*. Genera yang banyak ditemukan berasal dari Divisi *Chlorophyta*. Hasil penelitian menunjukkan bahwa densitas fitoplankton (89 ind/l) dan diversitas fitoplankton (1,65) tergolong tinggi. Kandungan nitrat ( $X_1$ ) dan fosfat ( $X_2$ ) terhadap densitas fitoplankton ( $Y_1$ ) yaitu  $Y_1 = 46,681 + 20,914 X_1 + 183,298 X_2$  ( $R = 0,571$  dan  $R^2 = 0,326$ ). Kandungan nitrat ( $X_1$ ) dan fosfat ( $X_2$ ) terhadap diversitas fitoplankton ( $Y_2$ ) yaitu  $Y_2 = 1,802 - 0,023 X_1 - 1,001 X_2$  ( $R = 0,196$  dan  $R^2 = 0,039$ ).

Kata kunci : nitrat, fosfat, fitoplankton, Embung Tambakboyo

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*Abstract*

CONTENT OF NITRATE AND PHOSPHATE ALSO DIVERSITY OF  
FITOPLANKTON IN EMBUNG TAMBAKBOYO KABUPATEN SLEMAN

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The study of objectives of this research are to know the content of nitrate and phosphate also diversity of phytoplankton in Embung Tambakboyo Kabupaten Sleman. A study on the type and phytoplankton diversity was conducted on April-May 2015. Sampling was conducted alongside of Embung Tambakboyo by taking 5 stations. In each station, water quality and phytoplankton sample were taken in the surface. Sample were collected 5 times once per week. Parameters measured were water sampling in general, specified content of nitrate, phosphate and phytoplankton diversity. phytoplankton sample taken by plankton-net size 26 mesh. Types and diversity of phytoplankton were analyzed using multiple linier regression.

Results shown that embung Tambakboyo were contained with nitrate (0,7 ppm) and phosphate (0,06 ppm). Phytoplankton diversity influenced by nitrate and phosphate providing nutrient in the water. This research found there were 38 genera of phytoplankton that were belongs to 8 divisions there are Pyrrhophyta Division, Chlorophyta, Euglenophyta, Bacillariophyta, Chrysophyta, Cyanophyta, Ochrophyta, and Cyanobacteria. Dominant genera in research area found from division Chlorophyta. There were shown high density of phytoplankton (89 ind/l) and diversity index of phytoplankton (1,65). Based on data analyzed, the content of nitrate ( $X_1$ ) and Phosphate ( $X_2$ ) influenced density of phytoplankton ( $Y_1$ ) followed by equation  $Y_1 = 46,681 + 20,914 X_1 + 183,298 X_2$  ( $R = 0,571$  dan  $R^2 = 0,326$ ). Also, the content of nitrate ( $X_1$ ) and Phosphate ( $X_2$ ) influenced diversity of phytoplankton ( $Y_2$ ) followed by equation  $Y_2 = 1,802 - 0,023 X_1 - 1,001 X_2$  ( $R = 0,196$  dan  $R^2 = 0,039$ ).

Keyword : nitrate, phosphate, phytoplankton, Embung Tambakboyo

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