

Intisari

Nitrat dan fosfat merupakan nutrisi yang diperlukan untuk pertumbuhan fitoplankton. Keberadaan nitrat dan fosfat di daerah estuari dipengaruhi oleh masukan air tawar dan air laut. Tujuan dari penelitian ini adalah mengetahui kandungan nitrat, fosfat dan komunitas fitoplankton di Estuari Baros. Penelitian ini dilakukan pada bulan Desember 2018 – Februari 2019 di Estuari Baros yang berada di Kawasan Konservasi Mangrove Desa Tirtohargo, Kecamatan Kretek, Kabupaten Bantul. Parameter yang diukur dalam penelitian ini adalah nitrat, fosfat, TSS, salinitas, suhu, pH, CO₂ bebas, dan fitoplankton. Pengambilan sampel dilakukan selama dua minggu sekali selama 3 bulan. Sampel air diambil pada 6 stasiun yang berbeda dan dianggap mewakili keseluruhan perairan. Data hasil pengamatan dianalisis secara deskriptif kualitatif. Hasil penelitian menunjukkan nilai kisaran rata – rata nitrat 1,33 -3,77 mg/L; fosfat 0,43 -1,44 mg/L; TSS 0,78-2,48; salinitas 2-14,33‰; suhu 29,5-31,4°C; pH 5,9-6,4; dan CO₂ bebas 7,27-23,27 mg/L;. Fitoplankton selama penelitian bersifat fluktuatif, kelimpahan berkisar rata-rata 348-1.099 ind/L; indeks dominansi 0,091-0,244; indeks keanekaragaman 3,313 – 3,987; dan indeks keseragaman 1,084-1,256. Fitoplankton yang ditemukan sebanyak 68 genera. Genus yang memiliki kelimpahan paling tinggi adalah *Chaetoceros* dan *Rhizosolenia*. Kualitas perairan di Estuari Baros berada pada kondisi yang mendukung pertumbuhan fitoplankton.

Kata kunci : Estuari Baros, fitoplankton, fosfat, nitrat

Abstract

Nitrate and phosphate are nutrients needed for phytoplankton growth. The presence of nitrates and phosphates in estuary areas is influenced by fresh water and sea water input. The purpose of this study was to determine the nitrate, phosphate, and the phytoplankton community in the Baros Estuary. This research was conducted in December 2018 - February 2019 at the Baros Estuary in the Mangrove Conservation Area of Tirtohargo Village, Kretek District, Bantul Regency. The parameters measured in this study were nitrate, phosphate, TSS, salinity, temperature, pH, free CO₂, and phytoplankton. Water samples are taken at 6 different stations and are considered to represent the whole waters. Data were analyzed descriptively qualitatively. The results showed an average range of nitrate 1,33-3,77 mg/L; phosphate 0,43-144 mg/L; TSS 0,78-2,48; salinity 2-14,33‰; temperature 29,5-31,4°C; pH 5,9-6,4; and free CO₂ 7,27-23,27 mg/L; Phytoplankton during the study were fluctuating, abundance ranged on average from 348-1,099 ind/L; dominance index 0,091-0,244; diversity index of 3,313-3,987; and uniformity index from 1,084-1,256. Phytoplankton were found 68 genera. The genes that have the highest abundance are Chaetoceros and Rhizosolenia. The water quality in the Baros Estuary is in a condition that supports the growth of phytoplankton.

Keywords : Baros Estuary, nitrate, phosphate, phytoplankton