

Intisari

Variabilitas Konsentrasi Klorofil-a dan Kualitas Air di Estuari Baros Kecamatan Kretek Kabupaten Bantul

Perairan Estuari Baros memiliki tingkat kesuburan tinggi karena terletak di hilir Sungai Opak dan mendapat pengaruh langsung dari kegiatan pertanian di sekitar estuari. Penelitian mengenai distribusi klorofil-a, kualitas air dan logam berat Pb perlu dilakukan untuk mengetahui kondisi kesuburan perairan, dan pencemaran di Estuari Baros. Tujuan dari penelitian ini adalah untuk mengetahui variabilitas konsentrasi klorofil-a dan logam berat timbal (Pb) di perairan Estuari Baros selama periode November 2019-Februari 2020. Terdapat empat stasiun observasi pada penelitian ini. Parameter lingkungan yang diukur pada penelitian ini meliputi konsentrasi klorofil-a, Pb, turbiditas, suhu, oksigen terlarut, dan pH. Pengambilan data dilakukan setiap dua minggu selama 4 bulan. Pengukuran suhu, oksigen terlarut, dan pH menggunakan *Water Quality Checker*, sedangkan pengukuran klorofil-a dan turbiditas menggunakan *Chlorophyll and Turbidity Data Logger*. Sampel Pb dianalisis di Laboratorium Hidrologi dan Klimatologi Lingkungan, Fakultas Geografi Universitas Gadjah Mada. Data klorofil-a dan turbiditas dianalisis menggunakan perangkat lunak *Infinity Data Processing Software*. Hasil penelitian menunjukkan konsentrasi klorofil-a meningkat dari bulan November hingga Desember 2019, kemudian menurun pada bulan Januari 2020 hingga Februari 2020. Fluktuasi konsentrasi klorofil-a ini dipengaruhi oleh curah hujan dan turbiditas. Konsentrasi Pb di perairan Estuari Baros sangat rendah (0,03 mg/L). Hal ini diduga karena Pb telah mengendap dalam sedimen akibat kapasitas adsorpsi Pb yang tinggi. Estuari baros memiliki variabilitas konsentrasi klorofil-a yang cukup tinggi, terutama pada bulan Desember. Kandungan logam berat Pb di Estuari Baros dibawah baku mutu.

Kata kunci: Estuari Baros, klorofil-a, Pb, turbiditas

Abstract

Variability of Chlorophyll-a Concentration and Water Quality in the Baros Estuary Kretek Sub-District Bantul Regency

Baros Estuary have a high fertility rate because it is located downstream of the Opak River and is directly influenced by agricultural activities around the estuary. Research on the distribution of chlorophyll-a, water quality and lead (Pb) in the Baros Estuary is crucial to be conducted in order to determine the recent condition of fertility and pollution in the region. The purpose of this study is to investigate the variability of chlorophyll-a and Pb concentration in the Baros Estuary during the period of November 2019 - February 2020. There were four observation stations in this study. Environmental parameters measured in this study include the concentration of chlorophyll-a, Pb, turbidity, temperature, dissolved oxygen, and pH. The measurements were conducted every two weeks for four months. Measurements of temperature, dissolved oxygen, and pH were conducted using the Water Quality Checker, while the chlorophyll-a and turbidity we're measured using the Chlorophyll and Turbidity Data Logger. On analysis was conducted at the laboratory. Chlorophyll-a and turbidity data were analyzed using Infinity Data Processing Software. The result showed the concentration of chlorophyll-a increased from November to December 2019 and then decreased from January to February 2020. The variation of chlorophyll-a concentration here is influenced by rainfall and turbidity. During the study period, the Pb concentration in the Estuary was < 0.03 mg/L. It is presumably Pb has been deposited in sediment due to its high adsorption capacity. This value indicates that the Baros Estuary is not polluted by Pb or Pb may have been settled in sediment as the adsorption capacity of Pb is high.

Keyword: Baros Estuary, chlorophyll-a, Pb, turbidity