Intisari

Variasi Nitrogen dan Fosfat Bulanan di Rawa Pening Periode September 2021-Januari 2022

Rawa Pening merupakan perairan yang memiliki tingkat kesuburan tinggi karena mendapat pengaruh langsung dari aktivitas masyarakat seperti kegiatan budidaya jaring apung, kegiatan pertanian, dan pemukiman warga. Tujuan dari penelitian ini adalah untuk mengetahui variasi nitrogen dan fosfat bulanan di Rawa Pening periode September 2021-Januari 2022. Parameter lingkungan yang diukur pada penelitian ini meliputi konsentrasi nitrat, nitrit, amonia, fosfat, *biochemical oxygen demand* (BOD), dan *total suspended solid* (TSS). Metode yang digunakan untuk analisis nitrogen dan fosfat adalah metode spektrofotometri, analisis BOD dan TSS dilakukan dengan metode titrasi dan filtrasi. Hasil penelitian menunjukkan konsentrasi nitrat tertinggi mencapai 0,1 mg/L terjadi pada Januari 2022 diiringi dengan tingginya fosfat mencapai 0,7928 mg/L dan rendahnya amonia yaitu 0,0523 mg/L. Hal ini diduga karena pada bulan tersebut kolom air bergolak akibat angin kencang, sehingga menyebabkan eceng gondok sulit menyerap nitrat dan fosfat. Kemungkinan lain disebabkan banyak nutrien yang masuk ke Rawa Pening melalui *runoff*. Pada Januari 2022 proses nitrifikasi di Rawa Pening berlangsung optimal.

Kata kunci: fosfat, nitrogen, Rawa Pening, TSS

Abstract

Monthly Variations of Nitrogen and Phosphate in Rawa Pening for the Periods of September 2021-January 2022

Rawa Pening has a high level of fertility because it is directly impacted by community activities such as floating net cage, agricultural endeavors, and residential regions. This study aimed to investigate the monthly changes of nitrogen and phosphate in Rawa Pening from September 2021 through January 2022. This study investigated quantities of nitrate, nitrite, ammonia, phosphate, biochemical oxygen demand (BOD), and total suspended solids as environmental factors (TSS). The spectrophotometric method was employed for nitrogen and phosphate analysis, whereas titration and filtration were used for BOD and TSS analyses. In January 2022, the greatest nitrate concentration reached 0.1 mg/L, accompanied by high phosphate levels of 0.7928 mg/L and low ammonia levels of 0.0523 mg/L. This is likely due to the turbulent water column caused by severe winds during that month, which made it difficult for aquatic plants to absorb nitrate and phosphate. A second idea is that a significant amount of nutrients enter Rawa Pening via runoff. In January of 2022, the nitrification process in Rawa Pening was operating at peak efficiency.

Key words: nitrogen, phosphate, Rawa Pening, TSS