



Intisari

Keragaman, Kelimpahan, dan Indeks Ekologi Makrozoobentos di Sungai Opak Kabupaten Bantul

Komunitas makrozoobentos di Sungai Opak merupakan bagian penting dari ekosistem yang berperan dalam tingkatan trofik level perairan dan proses dekomposisi bahan organik. Makrozoobentos hidup di dasar perairan dan memiliki tingkat mobilitas rendah. Oleh karena itu, kehidupan makrozoobentos sering dipengaruhi oleh perubahan kondisi perairan yang menjadi habitatnya. Tujuan penelitian ini, yaitu untuk mengetahui nilai keragaman, kelimpahan, indeks ekologi makrozoobentos, dan hubungan antara kondisi perairan dengan komunitas makrozoobentos di Sungai Opak. Penelitian ini dilaksanakan pada bulan November-Desember 2023. Pengambilan data dilakukan di 5 stasiun pengamatan setiap seminggu sekali. Sampel makrozoobentos diambil menggunakan *surber net* berukuran 40 x 40 cm, di setiap stasiun dilakukan pengambilan sampel di 3 titik. Parameter kualitas air yang diamati meliputi kecepatan arus, kedalaman, suhu, kandungan oksigen terlarut, kandungan karbondioksida bebas, pH, dan bahan organik. Hasil penelitian menunjukkan bahwa makrozoobentos di Sungai Opak Kabupaten Bantul terdiri dari 7 kelas dan 22 jenis spesies anggota Filum Arthropoda, Annelida, dan Moluska. Makrozoobentos Kelas Gastropoda memiliki jenis paling beragam, yaitu 8 spesies. Kelimpahan makrozoobentos di Sungai Opak, yaitu 388 individu per meter persegi. Indeks keseragaman memiliki nilai 0,2 termasuk kategori rendah. Indeks keanekaragaman Sungai Opak, yaitu 0,97 termasuk kategori sedang. Indeks dominansi memiliki nilai 0,5 termasuk dalam kategori sedang. Parameter oksigen terlarut, kedalaman, pH, suhu perairan, dan kecepatan arus berhubungan positif dengan kelimpahan makrozoobentos di Sungai Opak.

Kata kunci: dominansi, keanekaragaman, kelimpahan, makrozoobentos, Sungai Opak



Abstract

Diversity, Abundance, and Ecological Index of Macrozoobenthos in Opak Stream, Bantul Regency

The macrozoobenthos community in the Opak Stream is an important part of the ecosystem that plays a role in the trophic level of water and the process of decomposition of organic matter. Macrozoobenthos live at the bottom of the water and have a low level of mobility. Therefore, the life of macrozoobenthos is often influenced by changes in water conditions that become their habitat. The purpose of this study was to determine the value of diversity, abundance, ecological index of macrozoobenthos, and the relationship between water conditions with macrozoobenthos community in Opak Stream. This research was conducted in November-December 2023. Data were collected at 5 observation stations once a week. Macrozoobenthos samples were taken using a 40 x 40 cm surber net, at each station sampling was done at 3 points. The observed water quality parameters include current velocity, depth, temperature, dissolved oxygen content, free carbon dioxide content, pH, and organic matter. Results showed that macrozoobenthos in Opak Stream Bantul Regency consisted of 7 classes and 22 species of Arthropoda, Annelida, and Mollusc phylum members. Gastropoda class had the most diverse species, with 8 species. The abundance of macrozoobenthos in the Opak Stream was 388 individuals per square meter. The uniformity index is 0.2 categorized as low. The diversity index of Opak Stream is 0.97 categorized as medium. The dominance index of the stream is 0.5 categorized as medium. Dissolved oxygen, depth, pH, water temperature, and current speed were positively related to macrozoobenthos abundance in Opak Stream.

Keywords: abundance, diversity, dominance, macrozoobenthos, Opak Stream