

## Intisari

### Analisis Pencemaran Perairan Berdasarkan Indeks Biotik Famili Makrozoobentos di Sungai Pasir-Jati Kabupaten Kulon Progo Dan Purworejo

Sungai Pasir-Jati merupakan salah satu sungai yang melewati Kabupaten Kulon Progo dan Kabupaten Purworejo. Di sisi sepanjang sungai terdapat banyak tambak budidaya milik warga yang masih aktif beroperasi, maupun yang sudah tidak beroperasi. Umumnya limbah tambak langsung dibuang ke perairan sungai sehingga berpotensi mencemari sungai. Penelitian ini bertujuan untuk mengetahui keanekaragaman makrozoobentos yang ada di Sungai Pasir-Jati, mengetahui tingkat pencemaran perairan di Sungai Pasir-Jati berdasarkan Indeks Biotik Family (IBF), mengetahui hubungan antara kandungan bahan organik perairan dengan indeks keanekaragaman, kelimpahan, dan dominansi makrozoobentos. Penelitian dilaksanakan selama 2 bulan yaitu bulan Desember 2019-Januari 2020 di Sungai Pasir-Jati Kabupaten Kulon Progo dan Kabupaten Purworejo. Pengambilan data dilakukan sebanyak 5 kali di 5 stasiun. Makrozoobentos diambil menggunakan *surber net* dengan ukuran 30 x 30 cm, di masing-masing stasiun dilakukan pengambilan sebanyak 3 titik. Hasil yang dianalisis yaitu kelimpahan jenis, indeks keanekaragaman, indeks dominansi, dan Indeks Biotik Famili (IBF) makrozoobentos. Data kualitas air yang diambil meliputi suhu air, kecepatan arus, jenis substrat, pH air, salinitas, *dissolved oxygen*, amonia dan bahan organik. Hasil penelitian didapatkan 40 spesies dengan 15 famili yang berbeda, dengan nilai IBF Sungai Pasir-Jati sebesar 6,05 yang artinya tingkat pencemaran organik Sungai Pasir-Jati termasuk dalam kategori tercemar sedang. Kandungan bahan organik berbanding lurus dengan kelimpahan dan dominansi makrozoobentos, dan berbanding terbalik dengan keanekaragaman makrozoobentos.

Kata kunci: IBF, keanekaragaman, makrozoobentos, pencemaran, sungai

### *Abstract*

#### Analysis of Water Pollution Based on Family Biotic Index of Macrozoobenthos in Pasir-Jati River Kulon Progo and Purworejo Regency

Pasir-Jati River is one of the rivers that pass through Kulon Progo Regency and Purworejo Regency. On the side along the river there are many aquaculture ponds owned by residents who are still actively operating, and those that are no longer in operation. Generally, pond waste is discharged directly into river waters so that it potentially pollutes the river. This study aims to determine the diversity of macrozoobenthos in the Pasir-Jati River, determine the level of water pollution in the Pasir-Jati River based on the Family Biotic Index (FBI), determine the relationship between the organic matter content of the waters with indices of diversity, abundance, and macrozoobenthos dominance. The study was conducted for 2 months, from December 2019 to January 2020 in Pasir-Jati River, Kulon Progo Regency and Purworejo Regency. Data was collected 5 times in 5 stations. Macrozoobenthos were taken using a 30 x 30 cm Surber net, at each station three points were taken. The results analyzed were species abundance, diversity index, dominance index, and macrozoobenthos family biotic index (FBI). Water quality data taken include water temperature, flow velocity, substrate type, water pH, salinity, dissolved oxygen, ammonia, and organic matter. The results showed 40 species with 15 different families, with the FBI value of Pasir-Jati River at 6.05, which means the level of organic pollution of the Pasir-Jati River is included in the medium polluted category. The content of organic matter is directly proportional to the abundance and dominance of macrozoobenthos, and inversely proportional to the diversity of macrozoobenthos.

**Keywords:** diversity, FBI, macrozoobenthos, pollution, river