

ABSTRAK

ANALISIS BENTUK DAN KELIMPAHAN MIKROPLASTIK DI PERAIRAN PULAU PASARAN, TELUK BETUNG TIMUR, BANDAR LAMPUNG

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Pulau Pasaran merupakan salah satu pulau yang berada di wilayah pesisir Kota Bandar Lampung. Banyaknya aktivitas masyarakat dan kurangnya kesadaran dalam pengelolaan sampah di Pulau Pasaran menyebabkan tumpukan sampah melimpah. Sampah plastik yang berada di daratan dapat masuk ke perairan dan mengalami degradasi hingga berukuran < 5 mm atau yang biasa disebut mikroplastik. Pencemaran mikroplastik di perairan dapat berdampak buruk bagi ekosistem perairan, organisme laut, dan manusia. Tujuan dari penelitian ini yaitu, untuk mempelajari bentuk, kelimpahan dan persebaran mikroplastik, serta menganalisis hubungan kualitas perairan dengan kelimpahan mikroplastik di Pulau Pasaran. Penelitian dilaksanakan pada bulan November sampai dengan Desember tahun 2022. Analisis mikroplastik pada sampel dilakukan dengan beberapa tahapan yaitu persiapan sampel, degradasi bahan organik, pemisahan densitas, pemilahan sampel, dan pengamatan. Berdasarkan hasil penelitian didapatkan empat bentuk mikroplastik yaitu fiber, fragmen, pelet, dan film. Bentuk mikroplastik yang mendominasi pada keempat stasiun yaitu bentuk fiber sebesar 45,1%. Rata-rata kelimpahan mikroplastik di perairan sekitar Pulau Pasaran sebesar 8,3 partikel/l dengan kelimpahan mikroplastik tertinggi berada pada stasiun kedua (ekosistem mangrove) sebesar 22,63 partikel/l. Hasil analisis PCA menunjukkan bahwa kelimpahan mikroplastik bentuk fiber, fragmen, film, pelet memiliki hubungan negatif dengan pH, salinitas, arus, suhu, dan kecerahan.

Kata Kunci: Kelimpahan, persebaran, kualitas air, mikroplastik

ABSTRACT

ANALYSIS OF THE TYPE AND ABUNDANCE OF MICROPLASTIC IN PASARAN ISLAND WATERS, EAST TELUK BETUNG, BANDAR LAMPUNG

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Pasaran Island is one of the islands located in the coastal area of Bandar Lampung City. The large number of community activities and lack awareness in waste management on Pasaran Island has caused piles of garbage to overflow. Plastic waste that was on land can enter the waters and undergo degradation to produce plastic with a size < 5 mm or commonly called microplastic. Microplastic pollution in waters can have a negative impact on aquatic ecosystems, marine organisms, and humans. The aimed of this research was to study the types, abundance and distribution of microplastics, as well as analyzed the relationship between water quality and microplastic abundance on Pasaran Island. This research was conducted from November-December 2022. Analysis of microplastics in samples was carried out in several stages, namely sample preparation, organic matter degradation, density separation, sample sorting, and observation. Based on the results, four types of microplastics were obtained, namely fiber, fragments, pellets, and films. The type of microplastic that dominated at the four stations was the type of fiber by 45.1%. The average abundance of microplastics in the waters around Pasaran Island was 8.3 particles/l with the highest abundance of microplastics was at the second station (mangrove ecosystem) of 22.63 particles/l. The results of PCA analysis showed that the abundance of microplastics in the type of fiber, fragment, film, pellet was negatively correlated with pH, salinity, currents, temperature, and brightness.

Key words: Abundance, distribution, water quality, microplastics