Analisis Kelimpahan dan Identifikasi Kandungan Jenis Mikroplastik pada Air, Sedimen, dan Lamun Enhalus acoroides (L.f.) Royle di Pulau Pramuka, Taman Nasional Kepulauan Seribu. = Analysis of Abundance and Identification of Types of Microplastic Content in Water, Sediment, and Seagrass Enhalus acoroides (L.f.) Royle in Pramuka Island, Seribu Islands National Park.

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Abstrak

Mikroplastik merupakan salah satu polutan di lingkungan berukuran mikro yang menjadi permasalahan global oleh tingginya penggunaan plastik masyarakat. Penelitian ini bertujuan untuk menganalisis kelimpahan dan kandungan jenis mikroplastik pada air laut, sedimen, serta daun lamun Enhalus acoroides di Taman Nasional Pulau Pramuka, Kepulauan Seribu. Sampel air disaring dengan plankton net sementara sedimen dikeringkan dalam oven hingga berat konstan, kemudian masing- masing dicampur dalam NaCl dan diidentifikasi mikroskop cahaya. Hasil yang didapat lamun titik timur memiliki rata-rata kelimpahan mikroplastik 33,35 partikel/cm2, titik utara 38,6 partikel/cm2, titik selatan 40,55 partikel/cm2, kemudian titik barat 42,65 partikel/cm2, dan titik baratlaut 44,7 partikel/cm2. Air titik timur 56 partikel/L, titik utara 58 partikel/mL, titik selatan 69,33 partikel/mL, titik barat 72 partikel/mL, dan titik barat laut 74,66 partikel/L. Sedimen titik timur 38,66 partikel/g, titik utara 58,66 partikel/g, titik selatan 75 partikel/g, titik barat 77 partikel/g, dan titik barat laut 89 partikel/g. Hasil uji kandungan jenis ATR-FTIR ditemukan kandungan HDPE, LDPE, dan PP. Uji Kruskal Wallis menunjukkan tidak ada perbedaan signifikan mikroplastik pada lamun Enhalus acoroides di kelima titik.

.....Microplastic is one of the micro-sized pollutants in the environment and has become a global problem due to the high use of plastic amongst society. This study is aimed to analyze the abundance and content of microplastics in sea water, sediment, and seagrass Enhalus acoroides in Pramuka Island. The leaf surface of Enhalus acoroides were softly scraped using razor blade and microplastic was identified through microscope and ATR-FTIR. The water sample was filtered with a plankton net whereas the sediment was dried in an oven until constant weight, each was mixed in NaCl and identified through light microscope. Results obtained, east site has a microplastic average abundance of 33.35 particles/cm2, north site 38.6 particles/cm2, south site 40.55 particles/cm2, west site 42.65 particles/cm2, and northwest site 44.7 particles/cm2. The east site for water sample has average abundance 56 particles/mL, north site 58 particles/mL, south site 69.33 particles/mL, west site 72 particles/mL, and northwest site 74.66 particles/L. The east site for sediment has 38.66 particles/g,north site 58.66 particles/g, south site 75 particles/g, west site 77 particles/g, and northwest site 89 particles/g. The result of ATR-FTIR showed HDPE, LDPE, and PPcontent. Kruskal Wallis Test showed no significant difference in microplastic abundance in seagrass Enhalus acoroides at the five sampling sites and Pearson Test showed positive and signficant relation between microplastics in water and sediment.