

Agil Sabana Sefiardi. NIM 22.03.4.1.1.00063. Status Pencemaran Lingkungan Ekosistem Mangrove berdasarkan Cemaran Sampah Laut Antropogenik di Desa Tengket, Arosbaya, Bangkalan. Dibawah bimbingan **Dr. Agus Romadhon, S.p., M.Si.**

ABSTRAK

Ekosistem mangrove berperan penting dalam melindungi wilayah pesisir dari erosi dan abrasi, menyediakan habitat bagi berbagai organisme akuatik, serta berfungsi sebagai penyerap karbon biru. Namun, meningkatnya aktivitas antropogenik di wilayah pesisir menyebabkan akumulasi sampah laut yang berpotensi menurunkan kualitas lingkungan dan fungsi ekologis mangrove. Penelitian ini bertujuan mengkaji kualitas perairan, menganalisis karakteristik sampah laut antropogenik, dan menentukan status pencemaran lingkungan pada ekosistem mangrove Desa Tengket, Kecamatan Arosbaya, Kabupaten Bangkalan menggunakan pendekatan Hazardous Item Index (HII) dan Clean Environment Index (CEI). Penelitian dilaksanakan pada Januari 2026 dengan metode deskriptif kuantitatif menggunakan teknik stratified random sampling. Pengambilan sampel dilakukan pada tiga zona mangrove, yaitu Seaward, Middle, dan Landward menggunakan transek sabuk berukuran 2 × 20 m. Parameter kualitas perairan yang diukur meliputi suhu, pH, salinitas, dan Dissolved Oxygen (DO). Analisis sampah laut antropogenik dilakukan berdasarkan komposisi, kepadatan, dan berat sampah. Hasil penelitian menunjukkan bahwa suhu, salinitas, dan DO masih memenuhi baku mutu air laut berdasarkan Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021, sedangkan pH berada sedikit di bawah baku mutu. Sampah laut didominasi oleh plastik, diikuti karet dan jenis sampah lainnya yang berasal dari aktivitas masyarakat pesisir. Kepadatan sampah tertinggi ditemukan pada zona Seaward akibat pengaruh arus pasang surut yang memicu akumulasi sampah. Nilai HII menunjukkan keberadaan sampah berbahaya berupa logam dan kaca, sedangkan nilai CEI mengindikasikan kondisi lingkungan mangrove berada pada kategori kotor hingga sangat kotor. Oleh karena itu, diperlukan upaya pengelolaan dan restorasi berkelanjutan untuk mengurangi pencemaran sampah laut antropogenik.

Kata Kunci: *Ekosistem Mangrove, Sampah Laut Antropogenik, Clean Environment Index, Hazardous Item Index, Status Pencemaran Lingkungan.*

Agil Sabana Sefiardi. NIM 22.03.4.1.1.00063. *Environmental Pollution Status of Mangrove Ecosystems based on Anthropogenic Marine Debris Pollution in Tengket Village, Arosbaya, Bangkalan.* Under the guidance of **Dr. Agus Romadhon, S.P., M.Si.**

ABSTRACT

Mangrove ecosystems play an important role in protecting coastal areas from erosion and abrasion, providing habitats for various aquatic organisms, and serving as significant blue carbon sinks. However, increasing anthropogenic activities in coastal regions have led to the accumulation of marine debris, potentially reducing environmental quality and ecological functions. This study aimed to assess water quality, analyze the characteristics of anthropogenic marine debris, and determine the environmental pollution status of the mangrove ecosystem in Tengket Village, Arosbaya District, Bangkalan Regency using the Hazardous Item Index (HII) and Clean Environment Index (CEI). The research was conducted in January 2026 using a quantitative descriptive approach with a stratified random sampling technique. Sampling was carried out in three mangrove zones, namely Seaward, Middle, and Landward, using 2 × 20 m belt transects. Water quality parameters included temperature, pH, salinity, and dissolved oxygen (DO). Anthropogenic marine debris was analyzed based on its composition, density, and weight. The results showed that temperature, salinity, and DO met the seawater quality standards established by Government Regulation of the Republic of Indonesia Number 22 of 2021, whereas pH was slightly below the standard. Marine debris was dominated by plastic waste, followed by rubber and other debris originating from coastal community activities. The highest debris density was recorded in the Seaward zone due to tidal currents that promoted debris accumulation. HII values indicated the presence of hazardous debris, particularly metal and glass, while CEI values classified the mangrove environment as dirty to extremely dirty. Therefore, sustainable management and restoration efforts are required to mitigate anthropogenic marine debris pollution.

Keywords: Mangrove Ecosystems, Anthropogenic Marine Debris, Clean Environment Index, Hazardous Item Index, Environmental Pollution Status.