

ABSTRAK

ANALISIS KUALITAS EKOLOGI LAMUN DI PERAIRAN PULAU PAHAWANG, KECAMATAN MARGA PUNDUH, KABUPATEN PESAWARAN

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Ekosistem lamun merupakan bagian penting dari kawasan pesisir yang berfungsi sebagai habitat biota laut, penstabil dasar perairan dan mendukung keseimbangan ekologis. Akan tetapi, keberadaan lamun semakin terancam akibat aktivitas antropogenik seperti pariwisata, transportasi laut. Penelitian ini bertujuan untuk menganalisis kualitas ekologi lamun berdasarkan struktur komunitas lamun di Pulau Pahawang. Penelitian dilaksanakan pada bulan Juli 2024 di lima stasiun yang dipilih secara *purposive*, menggambarkan perbedaan intensitas aktivitas manusia. Pengambilan data menggunakan transek kuadran 1x1 meter. Parameter yang diamati meliputi kekayaan spesies, tegakan lamun, kerapatan jenis, kerapatan relatif, frekuensi jenis, frekuensi relatif, tutupan jenis, tutupan relatif, tutupan makroalga, tutupan epifit serta kualitas perairan yang mencakup suhu, salinitas, pH, DO dan kecerahan. Data kemudian dianalisis menggunakan *Seagrass Ecological Quality Index* (SEQI) untuk mengkategorikan status kualitas ekologi lamun. Hasil identifikasi menemukan lima jenis lamun yaitu *Enhalus acoroides*, *Thalassia hemprichii*, *Cymodocea rotundata*, *Halophila ovalis* dan *Halodule pinifolia* dengan dominasi *Enhalus acoroides*. Stasiun 3 memiliki struktur komunitas beragam dan nilai SEQI tertinggi (0,77) sedangkan stasiun 2 paling sederhana dengan nilai SEQI terendah (0,47). Rata-rata nilai SEQI berkisar 0,47-0,77 yang termasuk dalam kategori miskin hingga bagus. Kualitas ekologi lamun dipengaruhi oleh tingginya aktivitas wisata, sedimentasi, serta pencemaran dari aktivitas manusia di sekitar pesisir. Hal ini menunjukkan ekosistem lamun di Pulau Pahawang masih berada dalam kondisi yang dapat dipulihkan. Perlunya pengelolaan berkelanjutan dan konservasi habitat secara lokal sangat penting untuk menjaga fungsi ekosistem lamun dalam jangka panjang.

Kata kunci: Keanekaragaman spesies, Kualitas ekologi, Lamun, SEQI, Pulau Pahawang

ABSTRACT

ANALYSIS OF SEAGRASS ECOLOGICAL QUALITY IN THE WATERS OF PAHAWANG ISLAND, MARGA PUNDUH SUBDISTRICT, PESAWARAN REGENCY

By

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Seagrass ecosystem is an important part of coastal areas, functioning as a habitat for marine biota, stabilizing the seabed, and supporting ecological balance. However, the existence of seagrass is increasingly threatened by anthropogenic activities such as tourism and marine transportation. This study was aimed to analyze the ecological quality of seagrass beds based on the community structure of seagrass in Pahawang Island. The research was conducted in July 2024 at five stations selected *purposively* to represent different intensities of human activities. Data collection was carried out using 1x1 meter quadrat transects. The observed parameters included species richness, seagrass stand, species density, relative density, species frequency, relative frequency, species cover, relative cover, macroalgae cover, epiphyte cover, and water quality parameters such as temperature, salinity, pH, dissolved oxygen (DO), and water transparency. The data were then analyzed using the Seagrass Ecological Quality Index (SEQI) to categorize the ecological quality status of the seagrass beds. Identification results found five species of seagrass, *Enhalus acoroides*, *Thalassia hemprichii*, *Cymodocea rotundata*, *Halophila ovalis*, and *Halodule pinifolia*, with *Enhalus acoroides* being dominant. Station 3 had the most diverse community structure and the highest SEQI value (0.77), while station 2 had the simplest community structure with the lowest SEQI value (0.47). The average SEQI value ranged from 0.47 to 0.77, placing it in the poor to good category. The ecological quality of seagrass beds is influenced by high tourism activity, sedimentation, and pollution from human activities around the coast. This shows that the seagrass ecosystem in Pahawang Island is still in a condition that can be restored. Sustainable management and local habitat conservation are essential to maintaining the function of seagrass ecosystems in the long term.

Keywords: Species diversity, Ecological quality, Seagrass, SEQI, Pahawang island