

PERBEDAAN KARAKTERISTIK EKOSISTEM MANGROVE DENGAN DAN TANPA AKTIVITAS WISATA DI KUALA LANGSA KECAMATAN LANGSA BARAT ACEH

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INTISARI

Penelitian ini bertujuan untuk menganalisis perbedaan karakteristik ekologis antara ekosistem mangrove wisata dan tanpa wisata di Kuala Langsa, Kecamatan Langsa Barat, Aceh. Fokus utama penelitian mencakup tiga aspek penting yaitu kondisi vegetasi mangrove, plankton sebagai indikator biota akuatik, serta parameter fisikokimia perairan di kedua lokasi tersebut. Pengumpulan data dilakukan melalui pengamatan pada 20 plot di masing-masing lokasi. Variabel yang dianalisis meliputi kerapatan dan indeks keanekaragaman jenis vegetasi mangrove, kepadatan dan indeks keanekaragaman plankton, serta parameter fisikokimia seperti suhu, salinitas, derajat keasaman (pH), *Dissolved Oxygen* (DO), dan ketebalan lumpur.

Hasil penelitian menunjukkan bahwa mangrove wisata memiliki kerapatan dan keanekaragaman vegetasi yang lebih tinggi dibandingkan dengan mangrove tanpa wisata. Selain itu, kepadatan dan keanekaragaman plankton juga lebih tinggi di mangrove wisata. Temuan ini menunjukkan bahwa mangrove wisata cenderung memiliki kondisi ekologis yang lebih stabil, hal ini dipengaruhi oleh upaya pengelolaan yang terencana dan perhatian terhadap pelestarian ekosistem. Sementara mangrove tanpa wisata menghadapi beberapa tantangan ekologis yang perlu diperhatikan, seperti adanya tekanan pada regenerasi alami dan keanekaragaman hayati yang dapat memengaruhi stabilitas ekosistem secara keseluruhan.

Analisis parameter fisikokimia perairan menunjukkan bahwa semua parameter berbeda signifikan secara statistik, mencerminkan variasi kondisi lingkungan yang mempengaruhi fungsi ekosistem mangrove. Suhu, salinitas, dan derajat keasaman (pH) di kedua lokasi berada dalam rentang yang mendukung fungsi ekosistem, namun fluktuasi suhu yang lebih besar di mangrove tanpa wisata mengindikasikan tekanan lingkungan yang dapat memengaruhi stabilitas ekosistem. Mangrove wisata memiliki *Dissolved Oxygen* (DO) dan ketebalan lumpur yang lebih tinggi, yang mendukung produktivitas plankton, vegetasi mangrove, dan stabilitas ekosistem secara keseluruhan. Penelitian ini menegaskan bahwa pengelolaan mangrove wisata berbasis konservasi berpotensi memberikan manfaat ekologis yang signifikan.

Kata kunci: Mangrove wisata, mangrove tanpa wisata, kondisi ekologis ekosistem mangrove, prinsip konservasi.

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DIFFERENCES IN CHARACTERISTICS OF MANGROVE ECOSYSTEMS WITH AND WITHOUT TOURISM ACTIVITIES IN KUALA LANGSA LANGSA WEST ACEH SUB-DISTRICT

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ABSTRACT

This research aims to analyze differences in ecological characteristics between tourist and non-tourist mangrove ecosystems in Kuala Langsa, West Langsa District, Aceh. The main focus of the research includes three important aspects, namely the condition of mangrove vegetation, plankton as an indicator of aquatic biota, and the physicochemical parameters of the waters in the two locations. Data collection was carried out through observations on 20 plots in each location. The variables analyzed include the density and diversity index of mangrove vegetation types, the density and diversity index of plankton, as well as physicochemical parameters such as temperature, salinity, degree of acidity (pH), Dissolved Oxygen (DO), and mud thickness.

The research results show that tourist mangroves have higher vegetation density and diversity compared to non-tourist mangroves. Apart from that, the density and diversity of plankton are also higher in tourist mangroves. These findings indicate that tourist mangroves tend to have a more stable ecological condition, this is influenced by planned management efforts and attention to ecosystem preservation. Meanwhile mangroves without tourism face several ecological challenges that need to be considered, such as pressure on natural regeneration and biodiversity which can affect the stability of the ecosystem as a whole.

Analysis of water physicochemical parameters shows that all parameters differ statistically significantly, reflecting variations in environmental conditions that influence the function of the mangrove ecosystem. Temperature, salinity, and acidity (pH) at both locations are within ranges that support ecosystem function, but greater temperature fluctuations in mangroves without tourism indicate environmental stress that can affect ecosystem stability. Tourist mangroves have higher Dissolved Oxygen (DO) and mud thickness, which supports plankton productivity, mangrove vegetation and overall ecosystem stability. This research confirms that conservation-based tourism mangrove management has the potential to provide significant ecological benefits.

Keywords: Tourism mangrove, mangrove without tourism, ecological conditions of the mangrove ecosystem, conservation principles.

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