

RINGKASAN

Hutan mangrove merupakan salah satu ekosistem unik yang biasanya terdapat di daerah pesisir dan dipengaruhi oleh pasang surut air laut. Indonesia memiliki luas mangrove terbesar di dunia, namun ekosistem ini terus mengalami degradasi akibat deforestasi. Mangrove memiliki manfaat ekologis, biologis, dan ekonomi yang sangat penting. Mangrove berfungsi sebagai penstabil pantai, habitat bagi berbagai organisme laut, dan penyerap karbon. Kerusakan ekosistem mangrove terjadi di Pemalang dan Brebes akibat aktivitas pembukaan area tambak dan adanya abrasi. Hal ini dapat menyebabkan penurunan kualitas habitat, terganggunya fungsi ekologis mangrove, serta penurunan aktivitas ekonomi. Permasalahan tersebut menjadikan penelitian dalam memahami tingkat kerentanan mangrove dan faktor yang mempengaruhi tingkat kerentanan di Ulujami Pemalang dan Randusanga Brebes menjadi sangat penting dilakukan. Penelitian ini bertujuan untuk menganalisis tingkat kerentanan mangrove, menentukan faktor yang paling mempengaruhi tingkat kerentanan mangrove, dan membandingkan hasil analisis kerentanan mangrove di Ulujami Pemalang dan Randusanga Brebes.

Penelitian dilakukan di ekosistem mangrove Ulujami Pemalang dan Randusanga Brebes dengan menggunakan metode survei. Pengambilan data dilaksanakan bulan Juni 2024 menggunakan teknik *purposive sampling* untuk penentuan stasiun pengambilan data. Analisis tingkat kerentanan mangrove dilakukan menggunakan *Mangrove Vulnerability Index* (MVI), yang mencakup 13 parameter yang dinilai dengan skor 1-5. Data yang terkumpul dianalisis menggunakan metode deskriptif komparatif untuk membandingkan hasil tingkat kerentanan mangrove di lokasi penelitian.

Hasil penelitian menunjukkan bahwa ekosistem mangrove di kedua lokasi tergolong dalam tingkat Rentan (R). Nilai MVI di Randusanga berkisar antara 2,77–3,38 dengan rata-rata 3,06, sedangkan di Ulujami berada pada kisaran 2,54–3,08 dengan rata-rata 2,85. Faktor yang paling mempengaruhi tingkat kerentanan mangrove di Ulujami Pemalang meliputi kepadatan pohon mangrove, rentang pasang surut, abrasi, perubahan muka air laut dan aktivitas budidaya tambak. Faktor yang paling mempengaruhi tingkat kerentanan ekosistem mangrove di Randusanga Brebes yaitu kepadatan pohon mangrove, DBH dan tinggi mangrove, jarak dari garis pantai, rentang pasang surut, perubahan muka air laut, dan aktivitas budidaya tambak. Ekosistem mangrove di Randusanga cenderung lebih rentan dibandingkan mangrove Ulujami.

Kata kunci: *indeks, kerentanan, mangrove, Randusanga, Ulujami*

SUMMARY

Mangrove forests are one of the unique ecosystems typically located in tropical and sub-tropical coastal areas and are influenced by tidal fluctuations. Indonesia has the largest mangrove area in the world (20%); however, this ecosystem continues to experience degradation due to deforestation. Mangroves provide essential ecological, biological, and economic benefits. They function as coastal stabilizers, habitats for various marine organisms, and carbon sinks. Mangrove ecosystem degradation in Pemalang and Brebes occurs due to the expansion of aquaculture areas and coastal abrasion. This condition can lead to a decline in habitat quality, disruption of the ecological functions of mangroves, and a decrease in economic incomes. These issues underline the importance of conducting research to understand the level of mangrove vulnerability and the main factors influencing this vulnerability in Ulujami Pemalang and Randusanga Brebes.

This study purposed to analyzed the level of mangrove vulnerability, determined the main factors influencing mangrove vulnerability, and to compared the results of vulnerability analysis between Ulujami Pemalang and Randusanga Brebes. The research was conducted in the mangrove ecosystems of Ulujami Pemalang and Randusanga Brebes using a survey method. Data collection was carried out in June 2024 using purposive sampling to determine data collection stations. The analysis of mangrove vulnerability was conducted using the Mangrove Vulnerability Index (MVI), which consists of 13 parameters assessed with scores ranging from 1 to 5. The collected data were analyzed using a descriptive-comparative method to compare the vulnerability levels of mangrove ecosystems at the study sites.

The results showed that the mangrove ecosystems in both locations fall into the Vulnerable (V) category. MVI in Randusanga ranged from 2.77 to 3.38 with an average of 3.06, while in Ulujami the values ranged from 2.54 to 3.08 with an average of 2.85. The factors that most affect the mangrove vulnerability in Ulujami Pemalang include mangrove tree density, tidal range, abrasion, sea-level changes, and aquaculture activities. The factors that most affect mangrove ecosystem vulnerability in Randusanga Brebes are mangrove tree density, DBH and height of mangrove trees, distance from the shoreline, tidal range, sea-level changes, and aquaculture activities. The vulnerability level of the mangrove ecosystem in Randusanga tends to be higher than in Ulujami.

Keywords: index, mangrove, Randusanga, Ulujami, vulnerability