

ABSTRAK

DINAMIKA TUTUPAN HUTAN MANGROVE AKIBAT AKTIVITAS MANUSIA DI KECAMATAN LABUHAN MARINGGAI KABUPATEN LAMPUNG TIMUR

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Ekosistem mangrove Indonesia menghadapi tekanan antropogenik kompleks yang mengancam keberlanjutannya. Penelitian ini menganalisis dinamika tutupan hutan mangrove di Kecamatan Labuhan Maringgai, Lampung Timur periode 2014-2024 menggunakan citra *landsat 8* dan metode Support Vector Machine dengan akurasi >88%. Hasil menunjukkan paradoks konservasi signifikan: mangrove meningkat 415,35 ha (53%) dari 783,81 ha menjadi 1.199,16 ha, namun hanya 43,98% mangrove awal yang bertahan. Regenerasi alami mendominasi pada bekas tambak dan lahan terbuka, sementara konversi terbesar terjadi menjadi tambak (11,02%) dan kebun campuran (7,45%). Aktivitas manusia menunjukkan dampak ganda: tekanan konversi dan eksploitasi berlanjut, namun penurunan aktivitas tambak akibat abrasi justru memicu pemulihan alami. Temuan kritis berupa kematian mangrove *Avicennia* sp. akibat genangan permanen mengindikasikan tekanan global seperti kenaikan muka air laut memperparah dampak lokal. Meskipun terjadi peningkatan kuantitatif, fragmentasi habitat dan penurunan kualitas ekosistem menunjukkan kerentanan jangka panjang. Penelitian ini berkontribusi pada pemahaman dinamika mangrove pesisir Indonesia dan merekomendasikan pendekatan pengelolaan integratif yang menggabungkan konservasi dengan pembangunan ekonomi berkelanjutan untuk menciptakan resiliensi ekosistem pesisir.

Kata kunci: mangrove, dinamika tutupan lahan, support vector machine, landsat 8, labuhan maringgai.

ABSTRACT

DYNAMICS OF MANGROVE FOREST COVER DUE TO HUMAN ACTIVITIES IN LABUHAN MARINGGAI DISTRICT, EAST LAMPUNG REGENCY

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The mangrove ecosystem in Indonesia faces complex anthropogenic pressures threatening its sustainability. This study analyzes the land cover dynamics of mangroves in Labuhan Maringgai Subdistrict, East Lampung Regency, over the period 2014-2024 using Landsat 8 satellite imagery and the Support Vector Machine (SVM) method with accuracy exceeding 88%. The results reveal a significant conservation paradox: mangrove area increased by 415.35 hectares (53%) from 783.81 to 1,199.16 hectares, yet only 43.98% of the original mangrove cover remains intact. Natural regeneration predominates in former shrimp ponds and open lands, while the largest conversion occurred into shrimp ponds (11.02%) and mixed gardens (7.45%). Human activities demonstrate dual impacts: continued pressure from land conversion and exploitation, but a decline in shrimp pond activity due to coastal abrasion has stimulated natural recovery. A critical finding is the mortality of *Avicennia* sp. mangroves caused by permanent inundation, indicating that global pressures such as sea-level rise exacerbate local impacts. Despite quantitative increase, habitat fragmentation and ecosystem quality decline highlight long-term vulnerability. This study contributes to the understanding of coastal mangrove dynamics in Indonesia and recommends an integrative management approach combining conservation with sustainable economic development to build resilience in coastal ecosystems.

Keywords: mangrove, land cover dynamics, support vector machine, landsat 8, labuhan maringgai.