

ABSTRAK

Fadila Aditia Putri Pratama (Dibimbing oleh: Yuniarti. MS dan Sheila Zallesa). 2022. Hubungan Jenis Sedimen, Bahan Organik Total, dan Kualitas Perairan Terhadap Kerapatan Mangrove di Pulau Tunda, Serang Banten.

Kondisi lingkungan yang cukup penting dalam pertumbuhan mangrove adalah jenis sedimen, bahan organik, dan kualitas perairan karena bahan organik yang dihasilkan dapat berguna dalam kesuburan ekosistemnya. Riset ini bertujuan untuk mengetahui jenis sedimen, persentase bahan organik total, kualitas perairan, kerapatan mangrove, serta mengetahui hubungan jenis sedimen, bahan organik total, dan kualitas perairan terhadap kerapatan mangrove di Pulau Tunda, Serang Banten. Nilai kerapatan mangrove didapatkan melalui metode *line transect plot*. Uji jenis sedimen menggunakan metode pengayakan kering, uji bahan organik total (BOT) menggunakan metode pembakaran dengan suhu tinggi *loss on ignition* (LOI), uji statistika menggunakan metode korelasi berganda. Seluruh data kemudian dilakukan analisis secara deskriptif kuantitatif. Hasil dari riset yaitu jenis sedimen pada mangrove Pulau Tunda didominasi oleh pasir berlanau dan pasir. Bahan organik total yang terkandung pada sedimen mangrove berkisar antara 2,40% - 3,62% termasuk ke dalam kategori sedang sampai tinggi. Nilai salinitas berkisar antara 31 - 34,33 ppt termasuk ke dalam kategori tinggi. Nilai pH berkisar antara 7,33 - 7,70 termasuk ke dalam kategori yang bagus untuk pertumbuhan mangrove. Nilai suhu berkisar antara 27,37°C - 31,63 °C. Tingkat kerapatan mangrove didominasi oleh kategori rapat yaitu seluas 2.400 ind/Ha pada stasiun 1 dan 1.700 ind/Ha pada stasiun 2, dan kategori jarang seluas 1.000 ind/Ha pada stasiun 3 dan 900 ind/Ha pada stasiun 4. Terdapat hubungan yang signifikan antara jenis sedimen, bahan organik total, kualitas perairan terhadap kerapatan mangrove.

Kata kunci : *Sedimen, BOT, Kualitas Perairan, Mangrove*

ABSTRACT

Fadila Aditia Putri Pratama (Supervised by: Yuniarti. MS and Sheila Zallesa). 2022. Relationship of Sediment Type, Total Organic Matter, and Water Quality to Mangrove Density on Tunda Island, Serang Banten.

Environmental conditions that are quite important in the growth of mangroves are the type of sediment, organic matter, and water quality because the organic matter produced can be useful in the fertility of the ecosystem. This study aims to determine the type of sediment, the percentage of total organic matter, water quality, mangrove density, and to determine the relationship between the sediment type, total organic matter, and water quality on mangrove density on Tunda Island, Serang Banten. Mangrove density values obtained through the method line transect plot. The sediment type test used the dry sieving method, the total organic matter (BOT) test used the high-temperature loss on ignition (LOI) combustion method, the statistical test used the multiple correlation method. All data was then analyzed in a quantitative descriptive manner. The result of this research is that the type of sediment in the mangroves of Tunda Island is dominated by silty sand and sand. The total organic matter contained in mangrove sediments ranged from 2,40% - 3,62%, which was included in the medium to high category. Salinity values ranging from 31 - 34,33 ppt are included in the high category. The pH value ranging from 7,33 - 7,70 is included in a good category for mangrove growth. The temperature values ranged from 27,37°C - 31,63°C. The mangrove density level is dominated by the dense category, which is 2.400 ind/Ha at station 1 and 1.700 ind/Ha at station 2, and the rare category is 1.000 ind/Ha at station 3 and 900 ind/Ha at station 4. There is a significant relationship between the type of sediment, total organic matter, water quality and mangrove density.

Keywords : *Sediment, BOT, Water Quality, Mangroves*