

ABSTRAK

Wilayah Kandang Panjang, Pekalongan memiliki aktivitas antropogenik tinggi akibat pembuangan limbah rumah tangga, industri ikan asin, dan tambak, sehingga diduga dapat memengaruhi ekosistem mangrove dan biota yang hidup didalamnya seperti makrozoobenthos. Kerapatan mangrove dan struktur komunitas makrozoobenthos dapat dijadikan indikator kesehatan mangrove di suatu ekosistem. Tujuan penelitian ini untuk mengetahui kerapatan jenis mangrove, mengetahui struktur komunitas makrozoobenthos, mengetahui parameter fisika-kimia, mengetahui hubungan kerapatan jenis mangrove dan struktur komunitas makrozoobenthos. Parameter yang diamati meliputi kerapatan jenis, kerapatan relatif mangrove, struktur makrozoobenthos dan parameter fisika-kimia perairan, serta menganalisis hubungan kerapatan mangrove dengan struktur komunitas makrozoobenthos. Metode penelitian yang digunakan adalah metode survei di 3 stasiun penelitian dengan karakteristik berbeda. Hasil penelitian menunjukkan bahwa kerapatan mangrove berkisar antara 1.500 – 4.200 ind/ha dalam kategori (sedang – sangat padat) dengan spesies yang ditemukan adalah *Avicennia marina* dan *Rhizophora mucronata*. Parameter fisika-kimia perairan seperti suhu, salinitas, pH berada pada kisaran baku mutu optimal, sedangkan DO belum optimal. Nilai indeks kelimpahan berkisar antara 4.89 – 21.56 ind/m², keanekaragaman 1.01 – 1.32 (sedang), keseragaman 0.64 – 0.95 (tinggi), dan dominansi 0.28 – 0.46 (rendah). Analisis regresi kerapatan mangrove memiliki nilai korelasi sangat lemah ($r = 0.126$) dengan keanekaragaman makrozoobenthos; korelasi kuat ($r = -0.741$) dengan kelimpahan makrozoobenthos; korelasi sedang ($r = 0.476$) dengan keseragaman makrozoobenthos; korelasi sangat lemah ($r = -0.148$) dengan dominansi makrozoobenthos.

Kata kunci : Kandang Panjang Pekalongan; kerapatan mangrove; parameter fisika-kimia; struktur komunitas; makrozoobenthos

ABSTRACT

The Kandang Panjang area in Pekalongan has high anthropogenic activity due to the disposal of household waste, salted fish industry, and fish ponds, which is suspected to affect the mangrove ecosystem and the biota living within it, such as macrozoobenthos. Mangrove density and macrozoobenthos community structure can be used as indicators of mangrove health in an ecosystem. The objectives of this study are to determine mangrove species density, understand the structure of the macrozoobenthos community, assess physical-chemical parameters, and investigate the relationship between mangrove species density and the structure of the macrozoobenthos community. The parameters observed include species density, relative mangrove density, macrozoobenthos structure, and water physical-chemical parameters, as well as analyzing the relationship between mangrove density and macrozoobenthos community structure. The research method used was a survey method at three research stations with different characteristics. The results showed that mangrove density ranged from 1.500 to 4.200 individuals per hectare (moderate to very dense), with the species identified as *Avicennia marina* and *Rhizophora mucronata*. Physical-chemical parameters of the water, such as temperature, salinity, and pH, are within the optimal quality range, while DO is not yet optimal. The macrozoobenthos diversity index value is in the moderate category (1.01–1.32), abundance ranges from 4.89 to 21.56 ind/m², evenness from 0.64 to 0.95 (high), and dominance from 0.28 to 0.46 (low). Regression analysis of mangrove density showed a very weak correlation ($r = 0.126$) with macrozoobenthos diversity; a strong correlation ($r = -0.741$) with macrozoobenthos abundance; a moderate correlation ($r = 0.476$) with macrozoobenthos evenness; very weak correlation ($r = -0.148$) with macrozoobenthos dominance.

Keywords: *Kandang Panjang Pekalongan; macrozoobenthos community structure; mangrove density; physical-chemical parameters*