

RINGKASAN

ANGGI ADDHA SINAGA. Asosiasi Bivalvia Pada Ekosistem Lamun di Desa Pengudang Kabupaten Bintan. Dibimbing oleh ADITYA HIKMAT NUGRAHA dan JELITA RAHMA HIDAYATI.

Ekosistem lamun di Kabupaten Bintan mencakup beberapa area, salah satunya desa pengudang memiliki luas ekosistem lamun sekitar 7,30 ha. Ekosistem ini mendukung keberadaan *Bivalvia* yang berperan penting dalam menjaga kesehatan lamun. Penelitian ini bertujuan untuk mengetahui tutupan ekosistem lamun, indeks ekologi *Bivalvia*, kondisi perairan, dan perbandingan tutupan serta kelimpahan *Bivalvia* di area Desa Pengudang. Penelitian dilakukan di Desa Pengudang pada bulan Juni 2025 pada dua stasiun berbeda, yaitu Zona Inti dan Luar Zona Inti dengan menggunakan metode deskriptif kuantitatif dan pengambilan sampel dengan *purposive sampling*. Alat yang digunakan meliputi GPS, transek kuadran 50 x 50 cm, *roll meter*, parameter perairan, Sekop, alat tulis dan buku identifikasi. Pengambilan dilakukan pada 2 stasiun dimana masing-masing memiliki 3 transek dan pengambilan sampel lamun dilakukan bersamaan dengan kelimpahan bivalvia dengan *purposive* sehingga menghasilkan 11 plot untuk masing-masing transek. Hasil penelitian menunjukkan dua jenis lamun dominan pada masing-masing stasiun, yaitu *Cymodocea rotundata* pada Zona Inti dengan total tutupan 38,14%, dan *Halodule pinifolia* pada Luar Zona Inti pada angka 4,55%. Kepadatan *Bivalvia* tertinggi ditemukan di Zona Inti dengan 13,09 ind/m² dan terendah di Luar Zona Inti dengan 0,12 ind/m². Analisis statistik menunjukkan perbedaan yang sangat signifikan antara Zona Inti dan Luar Zona Inti, di mana Zona Inti memiliki tutupan lamun ($p < 0.01$) dan kelimpahan *Bivalvia* ($p < 0.01$) yang lebih tinggi.

Kata kunci: Desa Pengudang, Ekosistem lamun, Indeks ekologi, Kelimpahan bivalvia

SUMMARY

ANGGI ADDHA SINAGA. Association Structure of Bivalvia in the Seagrass Ecosystem of Pengudang Village, Riau Islands. Supervised by ADITYA HIKMAT NUGRAHA and JELITA RAHMA HIDAYATI.

The seagrass ecosystem in Bintan Regency covers several areas, one of which is Pengudang Village, which has a seagrass ecosystem spanning approximately 7.30 hectares. This ecosystem supports the presence of Bivalvia, which play an important role in maintaining the health of seagrass beds. This study aims to determine the seagrass cover, the ecological index of Bivalvia, water conditions, and to compare seagrass cover and Bivalvia abundance in the Pengudang Village area. The research was conducted in Pengudang Village in June 2025 at two different stations, namely the Core Zone and the Outer Core Zone, using a quantitative descriptive method with purposive sampling. The equipment used included a GPS, 50 × 50 cm quadrat transects, a measuring tape, water quality parameter tools, a shovel, stationery, and an identification book. Sampling was carried out at two stations, each consisting of three transects, where seagrass sampling was conducted simultaneously with Bivalvia abundance assessment using purposive sampling, resulting in 11 plots for each transect. The results showed that two dominant seagrass species were found at each station: *Cymodocea rotundata* at Core Zone with a total cover of 38.14%, and *Halodule pinifolia* at Outer Core Zone with a cover of 4.55%. The highest Bivalvia density was found in the Core Zone (13.09 ind/m²), while the lowest was in the Outer Core Zone (0.12 ind/m²). Statistical analysis revealed a highly significant difference between the Core Zone and the Outer Core Zone, where the Core Zone exhibited higher seagrass cover ($p < 0.01$) and Bivalvia abundance ($p < 0.01$).

Keywords: Bivalvia abundance, Ecological index, Pengudang Village, Seagrass ecosystem