

RINGKASAN

NEKE Y.C. AOLISO (16382367). Kondisi bioekologi lokasi budidaya rumput laut di pesisir Desa Umalulu Kecamatan Umalulu Kabupaten Sumba Timur. WILSON L.TISERA, S.Pi, M. Pi, Ph.D sebagai Pembimbing I dan DONNY M. BESSIE, S.Pi, M.Si sebagai pembimbing II. Program Studi Manajemen Sumber Daya Perairan, Fakultas Perikanan Ilmu Kelautan, Universitas Kristen Artha Wacana.

Perairan laut di Pesisir Umalulu Kabupaten Sumba Timur memiliki potensi sumberdaya alam untuk pengembangan budidaya laut. Saat ini, Biekologi merupakan salah satu faktor yang cukup besar pengaruhnya terhadap pertumbuhan dan penyebaran rumput laut. Tujuan penelitian ini adalah untuk menganalisis kondisi bioekologi di lokasi budidaya rumput laut di Pesisir Umalulu Kabupaten Sumba Timur. Penelitian ini telah dilaksanakan pada bulan juni 2023 pesisir Desa Umalulu Kecamatan Umalulu Kabupaten Sumba Timur. Pengambilan data echinodermata menggunakan metode belt transek sedangkan lamun dan makroalga menggunakan metode transek kuadran.

Hasil penelitian yang ditemukan jenis lamun kerapatan jenis dengan rata-rata tertinggi *Halodulle pinifolia* 63,113 m² dan terendah *Cymodocea rotundata* 7,473 m². Kepadatan relatif rata-rata tertinggi untuk semua transek adalah *Halodulle minnor* 17% dan terendah *Cymodocea rotundata*. Persen penutupan lamun setiap transek yaitu transek 1 berkisar 35,39 %, transek 2 17,64%, transek 3 20,95% dan rata-rata 24,66%. Jenis makroalga kepadatan jenis rata-ratanya adalah untuk semua transek tertinggi *Ulva reticulate* 1.35 m² dan terendah *Sargassum crassifolium* 0.02 m². Kepadatan relatif rata-rata semua transek tertinggi didominasi oleh *Hypnea cervicornis* 30,20% dan terendah *Sargassum crassifolium* 0.20%. Nilai Indeks keanekaragaman, keseragaman dan dominasi makroalga. Nilai indeks keanekaragaman termasuk dalam kategori jenis rendah 0,954, keseragaman kategori jenis tinggi 0,792 dan dominasi termasuk tinggi dengan nilai 0,164. Untuk jenis echinodermata berdasarkan kelimpahan jenis rata-rata tertinggi *Diadema setosum* dengan nilai 16 m² dan terendah *Phascolosoma agassizii* yaitu dengan nilai 2 m², kelimpahan relatif rata-rata tertinggi *Diadema setosum* 34,78% dan terendah *Phascolosoma agassizii* 4,35%. Nilai Indeks keanekaragaman, keseragaman dan dominasi echinodermata nilai indeks keanekaragaman termasuk dalam kategori jenis rendah 0,676, keseragaman kategori jenis tinggi 0,868 dan dominasi termasuk tinggi dengan nilai 0,248.

Kata Kunci: Bioekologi, Pesisir Desa Umalulu, Lamun, Makroalga, Echinodermata

SUMMARY

NEKE Y.C. AOLISO (16382367). Bioecological conditions of the seaweed cultivation location on the coast of Umalulu Village, Umalulu District, East Sumba Regency: WILSON L.TISERA, S.Pi, M.Pi, Ph.D as Supervisor I and DONNY M. BESSIE, S.Pi, M.Sc as Supervisor II .Study Program of Aquatic Resources Management, Faculty of Fisheries and Marine Sciences, Artha Wacana Christian University.

The sea waters on the Umalulu Coast, East Sumba Regency, have natural resource potential for the development of marine aquaculture. Currently, Biecology is one of the factors that has a significant influence on the growth and spread of seaweed. The purpose of this study was to analyze the bioecological conditions at the seaweed cultivation site in the Umalulu Coast, East Sumba Regency. This research was carried out in June 2023, coastal village Umalulu Umalulu District, East Sumba Regency. Data collection on echinoderms used the belt transect method while seagrasses and macroalgae used the quadrant transect method.

The results found that seagrass species density with the highest average *Halodulle pinifolia* was 63.113 m² and the lowest was *Cymodocea rotundata* 7.473 m². The highest average relative density for all transects was *Halodulle minnor* 17% and the lowest was *Cymodocea rotundata*. The percentage of seagrass cover for each transect, namely transect 1, was around 35.39%, transect 2 was 17.64%, transect 3 was 20.95% and the average was 24.66%. The average density of macroalgae for all transects was the highest for *Ulva reticulate* 1.35 m² and the lowest for *Sargassum crassifolium* 0.02 m². The highest average relative density of all transects was dominated by *Hypnea cervicornis* 30.20% and the lowest was *Sargassum crassifolium* 0.20%. Diversity index value, uniformity and dominance of macroalgae. The diversity index value is included in the low species category of 0.954, the high species uniformity category is 0.792 and the dominance is included in the high category with a value of 0.164. For echinoderms, based on species abundance, the highest average was *Diadema setosum* with a value of 16 m² and the lowest was *Phascolosoma agassizii* with a value of 2 m². The highest average relative abundance was *Diadema setosum* 34.78% and the lowest was *Phascolosoma agassizii* 4.35%. , uniformity and dominance of echinoderms diversity index values included in the low species category 0.676, high species uniformity category 0.868 and dominance including high with a value of 0.248.

Keywords: Bioecology, Coastal Village of Umalulu, Seagrass, Macroalgae, Echinodermata