

Intisari

Struktur Populasi dan Pola Distribusi *Sargassum* spp. di Pantai Ngrumput Kabupaten Gunungkidul

Makroalga *Sargassum* spp. merupakan rumput laut yang banyak dijumpai di perairan Indonesia khususnya di perairan pantai Gunungkidul. Daerah intertidal Pantai Ngrumput terletak di kawasan yang paling mudah dijangkau oleh manusia sehingga pertumbuhan suatu jenis makroalga mengalami kerentanan perubahan. Tujuan penelitian ini adalah untuk mengetahui pola distribusi dan struktur populasi *Sargassum* spp. yang mencakup kelimpahan, persentase tutupan, biomassa, serta pertumbuhan dari *Sargassum* spp. yang kemudian dihubungkan dengan kualitas air di Pantai Ngrumput pada bulan September-Desember 2023. Metode yang digunakan adalah metode transek kuadran. Analisis data dilakukan melalui ANOVA satu arah, korelasi pearson, dan perhitungan indeks morisita. Nilai kelimpahan *Sargassum* spp. dipetakan menggunakan ArcGIS. Persentase tutupan, kelimpahan, dan biomassa menunjukkan variasi tidak signifikan ($p > 0,05$) antarwaktu penelitian. Persentase tutupan, kelimpahan, dan biomassa yang diperoleh selama penelitian (September-Desember) secara berturut-turut mencapai rata-rata 29,78%, 48,44 individu/m², dan 470,25 g/m² di bulan Oktober. Berdasarkan jaraknya, persentase tutupan menunjukkan variasi signifikan ($p < 0,05$), sedangkan kelimpahan dan biomassa menunjukkan variasi tidak signifikan ($p > 0,05$). Nilai persentase tutupan, kelimpahan, dan biomassa paling besar berada di jarak 30 meter. Persentase tutupan mencapai rata-rata sebesar 36,17%, kelimpahan 56 individu/m², biomassa 489,96 g/m². Kualitas air di Pantai Ngrumput menunjukkan kondisi fluktuatif pada periode penelitian dengan hasil ANOVA suhu dan salinitas ($p < 0,05$), salinitas, nitrat dan fosfat ($p > 0,05$). Nilai kelimpahan, persentase tutupan, dan biomassa *Sargassum* spp. berkorelasi positif dengan salinitas, nitrat, dan fosfat, serta berkorelasi negatif dengan suhu dan pH.

Kata kunci : kelimpahan, persentase tutupan, biomassa, *Sargassum* spp., pola distribusi.

Abstract

Population Structure and Distribution Pattern of *Sargassum* spp. at Ngrumput Beach, Gunungkidul Regency

Macroalgae *Sargassum* spp. is seaweed that is often found in Indonesian waters, especially in the coastal waters of Gunungkidul. The intertidal area of Ngrumput Beach is located in an area that is most easily reached by humans so that the growth of certain types of macroalgae is susceptible to change. The aim of this research was to determine the distribution pattern and population structure of *Sargassum* spp. which includes abundance, percentage cover, biomass, and growth of *Sargassum* spp. which is then connected to the water quality at Ngrumput Beach in September-December 2023. The method used is the quadrant transect method. Data analysis was carried out through one-way ANOVA, Pearson correlation, and Moricita index calculation. The abundance value of *Sargassum* spp. mapped using ArcGIS. Percentage cover, abundance and biomass showed insignificant variations ($p>0.05$) between study periods. The percentage cover, abundance, and biomass obtained during the study (September-December) respectively reached an average of 29.78%, 48.44 individuals/m², and 470.25 g/m² in October. Based on distance, percentage cover showed significant variations ($p<0.05$), while abundance and biomass showed insignificant variations ($p>0.05$). The greatest values for percentage cover, abundance and biomass were at a distance of 30 meters. The percentage cover reached an average of 36.17%, abundance 56 individuals/m², biomass 489.96 g/m². Water quality at Ngrumput Beach showed fluctuating conditions during the research period with ANOVA results of temperature and salinity ($p<0.05$), salinity, nitrate and phosphate ($p>0.05$). Abundance values, percentage cover, and biomass of *Sargassum* spp. positively correlated with salinity, nitrate, and phosphate, and negatively correlated with temperature and pH.

Key words: abundance, percentage cover, biomass, *Sargassum* spp., distribution patterns.