

Fadli Alkatiri (05181411036) Analisis Kerapatan Lamun Dan Kehadiran Gastropoda Terhadap Variasi Kedalaman Lapisan Anoksic Sedimen Di Perairan Pantai Rum.

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ABSTRAK

Penelitian tentang keberadaan dan kedalaman lapisan anoksic sedimen, keberadaan lamun serta gastropoda sebagai organisme asosiasinya sangat diperlukan untuk perairan pantai Kelurahan Rum. Pasokan material organik dan anorganik dari sungai (barangka) dari aktifitas pasar rakyat dan pemukiman penduduk mempunyai potensi besar sebagai kontaminan di air akan terakumulasi dalam siklus rantai makanan penambahan bahan organik pada substrat akan meningkatkan mekanisme dekomposisi pada lapisan sedimen hingga berkurangnya oksigen (hipoksia) pada sedimen. Tujuan penelitian 1) Mengidentifikasi keberadaan lapisan anoksic di padang lamun Kelurahan Rum dan 2) Menganalisis keberadaan lapisan anoksic terhadap kondisi lamun dan keberadaan Gastropoda di Pesisir Pantai Rum dan 3) Mendeterminasi pola hubungan yang representatif antara kedalaman lapisan anoksic terhadap kerapatan lamun dan kepadatan gastropoda.

Sampling biota dan lamun dilakukan dengan teknik jelajah bebas (random sampling) untuk data jenis lamun dan jumlah tegakan serta jenis dan jumlah gastropoda pada tiap kuadran sampling. Parameter lingkungan yang terukur berupa kedalaman lapisan anoksic (warna hitam dan berbau), pH, suhu dan salinitas. Analisis kepadatan dan kerapatan lamun dan gastropoda merujuk persamaan ekologi. Hubungan parameter kedalaman anoksic terhadap keberadaan lamun dan gastropoda dilakukan analisis secara sederhana menggunakan aplikasi MS. Excell dengan penggunaan fungsi trendline dengan pola linear, kuadratik dan polynomial.

Hasil penelitian diperoleh 7 jenis lamun yang dijumpai di lokasi penelitian di Pantai Rum yakni *Cymodecea serullata*; *Cymodecea rotundata*; *Thalasia hemprinchii*; *Halodule pinifolia*; *Sringodium isoetifolium*; *Halophila ovalis* dan *Enhalus acoroides*, sedangkan jenis gastropoda yang ditemukan sebanyak 6 jenis yaitu *Litorina nerioideis*, *Nassarius pullus*, *Morula aspera*, *Nassarius globosus*, *Pyrene testudinary*, dan *Canarium urceus*, dimana variasi kedalaman lapisan anoksic berkisar 2 – 16 cm dengan nilai pH berkisar 6 – 8,5 dan ada kecenderungan ($R^2 = 46\%$) menggambarkan makin dalam lapisan anoksic maka makin kecil nilai pH (asam). Analisis keberadaan lamun (kerapatan total) terhadap kedalaman lapisan anoksic dengan pendekatan polynomial lebih tinggi menghasilkan koefisien determinasi ($R^2 = 92\%$) dibandingkan dengan pendekatan kuadratik atau power ($R^2 = 71\%$) dan linear ($R^2 = 68\%$). lamun jenis *Halodule pinifolia* mempunyai slope perubahan kerapatan yang besar (+82,749) dan koefisien determinasi (R^2) sebesar 95 % (linear) dan 0,9979 secara polynomial berpotensi sebagai bioindikator telah terbentuknya lapisan anoksic pada suatu lokasi.

Kata Kunci : oksic, lamun, linear, kuadrat, polynomial

**Fadli Alkatiri (05181411036) Analysis Of Seagrass And Gastropod Density On
Variations In The Depth Of Anoxic Sediment Layers In Rum Coastal Waters.** Under
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ABSTRACT

Research on the presence and depth of sedimentary anoxic layers, the presence of seagrass and gastropods as their associated organisms is very necessary for the coastal waters of Rum. The supply of organic and inorganic materials from rivers (barangka) from people's market activities and residential areas has great potential as contaminants in the water will accumulate in the food chain cycle. The objectives of the study were 1) to identify the presence of anoxic layers in the seagrass beds of Rum and 2) to analyze the presence of anoxic layers to seagrass conditions and the presence of gastropods on the Rum coast and 3) to determine a representative relationship pattern between the depth of the anoxic layer and the density of seagrass and gastropod density.

Sampling of biota and seagrass was carried out using random sampling for data on the type of seagrass and the number of stands as well as the type and number of gastropods in each sampling quadrant. The environmental parameters measured were the depth of the oxic layer (black color and smell), pH, temperature and salinity. Analysis of the density and density of seagrass and gastropods refers to ecological equations. The relationship between anoxic depth parameters and the presence of seagrass and gastropods was analyzed simply using the MS application. Excel with the use of trendline functions with linear, quadratic and polynomial patterns.

The results showed that 7 types of seagrass were found at the research site on Rum Beach, namely *Cymodecea cerillata*; *Cymodecea rotundata*; *Thalassia hemprinchii*; *Halodule pinifolia*; *Sringodium isoetifolium*; *Halophila ovalis* and *Enhalus acoroides*, while 6 types of gastropods were found, namely *Litorina nerioideis*, *Nassarius pullus*, *Morula aspera*, *Nassarius globosus*, *Pyrene testudinary*, and *Canarium urceus*, where variations in the depth of the anoxic layer ranged from 2-16 cm with pH values ranging from 6 - 8.5 and there is a tendency ($R^2 = 46\%$) to show that the deeper the anoxic layer, the smaller the pH value (acid). Analysis of the presence of seagrass (total density) on the depth of the anoxic layer with a higher polynomial approach resulted in a coefficient of determination ($R^2 = 92\%$) compared to the quadratic or power ($R^2 = 71\%$) and linear ($R^2 = 68\%$). Seagrass *Halodule pinifolia* has a large density change slope (+82,749) and a coefficient of determination (R^2) of 95% (linear) and 0.9979 polynomially has the potential as a bioindicator of the formation of anoxic layer.

Keywords: oxic, seagrass, linear, quadratic, polynomial

