PENGARUH REHABILITASI MANGROVE TERHADAP BIOTA PERAIRAN DAN PERUBAHAN FAKTOR LINGKUNGAN DI PANTAI UTARA KABUPATEN BREBES

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INTISARI

Hutan mangrove mempunyai berbagai fungsi fisik dan ekologis. Pembangunan ekonomi yang sangat pesat dan pertumbuhan penduduk yang sangat tinggi pada beberapa dekade terakhir telah mempercepat kerusakan habitat alami dan keanekaragaman hayati hutan mangrove. Untuk itulah maka diupayakan kegiatan rehabilitasi mangrove guna memperbaiki kondisi habitat mangrove yang rusak. Penelitian ini bertujuan untuk mengetahui kepadatan biota perairan (fitoplankton, zooplankton dan nekton), beberapa faktor lingkungan yaitu suhu, pH, oksigen terlarut, salinitas, bahan organik serta hubungan antar variabel-variabel tersebut..

Untuk mengetahui pengaruh rehabilitasi terhadap kepadatan biota perairan digunakan uji beda rata-rata (*t-test*). Analisis regresi sederhana digunakan untuk mengetahui hubungan antara kepadatan fitoplankton, zooplankton dan nekton dengan kerapatan vegetasi. Untuk mengetahui hubungan antara kerapatan vegetasi, kepadatan fitoplankton, zooplankton dan nekton dengan sifat fisik kimia perairan digunakan analisis regresi berganda.

Hasil penelitian menunjukkan bahwa kawasan rehabilitasi memberikan pengaruh yang signifikan terhadap kerapatan vegetasi, kepadatan fitoplankton, zooplankton dan nekton. Kerapatan vegetasi memberikan pengaruh yang signifikan terhadap kepadatan fitoplankton dan nekton tetapi tidak berpengaruh terhadap kepadatan zooplankton. Koefisien determinasi (R^2) yang diperoleh dari ketiga persamaan tersebut masing-masing adalah 23,1%; 38,5% dan 4,1%. Variabel suhu, pH, oksigen terlarut, salinitas dan bahan organik secara bersama-sama berpengaruh terhadap kerapatan vegetasi dan kepadatan nekton dengan R^2 masing-masing 46,6% dan 45,8% tetapi tidak berpengaruh terhadap kepadatan fitoplankton dan zooplankton. R^2 pada kedua persamaan tersebut cukup kecil yaitu 15,6% dan 12%. Dari hasil di atas dapat disimpulkan bahwa kegiatan rehabilitasi secara ekologis mampu meningkatkan keanekaragaman biota perairan dan memperbaiki sifat fisik kimia perairan.

Kata kunci : rehabilitasi, biota dan sifat fisik kimia perairan.

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THE EFFECT OF THE MANGROVE REHABILITATION TOWARDS WATER BIOTA'S AND CHANGING OF ENVIRONMENTAL FACTORS IN THE NORTH COAST, DISTRICT OF BREBES

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ABSTRACT

Mangroves ecologically function as a spawning ground, nursery ground, and a feeding ground for certain fish and other water biota's. Physically, it provides the ability to protect the coastal area from the chances of abrasion, to anticipate salt water intrusion, and to form soil emerging towards the surface of the earth. The economy development and the raise of population in the last decades have increased the degradation of the natural habitat and the biodiversity of mangroves. Therefor, mangrove rehabilitation is needed to improve the decreasing mangrove habitat. This research is purposed to acknowledge the density of water biota's (phytoplankton, zooplankton, and nekton), some environmental factors such as temperature, pH, dissolved oxygen, salinity, organic substance, and the correlation of those variables.

To acknowledge the effect of rehabilitation towards the density of water biota, *t-test* is used. A simple regression analysis is used to figure out between phytoplankton, zooplankton, and nekton with the vegetation density. Multiple regression analysis is used to know the correlation between vegetation density, density of phytoplankton, zooplankton, and nekton with the physical and chemical characteristic.

The result of this research show that the rehabilitation area provides a significant result towards the vegetation density, phytoplankton, zooplankton, and nekton density. The vegetation density gives a significant effect towards the zooplankton density. The coefficient determination (R^2) as a result of the three equations is as follows : 23,1%; 38,5%; and 4,1%. The temperature variable, pH, dissolved oxygen, salinity, and organic substance all together gives effect towards the vegetation and nekton density resulting R^2 each 46,6% and 45,8% but does not effect toward the phytoplankton and zooplankton density. Both the R^2 are relatively small in figure, which is 15,6% and 12%. From the research results it is concluded that the rehabilitation activity ecologically increases the water biodiversity and improves the physical and chemical characteristics of the environment.

Keywords : rehabilitation, biota, and physical and chemical water characteristics.

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