

PERAN REHABILITASI MANGROVE TERHADAP KEPADATAN DAN POLA DISTRIBUSI KEPITING BAKAU (*Scylla spp.*) DI KUALA LANGSA, ACEH

INTISARI

Mariah Ulfa¹, Erny Poedjirahajoe² dan Lies Rahayu W.F.²

Rehabilitasi mangrove diharapkan mampu memulihkan dan menciptakan kembali ekosistemnya. Penelitian ini bertujuan untuk mengetahui perbedaan kerapatan mangrove, kepadatan kepiting bakau, pola distribusi kepiting bakau, serta hubungan antara parameter abiotik dan kerapatan mangrove dengan kepadatan kepiting bakau pada area rehabilitasi mangrove Kuala Langsa umur 9 tahun, 3 tahun, dan kontrol.

Penelitian dilaksanakan pada bulan Januari-Maret 2016 di kawasan rehabilitasi mangrove Kuala Langsa umur 9 tahun dan 3 tahun, serta kawasan terdegradasi tanpa perlakuan sebagai kontrol. IS yang digunakan adalah 1%, sehingga dengan luas tiap lokasi 35 Ha dan ukuran PU 5x5 m menghasilkan 140 PU yang disebar pada tiap lokasi penelitian. Peletakan PU menggunakan metode *systematic sampling with random start*. Pada setiap PU dilakukan pengukuran parameter abiotik dan kerapatan mangrove, serta pengukuran kepiting bakau pada sub PU berukuran 1x1 m. Pola distribusi kepiting bakau ditentukan menggunakan Indeks Penyebaran Morisita. Perbedaan antar lokasi penelitian diuji menggunakan uji Kruskal-Wallis. Analisis regresi (*stepwise*) digunakan untuk mengetahui hubungan antara parameter abiotik dan kerapatan mangrove dengan kepadatan kepiting bakau.

Hasil penelitian menunjukkan bahwa kerapatan mangrove pada lokasi umur 3 tahun lebih tinggi dibandingkan dengan lokasi umur 9 tahun. Hal tersebut disebabkan oleh adanya persaingan ruang, hara dan faktor habitat lain yang terjadi seiring dengan pertumbuhan mangrove. Selain itu, juga disebabkan oleh penebangan liar yang masih sering ditemukan pada lokasi umur 9 tahun. Lokasi umur 9 tahun dengan kepadatan kepiting bakau tertinggi, secara perlahan mulai mengalami perbaikan dan kembali memberikan fungsi ekologis sebagai habitat kepiting bakau. Kepiting bakau pada ketiga lokasi penelitian memiliki pola distribusi berkelompok. Berdasarkan hasil analisis regresi (*stepwise regression*), kerapatan mangrove merupakan variabel yang muncul pada model regresi setiap lokasi penelitian. Oleh karena itu, dapat disimpulkan bahwa kerapatan mangrove dapat dijadikan salah satu indikator penentu kepadatan kepiting bakau.

Kata Kunci: Rehabilitasi Mangrove, Kepiting Bakau (*Scylla spp.*), Pola Distribusi.

¹ Mahasiswa Program Studi Ilmu Kehutanan Program Pascasarjana Fakultas Kehutanan UGM

² Staf Pengajar Program Studi Ilmu Kehutanan Program Pascasarjana Fakultas Kehutanan UGM

THE ROLE OF MANGROVE REHABILITATION ON DENSITY AND DISTRIBUTION PATTERN OF MUD CRABS (*Scylla spp.*) IN KUALA LANGSA, ACEH

ABSTRACT

Mariah Ulfa¹, Erny Poedjirahajoe² and Lies Rahayu W.F.²

Mangrove rehabilitation is expected to restore and recreate the balancing of the ecosystem. This study aims to determine the differences of mangrove density, mud crab density, distribution pattern of mud crab, and relationship between independent variables (abiotic parameters and mangrove density) and dependent variable (mud crab density) in Kuala Langsa mangrove rehabilitation area aged 9 years, 3 years, and control.

This study was conducted in January-March 2016 at Kuala Langsa mangrove rehabilitation area aged 9 years, 3 years, and non-rehabilitation degraded area as the control. The sampling intensity was 1%, therefore with 35 Ha of each site and 5x5 m of size for each plot, resulting in 140 plots that were set in each site. The plot setting was done using a systematic sampling with random start method. The measurements of abiotic parameters and mangrove density were done in each plot, and the observation of mud crab density was done in 1x1 m subplot. The distribution pattern of mud crab was determined using Morisita Spread Index. The differences between sites were tested using a non-parametric Kruskal-Wallis test. A multiple regression analysis (stepwise) was conducted to determine the relationship between independent variables (abiotic parameters and mangrove density) and dependent variable (mud crab density).

The results showed that mangrove density in the 3 years site was higher than in 9 years site. It was due to the competition of space, nutrients and other habitat factors that occurred along with the growth of mangrove. In addition, the illegal loggings that were still commonly found in 9 years site also caused the decreasing of mangrove density. The 9 year site with the highest mud crab density was starting to restore and reprovide the ecological functions as the habitat for mud crabs compared to two other sites in this study. The mud crabs in three study sites had an aggregate distribution pattern. Based on the results of multiple regression analysis (stepwise), mangrove density was the predictor variable that occurred in each study site's regression model. Therefore, it can be concluded that mangrove density is one of the determinants of mangrove crab density.

Keywords: Mangrove Rehabilitation, Mud Crabs (*Scylla spp.*), Distribution Pattern.

¹ Post Graduate Student of Forestry Science Study Program, Faculty of Forestry, UGM

² Lecturer of Forestry Science Study Program, Faculty of Forestry, UGM