

Dinamika populasi dan optimasi pemanfaatan udang dogol (metapenaeus ensis) de haan 1844) di perairan Cilacap dan sekitarnya = Population dynamics and optimization utilization of greasyback shrimp metapenaeus ensis de haan 1844 in Cilacap waters / Hasan El Fakhri

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Abstrak

[ABSTRAK

Terdapatnya upaya tangkap udang dogol (Metapenaeus ensis, De Haan 1844) di perairan Cilacap dan sekitarnya yang berlebih maka perlu dilakukan penelitian yang bertujuan untuk mengkaji dinamika populasi, tingkat pemanfaatan dan optimasi pemanfaatan udang dogol di perairan Cilacap dan sekitarnya.

Penelitian dilaksanakan di perairan Cilacap dan sekitarnya dari bulan Januari 2013 sampai Desember 2014. Metode yang digunakan adalah metode survei dengan pengambilan sampel udang dogol yang tertangkap oleh alat tangkap arad dan trammel net. Analisis dinamika populasi menggunakan program FiSAT II dan pengkajian potensi lestari dianalisis dengan menggunakan model surplus produksi dalam menentukan Maximum Sustainable Yield (MSY). Optimasi pemanfaatan dilakukan dengan analisis Linier Programming terhadap aspek-aspek yang terkait dengan pemanfaatan udang dogol.

Udang dogol di perairan ini memiliki pola pertumbuhan allometrik negatif, dengan nilai $L_c > L_m$ yang menunjukkan sebagian besar udang dogol yang tertangkap di perairan ini sudah memijah. Nilai parameter pertumbuhan yaitu L_{∞} : 55.8 mm, K: 1,18 per tahun, t_0 : 0,1129, Z: 7,09 per tahun, M: 0,8 per tahun, F: 6,29 per tahun, dan E: 0,88. Nilai E menunjukkan tingkat pemanfaatan sudah melebihi batas eksploitasi dan sudah terjadi overfishing. Pendugaan MSY dan f-Opt sebesar 57 ton/tahun dan 392 unit alat tangkap standar trammel net. Skenario optimasi pemanfaatan udang dogol di perairan Cilacap dan sekitarnya yang paling menguntungkan dan lestari adalah dengan mengoperasikan 392 unit jaring trammel net dengan keuntungan Rp. 35,2 milyar per tahun.

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ABSTRACT

There were an excessive fishing effort of greasyback shrimp (Metapenaeus Ensis, De Haan 1844) in Cilacap Waters, so it is necessary to study the population dynamics, the level of utilization and optimization of greasyback shrimp in Cilacap waters. Research was conducted in Cilacap and surrounding waters from January 2013 to December 2014. The method used was survey method using samples of Greasyback Shrimp that were caught by fishing gear Arad and trammel net. Analysis of population dynamics used FiSAT II program. Assessment of the maximum sustainable yield was analyzed using surplus production models in order to determine

the Maximum Sustainable Yield (MSY). The optimization of the utilization of Linear Programming was done using analysis of aspects related to the use of greasyback shrimp.

Greasyback Shrimp growth in the Cilacap waters moreover negative allometric, with a value of $L_c > L_m$ which show that most of Greasyback Shrimp caught with fishing gear used in waters Cilacap already in spawning condition. Value of growth parameters L_{∞} : 55.8 mm, K: 1.18 per year, t_0 : 0.1129, Z: 7.09 per year, M: 0.8 per year, F: 6.29 per year, and E: 0.88. The value of E indicate that the utilization rate has exceeded the limits of exploitation (overfishing). Base on surplus production models analysis estimation of MSY was 57 tons / year while f_{-Opt} for and 392 units using standard trammel net fishing gear. Optimization scenarios of Greasyback Shrimp in the Cilacap waters was the use of the most profitable and sustainable ways to operate 392 units trammel nets with a net profit of Rp. 35.2 billion per year, There were an excessive fishing effort of greasyback shrimp (*Metapenaeus Ensis*, De Haan 1844) in Cilacap Waters, so it is necessary to study the population dynamics, the level of utilization and optimization of greasyback shrimp in Cilacap waters. Research was conducted in Cilacap and surrounding waters from January 2013 to December 2014. The method used was survey method using samples of Greasyback Shrimp that were caught by fishing gear Arad and trammel net. Analysis of population dynamics used FiSAT II program. Assessment of the maximum sustainable yield was analyzed using surplus production models in order to determine the Maximum Sustainable Yield (MSY). The optimization of the utilization of Linear Programming was done using analysis of aspects related to the use of greasyback shrimp.

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