RINGKASAN

INTAN SURAYA. Nilai Hambur Balik Akustik Terhadap Tingkat Tutupan dan Tinggi Kanopi Yang di Dominasi Jenis Lamun *E.acoroides* Di Perairan Pulau Mantang. Dibimbing oleh ASEP MA'MUN dan ADITYA HIKMAT NUGRAHA.

Informasi mengenai hambur baik akustik lamun masih sangat terbatas di perairan Pulau Mantang. Tujuan penelitian ini dilakukan untuk mengukur besar tutupan lamun dan tinggi kanopi, dan menentukan nilai hambur balik akustik terhadap tingkat tutupan lamun dan tinggi kanopi yang berbeda di Perairan Pulau Mantang. Penelitian ini dilakukan pada bulan Juni 2024 dengan, menggunakan metode hidroakustik dengan instrument *singlebeam echosounder* SIMRAD EK-15 dengan frekuensi 200 kHz. Pengumpulan data dilakukan survei terdahulu untuk melihat lokasi yang terdapat lamun, pada saat perekaman data akustik dilakukan *purposive sampling* pada kondisi kapal dalam keadaan diam dan perekaman dilakukan selama 5 menit. Pengambilan data tutupan lamun dibantu dengan menggunakan transek kuadran yang berukuran 50 x 50 cm, dimana dengan kategori yang berbeda yaitu tutupan jarang, sedang dan padat. Titik diambil sebanyak 31 titik dan melakukan pengambilan foto menggunakan *underwater camera.* Pengolahan data akustik menggunakan *software ESP3* untuk mendapatkan nilai *volume backscattering strength* (Sv) dan *surface backscattering strength* (SS). Berdasarkan hasil analisis yang diperoleh nilai *surface backscattering strength* (SS) terhadap tingkat tutupan lamun yang berbeda dimana mendapatkan hasil nilai SS sebesar -40 dB hingga -20 dB. Hasil analisis regresi linear sederhana antara nilai tutupan lamun dan nilai hambur balik *surface backscattering strength* menunjukan y = 7,4728 (Ln(x) – 62,135) dengan nilai R^2 yang diperoleh sebesar 62,22% yang artinya kedua variabel tersebut memiliki hubungan yang saling berpengaruh, sedangkan uji regresi linear yang dilakukan antara nilai tinggi kanopi dan nilai hambur balik *surface backscattering strength* memiliki hubungan yang sangat lemah atau tidak terdapat pengaruh, yang dimana nilai didapatkan sebesar R^2 = 0,0061.

Kata kunci: Lamun, Perairan Pulau Mantang, Tutupan lamun dan Tinggi Kanopi *Surface Backscattering Strength (SS) Volume backscattering strength* (Sv*).*

SUMMARY

INTAN SURAYA. Acoustic Backscatter Values in Relation to Seagrass Cover and Canopy Height Dominated by *Enhalus acoroides* in the Waters of Mantang Island. Supervised by ASEP MA'MUN and ADITYA HIKMAT NUGRAHA.

Information on acoustic backscatter of seagrasses is still very limited in Mantang Island waters. The purpose of this study was to measure the size of seagrass cover and canopy height, and determine the value of acoustic backscatter against different levels of seagrass cover and canopy height in Mantang Island Waters. This research was conducted in June 2024 using the hydroacoustic method with a SIMRAD EK-15 singlebeam echosounder instrument with a frequency of 200 kHz. Data collection was carried out a previous survey to see the location of seagrasses, at the time of recording acoustic data, purposive sampling was carried out in the condition of the ship in a state of silence and recording was carried out for 5 minutes. Seagrass cover data collection is assisted by using a quadrant transect measuring 50 x 50 cm, where with different categories of sparse, medium and dense cover. 31 points were taken and photos were taken using an underwater camera. Acoustic data processing using ESP3 software to obtain the value of volume backscattering strength (Sv) and surface backscattering strength (SS). Based on the results of the analysis obtained the value of surface backscattering strength (SS) to different levels of seagrass cover where the results obtained SS values of -40 dB to -20 dB. The results of simple linear regression analysis between seagrass cover value and surface backscattering strength value show y = 7.4728 (Ln(x) - 62.135) with R2 value obtained by 62.22% which means that the two variables have a mutually influential relationship, while the linear regression test conducted between the value of canopy height and the value of surface backscattering strength has a very weak relationship or no influence, where the value obtained is R2 = 0.0061.

Keywords: Seagrass, Waters of Mantang Island, Seagrass Coverage and Canopy Height, *Surface Backscattering Strength* (SS), *Volume Backscattering Strength* (Sv).