

ABSTRAK

Emisi CO₂ yang terakumulasi di atmosfer menyebabkan terjadinya perubahan iklim secara global. Untuk mengurangi dampak perubahan iklim, salah satu upaya yang dapat dilakukan saat ini adalah meningkatkan penyerapan karbon dan/atau menurunkan emisi di atmosfer. Ekosistem mangrove memiliki fungsi ekologis sebagai pereduksi karbon melalui proses sekuestrasi (*C-sequestration*). Hutan mangrove adalah salah satu ekosistem alami yang memberikan kontribusi besar bagi populasi sebagai sumber makanan, salah satunya adalah gastropoda. Tujuan dari penelitian ini adalah menghitung kerapatan mangrove, estimasi stok karbon mangrove, kelimpahan gastropoda dan hubungan antara ketiga variabel tersebut di hutan mangrove KEE Muara Kali Ijo, Kebumen pada bulan Juni- Juli 2022. Penelitian menggunakan metode survei, penentuan stasiun berdasarkan metode *purposive random sampling* dan pengukuran estimasi biomassa dan stok karbon menggunakan metode tanpa pemanenan (*non-destructive*). Berdasarkan penelitian hasil kerapatan berkisar antara sedang- tinggi, estimasi stok kandungan karbon diperkirakan sebesar 576,4 ton/ha dan umur tegakan dan besarnya diameter batang merupakan faktor yang mempengaruhi biomassa. Kelimpahan gastropoda yang didapatkan mencapai 48,02 ind/1500 m² atau 21 spesies. Hasil uji korelasi menunjukkan bahwa kerapatan mangrove mempengaruhi nilai stok karbon, biomassa batang berbanding lurus terhadap stok karbon, kerapatan mangrove tidak terlalu mempengaruhi nilai kelimpahan gastropoda, stok karbon dan kelimpahan gastropoda mempunyai hubungan korelasi kuat.

Kata kunci : Kerapatan mangrove, biomassa, karbon, kelimpahan gastropoda

ABSTRACT

CO₂ emissions that accumulate in the atmosphere cause global climate change. To reduce the impact of climate change, one of the efforts that can be done at this time is to increase carbon sequestration and/or reduce emissions in the atmosphere. The mangrove ecosystem has an ecological function as a carbon reducing agent through the sequestration process (C-sequestration). Mangrove forest is one of the natural ecosystems that makes a major contribution to the population as a source of food, one of which is gastropods. The purpose of this study was to calculate mangrove density, mangrove carbon stock estimation, gastropod abundance and the relationship between these three variables in the mangrove forest of KEE Muara Kali Ijo, Kebumen in June-July 2022. The study used survey method, station determination was based on purposive random sampling method. and measurement of estimated biomass and carbon stock using the non-destructive method. Based on the results of the research, the density ranges from medium to high, the estimated carbon stock is estimated at 576.4 tons/ha and the age of the stand and the size of the stem diameter are factors that affect biomass. The abundance of gastropods obtained reached 48.02 ind/1500 m² or 21 species. Correlation test results show that mangrove density affects the value of carbon stock, stem biomass is directly proportional to carbon stock, mangrove density does not significantly affect the value of gastropod abundance, carbon stock and gastropod abundance have a strong correlation.

Keyword : Mangrove density, biomass, carbon, gastropod abundance