

ABSTRAK

POTENSI SIMPANAN KARBON MANGROVE DI KAWASAN DESA SUMBERNADI KECAMATAN KETAPANG KABUPATEN LAMPUNG SELATAN DAN DESA GEBANG KECAMATAN TELUK PANDAN KABUPATEN PESAWARAN PROVINSI LAMPUNG

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Mangrove merupakan salah satu ekosistem pesisir yang memiliki peranan penting bagi kehidupan makhluk hidup. Salah satu fungsi penting dari mangrove yaitu sebagai penyerap karbon. Desa Sumbernadi dan Desa Gebang merupakan desa yang memiliki potensi mangrove. Penelitian ini bertujuan untuk menganalisis dan membandingkan karbon tersimpan pada bagian tegakan, nekromassa, serasah dan sedimen ekosistem mangrove Desa Sumbernadi Kecamatan Ketapang Kabupaten Lampung Selatan dan Desa Gebang Kecamatan Teluk Pandan Pesawaran, Provinsi Lampung. Penelitian dilakukan dari bulan Agustus-September 2024. Pengukuran karbon tegakan, nekromassa, dan serasah menggunakan metode *non-destructive* sampling sedangkan sedimen dengan metode ayakan bertingkat. Rata-rata karbon tersimpan pada tegakan mangrove di Desa Gebang sebesar, 7.24 kg C/m^2 , sedangkan karbon tersimpan pada tegakan mangrove di Desa Sumbernadi sebesar, 6.06 kg C/m^2 . Rata-rata karbon tersimpan pada nekromassa mangrove di Desa Gebang sebesar, 0.029 kg C/m^2 , sedangkan karbon tersimpan pada nekromassa mangrove di Desa Sumbernadi sebesar 0.015 kg C/m^2 . Rata-rata karbon tersimpan pada serasah mangrove di Desa Gebang sebesar 0.088 kg C/m^2 , sedangkan karbon tersimpan pada serasah mangrove di Desa Sumbernadi sebesar 0.079 kg C/m^2 . Rata-rata karbon tersimpan pada sedimen mangrove di Desa Gebang sebesar 145.01 kg C/m^2 , sedangkan karbon tersimpan pada sedimen mangrove di Desa Sumbernadi sebesar 81.39 kg C/m^2 . Nilai simpanan karbon tertinggi ditemukan di Desa Gebang, yang didominasi oleh jenis *Rhizophora* sp., sedangkan Desa Sumbernadi yang didominasi oleh *Avicennia* sp. memiliki nilai simpanan karbon lebih rendah.

Kata Kunci: Mangrove, Nekromassa, Sedimen, Serasah, Tegakan

ABSTRACT

THE CARBON STORAGE POTENCY OF MANGROVES IN THE SUMBERNADI VILLAGE KETAPANG SUBDISTRICT SOUTH LAMPUNG REGENCY AND GEBANG VILLAGE TELUK PANDAN SUBDISTRICT PESAWARAN REGENCY LAMPUNG PROVINCE

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Mangrove was one of the coastal ecosystems that played an important role in supporting living organisms. One of its main functions was as a carbon absorber. Sumbernadi and Gebang Villages were areas with high mangrove potential. This study wese to analyze and compare the stored carbon in the stand, necromass, litter, and sediment components of mangrove ecosystems in Sumbernadi Village, Ketapang District, South Lampung Regency, and Gebang Village, Teluk Pandan District, Pesawaran Regency, Lampung Province. The research was conducted from August to September 2024. Measurements of stand, necromass, and litter carbon were carried out using the non-destructive sampling method, while sediment carbon was analyzed using a sieving method. The average stored carbon in mangrove stands of Gebang Village was 7.24 kg C/m², while that in Sumbernadi Village was 6.06 kg C/m². In necromass, Gebang stored 0.029 kg C/m², and Sumbernadi stored 0.015 kg C/m². In litter, Gebang stored 0.088 kg C/m², while Sumbernadi stored 0.079 kg C/m². Sediment carbon storage was the highest, with 145.01 kg C/m² in Gebang and 81.39 kg C/m² in Sumbernadi. Overall, Gebang Village showed a higher total carbon storage than Sumbernadi Village. This difference was associated with the dominant mangrove species, where Gebang was dominated by *Rhizophora* sp., known for its dense root system and high biomass, while Sumbernadi was dominated by *Avicennia* sp., which contributed to a lower carbon storage value.

Keywords : Litter, Mangrove, Necromass, Sediment, Stand