

ANINDYA AULIA RIZQYTSANI NIM. 17.03.5.1.1.00004. Estimasi Stok Karbon Mangrove Desa Taddan Kecamatan Camplong Kabupaten Sampang. Dibawah bimbingan **Dr. Firman Farid Muhsoni, S.Pi., M.Sc.**

ABSTRAK

*Ekosistem mangrove merupakan salah satu ekosistem yang memiliki peran penting dalam upaya mitigasi pemanasan global dengan mengurangi konsentrasi karbondioksida (CO_2) di udara. Ekosistem mangrove di Indonesia mampu menyerap karbon di udara sebanyak 67,7 $MtCO_2$ per tahun. Nilai karbon yang terkandung pada vegetasi mangrove disimpan dalam bentuk biomassa. Penelitian ini bertujuan untuk mengetahui komposisi jenis vegetasi mangrove, indeks nilai penting (INP) vegetasi mangrove, total biomassa dan stok karbon yang ada di Desa Taddan Kecamatan Camplong Kabupaten Sampang. Penelitian ini menggunakan metode transek tegak lurus non-destruktif sampling yaitu pengambilan data vegetasi mangrove tanpa merusak dengan menggunakan model persamaan allometrik. Penelitian ini dilakukan pada 5 stasiun yang terdiri dari 2-3 plot. Hasil penelitian menunjukkan bahwa komposisi jenis vegetasi mangrove yaitu *Aegiceras corniculatum*, *Avicennia marina*, *Rhizophora apiculata*, *Rhizophora mucronata*, *Rhizophora stylosa*, *Sonneratia alba*. Indeks Nilai Penting (INP) mangrove kategori pohon tertinggi sebesar 300 % dengan jenis *Sonneratia alba* yang terdapat di stasiun 4 dan stasiun 5, kategori pancang tertinggi sebesar 137,3 % dengan jenis *Rhizophora mucronata* di stasiun 3, kategori semai tertinggi sebesar 200 % dengan jenis *Rhizophora stylosa*, *Rhizophora apiculata*, *Rhizophora mucronata* di stasiun 2, stasiun 3 dan stasiun 4. Total kandungan biomassa mangrove rata-rata sebesar 162,5 ton/ha, terdiri dari biomassa atas permukaan 103,1 ton/ha, biomassa bawah permukaan 59,3 ton/ha, biomassa tumbuhan bawah 0,07 ton/ha dan biomassa organik mati 0,06 ton/ha. Total stok karbon rata-rata sebesar 179,07 ton/ha, terdiri dari karbon atas permukaan 48,48 ton/ha, karbon bawah permukaan 27,89 ton/ha, karbon tumbuhan bawah 0,09 ton/ha, karbon organik mati 0,003 ton/ha dan karbon tanah 102,61 ton/ha.*

Kata Kunci: Mangrove, Komposisi Jenis Mangrove, Indeks Nilai Penting, Biomassa, Stok Karbon.

ANINDYA AULIA RIZQYTSANI NIM. 17.03.5.1.1.00004. Carbon Stock Estimation of Mangrove Taddan Village, Camplong Sub-District, Sampang District. Supervised by **Dr. Firman Farid Muhsoni, S.Pi., M.Sc.**

ABSTRACT

*The mangrove ecosystem is an ecosystem that has an important role in mitigating global warming by reducing the concentration of carbon dioxide (CO₂) in the air. Mangrove ecosystems in Indonesia are able to absorb as much as 67.7 MtCO₂ of carbon in the air per year. The carbon value contained in mangrove vegetation is stored in the form of biomass. This study aims to determine the composition of mangrove vegetation types, important value index (INP) of mangrove vegetation, total biomass and carbon stock in Taddan Village, Camplong District, Sampang Regency. This study used the transect method to collect mangrove vegetation data and the non-destructive sampling method, that is, without damaging it, using an allometric equation model. This research was conducted at 5 stations consisting of 2-3 plots. The results showed that the vegetation type composition of the mangroves of *Aegiceras corniculatum*, *Avicennia marina*, *Rhizophora apiculata*, *Rhizophora mucronata*, *Rhizophora stylosa*, *Sonneratia alba*. The Importance Value Index (INP) of mangroves for the highest tree category was 300% with *Sonneratia alba* species found at station 4 and station 5, the highest sapling category was 137.3% with *Rhizophora mucronata* at station 3, the highest category for seedlings was 200% with species *Rhizophora stylosa*, *Rhizophora apiculata*, *Rhizophora mucronata* at station 2, station 3 and station 4. The total mangrove biomass content averaged 162.5 tonnes / ha, consisting of 103.1 tonnes / ha aboveground biomass, 59 subsurface biomass, 3 tonnes / ha, understorey biomass 0.07 tons / ha and dead organic biomass 0.06 tonnes / ha. Total carbon stock averaged 179,07 tons / ha, consisting of 48.48 tons / ha of above-surface carbon, 27.89 tons / ha of subsurface carbon, 0.09 tons / ha of understorey carbon, 0.003 tons / ha of dead organic carbon ha and soil carbon 102,61 tons / ha.*

Key Words: Mangrove, Composition of Mangrove Species, Importance Value Index, Biomassa, Carbon Stock