

PENAKSIRAN KARBON TERSIMPAN PADA HUTAN ALAM MANGROVE DI KPH INDRAMAYU, RPH CEMARA, PERUM PERHUTANI UNIT III JAWA BARAT

INTISARI

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Ekosistem mangrove mempunyai fungsi sebagai penyedia jasa lingkungan melalui penyerapan karbondioksida di atmosfer. Kerusakan mangrove di pantai utara Indramayu akibat konversi lahan dapat mengakibatkan potensi simpanan karbon semakin menurun. Penelitian ini bertujuan untuk (1) mengetahui estimasi simpanan karbon dalam vegetasi mangrove dan (2) mengetahui estimasi simpanan karbon dalam substrat hutan alam mangrove di RPH Cemara, KPH Indramayu, PERUM PERHUTANI Unit III Jawa Barat.

Metode pengambilan data vegetasi yang digunakan adalah metode *random sampling*. Pengambilan data vegetasi dilakukan dengan cara membuat petak ukur berukuran 20m x 20m yang penempatannya dilakukan secara *random*. Struktur dan komposisi vegetasi diamati yang meliputi identifikasi jenis dan pengukuran diameter batang pohon setinggi dada (DBH) untuk menghitung jumlah biomasnya dengan menggunakan persamaan allometrik. Pengambilan sampel tanah tidak terusik dilakukan untuk mengetahui *bulk density* serta sampel tanah terusik dilakukan untuk mengetahui C-organik.

Dari hasil penelitian ditemukan empat jenis penyusun mangrove di kawasan hutan alam mangrove RPH Cemara, KPH Indramayu, PERUM PERHUTANI Unit III Jawa Barat, yaitu *Rhizophora mucronata*, *Rhizophora apiculata*, *Avicennia marina* dan *Sonneratia alba*. Kepadatan vegetasi rata-rata adalah 854,41 pohon/ha. Dengan luas kawasan 1365 ha, total simpanan karbon di kawasan hutan alam mangrove RPH Cemara sebesar 911.506,65 ton C yang meliputi : (a) *above-ground carbon* sebesar 113.780,42 ton C; (b) *below-ground carbon* sebesar 45.747,33 ton C; dan (c) karbon di dalam tanah sebesar 751.912,72 ton C.

Kata kunci : mangrove, simpanan karbon, hutan alam

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**THE CARBON STOCKED ESTIMATION OF
NATURAL MANGROVE FOREST
IN KPH INDRAMAYU, RPH CEMARA,
PERUM PERHUTANI UNIT III WEST JAVA**

ABSTRACT

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Mangrove ecosystems provide environmental services such as carbon dioxide sequestration from the atmosphere. Damaging mangroves along the northern coast of Indramayu has been affected by land conversion which may result in reduction of the potential carbon storage. This research aims to (1) estimate the existing carbon stocks in the mangrove forests and (2) to estimate the carbon stock in mangrove substrates of RPH Cemara, KPH Indramayu, PERUM PERHUTANI Unit III West Java.

Vegetation data was collected using random sampling method. Seventeen plots of 20m x 20m were set up randomly. The vegetation structure and composition were observed, including species identification and DBH measurement, within the plots. Allometric equation was applied to DBH data in order to estimate the amount of biomass in study area. Undisturbed soil sampling was conducted to determine the bulk density, while disturbed soil sampling was conducted to determine the C-organic matter.

This study observed four mangrove species within the area of RPH Cemara, KPH Indramayu, PERUM PERHUTANI Unit III West Java, which are *Rhizophora mucronata*, *Rhizophora apiculata*, *Avicennia marina* and *Sonneratia alba*. The average of mangrove density is 854,41. Within 1365 ha areas, the total carbon stock in the natural mangrove forest of RPH Cemara consists of: (a) *above-ground carbon* 113.780,42 ton C; (b) *below-ground carbon* 45.747,33 ton C; and (c) carbon in the soil 751.912,72 ton C.

Key words : mangroves, carbon stocks, natural forest

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