

**ESTIMASI CADANGAN KARBON BAWAH PERMUKAAN
LAHAN GAMBUT DI DESA PANDAN LAGAN KECAMATAN GERAGAI
KABUPATEN TANJUNG JABUNG TIMUR**

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ABSTRACT

Peatlands act ecological function as carbon stocks. This research aims to analyze the distribution of below ground carbon stocks on peatlands in Desa Pandan Lagan, Geragai Sub-district, Tanjung Jabung Timur Regency. Research used was a survey with a map scale of 1:50.000 with grid system. Based on the overlay map of peat thickness, decomposition level, real-time measured groundwater level, and age of oil palm trees, Homogeneous Land Units were formed. All soil samples of each decomposition level were analyzed for bulk density and C-organic content at the Soil Fertility Laboratory of the Faculty of Agriculture and the Laboratory of the Faculty of Animal Science, Jambi University. The results showed that the estimated below ground carbon stock were higher in sapric maturity which dominates the study area than in hemic maturity. It is recommended to conserve peatlands through sustainable hydrological management to prevent degradation that speeds up the decomposition of organic matter and soil subsidence, resulting in the release of carbon stocks into the atmosphere.

Keywords: below ground carbon stocks, peatlands, geographic information system

ABSTRAK

Lahan gambut memiliki fungsi ekologi sebagai penyimpan karbon. Penelitian ini bertujuan untuk menganalisis sebaran cadangan karbon bawah permukaan lahan gambut di Desa Pandan Lagan Kecamatan Geragai Kabupaten Tanjung Jabung Timur. Metode yang digunakan adalah survei dengan skala peta 1:50.000 dengan sistem grid. Berdasarkan overlay peta ketebalan gambut, kematangan gambut, tinggi muka air tanah sesaat, dan umur tanaman kelapa sawit diperoleh Satuan Lahan Homogen. Sampel tanah utuh tiap kematangan dianalisis bobot volume serta C-organik di Laboratorium Kesuburan Tanah Fakultas Pertanian dan Laboratorium Fakultas Peternakan Universitas Jambi. Hasil menunjukkan estimasi cadangan karbon tertinggi pada kematangan saprik yang mendominasi area penelitian daripada kematangan hemik. Disarankan dilakukan pelestarian lahan gambut melalui pengelolaan hidrologi yang berkelanjutan untuk mencegah degradasi yang mempercepat dekomposisi bahan organik dan subsidensi tanah sehingga berdampak pada pelepasan cadangan karbon ke atmosfer.

Kata kunci: cadangan karbon bawah permukaan, gambut, sistem informasi geografis