# RINGKASAN

MUHAMMAD FAJRI. Estimasi Stok Karbon Vegetasi Mangrove di Perairan Sei Jang Kota Tanjungpinang Provinsi Kepulauan Riau. Dibimbing oleh FEBRIANTI LESTARI dan JELITA RAHMA HIDAYATI.

Telah dilakukan penelitian tentang estimasi stok karbon vegetasi mangrove di Perairan Sei Jang. Vegetasi mangrove berpotensi menyerap dan menyimpan karbon dalam jumlah yang besar dan waktu yang lama, sehingga mampu berperan dalam mitigasi perubahan iklim. Tujuan dari penelitian ini adalah mengetahui potensi biomassa, stok karbon, dan penyerapan CO_2 yang berada pada tegakan vegetasi mangrove. Penelitian ini dilaksanakan pada Mei 2023 di Perairan Sei Jang Kota Tanjungpinang, Provinsi Kepulauan Riau. Metode yang digunakan *non destructive* dengan disertai metode *purposive sampling* yang digunakan dalam pengambilan sampel di 3 stasiun dengan total titik sampling 9. Analisis stok karbon menggunakan persamaan *allometrik* untuk menghitung simpanan karbon pada tegakan semai, pancang dan pohon pada AGB (*Above Ground Biomass*) serta kayu mati. Hasil yang diperoleh yaitu ditemukan 10 jenis mangrove pada lokasi penelitian yaitu *Avicennia marina*, *Avicennia officinalis*, *Bruguiera cylindrica*, *Bruguiera gymnorrhiza, Ceriops tagal, Lumnitzera racemosa, Rhizophora apiculata, Scyphiphora hydrophyllacea*, *Sonneratia alba*, *Xylocarpus granatum*. Potensi biomassa, stok karbon dan kemampuan penyerapan CO_2 pada vegetasi mangrove di Perairan Sei Jang tertinggi ditemukan didaerah hulu / stasiun 3 dan terendah ditemukan di daerah hilir / stasiun 1.

Kata kunci:Stok karbon, Penyerapan CO_2, Vegetasi Mangrove, Perairan Sei Jang
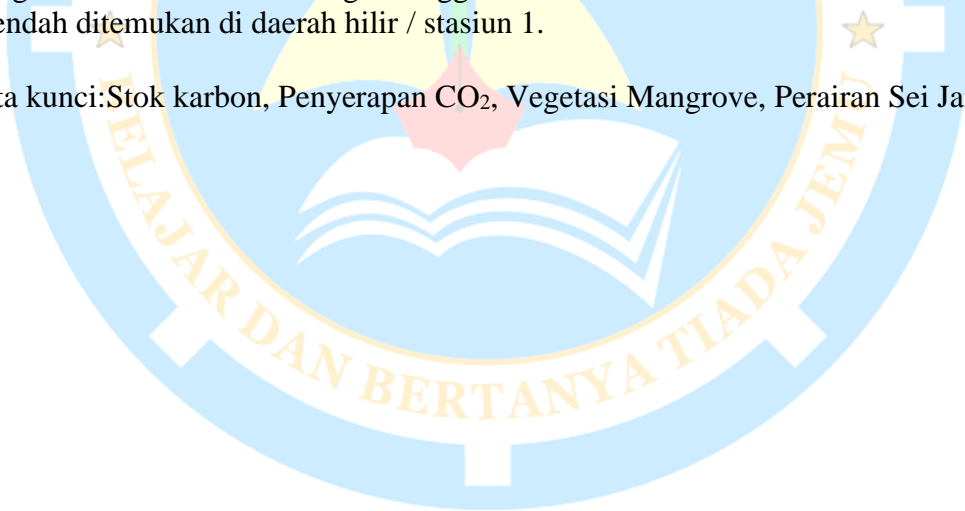
SUMMARY

MUHAMMAD FAJRI. Estimation of Mangrove Vegetation Carbon Stock in Sei Jang Waters, Tanjungpinang City, Riau Archipelago Province. Supervised by FEBRIANTI LESTARI and JELITA RAHMA HIDAYATI.

Research has been conducted on the estimation of mangrove vegetation carbon stocks in Sei Jang waters. Mangrove vegetation has the potential to absorb and store carbon in large quantities and for a long time, so that it can play a role in mitigating climate change. The purpose of this study was to determine the potential of biomass, carbon stock, and CO_2 absorption in mangrove vegetation stands. This research was conducted in May 2023 in Sei Jang Waters, Tanjungpinang City, Riau Archipelago Province. The method used is non-destructive accompanied by a purposive sampling method used in sampling at 3 stations with a total of 9 sampling points. Carbon stock analysis uses an allometric equation to calculate carbon storage in seedlings, saplings and trees in AGB (Above Ground Biomass) and wood dead. The results obtained were that 10 species of mangrove were found at the study site, namely Avicennia marina, Avicennia officinalis, Bruguiera cylindrica, Bruguiera gymnorrhiza, Ceriops tagal, Lumnitzera racemosa, Rhizophora apiculata, Scyphiphora hydrophyllacea, Sonneratia alba, Xylocarpus granatum. The highest potential of biomass, carbon stock and CO_2 absorption ability in mangrove vegetation in Sei Jang Waters is found in the upstream area / station 3 and the lowest is found in the downstream area station 1.

Keywords:Carbon stock, CO_2 absorption, Mangrove Vegetation, Sei Jang Waters