

**IDENTIFICATION OF CARBON STOCK STORED IN MANGROVE  
SEDIMENTS IN BAROS VILLAGE, TIRTOHARGO, KRETEK, BANTUL  
REGENCY**

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**ABSTRACT**

Mangrove forests are considered an ecosystem that stores four times more carbon than other tropical forests where most of the carbon is stored in the soil. The aim of this research was to identify the carbon content stored in two depths of mangrove sediment. The method used in this research was a survey. Data collection involves taking mangrove sediment samples with purposive sampling according to mangrove density conditions with three density levels, namely very dense, medium and rare and at two depths, namely 0-30 cm and 30-60 cm. The sampling technique uses a PVC sediment corer with a diameter of 7.6 cm. The parameters analyzed were mangrove density, sediment texture using the pipette method, bulk density using the ring method, sediment pH using a pH meter, sediment salinity using an EC meter, and organic carbon content using the LOI (*Loss on Ignition*) method. The results of this research showed that at a depth of 0-30 cm, the C-Organic value is 5.67%-0.55%, loam texture, clayey to sandy, BV 1.752 – 1.234g/cm<sup>3</sup>, slightly alkaline pH, salinity 3.99-0.722 mS/cm. At a depth of 30-60 cm it has a C-organic value of 5.812 – 1.16%, loamy texture, clayey to sandy, BV 1.648-0.932 g/cm<sup>3</sup>, pH 7 slightly alkaline, salinity 4.134-0.280 mS/cm.

**Keywords:** *carbon stock, mangrove density, mangrove forest, sediment depth*