

Carbon Stock of Australian pine (*Casuarina equisetifolia*) in Cemara Sewu Beach Jetis Cilacap

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Abstract	<p>Global warming is the increase in temperature in the atmosphere, sea and land. The increase in carbon or greenhouse gases is one of the causes of global warming. One solution to reduce the presence of greenhouse gases is to increase carbon stock. Beach is home to the richest ecosystems in the world and many components of the vegetation that store large amounts of carbon stock. Carbon compounds in the atmosphere are absorbed and metabolized. The metabolic products are stored in tree biomass. One of the trees that can be relied on as a stock carbon is those located at Cemara Sewu Beach, Cilacap. Cemara Sewu Beach is one of the beach that has a relatively large amount of stored carbon potential. The purpose of this study was to determine the carbon stored in several types of trees at Cemara Sewu Beach. The method used in this study is a survey method with purposive sampling using without destroying. The sampling of Australian pine tree stands is grouped into certain diameter class. The coastal area was made into three research stations and each study was made into 5 replicated plots measuring 20 m x 20 m and placed on a transect line with a distance of 5 meters each. All of the Australian pine were plotted as samples. The independent variable in this study was the diameter class of Australian pine, while the dependent variable was carbon stock. The main parameters observed were tree density, trunk diameter and the number of individuals for each tree species were calculated. The data obtained were analyzed using Analysis of Variance (ANOVA) followed by the Least Significant Difference (LSD) test with an error rate of 5%. The results of the research on the diameter class of Australian pine greatly affect the presence of biomass and carbon stock. The results obtained that carbon stocks in diameter class 15-20 store 74,914 ton.ha⁻¹, diameter class 21-25 as many as 164,599 ton.ha⁻¹, diameter class 26-30 as many as 270,372 ton.ha⁻¹, diameter class 31-35 store stocks carbon 462,478 ton.ha⁻¹ and in the diameter class 36-40 store as much as 462,478 ton.ha⁻¹. The larger the class diameter, the greater the carbon stock produced. The diameter class of Australian pine stands has a relationship between biomass and carbon stock, and has an exponential relationship.</p>
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