THE CORRELATION BETWEEN VEGETATION DENSITY LEVELS USING THE ENHANCED VEGETATION INDEX METHOD AND SEDIMENTATION RATES IN THE BAROS MANGROVE AREA BANTUL DISTRICT YOGYAKARTA SPECIAL REGION

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ABSTRACT

The Baros Mangrove Forest is a natural conservation for the area around the mouth of the Opak River and the coast of Baros Hamlet. In the Baros mangrove core zone area, there is an open area of 7,346 m2 which is the result of sedimentation of accumulated abrasive material from 20 years ago. Abrasion and sedimentation in the area is influenced by the balance between sediments entering and leaving the coast which is affected by the density of mangroves in the area. This study aims to determine the relationship between vegetation density and sedimentation rate in the Baros Mangrove Conservation Area, Bantul, Yogyakarta. The method used is the Enhanced Vegetation Index (EVI) method with SPOT 6 images, field tests with Sediment Trap and laboratory analysis. The results showed that the interpretation of the Avicennia, sp. station was very rare to moderate, with an average vegetation density of 700 – 1500 trees/ha, and a very fast average sedimentation rate of 147.726 mg/cm2/day. At the Rizhopora station, the vegetation is moderate to dense, with a density distribution of 1200-1800 trees/ha, and has a moderate to fast sedimentation rate with an average of 54.968 mg/cm2/day. At the third station, namely Bruguiera, sp., dense vegetation density with an average density of >1500 trees/ha, and an average slow to moderate sedimentation rate of 17.809 mg/cm2/day. The results of the Pearson correlation analysis showed a negative correlation with a fairly strong value (r = -0.405), and the vegetation density of the Enhanced Vegetation Index (EVI) method only affected 16% of the sedimentation rate (R^2 = 0.16).

Keywords *: mangrove, kerapatan vegetasi, sedimentasi, enhanced vegetation index*