

Assessment of nutrient availability on sediment Matang Mangrove Forest, Perak

ABSTRACT

Sediment has a potential in nutrient availability and plays an important for fertility rate at mangroves ecosystem. In mangrove ecosystem sediments were found abundantly in the river bank. Therefore, to prove this statement, macro and micro nutrients were taken on sediment of mangrove forest at Matang mangroves, Perak. The objectives of this study are to provide fundamental information on sediment nutrient availability at the Sungai Sepetang and to compare 3 different zones and 5 different depths. One transect line was established along the river and divided into three zones (Upstream, Middle stream, Downstream). About 75 of sediment samples were collected using peat auger in 5 different depths (0-15 cm, 15-30 cm, and 30-50 cm,). A standard method was used in sediment preparation and laboratory analysis. The obtained data were analyzed using Statistical Analysis System (SAS) Version 9.2 to find mean comparisons between the zones and depths. As a result of fundamental information on sediment physiochemical properties for pH level from (3.17-5.03) which are acidic and the electrical conductivity range from (14.34-23.87[mS/cm]). Whereas, for nutrient availability were showing significant difference with the highest amount of Magnesium 3.93a(\pm 0.092) in middle stream. For available nutrient such as Nitrogen, Potassium, Phosphorus, and manganese were similar. Lastly, depth 1 (0-15 cm) was showing significant difference and recorded the higher amount of nutrient content of Magnesium 3.703a(\pm 0.156) and Potassium 1.541b(\pm 0.079). As a conclusion, sediment is one of the potential for nutrient availability, but more researches are needed to be done to prove that the nutrient availability percentages are encouraged by mangrove zones and depths.

Keyword: Sediment; Factors; Nutrient availability; Mangrove Forest and Perak