SOIL PROPERTIES ON MANGROVE FOREST IN SULAMAN LAKE FOREST RESERVE, TUARAN, SABAH

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ABSTRACT

This study was conducted to study soil properties on mangrove area in Sulaman Lake Forest Reserve, Tuaran, Sabah. The objectives were to determine soil physical properties such soil color, moisture content and soil texture and to study soil chemical properties such soil pH, salinity, organic matter, Cation Exchange Capacity (CEC) and nutrients value (NPK). Soil sampling was done in 5 soil profiles with 4 different depths which are 0-15 cm, 15-30 cm, 30-50 cm and 50-100 cm. The results showed soil colors are mostly black and the range for moisture content is 7.73% to 22.82%. Soil types that were found are clay loam, clay, sandy clay, loam sandy, sandy loam and sandy clay loam. The percentage of clay and sand are the highest with 56.98% and 87.31% respectively. The soils in this mangrove are acidic with pH value from 4.40 to 7.16 and it's salinity is from 2.1 ppt to 18 ppt. The range for organic matter is 6.40% to 30.59% and the range for Cation Exchange Capacity (CEC) is 15.98 cmol/kg to 35.38 cmol/kg. For its nutrient value, the range for Nitrogen, available Phosporus, Potassium and Sulphur are 0.13%-0.43%, 0.13ppm-0.26 ppm, 0.43ppm-3.63ppm and 0.23%-2.12% respectively. The soils in this site were acidic and contain high value of organic matter. Soil salinity also showed that this site is suitable for shrimp farming.