

## **Assessment of nitrogen and phosphorus in mangrove forest soil at awat-awat lawas Sarawak**

### **ABSTRACT**

Despite few studies of forest health and environmental conditions of mangrove forest in Sarawak, the data was not sufficient to facilitate baseline data and direct comparison of mangrove forest health obtained for mangrove forest in Awat-Awat, Lawas, Sarawak. The objectives of the study were to determine the total N and available P concentration in the mangrove forest soil along with the effect of the soil depth on nutrient concentration. Mangrove soil samples were taken from Lawas Division of Sarawak at 0-15 cm and 15-30 cm depths. Selected soil chemical properties as N, P, pH and Soil Cation Exchange Capacity (CEC) were determined using standard methods. As a result, means of selected chemical properties are as follow, 0-30 cm N% (0.196), P (15.59 ppm), pH in water solution (5.83), pH in 1M KCl (5.32) and CEC (27.53 cmol) while at 30-50 cm, Total N% (0.403), P (6.45 ppm), pH in water (5.59), pH in 1 M KCl (4.99) and CEC (29.57 cmol). Conclusion of this study, soil depth has given significant effects on the soil acidity, total N, available P and CEC with the difference depth. Where top soil contains less nutrient concentration than the bottom soil. The data statistical analysis has shown there are significantly different between the depths of the mangrove soil. Obtained data can be useful for further study of nutrient content and for the rehabilitation of the mangrove forest in another area.

**Keyword:** Total N; Available P; Mangrove forest; Lawas; Sarawak