LIVING ABOVE AND BELOWGROUND BIOMASS AND CARBON STOCK ASSESSMENT OF STATION 1, TAKLONG ISLAND, TAKLONG ISLAND NATIONAL MARINE RESERVE, GUIMARAS, PHILIPPINES

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ABSTRACT

The Taklong National Marine Reserve is one of the marine protected sites in the country with a good cover of mangroves. This study assessed the species composition, diversity, aboveground biomass and the estimated carbon of the natural mangrove forest found in Taklong Island Station 1, Barangay Lapaz, Nueva Valencia, Guimaras. The study aimed to: a.) map out the area of the selected mangrove patches, b.) identify the species composition and diversity of the sampling site, c.) quantify the aboveground and belowground biomass, carbon stock of live vegetations, and d.) to convert the carbon stock to carbon dioxide equivalence (CO_2e) of the selected station. This study is only limited to the estimation of living aboveground, belowground and the carbon stock using the published allometric equations. Only 7 species of mangroves were found in the site belonging to 3 families. The mean stand basal area was 21.47 m^2 ha^{-1}. The species diversity is low at 0.23 due to low speciation of species of mangroves on the site. The total aboveground biomass was 506.89 Mg ha^{-1} and carbon dioxide emission potential (CO_2e) of 2,498.15Mg CO_2e. This shows that mangrove in Station 1of Taklong Island has stored a considerable amount of carbon overtime. Hence, there must be a proper management and protection of this ecosystem.

Keywords: *Mangove, carbon sequestration, Taklong Island, TINMR, Aboveground Biomass, Carbon stock, CO2 equivalent*