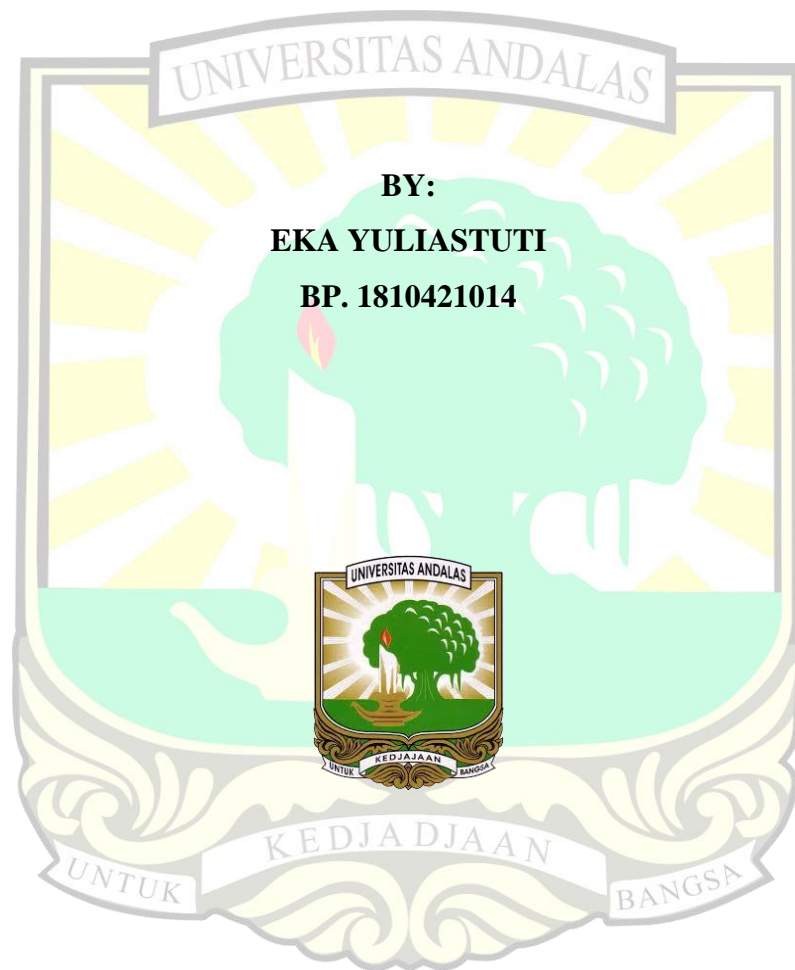


**PLANT SPECIES DIVERSITY AND ESTIMATION OF ABOVEGROUND
CARBON STOCK IN WAY CANGUK RESEARCH STATION, BUKIT
BARISAN SELATAN NATIONAL PARK**

UNDERGRADUATE THESIS



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ABSTRACT

Most of Sumatran landscapes are dominated by lowland tropical forests with high biodiversity and possesses the potential to store carbon stock that play an important role in maintaining the stability of global climate. The stability and resilience of a forest ecosystem can be determined by looking into plant species diversity and carbon stock it retains. This research aims to determine plant species diversity on tree and sapling level, as well as to estimate aboveground carbon stock stored at Way Canguk Research Station, Bukit Barisan Selatan National Park, Lampung. This research used non-destructive sampling method for tree and sapling, while the destructive sampling method was deployed for understorey and litter covers. The Way Canguk Research Station area has high diversity tree ($H' = 3.30$) and sapling ($H' = 3.28$) which may caused by various plant species inhabit the area. Meanwhile, the carbon stock was calculated to be 351.638 ton/ha on tree criteria, 5.28 ton/ha for sapling criteria, 0.09 ton/ha for understorey coverage and 1.82 ton/ha for litter. The total carbon stock was 358.828 ton/ha, placed Way Canguk Research Station as high carbon stock area and categorized as High-Density Forest (HK 3).

Keyword: *biomass, carbon stock, destructive, diversity index, forest*

