

UNIVERSITY OF THE PHILIPPINES VISAYAS
College of Arts and Sciences
Division of Biological Sciences
Miagao, Iloilo

**COMMUNITY STRUCTURE, BIOMASS AND CARBON STOCK ASSESSMENT OF
MANGROVE FOREST IN POBLACION, BATAN, BATAN BAY, AKLAN,
PHILIPPINES**

A Special Problem Presented to the Faculty of
Division of Biological Sciences College of Arts and Sciences
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ABSTRACT

The continued loss of mangroves in Batan Bay, Aklan and elsewhere in the Philippines warrants urgent attention. Appropriate management schemes can only be drawn after a scientific assessment of the remaining mangroves in a given area. This study aimed to 1.) assess the community structure, of mangroves in Poblacion, Batan, Aklan using accepted ecological indicators such as a.) determine the physical and chemical factors such as salinity, temperature of water and soil, pH as well as substrate characterization; b.) identify and classify true mangrove species present in the area; c.) Stand Basal Area, d.) stems per hectare, e.) relative density, f.) relative frequency, g.) relative dominance, h.) importance value, i.) Shannon Index of Dominance and; 2.) determine biomass and carbon density in the above ground pools of mangroves. A total of nineteen (19) true mangrove species represented by six families were identified in Poblacion, Batan, Aklan. The true mangrove species were *Aegiceras corniculatum*, *Avicennia alba*, *Avicennia marina*, *Avicennia officinalis*, *Avicennia rumphiana*, *Bruguiera cylindrica*, *Camptostemon philippinensis*, *Ceriops decandra*, *Excoecaria agallocha*, *Lumnitzera littorea*, *Nypa fruticans*, *Osbornia octodonta*, *Rhizophora apiculata*, *Rhizophora mucronata*, *Rhizophora stylosa*, *Scyphiphora hydrophyllacea*, *Sonneratia alba*, *Xylocarpus granatum* and *Xylocarpus moluccensis*. *Camptostemon philippinensis* had the highest basal area with 103.14 m²/ha and the highest relative dominance with the value of 39.26%. *Avicennia marina* has the highest stems per hectare in the area with the value of 32, 400. It also recorded the highest average density at 167 trees/ha and was present in all plots with relative frequency of 44.15%. *Avicennia marina* was the most important species with value of 300.21. *Camptostemon philippinensis* had the highest seedling density of 586 seedlings per hectare, whereas *Avicennia marina* had the highest sapling density of 20 saplings per hectare. In terms of biomass, *Avicennia marina* recorded the greatest biomass at 79.42 tons/ ha and the highest carbon stock of 36.7 tons/ha. A total of 203.87 tons/ha biomass and 91.728 tons/ha carbon stock was determined. Based on the leaf litter fall, Transect 1 has the highest leaf fall at 664.9g.m². Litter production was highest during November 5, 2012-November 19, 2012 and lowest in December 17, 2012-December 31, 2012 in all three transects.