

Nararat Pattanasing 2012: Biomass Production, Litterfall and Litter Decomposition
Prednai Community Mangrove Forest of Trat Province. Master of Science (Silviculture
Technology), Major Field: Silviculture Technology, Department of Silviculture. Thesis
Advisor: Assistant Professor Ladawan Puangchit, D.Sc. 69 pages.

The objectives of the present study were to determine quantitative characteristics of mangrove forest at Prednai Community, Trat Province, including important value index, biomass and litter production, as well as litter decomposition. At were set diameter at breast height and height as well as number of the left corner of each plot The study was held by line transect which was from the 1.8 kilometers long coast to the land. The 10 x 10 plots were set along the transect line. The distance between plot is 100 m, the subplot with the sig of 5 x 5 and 1 x 1 meter. trees, saplings and seedlings were measured. Biomass productions were estimated by biomass equations earlier reported. Litter production and decomposition were collected by using litter traps and litter decomposition bags. Nutrients in litter were analysed.

The results showed that mangrove forest consisted of 10 species with the diversity index of 0.56. *Ceriops tagal* showed the highest important value index of 86.27. The average density of tree was 2,978 trees/ha, while the densities of sapling and seedling were 7,222 and 8,333 trees/ha, respectively. The averages of height and diameter at breast height (DBH) of trees in this forest were 7.40 meters and 9.31 centimeters, respectively. The total aboveground biomass of trees was 113.70 ton/ha with the litterfall production of 8.75 ton/ha/yr. The highest litterfall was found in November. Calcium showed the highest concentration in litter while phosphorus showed the lowest concentration. The coefficient of decomposition (k) was 1.01 in one year period. The change of a nutrient concentrate during litter decomposition showed the increase of nitrogen content. The rate of nutrient return was highest for nitrogen and lowest for equivalent to phosphorus was lowest which had nutrient about 0.09, 0.01 kilogram/hector/year

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Thesis Advisor's signature