

## The Community Structure of Fish and its Correlation with Mangrove Forest Litter Production in Panjang Island, Banten Bay, Indonesia

**Authors :** Meilisha Putri Pertiwi, Mufti Petala Patria

**Abstract :** Mangrove forest often categorized as a productive ecosystem in trophic water and the highest carbon storage among all the forest types. Mangrove-derived organic matter determines the food web of fish and invertebrates. In Indonesia trophic water ecosystem, 80% commercial fish caught in coastal area are high related to food web in mangrove forest ecosystem. Based on the previous research in Panjang Island, Bojonegara, Banten, Indonesia, removed mangrove litterfall to the sea water were 9,023 g/m<sup>3</sup>/s for two stations (west station-5,169 g/m<sup>3</sup>/s and north station-3,854 g/m<sup>3</sup>/s). The vegetation were dominated from *Rhizophora apiculata* and *Rhizophora stylosa*. C element is the highest content (27,303% and 30,373%) than N element (0,427% and 0,35%) and P element (0,19% and 0,143%). The aim of research also to know the diversity of fish inhabit in mangrove forest. Fish sampling is by push net. Fish caught are collected into plastics, total length measured, weigh measured, and individual and total counted. Meanwhile, the 3 modified pipes (1 m long, 5 inches diameter, and a closed one hole part facing the river by using a nylon cloth) set in the water channel connecting mangrove forest and sea water for each stasiun. They placed for 1 hour at low tide. Then calculate the speed of water flow and volume of modified pipes. The fish and mangrove litter will be weigh for wet weight, dry weight, and analyze the C, N, and P element content. The sampling data will be conduct 3 times of month in full moon. The salinity, temperature, turbidity, pH, DO, and the sediment of mangrove forest will be measure too. This research will give information about the fish diversity in mangrove forest, the removed mangrove litterfall to the sea water, the composition of sediment, the total element content (C, N, P) of fish and mangrove litter, and the correlation of element content absorption between fish and mangrove litter. The data will be use for the fish and mangrove ecosystem conservation.

**Keywords :** fish diversity, mangrove forest, mangrove litter, carbon element, nitrogen element, P element, conservation

**Conference Title :** ICBEEN 2015 : International Conference on Biological Ecosystems and Ecological Networks

**Conference Location :** Madrid, Spain

**Conference Dates :** March 26-27, 2015