

Composition and density of plankton in Kelani river at Ambatale and assessment of water quality using plankton as bio indicators

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Kelani river at Ambatale area was selected for the present study carried out in from May to October 2003, with the objectives of determination of species composition of plankton, monthly distribution of major species and calculation of species diversity indices to use as bioindicators.

The water quality of Kelani river during the study period was temperature; 27-30 °C, pH 9.00-9.55, DO 3.1-3.4 mg/L, NO₃⁻ 0.0-0.6 mg/L, PO₄³⁻ 130-190 mg/L. As the objective of this study to use plankton as bioindicators to predict the quality of water, chemical water quality analysis was not done in detail.

The phytoplankton of the river at Ambatale was composed of 65 species in three major families Chlorophyceae, Cyanophyceae and Bacillariophyceae and two of minor families of Chrysophyceae and Dianophyceae. Chlorophyceae dominated the phytoplankton with *Staurastrums Sp* forming the major components. The climatic variation of the major catchment correlates with the water level and nutrient level. Therefore the highest density of Chlorophyceae was recorded from June to August.

The zooplankton community was composed of 21 species of Rotifers, three species of Cladocerans, four species of Copepods. The most abundant group was the rotifers. Highest density of rotifers was recorded from May to July.

The Shannon Wiener diversity index values of phytoplankton calculated for average of five replicates in each location throughout the investigation period, fall between 1-2. This indicates the moderate pollution level in the river segment examined.

The Shannon diversity index values of zooplankton calculated for the average of four replicates in each location throughout the investigation period were well below 1. However, this indicates the heavy pollution. The values obtained for zooplankton & phytoplankton indicate moderate to high pollution in the river segment examined.