



**POLLUTION ASSESSMENT AND CORRELATION OF PHYSICO-
CHEMICAL CHARACTERISTICS; PHYTOPLANKTON
COMMUNITY IN IMUS RIVER**

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ABSTRACT

Phytoplankton are microscopic organisms that live in aquatic environment both salty and some fresh phytoplankton are bacteria, protist, and most are single-celled plants. The present study was carried out for the pollution assessment and correlation of physico-chemical characteristics; phytoplankton community in Imus River. Determination of the physico-chemical parameters and phytoplankton abundance were conducted once during the months of September to November 2016. The researchers used various sets of equipment to determine the physico-chemical parameters and were taken in triplicates for each of the three sampling stations. The researchers used a 1000mL plastic bottle and plankton net to collect water samples. To assess the water quality of the Imus River, the researchers used the Palmer's Pollution Index and DENR standards for class C water. Based on results a total of 18 phytoplankton belonging to the following families: Achnantheaceae, Desmidiaceae, Flagilariaceae, Naviculaceae, Nitzschiaceae, Oscillatoriaceae, and Tabellariaceae which include the following species: *Pinnularia braunii* (Grun.) Cleve, *Cosmarium contractum* Kirchner, *Achnanthes microcephala* Kutz., *Pinnularia gibba* Ehr., *Tabellaria fenestrata* (Lyngbye) Kutz., *Fragilaria contruens* (Ehr.) Grun, *Achnanthes exigua* Grun., *Diploneis ovalis* (Hilse) Cleve, *Synedra ulna* (Nitzsch) Ehr., *Pinnularia braunii* var. *amphicephala* (H. Mayer) Hustedt, *Navicula pupula* Kutz., *Stauroneis anceps* Ehr., *Plectonema* sp., *Fragilaria crotonensis* Kitton, *Nitzschia amphibia* (Kutz.) Grun., *Navicula placentula* (Ehr.) Grun., *Caloneis basillum* (Grun.) Mereschkowsky, and *Achnanthes brevipes* Ag. were collected. Based on the results of the physico-chemical of the Imus River, the quality of water passed the DENR standards for class C water. The physico-chemical parameters have no correlation under the interpretation because certain pollutions can be a huge factor for the parameters that were interpreted with no correlation may have been affected by these certain factors of pollution. For the indicator, species were added to get the pollution scores of each station. The index score of the species total did not exceed according to the Palmer Index which was a score of 14 and below.



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