

Preliminary Chemical and Biological Assessment of Ogbe Creek, Lagos, Nigeria

J. K. Saliu* and M. P. Ekpo

University of Lagos, Department of Zoology, Akoka, Lagos, Nigeria

**Corresponding author, E-mail: saliujk@yahoo.com/saliujk@hotmail.com*

Abstract

The study was aimed at assessing the quality of water from the Ogbe Creek during the months of flooding (September- December 2001) and its implications for the health of the inhabitants of the densely-populated city of Lagos, Nigeria. The hydrochemistry of the creek was strongly influenced by the seasonal flooding. The surface water of the creek was characterized by high total dissolved solids (> 200 mg/l), Biological oxygen demand (> 50 mg/l) and alkalinity (> 250 mg/l). Low values of Dissolved oxygen (< 5.0 mg/l) and transparency (< 18 cm) were also recorded. The levels of the nutrient elements PO_4^{3-} (> 2.00 mg/l) and NO_3^- (> 5.0 mg/l) were moderately high, suggesting organic pollution and nutrient enrichment of the creek. A high concentration of heavy metal salts such as Fe (> 50 mg/l), Na (> 135 mg/l) and K (> 30 mg/l) reflected the impact of domestic and industrial waste on the creek. One thousand and seventy three phytoplankton comprising 15 species and 106 zooplankton made up of 14 species were collected from the creek, mostly pollution tolerant species. Toxic plankton such as *Oscillatoria* which produces anatoxin, an alkaloid, *Microcystis aeruginosa* which produces an acutely lethal hepatotoxin called microcystin and *Epistylus* were harvested within the creek. The macro benthos harvested consisted of 123 invertebrates comprising four pollution tolerant taxa, *Erpobdella*, *Chironomus*, *Eristalis* and *Brachydeutera*. The low plankton and macro benthos diversity further indicated the impact of the perturbational stress on the organisms inhabiting the creek. Monitoring and evaluation of the creek, and education on health measures and hygiene are, therefore, essential.