

Abstract

A study of the nutrient dynamics of the coastal waters of Hellshire was conducted during the period November 1985 and December 1986. This was done by investigating the possible sources of nutrients to the coastal waters of Hellshire, the form in which the nutrients were entering the coastal waters and the effect of rain, winds, tides, etc. on the distribution of nutrients.

The nutrients studied were nitrate, nitrite, phosphate, dissolved organic phosphorus and nitrogen, and particulate organic nitrogen and carbon. These nutrients were analysed using a Carlo Erba model 1510 autoanalyser and a Carlo Erba CHN model 1106 analyser (at the Bedford Institute of Oceanography).

The results of the study indicate that firstly, the plumes from Kingston Harbour and the Great Salt Pond are important sources of nutrients to the coastal waters of Hellshire. However, water from the East channel is important in determining the overall nutrient concentration in Hellshire and its environs. Secondly, the dissolved organic component represents the largest portion of the nutrient pool. Thirdly, terrestrial run-off is the most important parameter

that affects nutrient distribution on time scales of the order of months, but its effect can be modulated by the wind.