

ABSTRACT

Analyses of water samples obtained from the Caroni River and its tributaries in Trinidad, measuring alkalinity, biological oxygen demand, calcium, turbidity, nitrogen, nitrates, pH, suspended solids and dissolved solids were performed as part of a study of the factors affecting the viability of the river. As a result, physiographic section, the Upper, Middle and Lower were defined. The results demonstrated progressive worsening of the quality of water from the Upper through the Middle to the Lower section and reflected the rapid industrialization and urbanization of the river basin.

Respirometric studies of microorganisms extracted from the river were also done with sucrose, amino acids and other substrates which are likely to be constituents of wastes entering the stream from domestic and industrial operations. The results of these respirometric studies suggest that the microorganisms present have the capacity to assimilate many substances that are contaminants

of the river and also that even low concentrations of some pesticides and herbicides affect the ability of these microorganisms to oxidize some of these waste substances.

The extent of human activity in industry and agriculture along the length of the river, and the particular season described by the amount of rainfall and hence the flow volumes of the stream, are identified as factors affecting the condition of the river. Infrastructural planning and control of land development schemes are suggested as a means of regulating the stream flow volumes and effluents from domestic and industrial activity, with the final result being an overall improvement of the quality of the waters of the Caroni River.