

SECTION D

D - 28

AN INVESTIGATION OF THE LEVELS OF POLLUTION IN TWO MARINE HABITATS (MARCH 1981 TO MARCH 1982)

R. P. Maldeniya and P. J. Paulraj

(Dept. Botany, University of Kelaniya)

The levels of pollution and its effect on phytoplankton growth were studied during a period of 13 months. Sites chosen were the Queen Elizabeth Quay (Site 1), Guide Pier (Site 2) both within the Port of Colombo and a natural habitat—Uswetakeiyawa (Site 3).

Samples were drawn at Sites 1 and 2 from the surface and at depths of one and two meters, whilst only surface samples were drawn at Site 3.

Site 2 was grossly polluted (i.e. BOD₅ ranged from 5.75 - 12.5 mg/l) both during rainy and dry weather conditions. This could have been due to it being a berthing area for cargo vessels. Sites 1 and 3 recorded high BOD₅ levels in dry weather conditions. Dissolved oxygen, turbidity and suspended solid observations substantiated these findings.

Pollution by oil and grease was evident at all three sites. In most instances they exceeded the permissible levels (4 ppm - Sri Lanka standards). Site 2 recorded the highest levels ranging from 43.51 - 61.72 ppm, perhaps due to it being a berthing site for ships. Site 3 could have been affected by oil, due to a backwash from the Kelani estuary and by it being extensively used by the fishing industry.

The waters were alkaline when phytoplankton were a maximum, indicating high eutrophic conditions. The productive months were March-May 1981 and October 1981-March 1982. These were similar to previous observations recorded in Sri Lankan and Indian Coastal waters. Furthermore, algal incidence during October 1981 - March 1982 appeared to be affected, since numbers recorded were low when compared with the algal incidence during the same period at Site 3. This could have been due to high levels of oil and grease being recorded.