

Present status of the water quality in Beruwala Fishery Harbour, Sri Lanka

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Fisheries industry plays an important role in the economy of Sri Lanka by providing livelihood for more than 2.5 million coastal communities and more than 50% of animal protein requirement of the people in the country. Beruwala fishery harbour contributes highly to the fish landings in Kalutara District of the country. However, there are limited studies conducted to identify the pollution status of the Beruwala fishery harbour. Therefore, the objective of this study was to identify the pollution status of Beruwala fishery harbour with special reference to the water quality. Sampling was carried out from January to July, 2015 by selecting six sampling locations using judgmental sampling techniques. Surface and bottom water samples were collected and analyzed for sixteen physico-chemical parameters. Dissolved oxygen, water temperature, pH, electrical conductivity, total dissolved solids, total suspended solids, salinity and turbidity were determined in situ and water samples collected were subjected to laboratory analysis for nutrients, oil and grease, chemical oxygen demand, biological oxygen demand and chlorophyll-a, using standard methods for the examination of water and waste water. Data analysis was carried out using MINITAB 14 statistical software. Results revealed that, average pH, electrical conductivity and salinity were within the standard limits of the water quality for harbour waters. However, high oil and grease (84.17 ± 40.69 mg/L) content, biochemical oxygen demand (52.83 ± 20.29 mg/L), total suspended solids (52.27 ± 21.60 mg/L), chlorophyll-a (55.71 ± 47.45 µg/L), ammoniacal-nitrogen (1.22 ± 0.65 mg/L), ortho-phosphate (0.73 ± 0.55 mg/L) and chemical oxygen demand (925.00 ± 64.55 mg/L) were recorded and these values exceeded the standard limits for the harbour water quality. Therefore, it can be concluded that, the water quality of the Beruwala fishery harbour has degraded and is subjected to severe organic pollution, chemical pollution and oil pollution.

Keywords: Beruwala fishery harbour, water pollution, physico-chemical parameters

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