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**Preliminary study on physico-chemical characteristics and determination of pollutants in Mirissa and Puranawella harbours of the southern coast of Sri Lanka**

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Pollution caused by anthropogenic influence is one of the major problems in coastal areas. Mirissa and Puranawella harbours are situated along the southern coast of Sri Lanka where intensive fishing activities take place. Therefore, both of these harbours are thought to be affected by acute storage of pollutants including crude oil, raw fish particles and other waste products from fishing vessels and other harbour activities. This study was carried out to study physico-chemical characteristics (pH, temperature, salinity, alkalinity, dissolved solids, dissolved oxygen, biological oxygen demand, total phosphorous, nitrate, and nitrite) and to identify some pollutants (floatable grease and oil, Cd, Pb, Cu and presumptive coliforms) in the two harbours. Monthly samples of water and sediments from three selected sites in each two harbour were taken during the period of March 2007 to July 2007. All samples were taken from water surface, middle part of the water column and from the bottom of each site. Significant variations between sampling sites in Mirissa harbour were observed for pH, temperature, salinity, ortho-phosphorous, nitrate and nitrite ( $P < 0.05$ ). Salinity, suspended solids, ortho-phosphorous, biological oxygen demand, nitrate and nitrite varied significantly between the sites in Puranawella harbour ( $P < 0.05$ ). When considering two harbours suspended solid content, dissolved oxygen and Pb in water and sediments varied significantly between Mirissa and Puranawella harbours. Grease and oil were analysed during one sampling occasion from two harbours and it was observed that bottom water consists relatively higher concentrations than that of surface layers at each site. Cu, Cd and Pb concentrations in water and sediments varied significantly between three sites in two harbours except for Cd and Pb in water. Relatively higher values of Coliforms and faecal Coliforms, BOD, suspended solids and metals in water and sediment were observed near the jetty of two harbours due to variation of the contamination level from harbour jetty towards the open sea.