

SALINITY DISTRIBUTION IN THE MORATUWA-PANADURA ESTUARY AND THE BOLGODA SYSTEM

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Salinity distribution and its seasonal variation was studied over the lower-most 7 km stretch of the Moratuwa-Panadura estuary from April '77 to March '77. Tidal influence on salinity was investigated over a 13 hour period on April 16th. The pattern of salinity distribution in the Bolgoda system was studied by sampling at 26 stations on 2nd March '77. Relevant meteorological data were obtained from Meteorological Department Stations.

Results indicate that while surface salinities are influenced mainly by precipitation, the salinity of deeper waters is governed by the tidal prism and the monsoon winds. During the South - West monsoon surface salinities drop sharply but bottom salinities keep rising and reach their highest values for the year. In November and December the estuary becomes vertically homogeneous and practically fresh. The period January to April is one of the rising salinities throughout the water column and the highest surface salinities are recorded during this period.

The influence of the tidal cycle seems to be minimal. A difference of 1-2‰ was observed between high tide and low tide values.

In the Bolgoda system salinities below 5‰ were recorded in the South Lake. In the North Lake region surface salinities were around 10‰ and bottom salinities around 24‰. Salinities near the north ranged from 25‰ at the surface to 30‰ at the bottom.

The study shows that there is a predictable cycle of changes occurring in the estuary.