HYDROLOGY AND IRON SANDS OF THE "MUNDEL LAKE"

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The bathymetric map of "Mundel Lake" shows that the water level of the lake is about 1.1m above Mean Sea Level (MSL). The 25 bottom samples collected indicate that the middle part of the lake consists mainly of silt and sandy silt. The organic carbon content of the bottom sediments on highest (over 10% by weight) in the middle part and two patches of high carbonate values (over 12% by weight) are observed in the middle part of the lagoon.

19 samples collected from around the area of the lake shows that magnetite is the predominent heavy mineral by weight in the very fine (125um- 63um) fraction. Samples with values of over 50% magnetite are found in the north and east of the area.

Aside from local runoff, there is no inflow of freshwater into the lake. However, the lake is connected to both the Puttalam and Chilaw lagoons through waterways and there is inflow of brackishwater from these waterways in to the lake. Freshwater inflow from local runoffs increases near the end of the rainy season that lasts usually from April to May and October to November. Maximum dilution occurs between these seasons when salinities may be as low as 3 ppt in the lake. During the dry months of the year salinities throughout the whole lake averages 40 - 50 ppt and local restricted area values as high as 64 ppt have been recorded (NARA/EDB 1986/1987).

Tidal range in the lake during the survey period was less than 1 cm. According to the NARA/EDB Survey (Sep.1986/1987) tidal Fluctuations sometimes reach approximately 10-20 cm. It may be the rainfall occurred two days prior to the survey but the periodic opening of the sand bar at Udappuwa with consequncial inflow of seawater also could be attributed an increase in tidal amplitude. Currents, often the results of wind reached high speed during the afternoon. However throughout, most of the lake current velocities are very low during the rest of the day.

References: 1. Survey to identify suitable areas in the coastal belt of Sri Lanka for Prawn Culture Phase-1 (NARA/EDB Sep.86/Aug.87).