

TRENDS IN THE ECOLOGICAL FUNCTIONING OF THE NEGOMBO ESTUARY

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Negombo Estuary can be classified as a bar-built, basin and positive estuary. Due to natural causes and the developmental activities in the catchment area and around the estuary, it is subject to siltation. From 1956 to 1981 the estuarine area has decreased by 1% (Kumarapeli 1990). Siltation is taking place at the delta region of the southern estuary and behind the islets in the northern estuary. From 1960 to 1990 the rainfall was high every 5 to 7 year periods but the average annual rainfall has declined. The salinity of the estuarine water decreased during the last two decades probably due to the decrease in depth of the estuary. The organic carbon in the bottom sediments have decreased. But the anthropogenic hydrocarbons from boats is on the rise.

Mangroves and seagrasses contribute to the estuarine and coastal fishery. During the last decade about 60 ha of mangroves has been cleared for housing, agriculture, tourism and recreation. Residents have planted mangroves in 5 ha of silted areas. Seagrass beds have been destroyed by the bottom destroying gears and sand mining. Ekaratne and Ratnayake (1990) have shown the adverse effects of mining and destruction of mangroves on molluscs and Pinto and Punchihewa (1990) have shown such effects on fish and crustaceans in the Negombo Estuary.

Epizootic ulcerative syndrome was found to spread into Negombo Estuary in 1987. The fish yield from Negombo Estuary is said to be about 14.74 Kg/ha/yr (Wijayaratne & Costa 1986). Some species of fish are under exploited while the others are over exploited.

- References: Ekaratne, S.U.K. and P.C. Ratnayake 1990. Impacts of resource extraction on aquatic communities in the Negombo Estuary. Proc. Int. Symp. on Ecology and Landscape Management in Sri Lanka.
- Kumarapeli, C.D. 1990. Changes in the size of five lagoons in Sri Lanka within a period of twenty five years. B.Sc. Project Report (Zoology). Open University of Sri Lanka.
- Pinto, L. and N.N. Punchihewa 1990. Short-term effects of denudation of mangroves on the fish and crustacean communities. Proc. Int. Symp. on Ecology and Landscape Management in Sri Lanka.
- Wijeratne, M.J.S. and H.H. Costa 1986. Application of "Yield per recruit" and "Surplus yield" models on the grey mullets fishery of Negombo Lagoon, Sri Lanka J. Inland Fish. 3:3-14.