

## **An overview of recent physico-chemical information of the waters of Palk Bay and Palk Strait.**

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### **Abstract**

Palk Bay and Palk Strait constitute an important marine ecosystem in northern Sri Lanka, forming a shallow water basin separated by Pamban Island, Adam's bridge and Mannar Island, This has also received focus due to dredging activities connected to Sethusamudram Ship Canal project.

In this context, recent findings on physico-chemical characteristic of the waters in the Palk Bay and Palk Strait are important as they form baseline data after a gap of over two decades. Water quality analysis were done in February 2004 in Mannar and October – November 2004 in Kankasanturai (KKS) as part of the rapid surveys undertaken. Surface water samples and samples at a depth at 10 m were analyzed for physico- chemical properties.

The results obtained for surface waters were temperature  $29.68 \pm 0.237$  °C, pH  $7.975 \pm 0.040$ , Electrical Conductivity  $52.45 \pm 0.507$  mS, Turbidity  $4.085 \pm 0.273$  NTU, Dissolved oxygen  $14.82 \pm 0.214$  mg/l, Total Suspended Solids (TSS)  $13.9 \pm 2.854$  mg/l, Ammoniacal nitrogen  $0.0422 \pm 0.007$  mg/l, Phosphate  $0.0031 \pm 0.003$  mg/l, Nitrite nitrogen  $0.0144 \pm 0.003$  mg/l, Nitrate nitrogen  $0.1592 \pm 0.111$  mg/l, Sulphate  $35.21 \pm 5.768$  mg/l, Chloride  $9768.75 \pm 824.968$  mg/l, Oil & Grease  $9 \pm 8.679$  mg/l, and Chemical Oxygen Demand (COD) 592 mg/l. All the parameters studied shown acceptable levels for the marine and coastal water quality and the draft Environmental quality standards and designation of water use in Sri Lanka.

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