

## Water quality of temporarily open/closed Muttukadu backwater, Tamilnadu, India

**Authors:**

**Kalpna and  
Usha Natesan**

**Institution:**

Centre for Water Resources,  
Anna University.

**Corresponding author:**

**Kalpna**

**ABSTRACT:**

The mouth dynamics of non-permanent open/shut estuaries (TOCEs) assume a key part in their general functioning. In this examination, the impact of the inlet state (closed versus open) on spatial fluctuation of water quality was surveyed in a briefly open/closed Muttukadu Backwater . Samplings were carried out in two periods during closed (May to August) and open phases (January to December and October to December). The water samples were collected from 9 stations during open and total closure conditions and analyzed for the physico-chemical characteristics. After the closure of mouth, it is found that increase in salinity and dissolved oxygen decreases in the backwater which in turn lead to fish kill. Nutrients in the estuarine system demonstrate high values amid closure condition and get diluted when the mouth is opened. The present outcomes recommend that the high nutrient supply from the upper ranges to the estuary is because of the Industrial outlet, Crab farming and tourism prompting Eutrophication when the sand bar is shut . Since the system is shallow, it is clear that there is a build up of pollutants in stations 4, 5 and 6 . It is observed that after the closure, the fishing activity is greatly affected due to the change in water quality.

**Keywords:**

Backwater, Muttukadu, Sandbar formation, Tamil Nadu, Water quality.