

**PRELIMINARY STUDIES ON MICROBIAL POLLUTION IN THONDAIMANARU
LAGOON, JAFFNA, SRI LANKA**

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Thondaimanaru lagoon is a shallow brackish water body, located in Northern Sri Lanka which is ecologically and economically important due to rich diversity of flora and fauna. The present study was conducted to assess the quality of lagoon water by means of microbial contamination and suggest some measures to mitigate the faecal pollution in Thondaimanaru lagoon. Water sampling was carried out for six months period from July 2016 to December 2016. Seasonal variations of water temperature and salinity was investigated together with bacteriological analyses. Water temperature and salinity were measured on site by using smarTROLL Multiparameter (Insitu 458389). Enumeration of faecal coliform was done by Most Probable Number (MPN) method. Data analysis was carried out by using oneway ANOVA (Minitab 2017) and Microsoft Excel analytical tool, version 2013. Water temperature and salinity showed significant variations ($p < 0.05$) among months. The faecal coliform number is determined by comparing the pattern of positive results with MPN chart as MPN per 100 ml of sample. MPN values of faecal coliforms (per 100 ml) were ranged between 07 and 161. The values of faecal coliform/100ml exceeded the recommended standard guidelines for coastal waters in the months of September and October. The results of the present study are indicative of considerable microbial pollution of Thondaimanaru lagoon. Failure in septic tank maintenance, increased temperature and salinity might be the reason for unusual increase in faecal coliforms in lagoon. A long-term systematic monitoring of pollutant load is essential to minimize the faecal contamination in Thondaimanaru lagoon.

Keywords: *Faecal coliform, Thondaimanaru lagoon, Salinity*