

Seasonal Determination of Nutrients Concentration in the Bardestan Creek and Loading Analysis of them on the Persian Gulf

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Received Date: November 23, 2015

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Accepted Date: April 17, 2016

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Abstract

In this study, for measuring the concentration of nutrients (Nitrate, Nitrite, Phosphate and Silicate) throughout the Bardestan creek and its offshore waters during March (winter) and August 2014 (summer), samplings were carried out using a fishing boat. Nine stations in creek and nine stations in its offshore waters were selected. Surface seawater samples were collected in three replications. Samples were analyzed in the laboratory by colorimetric method for 54 samples in each season. Winter mean value of nitrate, nitrite, phosphate and silicate were 95.93 ± 12.77 , 5.45 ± 0.71 , 17.02 ± 1.37 and $68.18 \pm 8.05 \mu\text{gL}^{-1}$, respectively. Also, summer mean value of nitrate, nitrite, phosphate and silicate were 120.84 ± 13.58 , 5.67 ± 1.52 , 10.99 ± 0.26 and $89.66 \pm 21.89 \mu\text{gL}^{-1}$, respectively. Statistical analysis indicated significant difference between phosphate concentration in winter and summer ($P < 0.05$), while statistical analysis showed no significant difference between nitrate, nitrite and silicate concentrations in winter and summer ($P > 0.05$). Probably the difference in nutrient concentrations is due to change of seasons. The effect of winter rainfall in nutrients loading, especially in phosphate, throughout the Bardestan creek and its offshore waters in the Persian Gulf was observed in the present study.

Keywords: *Nutrients, Loading, Bardestan creek, Persian Gulf.*
