

Abstract:

Survey on physicochemical parameters and pollutants in artificial reefs in Hormozgan province (Bandar-e-Lengeh area) was conducted during 2004-2007.

After establishing of artificial reefs by Hormozgan Shilat office, selection of sampling stations is performed at summer and winter seasons. Summer and winter values for temperature were 32.9 ± 0.5 and 21.4 ± 0.5 centigrade. pH had a little range of tolerance (8-8.95) and its annual mean was 8.81 ± 0.13 .

Transparency is an effective parameter on monitoring of artificial reefs. Summer and winter values for Transparency were 3.8 ± 3.72 and 5.63 ± 0.78 meters.

Annual mean of dissolved oxygen and salinity were 7.11 ± 0.1 ppm and 39.13 ± 0.26 ppt. Annual means of dissolved nitrate, nitrite and orthophosphate were 4.9 ± 0.7 , 1.44 ± 0.09 and 0.97 ± 0.06 micromole per liters respectively.

Measurement of chl.a was done in summer only. The maximum concentration was 2.95 microgram per liter.

Annual average percentage of silt, clay and sand were 33 ± 10.68 , 21.63 ± 4.84 & 45.96 ± 12.66 respectively.

Organic Carbon percentage had a little rang (0.61 – 1.92) of changes. Its annual percentage was 0.99 ± 0.2 .

Summer and winter values for COD were 1.53 ± 0.48 & 1.62 ± 0.48 milligrams per liter.

Concentration of heavy metals (Cu, Zn, Fe, Ni & Pb) in sediments were determined. All of heavy metals (especially Pb) had higher concentration in summer than winter. The annual means of Cu, Zn, Fe, Ni & Pb were 26.5, 54.3, 27.6, 70.85 & 48.15 micrograms per gram of dried sediment.

Normal aliphatic hydrocarbons (C10-C 30) were determined in water & sediment. Annual average and the summer and winter values for normal aliphatic hydrocarbons in water were 258.7, 217.8 & 299.6 micrograms per liter and for sediment were 5726.8, 12616.8 & 2132.2 micrograms per gram of dried sediment.

Key words: artificial reef, Persian Gulf, Bandar-e-Lengeh, heavy metals, aliphatic normal hydrocarbons, physicochemical parameters.