

Coastal fishing decreases macrobenthic population in Joybar coastal extents from southern coastal stripes of Caspian Sea

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Abstract

Population changes of the macrobenthic communities were estimated in four stations scattered from Chapkrud to Miroud (Joybar, southern coastal areas of Caspian Sea) during October 2018 to April 2019 at 10m depth. The amount of catch per unit effort of blades in 2018 has varied from 66 to 432 kg per blade without any significant differences with those catch efforts at 2016 and 2017. Benthic samples were analyzed taxonomically to the family level as well as their abundance as biomass size. Biomass distributions of benthic communities ranged from 1.57 to 65.78 g / m² with an average of 13.97±1.6. Highest biomass sizes were observed for the Madani fishing net. Statistical analysis using Kruskal–Wallis test showed significant differences of the benthos abundances and biomass sizes between the stations ($P < 0.05$). Three out of 12 distinguished benthic families including Corophidae and Tubificidae and Cumacea are estimated to have highest abundance and biomass size. Whereas, those of the families Scrobicularidae and Cardidae had the highest biomass sizes despite having low abundances. Statistical analyzes by the one-way ANOVA method revealed significant differences existing between the abundances and biomass sizes of the benthos samples through the given 6 months fishing seasons ($P < 0.05$). It seems that coastal fishing would decrease macrobenthic population of the southern coastal areas of Caspian Sea during the fishing periods.

Keywords: Benthic, Fishing, Biomass, Reserves, Costal, Joybar.