Effect of beach-seine catching activities on changes of substrate structure in the southern coast of the Caspian Sea (in Rudsar and Chaboksar)

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Abstract
In this study, the effect of beach-seine catching activities on changes of sediment structure of bed in Rudsar and Chaboksar areas were investigated. Samples of sediment were taken monthly with a Van Veen grab covering a surface area of 225 cm^2 from seining and non-fishing areas of Rudsar and Chaboksar stations in depths of 3, 6 and 10 meters with 3 repetitions in each depth, in autumn and winter 2011. The results show a significant difference between the percentage of silt-clay in the various sampling depths of seining area and the percentage of silt-clay in the various sampling depths of non-fishing area, in each of Rudsar and Chaboksar stations and each of autumn and winter seasons ($P< 0.05$). So that, the amount of silt-clay in seining area has been more than the amount of silt-clay in non-fishing area. In the Rudsar station, the amount of Total Organic Matter of the seining area were 2.6 and 2.2 percent in autumn and winter, respectively, and these amounts for non-fishing area were 2.3 percent in autumn and 1.7 percent in winter. Also in the Chaboksar station, the amount of Total Organic Matter of the seining area were 2.5 and 2.2 percent in autumn and winter, respectively, and these amounts for non-fishing area were 1.5 percent in autumn and 1.3 percent in winter. Results indicated a significant difference between the amounts of Total Organic Matter in seining and non-fishing areas ($P< 0.05$). Also, the amount of Organic Matter has significant and positive correlation with the percentage of silt-clay. The results of this study show the sediment texture of seining areas in the various sampling depths are different form non-fishing areas.

Keywords: Beach-seine, Grain size, Bed, Rudsar and Chaboksar, Caspian Sea.