

Investigating different forms of phosphorus in bed sediments around fish breeding in Cage culture (Kelarabad regional)

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Abstract

This study was carried out in the framework of a research project in the Kelarabad region at the fish breeding site in Cages in 2013. The purpose of this study is to investigate the various forms of

phosphorus in bed sediments in the range of marine cages. A total of 6 forms were considered including available phosphorus (Bioavailable-P), phosphorus (Loosely-P), iron-bound phosphorus (Fe-P), phosphorus-bound aluminum (AL-P), calcium-bound phosphorus (Ca-P). So, some parameters measuremented comprise to total phosphorus (TP), organic phosphorus (OrgP), mineral phosphorus (TIP). The lowest and maximum, were $600.2\pm$ and 618.4 ± 267.4 mg/kg.dw respectively, was related to stations 2 and 3. The results showed that the phosphorous adsorption form had the lowest amount compared to other forms, so that the maximum value was equal to 6 ± 1.2 and at least equal to 4.5 ± 1.8 4.5 mg/kg dry weight belonged to station 1 (shadow cage) and 3 (50 meter cages), respectively. Conclusion, the total phosphorus in the shade and near the cages, as well as in winter and spring and was more than the other seasons, in which could depend on the fish breeding activity in the cage during this period. Therefore, it is suggested that any aquaculture activities should be carried out with environmental considerations and the implementation of a detailed environmental impact assessment plan.

Keywords: Phosphorus forms, Sediment, Cageculture, Caspian Sea.