

SURVEY OF PHYSICOCHEMICAL FACTORS OF SEPIDROOD RIVER WITH AN EMPHASIS ON THE CHANGES CAUSED BY THE DAMS CONSTRUCTED ACROSS THE RIVER

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The Sepidrood River, located in the south of Caspian Sea, is the most vast aquifer basin in Iran. About 30 percent of the running waters flowing into the south of Caspian Sea watershed belong to this river. It has two main branches, their length is 150 Km from the junction to the mouth. Two dams have been constructed across the section of 52 and 105 Km of the river length and the area between them takes up nearly 55 percent of the river total surface area. The dams have caused gathering of the urban and industrial centers around the river and its alluvial plain, and, as a result are considered as an effective parameter on the physicochemical factors. The results obtained from three years investigation into 21 stations across the river show that investigated physical and chemical factors (for example DO, COD, BOD, PO₄) have not varied considerably for 3 years, but there is a significant difference in chemical factors between the areas, zoned for dams.

In addition, seasonal investigations of the factors by using statistical methods show that seasonal variations are a function of the factor changes in the zones. Situation of the aquifer basin and use of downstream alluvial areas cause the amount of the factors such as phosphate and nitrogen to increase and a large amount of nutrients becomes unavailable through the mouth of the river because of season flood.

In conclusion, dam construction for watershed management has caused erosion of upstream areas of the aquifer basin, urban development in plain lands and incredible decreasing of ecological values of the Sepidrood River.