

Investigation of Pollution and the Physical and Chemical Condition of Polour River, East of Tehran, Iran

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Abstract : This research has been carried out to determine the water quality and physico-chemical properties Polour River, one of the most branch of Haraz River. Polour River was studied for a period of one year Samples were taken from different stations along the main branch of River polour. In water samples determined pH, DO, SO₄, Cl, PO₄, NO₃, EC, BOD, COD, Temperature, color and number of Caliform per liter. ArcGIS was used for the zoning of phosphate concentration in the polour River basin. The results indicated that the river is polluted in polour village station, because of discharge domestic wastewater and also river is polluted in Ziar village station, because of agricultural wastewater and water is contaminated in aquaculture station, because of fish ponds wastewater. Statistical analysis shows that between independent traits and coliform regression relationship is significant at the 1% level. Coefficient explanation index indicated independent traits control 80% coliform and 20 % is for unknown parameters. The causality analysis showed Temperature (0.6) has the most positive and direct effect on coliform and sulfate has direct and negative effect on coliform. The results of causality analysis and the results of the regression analysis are matched and other forms direct and indirect effects were negligible and ignorable. Kruskal-Wallis test showed, there is different between sampling stations and studied characters. Between stations for temperature, DO, COD, EC, sulfate and coliform is at 1 % and for phosphate 5 % level of significance.

Keywords : coliform, GIS, pollution, phosphate, river

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