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EVALUATION OF THE QUALITY AND SELF PURIFICATION POTENTIAL OF TAJAN RIVER USING QUAL2E MODEL

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Abstract:

Tajan River is among significant rivers of Caspian Sea water basin. Pollution sources that threaten the quality of water in Tajan River may be classified in to two categories namely point and non-point sources. Major pollutants of latter category are Mazandaran wood and pulp, Paksar dairy products and Sari Antibiotic production factories, as well as 600-dastgah residential area. On the other hand, non-point sources whose waste is considered as a distributed load consist of Sari municipal wastewater and agriculture-related pollutants that are drained towards the river. In order to model the quality of river flow, Qual2E model is taken in to consideration. Considering TDS, the river quality is completely acceptable in cold seasons. However, in spring and summer the value of this parameter is increased and this causes some restrictions in the use of this water for irrigation of specific sensitive crops. Agricultural activities and consequent irrigated waters are the major causes of higher reported TDS values in warm seasons. Current status of DO is completely acceptable and this is highly related to the relative high value of width on depth ratio along the river. BOD and COD locate in a fairly poor condition. Quality deterioration is more noticeable in cold seasons. Higher rate of precipitation and consequent greater runoff generation towards the river basin justify the relative increase of mentioned parameters in fall and winter. Generally, non-point pollution sources are more contributed in deterioration of Tajan River water quality.

Keywords:

[Tajan river](#) , [qual2e model](#) , [self-purification](#)

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