# Quality Classification of Zaremrud River (Sari-Mazandaran) Using Hilsenhoff Family Biotic Index

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**Abstract**
Biotic indices are of the new methods for water quality assessment. Among the various biotic indices, the responses of macro-benthos to organic pollution are more reliable for water quality classification; Because of these organisms are sensitive and vulnerable to pollution. This study was conducted to determine Zaremrud River (Mazandaran-Sari) organic pollution levels using Hilsenhoff family biotic index (HFBI) and BMWP/ASPT biotic index . In this regard, some physic-chemical parameters (pH, DO, TDS, TSS, EC, temperature) which affect on water quality were determined. Six stations were selected at the river and sampless were took into account during cold (Winter 2011) and warm (Summer 2012) seasons. In this study, 4 phylums, 6 classes, 12 orders and 27 families were indentified. During cold season,Tubificidae family had the highest density of macrobenthos. During warm season, Baetidae family had the highest density of macrobenthos. During sampling periods, station at upstream (station 1) was in a vantage quality but station 4 showed low quality which affected by fish culture sewage. Mean of HFBI was obtained 5.77 ± 0.87 (SD) which indicated to weak water quality and considerable organic pollution in this river.

**Keywords:** Biotic index, Zaremrud, Macro-benthos, Hilsenhoff, Water quality



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