

## **Quality assessment of the Sabz-Kooh River in Charmahal Province, using benthic macroinvertebrates biotic indices**

**A. Ghane<sup>1\*</sup>, M. Sayyadrahim<sup>2</sup>**

1. Benthos Expert in Ecology. Department of the Inland Water Aquaculture Center Anzali, Iran.
2. Ecology department of the Inland water Aquaculture Center, Anzali, Iran.

### **Abstract**

The aim of this research was to investigate changes in communities and the indicator groups of benthic macroinvertebrates as well as classification of water quality of Sabz-kuh River, Charmahal province, which had been impacted by a few rainbow trout farm effluents in the studied area. The study was carried out from the start of the 2005 cultivation period in July and took one year. Along a 35 kilometers distance 7 sampling site were selected covering the inlet and outlet of the four large existing rainbow trout farms. Macroinvertebrates were monthly collected using a 1600cm<sup>2</sup> (40×40 cm) Surber sampler at each station. During the study 34 Benthic macroinvertebrates taxa were identified of which the aquatic insect's larvae constitute more than 70%. Hilsenhoff family level biotic index in the studied stations varied from 3.9 (station 1, most upstream) and 5.5 (in station 4 and 6, receiving either the farms and urban effluents) suggesting "Very Good" and "Fair" water quality, respectively, according to Hilsenhoff water quality classification. Based on macroinvertebrates community structures and Hilsenhoff biotic index, the water quality in the stations downstream the effluents had lower water quality than the upstream ones.

**Keywords:** Sabz-kuh, effluent, rainbow trout, benthic macroinvertebrates, Hilsenhoff,