The use of BMWP and ASPT indices to assessment the water quality of Hashilan wetland (Kermanshah, Iran)

Hossein Norouzi[1*]
Mahya Rezaeimanesh[2]

1. Department of Natural Resources, Faculty of Agriculture, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran
2. Young Researchers Club, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran

***Corresponding author:**
norouzi_hossein@yahoo.com

Received date: 2019.02.19
Reception date: 2020.01.18

Abstract

Quality Monitoring and protection of wetlands are really important. Therefore, in this research, with the aim of qualitative evaluation of Hashilan wetland located on Kermanshah province, the composition of benthic macroinvertebrates communities using the BMWP and ASPT indices and measurement of Water Temperature, Dissolved Oxygen, Conductivity and pH were investigated. Sampling from 4 selected stations with 3 replications was performed during two cold (Winter, 2014) and warm (late Spring, 2014) seasons. The results showed that the highest abundance (68%) in both seasons belonged to the class of the Gastropoda and Valvatidae. Based on the results, the mean of the BMWP index was remarkabley different at diverse stations and seasons (P<0/05), while there was no significant difference between the mean values of ASPT index except in the warm season (P> 0/05). According to the BMWP index in the warm season, the study stations were classified into two good and acceptable groups, and in winter, they were classified into three groups: acceptable, poor, and moderate. According to the results of the comparison of the ASPT index, water quality at the end of spring was classified into three groups with clean, moderate and doubtful. During the sampling period, the highest quality was observed at station 1 (Sabz Ali mirage input) and lowest quality at station 2 (agricultural effluent) and 4 (near the Hashilan village before the output). Also, the index of BMWP with EC and DO had negative and positive correlation at the level of 0/01 respectively and ASPT index with water temperature was positively correlated at 0/05. The results of the present study showed that the Hashilan wetland somewhat affected by contamination caused by human activities. Therefore, it seems that the implementation of coherent managerial rules and proper training of the people of the region can greatly improve the status of this patterned wetland.

Keywords: Hashilan Wetland, Biotic indices, Water quality, BMWP, ASPT.

[Downloaded from jweb.ahvaz.iau.ir on 2026-10-11]