Assessment of Dez River water quality by BMWP index

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Abstract

During 2011-2012, sampling of benthos and sediment of Dez River was done in 5 selected stations during two seasons of sampling, winter and summer. Samples were taken with four replicates using Peterson grab and Surber with cross-sectional area of 225 cm^2. Three replications for detection and enumeration of Macrobenthos, and one replication for sediment aggregation and organic matters content were used. Physical method of burning in an electric furnace was used for measuring organic materials. To analyze sediment size, the screen series method was used. Physicochemical parameters of water were measured. During the two seasons of sampling, a total of 18 species of Macrobenthos identified which belong to 5 animal orders. Among the most common orders identified was related to the Oligochaeta with 80% abundance and then gastropods with 14.5%. At all stations except at station 4, Oligochaeta was dominant. BMWP index of water quality classified the river in two categories. During the study period, stations 2 and 3 were poor and station 1 and 5 were very poor. Also based on the average score per taxon (ASPT), stations 1, 2, 3 and 5 were classified as high-probable contaminated and due to the absence of any animal species at the Station 4, this Station is introduced as Azoic.

Keywords: Dez River, ASPT, BMWP, Macrobenthos