

Evaluation of Quality of Rhumel Wadi Waters by Physico-Chemical and Biological Parameters

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Abstract : The objectives of this study are to use different parameters to assess the current pollution status of sediments in Rhumel wadi located in the North-East of Algeria (Constantine), two stations were selected in strategic points and sampled at three occasions on September 2014, January 2015 and April 2015. Parameters used in this study were a physico-chemical analysis of water (pH, CE, Dissolved O₂), sediments (pH, CE, CaCO₃, MO) and contamination level of sediments by cadmium, completed by biological testing and analysis of existing benthic community. The results of the physico-chemical parameters show that the water temperature is average and seasonal, the pH value is acidic, does not exceed 6.64. The amplitude variation may be important from upstream to downstream. The generally high electrical conductivity, for the carbonate nature of the watershed increases from upstream to downstream. The waters of the Rhumel wadi are excessively mineralized, dissolved oxygen, a vital factor for benthic community wildlife downstream decreases with increasing organic loading; oxygen is consumed by the microorganisms to its degradation. Analysis of the benthic fauna and calculating the biotic index show a clear excessive pollution for both upstream and downstream stations.

Keywords : biological analysis, benthic fauna, sediments contamination, cadmium

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