

Role of the Marshes in the Natural Decontamination of Surface Water: A Case of the Redjla Marsh, North-Eastern Algerian

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Abstract : The marsh is the impermeable depression. It is not very deep and presents the stagnant water. Their water level varies according to the contributions of water (rain, groundwater, stream etc.), when this last reaches the maximum level of the marsh, it flows towards the downstream through the discharge system. The marsh accumulates all the liquid and solid contributions of upstream part. In the North-East Algerian, the Redjla marsh is located on the course of the Tassift river. Its contributions of water come from the upstream part of the river, often characterized by the presence of several pollutants in water related to the urban effluents, and its discharge system supply the downstream part of the river. In order to determine the effect of the marsh on the water quality of the river this study was conducted. A two-monthly monitoring of the physicochemical parameters and water chemistry of the river were carried out, before and after the marsh, during the period from November 2013 to January 2015. The results show that the marsh plays the role of a natural purifier of water of Tassift river, present by drops of conductivity and concentration of the pollutants (ammonium, phosphate, iron, chlorides and bicarbonates) between the upstream part and downstream of the marsh. That indicates that these pollutants are transformed with other chemical forms (case of ammonium towards nitrate), precipitated in complex forms or/and adsorbed by the sediments of the marsh. This storage of the pollutants in the ground of the marsh will be later on a source of pollution for the plants and river water.

Keywords : marsh, natural purification, urban pollution, nitrogen

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