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SPATIAL AND TEMPORAL CHANGES OF POLLUTION INDICATORS IN THE SURFACE WATERS OF THE BISTRIŢA BASIN (DOWNSTREAM IZVORUL MUNTELUI LAKE)

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Abstract

Unlike the upper sectors of the Bistrita River, in the sector downstream Izvorul Muntelui Lake the surface water quality was/is strongly influenced by the industrial activity. After several decades of intense pollution, the reduction of the anthropogenic impact during the past 20 years has led to an obvious improvement in water quality. From August 2007 to August 2009, samples from Bistrita and its tributaries were systematically collected and analyzed; the values determined in different seasons (DO, BOD_5, COD-Mn, NH_4^+, NO_3^-, NO_2^-) show very slight variations; the present paper is based on the first set of data (August 2007). Although in the center part of the studied area the water shows a slight degradation, the characteristic values of the oxygen regime fit water in the first two classes of Romanian surface water quality. However, the historical pollution that characterizes the whole inferior Bistrita basin manifests itself through a significant increase in the amounts of nitrates, whose source is primarily the groundwater. Moreover, nitrite has been identified in all samples, higher amounts being reported in the lower sector of the basin.

Keywords: pollution indicators, oxygen regime, nitrogen compounds, Bistrita River

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