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BARSA RIVER MONITORING

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Abstract

Barsa River is one of the tributary streams of Olt River in Brasov region, which course is close to industrial areas with significant impact on environmental quality, Zarnesti, Rasnov and Brasov.
Oxygen is a vitally important component in water for all the aquatic species. The oxidation of organic matter ($\{CH_2O\}$), biooxidation of nitrogenous material (NH_4^+) and chemical or biochemical oxidation of reducing agents (Fe^{2+}, SO_3^{2-}) can deplete oxygen level. All these processes contribute to the deoxygenation of water; therefore pollution parameters of major importance in aquatic systems is the amount of dissolved oxygen (DO), biological oxygen demand in 5 days (BOD_5) and chemical oxygen demand (COD), in different natural waters.
This study presents Barsa River water quality focused on the DO, BOD_5 and COD values as pollution parameters. Three sampling sites were monitored, up-stream Zarnesti, down-river Zarnesti and up-stream Olt River confluence. The results are presented as annual means, covering 1996-2000 period.
The monitoring up-stream Zarnesti site showed that the parameters values corresponds to the natural value, as no pollution sources are noticed in this area.
Between up-stream Zarnesti and down-river Zarnesti sites there are two important industrial pollution sources: S.C. Celohart S.A. Zarnesti and S.C. Tohan S.A. Zarnesti. DO, BOD_5 and COD parameters show variable values, sometimes even worst than the accepted values for the III water category.
More important industrial plants are in the up-stream Olt River confluence area, S.C. Romacril S.A. Rasnov and Brasov Water Treatment Plant, that can be pollution sources. However, the monitored parameters show better water quality compared with down-river Zarnesti, due to the natural oxygenation process, along the river stream.

Keywords: pollution sources, monitoring, industrial plants

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