

**EVALUATION OF THE EFFICIENCY OF WASTEWATER
TREATMENT PLANTS IN RURAL REGIONS OF ROMANIA USING
THE WASTEWATER QUALITY INDEX**

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Abstract. For many wastewater treatment plants (WWTP), the performance parameters variation is evaluated against time. Because of the interconnection of variables, it is sometimes difficult to assess the quantitation of the operational performance of these water treatment plants.

In each treatment plant, wastewater contamination is different and depends on various factors such as the place of origin of the spill, the sewer system infrastructure, the level of development of the area, the climatic conditions and groundwater level, and therefore the wastewater flow has a unique composition of organic and inorganic loads.

The Water Quality Index (WQI) concept was developed in 1970 with a numeric value of between 0 (Poor) and 100 (Excellent) for a quick and easy understanding of water quality [1]. The Wastewater Quality Index is a non-dimensional number that depends on the combination of chemical, physical and microbiological parameters.

In this study the Water Quality Index was calculated for effluents collected from six WWTP from southern Romania. Data was recorded at a monthly frequency between 2013 and 2017 was used. The obtained values correspond to the marginal designation, which means that the values of the determined parameters often exceed the limits imposed by NTPA001

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[2]. The assessment of the wastewater quality index provides us with information on the efficiency of the effluent treatment process, the quality of the effluent and the rapid assessment if it is appropriate for its final destination.

Keywords: water quality index; wastewater; contamination; marginal designation.

References

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