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THE ASSESSMENT OF DANUBE WATER QUALITY IN THE GALATI AREA, ROMANIA, THROUGH WATER QUALITY INDEX (WQI)

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Abstract: The monitoring of surface water quality is very important in highly industrialized areas. The Galati area is sensitive because it is the largest river basin of Romania, the Siret and the Prut rivers, two of the largest rivers in the country, flowing into the Danube River in this region, The area is heavily industrialized (steel, and naval industries, etc.) and it is also an important urban agglomeration, with more than 500,000 inhabitants (Galati - Braila metropolitan area) over 50% of using the Danube as a source of drinking water.

The team of scientists involved in this study has been monitoring for over 20 years the main parameters which determine the water quality. The present paper presents the results obtained by monitoring 22 parameters measured in samples taken from 5 sampling stations located in anthropically sensitive areas. Water quality assessment was performed using the water quality index (WQI) and the Weighted Arithmetic Water Quality Method. The following parameters were monitored: pH, conductivity, OD, TDS (total solids dissolved), Turbidity, COD (chemical oxygen demand), BOD (biochemical oxygen demand), N-NH4+, N-NO2-, N-NO3-, N total, P-PO43-, P total, SO42-, Cl-, Fe-total, Cr-total, Pb2+, Ni2+, Mn2+, Zn2+, As2+. We used electrometric and spectrophotometric methods and the method of atomic absorption spectroscopy (AAS).

Key words: anthropic influence, Danube, physico-chemical parameters, water quality index

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