



Natural background levels and threshold values for phreatic waters from the Quaternary deposits of the Bahlui River basin

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Abstract

In the Moldavian Plain, known as one of the poorest regions of Romania when it comes to its water supplies, the evaluation of the groundwater (which is used for different purposes) becomes highly necessary. According to the Water Framework Directive 2000/60/EC and Groundwater Directive 2000/118/EC, as part of their effort to achieve the *good* chemical and quantitative status for groundwater, EU member states must assess the latter using threshold values as quality standards for pollutants in groundwater. The present paper presents a case study based on the methodology for the derivation of natural background levels and groundwater threshold values suggested through the EU research project BRIDGE. Given that the groundwater bodies from the study area are exposed to anthropic stress, the 90th percentile is used as natural background level for the phreatic waters from the Quaternary deposits of the Bahlui River. The threshold values were established using drinking water standards as reference. It was, thus, discovered, that, when the 90th percentile is used as natural background level, the threshold values obtained in the present study for the parameters NH_4^+ , Na^+ , Mg^{2+} , Fe and SO_4^{2-} are higher than the reference values.

Keywords: phreatic water quality, natural background levels, threshold values, chemical status.
