

## **INCREASING ECOLOGICAL SAFETY OF SPRING WATERS USE (ON THE EXAMPLE OF THE KHARKIV REGION, UKRAINE)**

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### **ABSTRACT**

Water is essential to all forms of life, ecosystems and human activity. Fresh water resources of the world are finite in nature, and at the same time only a small fraction is accessible and readily usable for human and ecological systems. The problem of fresh drinking water is very actual for many countries, including Ukraine. The research is dedicated to solution of topical problems: to reveal environmental aspects of spring flow formation on the territories of urban agglomerates and scientific substantiation of a possibility of environmentally safe use of spring waters in urban areas for drinking. A technique for monitoring of spring water quality has worked out and offered. Three functional strata into urban underground hydrosphere were identified. The existence of these natural and technogenic strata was confirmed by results of processing of significant quantity of hydrogeological and chemical monitoring data. A technique for estimation and substantiation of size of spring sanitary protection zones within the limits of urban areas with the use of a balance model was developed. Conceptual approach to the decision-making on environmentally safe use of spring waters, including development of scientific and technical decisions, was proposed. Data on aquatic chemistry, bacteriology and hydrology of Kharkiv spring waters were represented. Recommendations for environmentally sound use of spring waters in urban areas and industrial agglomerates of Ukraine, resulted from the research and investigations carried out by the author. The estimation of an economic efficacy of the proposed measures on engineering protection and accomplishment of springs, and conditioning of spring waters on the example of the city of Kharkiv was represented. The problem under consideration is sure to be of vital importance for the cities and further work on this problem is very needed.