

Study of the State of Water Bodies Located within Kharkiv City (Ukraine)

Cite

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Abstract: The state of the water bodies located within the city has been analyzed in the paper. The factors influencing the physicochemical and microbiological composition of the urban surface water bodies have been considered. An experimental study of the state of the surface water bodies located within the large industrialized city of Kharkiv (Ukraine) has been carried out. The water of five reservoirs located within the city (Lake Komsomolskoe, Lake Ocheret, Pavlovskiy reservoir, Pond No. 1 in the gorge Hlybokiy Yar, Petrenkiv reservoir) and two reservoirs located outside the city (Lake Glubokoe No. 1 and Lake Glubokoe No. 2) have been analysed in terms of conductivity and mineralization. It has been found that for the urban water bodies, these parameters, in general, have higher values compared to the water bodies located in the recreational zone outside the city. The water of Petrenkiv reservoir and Lake Komsomolskoe is characterized by the highest values of conductivity and mineralization, while Lake Komsomolskoe and Pavlovskiy reservoir, due to the supply peculiarities, are most vulnerable to the influence of the external factors. The average values of conductivity for the studied reservoirs of Kharkiv are 590-910 $\mu\text{S}/\text{cm}$, for Lakes Glubokoe No. 1 and Glubokoe No. 2 they are equal to 500 $\mu\text{S}/\text{cm}$. The typical average mineralization values for the studied urban reservoirs are 400-670 mg/L, and for Lakes Glubokoe No. 1 and Glubokoe No. 2 are 345 mg/L. The error of values in all cases does not exceed 2%.

Keywords: Water bodies, anthropogenic load, electrical conductivity, mineralization

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