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 THE ASSESSMENT OF SURFACE WATER QUALITY IN THE BASIN
 OF WESTERN BUG**

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The problem of comprehensive assessment of water quality is of great importance nowadays. An integrated approach to the evaluation of surface water contamination gives an opportunity to have an idea about the nature and the degree of pollution of surface water with an increasing number of chemicals-pollutants. Such contamination of surface water is associated with an increase in anthropogenic pressure on water objects.

Almost all large rivers of Ukraine are united into a single hydrological system which is functioning both in our country and beyond. Migration of pollutants with river water flows from one region to another, from one country to another, causes harmful consequences to the environment, human health and safety. Situation like that becomes not only one of the serious national problems, but also has international character. That is why it is necessary to conduct monitoring of the quality of surface water of the rivers' basin timely, and to perform analysis in order to generalize information on the status of water objects.

We have chosen Western Bug as an object of research. This is a plain river in Ukraine, Belarus and Poland with the length of 772 km (in Ukraine 392 km), the area of the basin – 73500 km² (in Ukraine – 11205 km²). It belongs to the most polluted rivers in Ukraine according to research data from the National geophysical observatory. Actually the main reasons for our choice were the pollution of the river and passage through the territory of three countries.

The assessment of surface water quality is carried out in accordance with the "Methodology of environmental assessment of surface water quality in the relevant categories", which was approved by the Ministry of Environmental Protection of Ukraine as interagency standard document.

Using the above-mentioned methodology and the results of the measurements, an environmental assessment of surface water quality in the Western Bug basin was carried out. The worst indicators of pollutants content were obtained at the monitoring points in Lviv region.

The largest exceedance of normative values of maximum permissible concentrations (MPC) for water reservoirs of fish farming were recorded at the observation point of the Poltva River, village Kamyanopil: on the content of ammonium salt (exceeding 23 times), phosphates (exceeding 5 times), nitrites (exceeding 15 times), biochemical oxygen consumption (exceeding 16 times), chemical oxygen consumption (exceeding 6 times), dissolved oxygen (content is 0.9 mgO₂/l). The reason for such contamination of the Poltva river is the inefficient operation of the sewage treatment facilities in the city of Lviv.

The observations has shown that on the exit from the territory of Lviv region (village Stargorod) in the waters of the Western Bug river there is significant exceedance of the MPC norms on the content of nitrites (exceeding 7,5 times) and insignificant exceedance – on nitrogen ammonia, biochemical oxygen consumption, chemical oxygen consumption, etc. The reason is the inefficient operation of sewage treatment facilities in Lviv region.

Conclusions. According to the generalization of the results of research on the quality of water of surface pools, it was established that the quality of the water of the Western Bug River does not always correspond to the existing norms. The reason for this is the hit of contaminated return water in the surface water. Therefore, it is necessary to modernize the wastewater treatment facilities, first of all, the wastewater treatment facilities in the city of Lviv. It is also advisable to apply a similar method for assessing the quality of the surface water when studying other parts of the basin of Western Bug.