



Masikevych A.Yu.

ECOLOGICAL STATUS OF ECOSYSTEM COMPONENTS OF POKUTSKO- BUKOVYNIAN CARPATHIANS

*Department of Hygiene and Ecology
Bukovinian State Medical University*

It is shown that active economic activity leads to significant pollution of the river network of mountain territories by forestry waste, which proves a significant increase in the content of suspended substances and organic pollutants in the water, compared with the reference "protected" zone of the National Natural Park "Vizhnytskyi" (NNP). An increase in the content of suspended solids and organic pollutants is accompanied by a decrease in free oxygen in water and an increase in the values of BOC (biochemical oxygen consumption), COC (chemical oxygen consumption), and total oxidation. Studies of the bacterial state of the water network have shown that the value of sanitary and microbiological indicators downstream in all these watercourses is increasing. In this case, the total microbial number (CFO/dm³) exceeded 2-4 times the normative indicators adopted in the EU countries (Surface Water Directive: 75/440 EU). Peculiarities of the sanitary-microbiological condition of the studied mountain areas are presented in the figure.

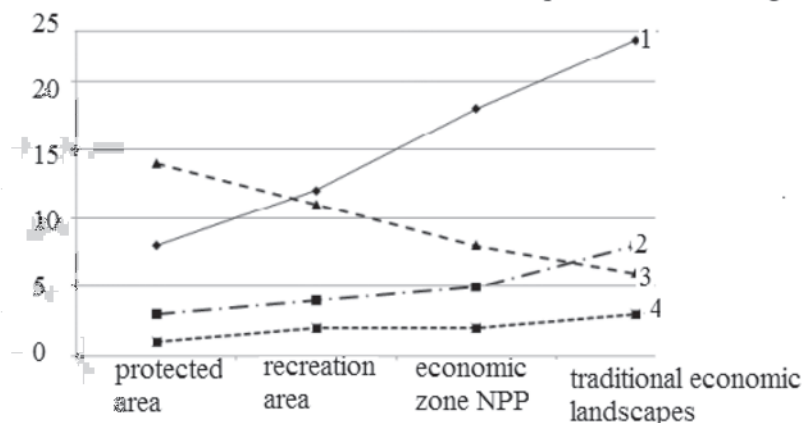


Fig. Sanitary and microbiological parameters of different water intake points in the territory of the Pokutsko-Bucovinian Carpathians: 1 – chemical oxygen consumption (ChOC), 2 - biological oxygen consumption (BOC), 3 – Coli-tirer, 4 – nitrites.

It has been established that excessive anthropogenic influence leads to soil depletion, changes the activity of their enzymatic complex, composition and number of microorganisms, leads to their degradation and violates the ecological safety of natural and semi-natural complexes. Soils of anthropogenically altered landscapes outside the NNP are characterized by high levels of sanitary bacteria. These soils are characterized by high biological activity, as evidenced by the level of activity of the enzyme urease and the ratio of the main forms of nitrogen compounds. It is established that the atmospheric air of the NNP economic zone and the zones of traditional economic landscapes located around the territory of the protected object are characterized by an increase in the total microbial number and species diversity of the microflora. It is revealed that the natural and semi-natural environment of the NNP "Vizhnytskyi" protected area is characterized by high content of light air ions. On the basis of the of the monitoring studies an overall assessment of the ecological status of the mountain ecosystem of the Pokutsko-Bukovinian Carpathians is given and an assessment of the environmental challenges of the study area is conducted.

Our research has shown that anthropogenic activity has created a number of threats to the ecological safety of mountain ecosystems of the Eastern Carpathians, which currently exceed the economic capacity of the biosphere and require special engineering and management solutions to minimize the ecological danger of mountain ecosystems. The issue of constant control over the quality of the environment (primarily sanitary and hygienic indicators of water, air and soil) is one of the main in ensuring environmental safety and sustainable development of mountain areas.