MODERN SCIENCE, PRACTICE, SOCIETY

Abstracts of XVIII International Scientific and Practical Conference

Boston, USA
25-26 May 2020

Library of Congress Cataloging-in-Publication Data

UDC 01.1
The 18 th International scientific and practical conference « MODERN SCIENCE, PRACTICE, SOCIETY » (25-26 May 2020). Boston, USA 2020. 514 p.

ISBN - 978-1-64871-446-7

Published on Bookwire by Bowker
https://www.bookwire.com/

Collection of scientific articles published is the scientific and practical publication, which contains scientific articles of students, graduate students, Candidates and Doctors of Sciences, research workers and practitioners from Europe, Ukraine. The articles contain the study, reflecting the processes and changes in the structure of modern science. The collection of scientific articles is for students, postgraduate students, doctoral candidates, teachers, researchers, practitioners and people interested in the trends of modern science development.

The recommended citation for this publication is:
Aleksandrova N.,the role of managerial culture in the educator's professional growth // Impact of modernity on science and practice. Abstracts of XVIII International Scientific and Practical Conference. Boston, USA 2020. pp. 14-18 pp..

URL: http://isg-konf.com .

THE ECOLOGICAL PROBLEMS OF THE UPPER REACHES OF THE UZH RIVER BASIN WITHIN THE VELYKYI BEREZNYI DISTRICT OF TRANSCARPATHIAN REGION (UKRAINE)

Kurey O.,
Student
Uzhhorod National University

Karabiniuk M.
Assistant
Department of Physical Geography and
Efficient Environmental Management
Uzhhorod National University

Relevance. One of the biggest rivers in Transcarpathian region is the Uzh River, that rises in southern slopes of the mountain range called Vododilno-Verkhovinsky and it runs through Velykyi Bereznyi, Perechynand Uzhhorod districts. Its total length exceeds 130 km and the main part of the flow of the river (till 57 %) occurs during the spring floods [1]. The peculiarity of this river is that on its way this river flows the regional center – Uzhhorod city.

The upper part of the Uzh River basin is situated within the Velykyi Bereznyi district of the Transcarpathian region, which is the main source of water supply for the local population there. Intensive agriculture development and the use of river water for the population's own needs causes a negative impact on its quality. Owing to the absence of the central water supply and poor condition of the functional sewage treatment constructions, the majority of consumer, industrial wastes and wastewaters are directly discharged to the river. It can lead to the spread of the bacterial contamination of the river, and it results in the overall deterioration of the environmental status of the Uzh River. Significance of this research also is enhancedby promoting of the different ecological programs directed at the monitoring and improvement of the water condition in Transcarpathian region.

The **aim** of this research paper is the identification of the peculiarities of the environmental status of the Uzh River and determination of the impact of anthropogenic activities on the condition of its waters with the further aim of ecologization of the system of water-use.

The **specific objectives**are the analysis of the main hydrochemical parameters of the condition of the Uzh River waters on the basis of Tisza River Basin Water Resources Directorate (BWRD of Tisza River) [2] and the establishment of the main sources of the river pollution.

The main material. Today water resources play an important role in the life of everyone and society as a whole. As a result of the annual decrease in the amount of

clean water in the world, its value will increase in the future. The issue of ecological status and preservation of water quality is especially acute in large and medium-sized rivers of Ukraine, including the Transcarpathian region.

The upper reaches of the Uzh River basin are confined to the southwestern macroslope of the Ukrainian Carpathians. It is formed by the merger of two streams - Uzh and Uzhok at an altitude of 970 m a.s.l. [3]. At the beginning the river flows in a wide intermountain valley, then bypasses the western slopes of the Polonynian Ridge and crosses the Vihorlat-Gutin Area, and reaches the plains of the Transcarpathian lowlandsnear the city of Uzhhorod and flows into the Laborets River on the territory of Slovak Republic [3]. Along its entire length (107 km within Ukraine) the bottom of the Uzh River differs significantly: from pebble in the mountainous part of the river to the muddy bottom in the plain [3]. The overall size basin of the investigated river within Transcarpathian region is 2 010 км^2 [3].

One of the main indicators of the water condition is biochemical and chemical oxygen demand (BOD_5 and COD), which characterize the self-purification degree and dynamics of the river waters. They are determined by the quantity of the oxygen spent on the oxidation of pollutant chemicals in the water. According to the chemical analyzes of the BWRD of Tisza River, in the waters of the Uzh River within the Velykyi Bereznyi districtthere is an excess of the threshold limit value (TLV) for BOD_5 (2,37), COD (10,65) iron in general. In particular, the maximal concentration of iron in 2017 was 0,22mg/cd^3,that more than twice exceeds permissible norms (0,1 mg/cd^3) [2]. As a result, the high level of iron affects negatively on the colorof the water of the river, which is particularly markedlyin summer period [2].

One of the main sources of pollution of the Uzh River is the activity of recreational complexes and private enterprises such as: Uzhanski Kypeli (Uzhokvillage), Visson (Kostryno village), Crocus and Krasia (Vyshka village), and Edelveis (Silvillage), etc. The main cause of pollution is the lack of a necessary system of wastewater treatment and industrial emissions. However, the most polluter of river waters is the local population which discharges most of the products of life directly into the river and its tributaries due to the lack of an organized system of garbage removal and recycling, utilization of household waste, lack of centralized sewage system, etc.As a result, in the waters of the Uzh River there is an increase in the concentration of organic and inorganic pollutants, in particular – plastic, heavy metals and others [2, 4, 5].

Conclusions. Thus, a general survey of the ecological condition of the UzhRiver was conducted and the main pollutants that negatively affect the quality of river waters were identified. The main source of pollution of the river within the Velykyi Bereznyi districtthere is local population, whose careless activities cause a significant amount of garbage, household waste and other organic and inorganic pollutants to enter the reservoir with wastewater. Therefore, in order to improve and maintain the optimal ecological condition of the river, it is necessary to optimize the water-use system and introduce special water protection measures to eliminate the causes of river water pollution.

References

1. Vyshnevsliy V. Rivers and reservoirs of Ukraine. The state of its use.K.:Vinol, 2000. 259p.

2. Tisza River Basin Water Resources Directorate[Electronic resource]. – Access mode: buvrtysa.gov.ua

3.Oliynyk J., Obodovskiy O., Grebin V. Scientific research report «Implement of the methodology of hydromorphological quality evaluation of the waters of the Uzh basin to make optimal water-related management decisions». Kyiv, 2006. 196 p.

4. Pop S. Natural resources of Transcarpathian.Uzhhorod: Carpathians, 2009. 340 p.

5. Water facility of Transcarpathian region(surface waters).Reference edition.Uzhhorod:Transcarpathian regional water management. 2007. 47p.