

---

## CONTENTS

---

<b>THEORETICAL ECOLOGY</b> .....	9
<b>Vyskushenko D., Nykytiuk Yu., Pitsil A., Melnyk N.</b> Theoretical and methodological foundations of scientific research in environmental education. .....	9
<b>Hekov M., Sakun A.</b> International legal framework and global guidelines for sustainable development.....	15
<b>Zozulya Ya., Hryhorchuk I.</b> Morpho-physiological reactions of plants to man-generate electromagnetic fields: current state of research. .....	21
<b>Korkuts M.</b> Methodological principles for forming an integral ecological safety index based on Fuzzy ANP.....	28
<b>Krainiukov O., Shchokina M.</b> Analysis and ways of improving the regulatory and legal framework of fisheries in Ukraine in the context of European integration. .....	32
<b>Papach V., Zhytska L., Khomenko O., Bondarenko Yu., Svojok N.</b> Ecological assessment of the attitude of the population of Cherkasy region towards tobacco smoking and implementation of the conditions of anti-tobacco legislation. .....	38
<b>Sabielnikov M., Sakun A.</b> SMART ECO-CITY as an innovative platform for transforming environmental management tools: technological foundation, governance model, and prospects for Ukraine.....	45
<b>Skuibida O.</b> Environmental safety briefings: current state and prospects for regulatory development. .....	50
<b>Filenko O., Tykhomyrova T., Bairachnyi V., Pashchenko P.</b> Natural student scientific clubs as an element in forming the ecological culture of higher education students. .....	58
<b>ECOLOGY AND PRODUCTION</b> .....	64
<b>Boiko V., Pron O.</b> Environmental modernization of critical infrastructure facilities in the fuel and energy sector .....	64
<b>Vasylenko O.</b> Carbon footprint management system in the flexible packaging industry. .....	69
<b>Yakovychyna T., Prus M.</b> SWOT-analysis for prospects of using smart greenhouses in Ukraine as a prerequisite for sustainable development. .....	74
<b>ECOLOGY OF WATER RESOURCES</b> .....	80
<b>Bezsonnyi V.</b> Complex analysis of surface water quality using the entropy approach and multivariate statistics. .....	80
<b>Marenkov O., Borovyk I., Nesterenko O., Patskyi V., Reshetniak D.</b> Species composition, estimation of abundance and biomass of fish in the littoral sections of the Saksahan River within the city of Kryvyi Rih. .....	85
<b>Stepova O., Tiahnii L.</b> Integral quantitative indicators of oxidative saprobity of zoobenthos of the Vorskla River. .....	95
<b>Sukhodolska I.</b> Assessing the sustainability of slow-flow aquatic ecosystems based on phytoplankton indicators. .....	99
<b>ECOLOGY OF LAND RESOURCES</b> .....	106
<b>Hrebeniuk T., Fedchenko Ye., Remez N., Bronytskyi V.</b> Monitoring and ecotoxicological assessment of the risks of soil degradation affected by military actions. .....	106
<b>Yermolenko S., Illienko V., Lazarev M.</b> Forecasting the consequences of potato contamination with $^{137}\text{Cs}$ under conditions of radioactive soil contamination and the use of locally sourced fertilisers. .....	112
<b>Illienko V., Salnikova A., Hnedko A., Bilenko V., Radchenko V., Lazariev D.</b> $^{137}\text{Cs}$ vertical distribution in soils of the Polissya region of Ukraine.....	119
<b>Razno M., Tykhomyrova T.</b> Research on the compost using efficiency in restoring the fertility of oil-polluted soils. ....	127
<b>Shelina Ye., Mikheiev O., Madzhid S., Marynin A., Yakymenko I.</b> Ecological assessment of the soil condition of Ukraine in the zone of active combat operations. ....	132
<b>ECOSYSTEM ECOLOGY</b> .....	137
<b>Mylenka M., Kozak I., Hniezdilova V., Riznychuk N.</b> Analysis of urban greenery in the Park of Internationalist Soldiers in Ivano-Frankivsk in the context of climate change adaptation. ....	137

<b>ENVIRONMENTAL IMPLICATION OF MILITARY ACTIONS.....</b>	142
<b>Milovich S., Halla-Bobik S., Chenchak M. The air quality in the city of Uzhhorod under war conditions.....</b>	142
<b>Plavan V., Lyashok I., Tarasenko N., Valeika V. Development of sorption methods for water purification in the context of overcoming the consequences of military actions in Ukraine.....</b>	148
<b>Sharyi G., Kozlov V. International standards for environmental damage assessment: potential, limitations, and prospects for adaptation in the context of the armed conflict in Ukraine.....</b>	154
<b>ENVIRONMENTAL MONITORING.....</b>	160
<b>Grygoriev K., Aleksieieva A. Environmental monitoring of atmospheric chemical pollutants in Mykolaiv during wartime.....</b>	160
<b>Maksymenko V. Hybrid system for monitoring the ecological state of surface waters based on intelligent analysis of remote sensing data.....</b>	166
<b>Shevchuk L. The sociological assessment of thick-shelled river mussel (<i>Unio crassus</i>) habitats as a tool for locating monitoring sites within the environmental security framework for populations in Ukraine.....</b>	173
<b>ENVIRONMENTAL SAFETY.....</b>	183
<b>Bohdanov I. Innovative approaches to the treatment of urban wastewater using phytobioremediation systems (Constructed Wetlands).....</b>	183
<b>Vlasenko O., Kravchenko O., Kopanytsia O. Assessment of anthropogenic load on the aquatic environment of the South Bug estuary within the Mykolaiv region.....</b>	188
<b>Grygorieva L., Stetcenko D. Radioecological risk in forecasting the formation of dosage load from ionizing radiation sources.....</b>	197
<b>Zhykevych I., Verkhovtsev V. Analysis of previous research results on groundwater mercury contamination at the territory of the former "Radykal" plant.....</b>	202
<b>Olinechenko Yu. Reduction of greenhouse gas emissions under different options for implementing solar photoelectric systems in a medical institution.....</b>	210
<b>GENERAL ENVIRONMENTAL SAFETY ISSUES.....</b>	216
<b>Herasymchuk D., Herasymchuk L., Valerko R., Patsev I., Kyrylenko N. Environmental risks of forest fires in Ukraine considering climatic, anthropogenic, and warfare-related determinants.....</b>	216
<b>Illiash O., Hanoshenko H. Potential directions for the application of bischofite (<math>MgCl_2 \cdot 6H_2O</math>) in landfill and dumpsite reclamation.....</b>	221
<b>PRESERVATION OF BIOLOGICAL AND LANDSCAPE DIVERSITY.....</b>	230
<b>Bevziuk Yu., Sirenko A. On the question of the fauna and ecology of Curculionoidea beetles from the subfamilies Apioninae (Brentidae, Coleoptera, Insecta) and Entiminae (Curculionidae, Coleoptera, Insecta) of the Verkhovynsky National Nature Park.....</b>	230
<b>Dubliak A., Riznichuk N., Hnezdilova V. Optimization of cultivation conditions and pharmacological efficacy of <i>Arnica montana</i> L. ....</b>	239
<b>Koliada O., Golovan L., Chuprina Yu., Buzina I. Assessment of the current state of the natural reserve fund of the Kharkiv region in the context of military challenges and integration into the European ecological space.....</b>	242
<b>WASTE MANAGEMENT.....</b>	248
<b>Voloshyn V., Burko V. Structural and functional system of modern principles and methods of industrial waste management.....</b>	248
<b>Karas O., Katsevich V., Ananieva T., Bozhko K., Voroshilova N., Dotsenko L. Environmental aspects of destruction waste recovery in Ukraine.....</b>	256
<b>Khrutba V., Sorochynska O., Kolomiets S., Kriukovska L., Spasichenko O. Regulatory and legal changes in the waste management system: analysis and prospects.....</b>	262

<b>HORTICULTURE.....</b>	270
Semak U., Mylenka M., Tsepetsaver H. Remote sensing-based evaluation of vegetation dynamics in mountain protected areas of the Carpathian region.....	270
<b>CLIMATE CHANGE.....</b>	275
Aleksieieva A., Bilokon A. Emerging technologies for climate change monitoring: prospects and challenges of AI, IoT, and unmanned systems application.....	275
Semerhei-Chumachenko A., Shepel V. The impact of rising air and ocean temperatures in the North Atlantic on transoceanic shipping.....	282
<b>AUTHORS' CREDENTIALS.....</b>	290