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МІНІСТЕРСТВО ЕКОНОМІКИ, ДОВКІЛЛЯ ТА СІЛЬСЬКОГО ГОСПОДАРСТВА УКРАЇНИ
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ЄВРОІНТЕГРАЦІЯ ЕКОЛОГІЧНОЇ ПОЛІТИКИ УКРАЇНИ

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Є24 **Євроінтеграція** екологічної політики України [Електронний ресурс] : матеріали Сьомої Всеукр. наук.-практ. конф. (Одеса, 4–5 листоп. 2025 р.). – Електронні текстові дані (1 файл : 14,4 МБ). – Одеса : Одес. нац. ун-т ім. І. І. Мечникова, 2025. – 491 с.
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До збірки увійшли матеріали Сьомої Всеукраїнської науково-практичної конференції «Євроінтеграція екологічної політики України», яка відбулась 4–5 листопада 2025 р. на факультеті гідрометеорології і екології Одеського національного університету імені І. І. Мечникова. В збірнику наведені матеріали, які висвітлюють головні екологічні питання України і їхнє вирішення шляхом євроінтеграційного процесу збереження довкілля.

Видання розраховане на здобувачів, педагогічних, наукових та науково-педагогічних працівник закладів освіти та наукових установ.

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THE IMPORTANCE OF EUROPEAN EXPERIENCE IN ASSESSING THE IMPACT OF INVASIVE ALIEN SPECIES RISK FOR THEIR USE IN UKRAINE

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Given the large number of alien species that may potentially develop into invasives, there is a clear need for robust schemes that enable screening of species for such risks. There is increasing use worldwide of electronic decision-support tools to identify potentially invasive non-native species, so, as to inform policy and management decisions aimed at preventing or mitigating the environmental and socioeconomic impacts of biological invasions [2, 8, 10, 12]. The main criteria of such evaluation schemes are: (*i*) the identification of the assessor(s) who will carry out the screenings; (*ii*) the definition of the risk assessment area; (*iii*) the criteria for selection of the species for screening; and (*iv*) the a priori categorization of the species into invasive or non-invasive necessary to compute the thresholds by which to distinguish between high-risk and medium-risk non-native species [10].

Regulation (EU) №1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species is the basis for national legislation in all countries of the European Union. A very limited number of invasive alien species have significant negative impacts across Europe that would meet the Regulation's clear criteria. Ukraine, as a country that has an Association Agreement in force with the European Union, should implement European legislation. For these reasons, both further research and accompanying practical activities are necessary to limit or mitigate the effects of the invasions of the alien plants. However, at the level of national legislation in Ukraine, the implementation of European environmental policy standards is still at the development stage. In particular, there is no national strategy for the prevention and management of the introduction and spread of invasive alien species, nor is there a national program for combating alien species. Additionally, there is a lack of consistent terminology and lists of invasive species.

This has led to the creation of several nationwide lists of invasive alien species based on different approaches, the use of various unadapted foreign protocols for dealing with invasive alien species, and other uncoordinated actions [11]. For example, List of alien plant species of Ukraine with high invasive potential [6], Black List of

invasive alien plant species [1], List of the most harmful invasive plant species for native phytodiversity of protected areas [12], List of the Group of highly active species [7], List of the invasive alien plant species [11] and other are presented. Ukrainian scientists work with non-adapted American [5] and Australian protocols, such as the Invasive Species Assessment Protocol or the Australian Weed Risk Assessment (WRA), which assess the impact of invasive plant species at the regional level [4] and proposed their own approaches [3]. However, these approaches still don't yield the desired result with the assessment of impact of phytoinvasion, which prompted us to study the European experience in assessing the impact of invasive alien species.

In particular, we paid attention to the Polish experience of implementing the methodological scheme Harmonia^{+PL}, the prototype for which was the Belgian scheme Harmonia+. This is (Harmonia) a procedure for assessing the risk of negative impacts associated with the presence of invasive or potentially invasive alien species, the introduction and presence of which may currently or in the future threaten native species, as well as cause measurable economic losses and impact human health. The name Harmonia+ comes from the Latin name of the Asian ladybug, *Harmonia axyridis*, a highly invasive alien species.

The procedure consists of 10 modules referring to the stage of invasion and the assessment of the impact of the assessed species on 5 domains (the environmental, the cultivated plants, the domesticated animals, the human, and other). Altogether the evaluation questionnaire consists of 41 questions which were answered by external experts [9].

The results obtained were entered into a database. A group of several specialists from different institutions and regions worked on each species. Conclusions on the impact of the species were formed on the basis of a joint discussion. The result of the work was the publication of protocols for 60 species of the Polish flora [9]. The main achievements of this work are the accumulation of a significant amount of factual data, the establishment of communication between different specialists. The assessment carried out in Poland has led to improved standards and management of invasive alien species (IAS) and contributed to increasing the level of knowledge necessary to take effective action to limit the negative impact and combat IAS in Poland at the legal level. In particular, they significantly influenced the development of strategic documents, such as Resolution No. 133 of the Council of Ministers of 15 June 2022 on priority pathways for invasive alien species and the Regulation of the Council of Ministers of 9 December 2022 specifying the list of invasive alien species posing a threat to the Union and Poland and remedial measures to restore ecosystem balance. More broadly, these actions contributed to the implementation of obligations arising from Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of invasive alien species.

The disadvantages of this methodological scheme remain the subjectivity of the assessment and the need to involve a large number of specialists for a long period.

Harmonia^{+} is one of the best risk assessment schemes in Europe [8]. Based on general reviews of existing schemes and models for assessing the risks of impact to alien organisms, Harmonia^{+PL} is the most optimal model for Ukraine. However, the introduction of such a scheme requires its prior adaptation to the conditions of our

country. Thus, the heterogeneity of natural and climatic zones is not taken into account in the Harmonia^{+PL}. For example, the same species in different regions of Ukraine may have a different status. Taking this into account significantly affects the risk assessment.

All risk screenings and full assessments are dynamic and should be updated to incorporate new information, especially research findings that quantify the adverse impacts exerted by the non-native species in question. As such, the a priori invasiveness categorisation of a nonnative species may change from e.g., non-invasive to invasive for the risk assessment area concerned as a result of further information being collected and/or studies being carried out on its spread and impacts, and this would clearly affect, retrospectively, the outcomes of previous studies.

References

1. Abduloeva O., Karpenko N., Senchylo O. Justification of the “Black List” of invasive plant species threatening biodiversity in Ukraine. Bulletin of the Taras Shevchenko National University of Kyiv. Biology. 2008, is. 53. P. 108–110. [Абдулоєва О., Карпенко Н., Сенчило О. Обґрунтування «Чорного списку» загрозливих для біорізноманіття інвазійних видів рослин України. Вісник Київського національного університету імені Тараса Шевченка. Біологія. 2008, вип. 53. С. 108–110.] (In Ukrainian).

2. D’hondt B., Vanderhoeven S., Roelandt S., Mayer F., Versteirt V., Ducheyne E., San Martin G., Grégoire J-C., Stiers I., Quoilin S., Branquart E. 2014. *Harmonia+ and Pandora+: risk screening tools for potentially invasive organisms*. Belgian Biodiversity Platform, Brussels.

3. Koniakin S., Burda R., Budzhak V. Is a Ukrainian protocol for the environmental impact assessment of invasive alien vascular plant species needed? In: Synanthropization of the vegetation cover of Ukraine: IV All-Ukrainian Scientific Conference (2024, September 11–12th, Kyiv). Book of scientific articles. Kyiv, 2024. P. 76–80. [Конякін С., Бурда Р., Буджак В. Чи потрібен Український протокол експертизи впливу на довкілля чужорідних інвазійних видів судинних рослин? У кн.: Синантропізація рослинного покриву України: IV Всеукраїнська наукова конференція (11–12 вересня 2024 р., м. Київ, м. Біла Церква). Збірник наукових статей. Київ: [б. в.], с. 76–80.] (In Ukrainian).

4. Kucher O.O., Shevera M.V. *Invasive species of the flora of Starobilsk Grass-Meadow Steppe* / Sci. ed. V.V. Protopopova. Kyiv: Palyvoda, 2023. 110 p. [Кучер О. О., Шевера М. В. Інвазійні види флори Старобільського злаково-лучного степу / Наук. ред. В.В. Протопопова. Київ, Інститут ботаніки ім. М.Г. Холодного НАН України, 2023. 98 с.] (In Ukrainian).

5. Morse L.E., Randall J.M., Benton N., Hiebert R., Lu S. An Invasive Species Assessment Protocol: evaluating non-native plants for their impact on biodiversity. Version 1. Nature Serve, Arlington, Virginia, 2004. 40 p.

6. Protopopova V.V., Mosyakin S.L., Shevera M.V. Plant invasions in Ukraine as a threat to biodiversity: the present situation and tasks for the future. Kyiv: M.G. Kholodny Institute of Botany, 2002. 32 p. [Протопопова В. В., Мосякін С. Л., Шевера М. В. Фітоінвазії в Україні як загроза біорізноманіттю: сучасний стан

завдання на майбутнє. Київ: Ін-т ботаніки НАН України, 2002. 32 с.] (In Ukrainian).

7. Protopopova V. V., Shevera M. V. Invasive species in the flora of Ukraine. I. The group of highly active species. GEO@BIO. 2019, vol. 17. P. 116–135. [Протопопова В. В., Шевера М. В. Інвазійні види у флорі України. І. Група високо активних видів]. GEO@BIO. 2019, т. 17. С. 116–135]. (In Ukrainian).

8. Roy H.E., Rabitsch W., Scalera R., et al. Developing a framework of minimum standards for the risk assessment of alien species. Journal of Applied Ecology. 2018, vol. 55, is. 2. P. 526–538. https://doi.org/10.1111/1365-2664.13025

9. Tokarska-Guzik B., Bzdęga K., Dajdok Z., Mazurska K., Solarz W. Invasive alien plants in Poland – the state of research and the use of the results in practice. Environmental & Socio-economic Studies. 2021, vol. 9, is. 4. P. 71–95. DOI: 10.2478/environ-2021-0027

10. Vilizzi L., Hill J. E., Piria M., Copp G. H. A protocol for screening potentially invasive non-native species using Weed Risk Assessment-type decision-support tools. Science of the Total Environment. 2022, vol. 832, e154966. http://dx.doi.org/10.1016/j.scitotenv.2022.154966

11. Zavialova L. V., Protopopova V. V., Kucher O. O., Ryff L. E., Shevera M. V. Plant invasion in Ukraine. *Environmental & Socio-economic Studies*, 2021, vol. 9, Issue 4). P. 1–13. DOI: 10.2478/environ-2021-0020

12. Zavialova L. V. The most harmful invasive plant species for native phytodiversity of protected areas of Ukraine. *Scientific Herald of Chernivtsi University. Biology (Biological system)*. 2017. Vol. 9, issue 1. P. 87–107. [Зав'ялова Л.В. Види інвазійних рослин, небезпечні для природного фіторізноманіття об'єктів природно-заповідного фонду. Вісник Чернівецького *університету. Біологія (Біологічні системи)*. 2017. Том 9, вип. 1. С. 87–107.] (In Ukrainian).