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Reform of the system of conservation and restoration of natural habitats and of wild fauna and flora: Ukraine on the way to the EU



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Authors

Solomiia Baran, Yelyzaveta Aleksyeyeva, Anastasia Drapaliuk, Mykhailo Drebet, Olena Kravchenko, Anna Kuzemko, Oleksiy Marushchak, Dmytro Skrylnikov, Olha Shumylo-Tapiola, Yuliia Frantsishkevych-Vyrsta, Jindrich Chlapek / General editing by Solomiia Baran, Yelyzaveta Aleksyeyeva, Olena Kravchenko, Olha Shumylo-Tapiola

This policy paper is devoted to the analysis of the regulatory, institutional and financial framework for biodiversity conservation in Ukraine in the context of harmonization of Ukrainian and European Union environmental legislation. The focus is on transposition and implementation of the requirements of the EU Birds and Habitats Directives, and on the prospect of converting the Emerald Network of Ukraine into the Natura 2000 network after Ukraine's accession to the EU.

The policy paper identifies key problems in implementing biodiversity conservation in Ukraine, such as lack of full transposition of EU Directives, fragmentation of the regulatory framework, weak institutional capacity of authorized bodies, lack of proper control and sanctions for violations of legislative provisions. The paper proposes several options for reforming the biodiversity conservation system in Ukraine, which include a combination of various regulatory and institutional solutions.

The methodology of the analysis has applied an evidence-based approach, using SWOT analysis, comparative analysis and Logical Framework Approach.



List of abbreviations

Cabinet of Ministers of Ukraine - CMU

Convention on the Conservation of European Wildlife and Natural Habitats - Bern Convention

Council Directive 92/43/EEC of May 21, 1992 on the conservation of natural habitats and wild fauna and flora - Habitats Directive

Directive 2009/147/EU of the European Parliament and of the Council of November 30, 2009 on the conservation of wild birds - Birds Directive

Draft Law on Conservation of Natural Habitats and Species of Natural Flora and Fauna Subject to Special Protection (on Emerald Network Sites in Ukraine) No. 4461-1 of 26.07.2021 - Draft Law No.4461-1

Draft Law on State Environmental Control No. 3091 of 19.02.2020 - Draft Law No. 3091

Draft Law on the Emerald Network Sites No. 4461 of 04.12.2020 - Draft Law No.4461

Environmental Impact Assessment - EIA

European Union - EU

Green Data Book of Ukraine - Green Data Book, GDBU

Hydroelectric power plants - HPP

Law of Ukraine "On the Rules of Procedure of the Verkhovna Rada of Ukraine" of 10.02.2010 No.1861-VI - Rules of Procedure of the Verkhovna Rada of Ukraine

Ministry of Culture and Information Policy (as of 2025 - Ministry of Culture and Strategic Communications of Ukraine) - Ministry of Culture

Ministry of Environmental Protection and Natural Resources of Ukraine - MEPR

Ministry of Finance of Ukraine - Ministry of Finance

Ministry of Justice of Ukraine - Ministry of Justice

Ministry of Veterans Affairs - Ministry of Veterans

Nature Reserve Fund - NRF

Normative legal act - NLA

Red Data Book of Ukraine - Red Data Book, RDBU

Regional military (state) administration - RMA (RSA)

Russian Federation - RF

State Bureau of Investigation - SBI

State Enterprise "Forests of Ukraine" - SE "Forests of Ukraine"

State Environmental Inspectorate - SEI

State Forest Resources Agency of Ukraine - State Forest Resources Agency

State Service of Geology and Subsoil of Ukraine - Derzhgeonadra

State Service of Ukraine on Food Safety and Consumer Protection - State Consumer Service

Strategic Environmental Assessment - SEA

Thermal Power Plants - TPPs

Wind power plants - WPP



1. Introduction

Ukraine has chosen the path of European integration. The Preamble of the Constitution of Ukraine confirms the European identity of the Ukrainian people and the irreversibility of the European and Euro-Atlantic course of Ukraine[1]. The process of European integration provides for the transposition and implementation of EU legislation in Ukraine, including environmental legislation. Among the EU law, the Birds and Habitats Directives are of particular importance.

The Birds Directive (Directive 2009/147/EU)[2] is the main EU legal act regulating the protection of wild birds and their habitats. It obliges EU Member States to protect bird habitats, prohibits their deliberate destruction, regulates hunting and trade, and provides for the establishment of part of the Natura 2000 network serving bird conservation. Together with the Habitats Directive, it forms the basis of EU legislation on biodiversity conservation.

The Habitats Directive (Directive 92/43/EEC)[3] is a key EU legal act aimed at conserving types of natural habitats and wild flora and fauna important to the Community. It obliges Member States to protect species of wild flora, fauna and types of natural habitats and to establish the Natura 2000 network of conservation areas, as well as to control activities that may adversely affect these areas.

One of the key tasks of Ukraine on the way to EU accession and joining the Natura 2000 network is the establishment and effective functioning of the Emerald Network. It must ensure the protection and conservation of wild flora and fauna species and types of natural habitats in accordance with the requirements of the Convention for the Conservation of Wildlife and Natural Habitats in Europe (Bern Convention, 1979)[4]. From the moment of Ukraine's accession to the EU, the implementation of the Convention will be achieved through the implementation of the Birds and Habitats Directives, namely through the conversion of the Emerald Network into Natura 2000.

In turn, the Bern Convention is an international treaty aimed at protecting wildlife in Europe. It obliges state parties to protect species of wild flora and fauna, conserve certain types of natural habitats, and promote international cooperation in this area[4]. The Convention is the basis for the establishment of the Emerald Network, which also influenced the formation of EU environmental legislation, in particular the Birds and Habitats Directives. Ukraine is a party to the Bern Convention.

However, Ukraine's current biodiversity conservation system faces a number of challenges. Governance is ineffective, the regulatory framework is fragmented, and enforcement mechanisms do not work. Additional challenges are posed by climate change, illegal economic activities, and war.

Therefore, there is a need for comprehensive reform of the biodiversity conservation system in Ukraine.



2. Purpose of the document:

to disclose mechanisms for ensuring effective conservation of wild flora and fauna, natural habitats, establishment and management of the Emerald Network in Ukraine in the context of EU accession and its further conversion into the Natura 2000 network after Ukraine's accession to the EU.

3. Objective of the document:

to analyse the current state (main problems) of establishment and management of the Emerald Network, conservation of wild flora and fauna species, types of natural habitats, to develop scenarios for problem solving and to formulate proposals for options of reform development.

4. The problem tree

Among the underlying problems in the area of climate and environmental reforms, the first and foremost is the lack of public demand for such reforms. Political support for environmental initiatives is complicated by the resistance of some powerful users of natural resources, particularly in manufacturing, mineral extraction, forestry, fishing, hunting and agriculture, which significantly influence the decision-making processes at all levels. The situation is further complicated by the RF military aggression and significant damage caused to nature as a result of military actions. In this regard, the implementation of most of reforms is difficult or is postponed until after the war.

These problems concern the environmental sphere in general, including biodiversity conservation.

The cross-cutting problem in this sphere is the inability of the biodiversity conservation management system to ensure the conservation and restoration of natural habitats and species of wild flora and fauna to a favourable status. In this regard, there is a need in the establishment of a modern, effective, transparent and efficient system of management of the Emerald sites with its subsequent transformation into Natura 2000 after Ukraine's accession to the EU, implementation of measures for the conservation of species of wild flora and fauna in the context of EU accession and full implementation of the EU Birds and Habitats Directives.

Currently, Ukrainian legislation is not fully aligned with the EU Birds and Habitats Directives, and the institutional system of biodiversity conservation is unable to fulfil the tasks of protecting and conserving species of wild flora, fauna and natural habitats. In this regard, we will consider the legal and regulatory as well as institutional problems arising in the study area.



Legal and regulatory problems:

- 1) lack of systematic transposition of the Birds and Habitats Directives, which includes:
 - a) absence of the main concepts of the EU legislation in the field of conservation of natural habitats, wild fauna and flora and common approaches to their understanding in the Ukrainian legislation;
 - b) lack of implementation of the habitat approach in the national mechanisms of biodiversity maintenance;
 - c) lack of provisions for the definition and establishment of the Emerald sites and the corresponding mechanisms;
 - d) inconsistency in the lists of types of natural habitats and species of wild flora and fauna that are protected in the EU and in Ukraine;
- 2) inadequate implementation of national legislation, in particular: incompleteness and lack of mechanisms for implementation of certain norms;
- 3) lack of effective mechanisms for enforcement of legislation on biodiversity conservation.

Problems in terms of the institutional components:

- 1) absence of an effective, efficient and transparent institutional management system in the sphere of biodiversity conservation, which would be able to ensure proper and full implementation of the Birds and Habitats Directives. The main components of this problem are:
 - a) limited capacity of the existing governance and enforcement system, in particular of the relevant ministry which performs numerous multifaceted functions in the absence of adequate staff and resources, as well as of the State Environmental Inspectorate;
 - b) duplication of functions among different subjects of the governance system (including at different levels), including in terms of biodiversity conservation;
 - c) insufficient number of qualified professionals to carry out effective governance in the sphere of biodiversity conservation;
- 2) imperfection in separate elements of governance: mechanisms of defining Emerald sites, conservation, restoration and management, accumulation of monitoring and reporting data in the sphere of biodiversity conservation;



- 3) absence of strategic planning and system of public reporting on development and implementation of policies in the sphere of conservation of wild flora and fauna species and their natural habitats.

A separate problem of implementing biodiversity conservation reform in Ukraine is represented by the lack of financial and economic calculation of its costs, which would include the analysis of effective, transparent use of funds in this area in general, and the lack of assessment of the cost of losing wild flora and fauna species and their natural habitats in case of non-implementation of the reform.

These problems and their solutions will be discussed in detail in the following sections. A structured presentation of the problems will serve as a basis for formulating proposals and identifying priorities.

5. Methodology of the document development

The document was prepared using a comprehensive approach to policy analysis based on international requirements and modern research methods.

The authors used materials developed during the implementation of the project “Conservation of Natural Heritage for Life in Ukraine” (ConNaturLIFE Ukraine): gap analysis of legislation and practice in the field of protection of species of wild flora and fauna, gap analysis of legislation and practice in the field of protection of natural habitats, table of concordance of Ukrainian legislation with the Council Directive 92/43/EEC of May 21, 1992 on the conservation of natural habitats and species of natural fauna and flora, table of concordance of Ukrainian legislation with the Directive 2009/147/EU of the European Parliament and the Council of October 30, 2009 on the conservation of wild birds, SWOT-analysis of institutional reform in the field of wild flora and fauna conservation, Report on the assessment of the institutional structure with recommendations for restructuring and further distribution of roles and responsibilities, including a proposed organogram.

Materials of the European Commission on the transposition of the EU environmental legislation[5], practical guidelines for the implementation of the Birds and Habitats Directives[6] were studied.

Information received from the authorities regarding staffing, organizational structure, remuneration and job descriptions of the bodies authorized to perform the functions of biodiversity conservation management was processed during document preparation.

Logical Framework Approach was applied for structured analysis of problems and identification of strategic goals of the reform. Two logFrames were developed:

1. Policy analysis logFrame - to assess the compliance of Ukrainian legislation with the requirements of the Birds and Habitats Directives.



2. Comparative analysis logFrame - to analyse international experience in implementing environmental reforms and to develop recommendations for Ukraine.

The authors used methods of comparative legal analysis, contextual research of legislative barriers, strategic planning tools and evidence-based policymaking approaches to form conclusions and recommendations.

6. Legal and regulatory component of the reform

6.1. Description of the problems in the legal and regulatory aspects

6.1.1 Lack of systematic transposition of the Birds and Habitats Directives

Regarding the implementation of the Bern Convention in Ukraine. Ukraine is a party to the Bern Convention, which provides for the conservation of natural habitats, species of wild fauna and flora[4], which are identified as important for the parties to the Convention. The authorities have formed a significant array of national environmental legislation. At the same time, the existing legal acts are not fully capable of ensuring the fulfilment of obligations under the Bern Convention.

Approximation of national legislation to the EU legislation. Accession to the EU requires harmonization of national legislation with the *acquis communautaire*. This involves harmonizing laws, rules and procedures with relevant EU acts. The first step in this process is transposition - the incorporation of EU norms into national law. Transposition consists of adopting or amending national laws, regulations and procedures so that EU requirements are fully incorporated into national law.

Despite its European integration commitments, Ukraine has only partially implemented the Birds and Habitats Directives. As of 2025, they are still not fully transposed. This is due to the resistance of large companies in the sectors of mining, construction, energy, forestry and agriculture, as well as lobbyists of their interests. The main reason for the slow progress of the reform is the fear that these business groups have regarding the introduction of restrictions provided for by the reform, possible economic losses (reduced profit level, investments in measures provided for by the reform, loss of competitive advantages in the market). In addition, biodiversity conservation issues are often not prioritized and remain poorly understood by civil servants. This is due to a conflict of interests: on the one hand, government agencies must ensure compliance with conservation objectives, and on the other hand, they must take into account economic interests, where certain “rules of the game” have already been adopted.

Fragmentation of the legislative framework. Ukrainian legislation on nature protection consists of many laws and by-laws. They concern, among other things, the regulation of the conservation of wild



flora and fauna species, but do not form a single, coherent system. Current legislation includes laws on the ecological network[7], the Red Data Book of Ukraine[8], the nature reserve fund of Ukraine[9], forest resources[10] and others. Normative acts regulate the status of wetlands[11], protection zones and objects of the Red Data Book of Ukraine[8]. In addition, the legislation determines the rules of fishing[12,13], hunting[14,15], and treatment of animals[16]. At the national level, the data about sites of the Emerald Network are referred to as the source data for the development of comprehensive plans for spatial development of territories of territorial communities, and to the sets (types) of geospatial data[17]. The legislation of Ukraine provides for the definition of the Emerald Network sites and integrated requirements for taking into account such sites in the preparation of river basin management plans[18].

However, these acts do not provide such protection for wild flora and fauna species that would fully comply with the EU legislation. There are no adequate provisions on the definition and establishment of Emerald sites (in the future, of Natura 2000 sites), on mechanisms for their management, conservation and monitoring, or on the implementation of appropriate assessment. Ukrainian legislation does not prohibit sale, transportation, keeping or offering of wild birds and their parts for sale, as required by the Birds Directive. Due to the lack of a general prohibition, the legislation does not take into account derogations from it, although they exist at the EU level.

As for now, the Ukrainian legislative base in the context of wild flora and fauna species only partially corresponds to the EU legislation. In the field of conservation of natural habitats the situation is even worse. As a consequence, there are almost no effective ways to protect natural habitats and species of wild flora and fauna.

6.1.2. Absence of the main concepts of EU legislation in the field of conservation of natural habitats, wild fauna and flora and unified approaches to their understanding in Ukrainian legislation.

Inconsistency of Terminology. Ukrainian legislation lacks many definitions provided for in the Birds and Habitats Directives. For example, these directives use the terms "natural habitat" and "habitat of a species." Ukrainian legislation employs similar terms across various legal acts, but they differ in wording and definitions. For instance, terms close in meaning to "habitat of a species" include: "habitat" as used in the Law of Ukraine "On Fauna," "habitat area" in the Law of Ukraine "On Hunting Economy and Shooting," "site of growth and settlement" in the Forest Code of Ukraine, "sites of greening and growth" in the Law of Ukraine "On the Ecological Network of Ukraine," and "natural habitats (biotopes)" in the Law of Ukraine "On the National Infrastructure of Geospatial Data."

At the same time, Ukrainian legislation lacks specific requirements for the protection of natural habitats and a detailed list of their types. The absence of a unified terminological approach complicates law enforcement and the implementation of European legislation.



It should also be noted that Ukrainian national legislation does not provide definitions for the following key concepts: "conservation status of a natural habitat," "conservation status of a species," and "favourable conservation status." Without these definitions, it is impossible to effectively plan conservation measures or monitor their implementation in accordance with EU requirements. Moreover, it is difficult to accurately assess the conservation status of natural habitats and wild flora and fauna species, as there are insufficient legislative requirements to determine whether a particular species or habitat is in a favourable conservation status or requires conservation measures.

Absence of the Principle of Maintaining Wild Bird Populations at a Proper Level. Ukraine has not implemented the principle of maintaining wild bird populations at a proper level. This level should correspond to ecological, scientific, and cultural needs and take into account economic, recreational requirements, and the adaptation of wild flora and fauna species. The absence of the transposition of this principle is one of the reasons for the vulnerability of wild bird populations in Ukraine. These populations may decline due to the loss of natural habitats and species habitats, economic activities, and other factors. This negatively affects ecosystems, as birds play a crucial role in maintaining natural balance.

Differences in translation. Difficulties in interpreting the terms used in the Habitats Directive have arisen due to another change in its official translation. In the new version, the term "conservation" was translated as "охорона", although in the translation of the Birds Directive it remained as "збереження". This became a kind of challenge for lawyers, ecologists, translators and civil servants involved in transposing the norms of the Birds Directive into Ukrainian legislation. At the same time, the use of the word "охорона" [*"protection"*] for the multidimensional concept of "conservation" is a russification in itself, and does not correspond to the meaning of this word even in an explanatory dictionary.

This change affected the related terms: 1) "conservation status of a natural habitat" - "природоохоронний стан природного оселища"; 2) "conservation status of a species" - "природоохоронний стан виду"; 3) "special area of conservation" - "спеціальна природоохоронна територія". However, in the minds of the public, lawyers, scientists and representatives of the authorities in Ukraine, conservation areas are often identified primarily with the objects of the Nature Reserve Fund. However, the objects of the Nature Reserve Fund are not the only nature protection areas. They are significantly different from "special areas of conservation" in the Habitats Directive and "special protection areas" in the Birds Directive. A more accurate translation would be "спеціальні території (або ділянки) збереження" [*"special areas (or sites) of conservation"*]. The available translation, however, creates a misconception about the identity of the Nature Reserve Fund and conservation areas in the meaning of the Birds and Habitats Directives.

In this regard, it is urgent to establish a terminological dictionary, to harmonize terms among all responsible authorities and to check the alignment of translations with the agreed terminological apparatus. This will provide legal certainty and will make the transposition of European legislation easier.



Lack of implementation of the habitat approach in national mechanisms of biodiversity support

Different approaches to conservation of wild flora and fauna species and natural habitats. The main objective of the Habitats Directive is to support or restore wild flora and fauna species and natural habitats to a “favourable” conservation status within the EU[3]. This includes not only halting the decline and extinction of these wild flora and fauna species, but also ensuring their recovery and long-term prosperity. Active conservation measures are used to achieve this goal. In particular, EU Member States designate, protect and manage Special Areas of Conservation and Special Protection Areas. The selection of areas for the Natura 2000 network is based on scientific studies determining the importance of these areas for the conservation of wild flora and fauna species. However, it cannot yet be said that such measures have been fully implemented in Ukrainian legislation.

The Nature Restoration Regulation (Regulation (EC) 2024/1991), which is a key element of the EU Biodiversity Strategy, entered into force in the EU in August 2024. It combines an overarching restoration objective for the long-term recovery of nature in the EU’s land and sea areas with binding restoration targets for specific habitats and species. These measures should cover at least 20% of the EU’s land and sea areas by 2030, and ultimately all ecosystems in need of restoration by 2050. The requirements of this Regulation will become mandatory for Ukraine upon accession to the EU.

Nature Reserve Fund objects and Emerald sites - what is the difference?

Various categories of areas and objects of the **Nature Reserve Fund** have existed in Ukraine for a long time (several decades) and in common speech they are often called “reserves”. However, a reserve is only one of the categories of NRF areas, along with wildlife sanctuaries, natural monuments, national parks and others. The issue of establishment and functioning of such objects is regulated by the Law of Ukraine “On Nature Reserve Fund of Ukraine”[9]. Often NRF territories are associated with the prohibition or restriction of their visitation, although in fact such a regime is provided only for one category of NRF - nature reserves. And even in natural reserves there are ecological trails where visits for organized groups are allowed with a guide.

Conservation of NRF territories most often consists of limiting human economic activities on their territories, such as ploughing, mining, logging, changes in the hydrological regime, changes in the landscape, any development and so forth.

The Emerald Network is a relatively new form of nature protection for Ukraine, which has been implemented since 2008 in the framework of fulfilling the requirements of the Bern Convention [4].

The Emerald Network is a network of areas defined at the European level, and its aim is to ensure the conservation of wild flora and fauna species, as well as types of their natural habitats in the long term. Such conservation in the sites of the Emerald Network is carried out on the basis of developed management plans for all of such sites individually, and the purpose of such measures is to improve the existing conservation status of wild flora and fauna species and natural habitats (for example, increase in the population size of wild flora and fauna species, increase in the area of the habitat type). After Ukraine’s accession to the EU, the Emerald Network will be transformed into the **Natura 2000 network** - a network of areas defined under the EU Birds and Habitats Directives.

“Overlapping” of the Emerald Network sites and NRF areas and objects.

In many cases in Ukraine the sites of the Emerald Network coincide with the areas of the nature reserve fund. In some cases, effective conservation of wild flora and fauna species and natural habitats may require a different approach than that provided by relevant regimes of areas and objects of the NRF. For example, the conservation of certain species of wild flora and fauna within the Emerald Network Sites (in the future, Natura 2000) may require periodic nature management or active landscape management. However, such actions would conflict with the conservation regime of nature reserves. In this regard, the “overlapping” of the Emerald Network sites and NRF areas and objects may narrow down the opportunities for conservation of wild flora and fauna species and of natural habitats in accordance with the conservation objectives of the Emerald Sites if such overlapping of regimes is not resolved at the legislative level.



The ecological network in Ukraine does not ensure the conservation of natural habitats. Legislative frameworks for the ecological network and its development in Ukraine were set in the State Programme of the establishment of the national ecological network of Ukraine for 2000-2015[20] and in the Law of Ukraine “On the Ecological Network of Ukraine”[7]. As of March 2025, the ecological network, in the understanding of the Law of Ukraine “On the Ecological Network of Ukraine” is being established with partial consideration of the habitat approach, but in fact it is not an effective mechanism of nature protection. Despite certain common goals with the Natura 2000 network, the methods of achieving these goals by the ecological network introduced in Ukraine differ considerably. In the EU, Natura 2000 is based on clearly defined types of natural habitats and the management practices required for them. In Ukraine, however, the eco-network remains a spatial planning tool, which does not guarantee the actual conservation of natural habitats.

Lack of provisions for the identification and establishment of Emerald sites and appropriate management, conservation and monitoring mechanisms

Challenges of legal status and management approaches. Ukrainian legislation does not provide for comprehensive mechanisms for identification, management, monitoring, planning and conservation of fauna and flora species, types of natural habitats within the Emerald sites (in the future - Natura 2000). Consequently, many species of wild flora and fauna and natural habitat types remain without adequate protection and management of such areas is ineffective. Thus, there are cases where Emerald network areas overlap with NRF sites where reserve regimes are in place. However, protection of natural habitats often requires active measures, such as mowing grasslands or thinning forests, which are not consistent with the strict nature protection regimes of the NRF. This creates conflicts in conservation approaches and makes it impossible to effectively manage Emerald sites (in the future, Natura 2000). The situation is even more complicated with the Emerald sites that do not overlap with the NRF sites. It can be said that their status is based only on Ukraine’s international obligations, while the national legislation lacks clear rules on their management. This leads to legal uncertainty and land use conflicts, which complicates their conservation. The protection of Emerald network sites in practice often depends on the enforcement of international law by the courts. This creates a situation where decisions may vary depending on the interpretation of international law by judges, making it difficult to effectively conserve Emerald sites.

Problems of impact assessment. In Ukraine, the assessment of the impact of projects on natural habitats and species of wild flora and fauna is carried out through the mechanism of environmental impact assessment. This assessment is carried out at the stage of decision-making on carrying out planned activities that may significantly affect the environment[21]. However, EIA only applies to specific activities that are subject to this procedure. This means that some projects that may have a significant impact on natural habitats and species of wild flora and fauna may be outside the EIA procedure.

Plans and programmes that may affect natural habitats and species of wild flora and fauna undergo Strategic Environmental Assessment (hereinafter referred to as SEA). However, this only applies where



plans and programmes require assessment against likely effects, particularly for NRF sites and eco-networks[22]. However, the habitat approach is not always taken into account in SEA, which may lead to insufficient protection of natural habitats and species of wild flora and fauna.

Inconsistency of lists of types of habitats and wild flora and fauna species that are protected in the EU and in Ukraine

Bern Convention and the EU Habitats Directive. As Ukraine lacks separate requirements for determining Emerald sites, provisions of the Bern Convention resolutions have been used. According to the research of the LIFE project, at present there are 104 types of natural habitats in Ukraine that are included into Annex I of the Habitats Directive. Out of these - 29 have priority status for protection, and 43 – have relevant equivalents in the Green Data Book of Ukraine[23].

The provisions of the resolutions of the Bern Convention have differences from the prescriptions of the Habitats Directive. The Bern Convention establishes general principles without a clear classification of habitats, whereas the EU directive defines specific types of natural habitats. In the end, following only the criteria of the Bern Convention without taking into account the prescriptions of the Habitats Directive may cause difficulties in converting the Emerald Network of Ukraine into Natura 2000 after Ukraine's accession to the EU.

Not all species of wild flora and fauna in need of protection are, in fact, protected. In Ukraine, protection of wild flora and fauna species is implemented through their inclusion in the Red Data Book of Ukraine and other protection lists. However, not all species of wild flora and fauna requiring protection under EU legislation are included in these lists. About a quarter of such EU species of wild flora and fauna do not have the proper legal status for protection, which makes a serious gap in the system of conservation of wild flora and fauna of Ukraine.

Those natural plant communities that are rare or endangered are listed in the Green Data Book of Ukraine [23]. However, the classification of these communities in the Green Data Book does not correspond to the classification defined in the EU Habitats Directive. This creates discrepancies in approaches to their protection. Moreover, the Green Data Book of Ukraine covers only forest plant communities and focuses on their typical varieties, i.e., it does not cover all other types of ecosystems, including rare ones. As a result, 59% of the types of natural habitats occurring in Ukraine from the lists of the Habitats Directive are not covered by the Green Data Book.

In addition, differences in the approaches of these documents also cause differences in approaches to their conservation.

6.2. Inadequate implementation of national legislation, in particular: imperfect or lack of mechanisms to implement certain norms

Areas without status and management plans. As of now, The Emerald network is comprised of 377 sites with a total area of about 8 million hectares, representing more than 13 % of the country land



area. The first sites for inclusion in the Emerald Network were nominated back in 2016. However, as of 2025, none of the sites have an approved management plan.

The only exception is the pilot management plan for the National Nature Park Pyriatynskyi which covers only 8,000 ha - that is 0.01 % of the total area of the network [24]. However, this document is fragmentary, does not contain a full management cycle and cannot be used as a model for large-scale implementation.

Despite the adoption of a number of governmental documents that explicitly provided for legislative regulation of the Emerald network, key decisions have not been implemented [20]. The activities envisaged for 2016-2018 remained in the status of formal intentions [25].

The absence of specialized laws blocks the possibility of developing and adopting by-laws (resolutions, ordinances, orders, instructions, etc.), which will contain clear algorithms for managing the sites of the Emerald network (in the future, Natura 2000) and practical implementation of EU Directives.

The issue of bird protection: between commitment and reality. The implementation of the Birds Directive in Ukraine has stalled at the start due to the lack of basic solutions. One of the key conditions for the implementation of the directive is the approval at the national level of a list of wild bird species requiring special conservation measures. Without this document it is impossible to implement the necessary conservation measures and develop by-laws.

No less critical is the issue of special areas for the conservation of migratory birds, which have no legal status, and recommendations for their conservation are still at the level of voluntary initiatives.

Additionally, the situation is complicated by the lack of updating the list of game bird species in accordance with the EU requirements, which allows hunting of species that are protected in the EU countries.

As a result, without lists of species and agreed measures for the conservation of wild bird species in Ukraine, the transposition of the Birds Directive will remain formal, and the system of bird protection in practice will remain ineffective and fragmented.

Natural habitats without safeguards. The Habitats Directive obliges member countries to ensure the conservation of natural habitat types and species of wild flora and fauna through effective legal mechanisms. However, in Ukraine these mechanisms are either not launched or do not work.

Despite the fact that the Law of Ukraine “On Fauna” [16] prohibits the removal of wild animals from the natural environment without a special permit, such permits are not issued in Ukraine.

This is due to the abolition in 2019 of the “Rules for issuing permits for the special use of wild animals and other wildlife objects” [26], which previously regulated the procedure for issuing such permits. After the abolition of the old rules due to their inconsistency with the Law of Ukraine “On licensing of



types of economic activity” [27], the new procedure has never been adopted. Because of this, the issuance of permits has actually stopped. Taking into account the above mentioned, it is impossible to carry out recording and control of animal removal from the natural environment at the state level.

6.3. Lack of effective enforcement mechanisms for legislation on biodiversity conservation

Final stage of approximation: from transposition to enforcement of directives. Fulfilling the EU obligations on implementing directives involves not only the formal transposition of norms, but also the establishment of effective mechanisms for their implementation and compliance (enforcement). Ensuring compliance (enforcement) of transposed norms of the Birds and Habitats Directives is the last stage in approximation of the national legislation of Ukraine to the legislation of the European Union.

In order to be considered effective, this mechanism should provide for the establishment of a clear system of control over the implementation and compliance with the enshrined norms. At the same time, a necessary condition for the operation of such a system is the establishment of legal liability with the application of effective sanctions, which will have a preventive nature and will be proportional to the gravity of the offense committed.

Shortcomings and gaps in national legislation. Existing enforcement mechanisms for the conservation of wild flora and fauna are sometimes fragmented, ineffective or inadequate. Incomplete approximation of the national legislation to the requirements of the directives, lack of legislative frameworks for certain actions as offenses, weak control, lack of effective sanctions make it difficult for Ukraine to fulfil its obligations in the sphere of biodiversity conservation.

The current legislation of Ukraine does not provide for prohibition and liability for certain actions, which according to the Birds and Habitats Directives fall under the prohibition, and are qualified as offenses that require appropriate enforcement measures. This creates legal gaps and makes it difficult to properly implement the requirements of the directives.

Inefficient sanctions. An important aspect of ensuring compliance with transposed norms of directives is the establishment of adequate sanctions for their violation. The European Union is constantly improving the mechanisms of enforcement of norms of environmental legislation.

In 2024, Directive (EU) 2024/1226 on criminal enforcement of environmental law was adopted, updating and replacing Directive 2008/99/EC. [28] It establishes a clear list of eco-crimes (in particular, illegal destruction of habitat of protected species of wild flora and fauna, pollution of the environment with hazardous substances, illegal trade in rare species) and obliges Member States to implement effective, proportionate and dissuasive sanctions, including criminal liability up to 10 years' imprisonment for serious violations, provides for liability of legal persons in the form of high fines and other effective sanctions.



In Ukraine, however, the penalties for offenses in the environmental sphere and on biodiversity issues in particular are so low that they actually have no deterrent effect. For example, the fine for violation of requirements for the protection of wildlife habitat for citizens ranges from 510 to 850 UAH, and for officials - from 850 to 1190 UAH. [29] Such a fine is approximately equal to the cost of a double visit to a cafe, where the average check for a coffee and dessert is 150-250 UAH.[30] In fact, it is enough for an offender to sacrifice an amount equivalent to two visits to a cafe to “pay” for an environmental offense. These sanctions turn into symbolic payments, which do not fulfil a preventive function and do not motivate to comply with the norms.

The information outlined above emphasizes the need to revise and strengthen sanctions for violation of environmental legislation in Ukraine to ensure effective conservation of wild flora and fauna species and types of natural habitats.

Dispersion of functions and poor coordination of environmental control. Ukraine lacks an integral system of state control over biodiversity conservation, which significantly complicates the implementation of the requirements of the Birds and Habitats Directives. The central executive body responsible for state environmental control is the State Environmental Inspectorate of Ukraine. Its powers include control not only over the activities of economic entities, but also over compliance with environmental legislation by other central executive authorities, local self-government bodies and individuals.

However, the actual implementation of control functions remains limited due to a number of structural and institutional problems. First of all, environmental management in Ukraine is dispersed among several bodies. The State Agency of Forest Resources of Ukraine and the State Agency of Water Resources of Ukraine carry out sectoral management with elements of internal (departmental) control in the respective spheres - forestry, hunting and water use.

Such parallel fulfilment of control functions without clear delineation of authority between the SEI and other bodies leads to duplication of tasks or, on the contrary, leaves some environmental issues outside the scope of any control. Yet interagency coordination mechanisms, especially when violations involve wildlife species and natural habitat types, not just resources, are either unclear or non-existent.

As a result, violations involving the destruction of natural habitats or threats to species of wild flora and fauna remain without proper legal response.

6.4. Models for solving regulatory problems

The transposition path. For proper transposition of EU acts on conservation of natural habitats and wild flora and fauna species the following options of legislative changes are considered: adoption of a separate special law on conservation of natural habitats and a special law on conservation of wild flora and fauna species, integration of the habitat approach into the current legislation, integration of

norms on conservation of wild flora and fauna species into the current legislation, combination of elements on conservation of natural habitats and protection of wild flora and fauna species in one law. The chosen options should provide an effective legal mechanism for the management of the Emerald sites (in the future - Natura 2000) and the conservation of wild flora and fauna.

Threat of Ukraine's European integration. The option of “doing nothing” is impossible in the Ukrainian situation, as it would lead to failure to fulfil European integration obligations and to the impossibility of Ukraine's accession to the EU, and therefore it is not considered in detail.

A. Adoption of a new law on conservation of natural habitats and habitats of species

Minimum requirements for a new law. The first way is to adopt a new special law on the conservation of natural habitats and habitats of species.

Table 3 Requirements to be incorporated into a new special law on the conservation of natural habitats and habitats of species

The new special law on the conservation of natural habitats and habitats of species should transpose at least the following	
Provision should be made for	International legislation to be complied with
Definition of the terms “natural habitat” (“природне оселище”), “conservation status of a natural habitat” (“стан збереження природного оселища”), “conservation status of a species”, (“стан збереження виду”) “favourable (“сприятливий”) conservation status of a natural habitat”, “favourable conservation status of a species” (“сприятливий стан збереження виду”), “conservation” (“збереження”), “special area of conservation” (“спеціальна територія збереження”)	Terminology used in the Habitats and Birds Directives
Procedures for proposing, approving and recognizing special areas of conservation and special protection areas	In accordance with the Habitats and Birds Directives



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Provisions on management tools for such special areas of conservation and special protection areas	In accordance with the Habitats and Birds Directives
Provisions on appropriate assessment	In accordance with the Habitats and Birds Directives
Provision on monitoring the conservation status of habitats and species of wild flora and fauna, both within and outside the respective special areas of conservation and special protection areas	In accordance with the Habitats and Birds Directives
Provision on responsibility for violation of legislation on special areas of conservation and special protection areas	In accordance with the Habitats and Birds Directives, Directive 2024/1203 on the protection of the environment through criminal law.
Provision to amend a number of existing laws to harmonize their terminology and approaches with the new law on natural habitats	In accordance with the Bern Convention, the Habitats and Birds Directives

Conversion of the Emerald Network to Natura 2000. Prior to Ukraine's accession to the EU, the norms of the new law on management and conservation of natural habitats and habitats of species will apply to the areas of the Emerald Network, which should be subsequently converted to Natura 2000. Adoption of the law will contribute to the fulfilment of obligations under the Bern Convention and will ensure transposition of the provisions of the Habitats and Birds Directives in terms of conservation of natural habitats and protection of wild flora and fauna species.

Implementation pathway. This approach can be implemented by finalizing Draft Law No. 4461 or drafting a new one. Draft Law No. 4461 was aimed to regulate the establishment of Emerald network sites in Ukraine and to implement measures for their conservation in accordance with the Bird and Habitats Directives [31]. However, in 2021 it did not gain enough votes in the Parliament. Its further



consideration was suspended. The alternative draft law No. 4461-1, registered in the VRU on 26.07.2021, contains norms that contradict the requirements of the EU directives, as confirmed by the conclusion of the Committee on European Integration [32]. Therefore, the draft law No. 4461-1 cannot be adopted and considered as an option for solving the described regulatory and legal problems.

If it proves impossible or too difficult to advance Draft Law No. 4461 due to procedural obstacles, it is this draft's provisions, rather than an alternative draft, that could become the basis for a new law on the conservation of natural habitats. At the same time, the drafting of such a law would require considerably more time for preparation, harmonization, registration in the Parliament and obtaining the necessary conclusions.

Consolidation of the register of Emerald Network sites, lists of wild flora and fauna species, as well as types of natural habitats that are subject to protection. It is necessary to establish the lists of types of natural habitats and species of wild flora and fauna to be protected in accordance with the directives. The register (list) of the Emerald sites can be established by adoption of an act by the CMU, which could determine the list of the Emerald sites, including potential ones. Lists of types of natural habitats and species of wild flora and fauna can be implemented through annexes to the new law with the possibility to update them after the EU accession. An alternative option is to directly include the lists of natural habitat types and wild flora and fauna species into the new law on the basis of the Habitats and Birds Directives.

B. Introduction of the habitat approach into the existing legislative acts of Ukraine

An alternative way to introduce the habitat approach is to introduce relevant provisions into the existing legislation. In particular, provisions on special conservation areas and special protection areas can be embedded in the Law of Ukraine "On the Ecological Network of Ukraine" [7]. This law requires revision in connection with the establishment of the Emerald Network and future conversion to Natura 2000. For completeness of regulation, the Law of Ukraine "On the Ecological Network of Ukraine" should contain lists of types of natural habitats and species of wild flora and fauna or provide for their approval by the government at the level of a resolution.

If this scenario is chosen, the updated Law of Ukraine "On the Ecological Network of Ukraine" [7] will need to be harmonized with the Forest Code of Ukraine [10], the Law of Ukraine "On Environmental Protection" [33], the Law of Ukraine "On the Nature Reserve Fund" [9], the Law of Ukraine "On Fauna" [16], the Law of Ukraine "On Flora" [34], the Law of Ukraine "On Fish Farming, Industrial Fishing and Protection of Aquatic Bioresources" [13] and the corresponding subordinate legislation [13] and relevant by-laws.

This option is more difficult to implement, because it is necessary not only to amend the Law of Ukraine "On the Ecological Network of Ukraine", but also to revise other legislative norms. It is necessary to take into account not only the requirements of the Habitats and Bird Directives, but also other provisions.



An additional difficulty is the transfer of terms from directives to a law that already has its own terminology. Some norms will have to be implemented through other laws. For example, the requirements of the Habitats Directive on impact assessment cannot simply be added to the Law of Ukraine “On the Ecological Network of Ukraine”, because it covers not only special areas of conservation and special protection areas in the meaning of the Bern Convention and the Habitats and Birds Directive, but a much wider range of nature protection areas.

C. Adoption of a new law on the protection of wild flora and fauna species

At present, most of the provisions on the protection of wild flora and fauna species are already taken into account in the existing legislation and their level of compliance with EU standards is quite high. Taking this into account, there is no need to establish a separate law. Its adoption will only duplicate existing norms or require additional integration with other acts. This may complicate law enforcement and cause conflicts in legislation.

The establishment of a separate law on the protection of species of wild flora and fauna is a rather complex, lengthy and expensive process. The development of a new normative act requires significant resources, extensive discussions, and coordination among various governmental agencies and experts. In addition, the adoption of such a law may take several years due to the need to go through all stages of the legislative process, including public consultations, parliamentary hearings and finalizations.

This would require repealing existing laws and consolidating many regulations into one document. Many of them go beyond the Habitats and Birds Directive. In addition, such law would be incomplete without taking into account the conservation of natural habitats.

D. Integration of norms on the protection of wild flora and fauna species into the current legislation of Ukraine

Since the protection of species of wild flora and fauna is sufficiently regulated by special laws, the full transposition of the Habitats and Birds directives in this part does not require the adoption of a separate law. It is enough to make the necessary changes in the current legislation and by-laws.

It is necessary to introduce into the Ukrainian legislation a clear definition of the conservation status of wild flora or fauna species and introduction of approaches that guarantee their “favourable” status. Such laws are, in particular, the Law of Ukraine “On the Red Data Book of Ukraine”, the Law of Ukraine “On Fauna”, the Law of Ukraine “On Hunting Economy and Hunting”, the Law of Ukraine “On Flora”. This will contribute to the conservation of biodiversity.

At the legislative level, it should be clearly prohibited to sell, transport for sale, keep for sale and offer for sale live or dead birds, their parts and derived materials, if they belong to the species specified in Article 1 of the Birds Directive. Since similar rules are already in force in the Birds Directive and the



Bern Convention and apply not only to birds but also to other protected animals, such restrictions should be extended to all wild fauna in need of protection. At the same time, exemptions for individual species should be envisaged if justified.

The annexes to the Birds and Habitats Directives should be embedded in the legislation of Ukraine. They contain lists of species to be protected, it is necessary to determine how these lists will correlate with the list of the Red Data Book of Ukraine.

E. One new law on the conservation of natural habitats and habitats of species as well as protection of wild flora and fauna species

One of the possible options for transposition of the Habitats and Birds Directives is the development of a comprehensive law that would unify provisions related to nature conservation and restoration in Ukraine, including provisions on the conservation of natural habitats, habitats of species and protection of species of wild flora and fauna. Such an approach could ensure holistic legal regulation in the field of nature conservation, establishing a unified legislative framework for biodiversity conservation.

However, the realization of this option would require much more time, in-depth expert work and material costs. After all, comprehensive codification of legislation requires not only harmonization of national norms with the requirements of EU directives, but also the repeal of a number of existing laws, revision of their provisions and their integration into a new legal act. Such a law should not only transpose the requirements of the Habitats and Birds directives on protected types of natural habitats, flora and fauna species, but also contain broader provisions on the protection of wild flora and fauna that go beyond the scope of regulation of these directives.

Implementation of such an approach would require a long process of harmonization, interagency coordination and substantial revision of the entire regulatory framework for nature protection.

Description of regulatory solutions

Systemic transposition and implementation of the Birds and Habitats Directives

Legislation to implement the directives. In order to properly implement the requirements of the Birds and Habitats Directives, a special law on the conservation of natural habitats and habitats of species should be adopted and the legislation on species of wild flora and fauna should be amended. In terms of natural habitats and habitats of species, this approach can be implemented through the finalization of Draft Law No. 4461 or the establishment of a new Draft Law. If the adoption of Draft Law No. 4461 is not possible due to procedural difficulties, its provisions could become the basis for a new law on the conservation of natural habitats and habitats of species, but this would require more time for drafting, harmonization and registration.



The protection of wild flora and fauna species is sufficiently regulated by special laws. Therefore, it is not necessary to adopt a separate law for the transposition of the Habitats and Birds directives in terms of protection of wild flora and fauna species. It is sufficient to amend the existing legislation and by-laws. It is necessary to introduce the definition of “conservation status of species”. In the key laws, as well as introduce approaches that define and ensure “favourable” conservation status of species.

Prohibition of trade in protected species of wild flora and fauna. Legislation should explicitly prohibit sale, transportation, keeping and offering for sale of live or dead birds, their parts and derivatives, in accordance with the Birds Directive. As similar rules are already in force in the Birds Directive and the Bern Convention and cover not only birds but also other protected species, these restrictions should be extended to all wild fauna in need of protection. At the same time, it should be possible to provide for justified exemptions for individual species.

It is necessary to embed in the Ukrainian legislation the annexes to the Bird and Habitats directives containing the list of protected species of wild flora and fauna. Their correlation with the list of the Red Data Book of Ukraine should be determined.

Compliance in terms of responsibility. Regardless of the chosen model, changes should be made in the part of administrative liability and criminal liability must be introduced for violation of legislation in the sphere of conservation of habitats and species and protection of species of wild flora and fauna. To introduce criminal liability for criminal offenses against protected species of wild flora and fauna, it is necessary to amend the Criminal Code of Ukraine. This should be a separate bill, in accordance with the Rules of Procedure of the Verkhovna Rada of Ukraine[35]. It will penalize the killing, destruction, removal from nature, keeping, selling or offering for sale of such species. This is a requirement of Directive 2024/1203 on the protection of the environment through criminal law. It strengthens the protection of the environment through criminal law and introduces liability for violations of the Birds and Habitats Directives. The implementation of this Directive is also one of Ukraine’s European integration commitments that should be implemented.

Provision in the Ukrainian legislation of the main concepts of the EU legislation in the field of conservation of habitats and wild fauna and flora and common approaches to their understanding

Definitions. Regardless of which model of implementation of the Birds and Habitats Directive will be chosen, the basic concepts and principles in this area should be included in the Ukrainian legislation. It is necessary to legislatively define the terms “habitat”, “natural habitat”, “conservation status of a natural habitat”, “conservation status of species”, “favourable” conservation status of natural habitat and species, “conservation” and “special area of conservation”.

Integrity of the implementation of the habitat approach into national biodiversity support mechanisms

Introduction of a science-based approach to the selection of areas. It is necessary to consolidate at the legislative level the principle according to which the identification of areas for the conservation of natural habitats and species of wild flora and fauna is based on scientific research. This will avoid



erroneous equalization of the Emerald Sites with the NRF areas and ensure effective biodiversity conservation.

Flexibility in environmental management. The possibility of applying different approaches to the protection of natural habitats depending on their ecological features should be consolidated. In particular, legislation should provide for active management of areas to support biodiversity, including control over nature use and regulation of anthropogenic impact.

Introduction of provisions for the designation and establishment of special areas and related management, conservation and monitoring mechanisms

Establishment and management of Special Areas of Conservation and Special Protection Areas. The adoption of special legislation that would clearly regulate the designation, establishment and management of the Emerald Network sites and, in the future, Natura 2000 is an important and necessary step. Their continued management and protection also need to be regulated.

Proper impact assessment. In addition to the EIA and SEA, a procedure for assessing impact on wild flora and fauna species and types of natural habitats should be introduced, as stipulated in the Habitats Directive. In this way, it will be possible that natural habitats and wild flora and fauna species that may be threatened by planned activities will be given adequate protection.

Harmonization of lists of habitat types and species of wild flora and fauna that are protected in the EU and in Ukraine.

Register of Emerald Sites, lists of wild flora and fauna species and types of natural habitats subject to protection. The Register (list) of Emerald network sites can be established by adoption of an act by the CMU, which could determine the list of Emerald sites, including potential ones. Lists of types of natural habitats and species of wild flora and fauna can be implemented through annexes to the new law with the possibility to update them after the EU accession, or directly embedded in the new law on the basis of the Habitats and Birds directives.

7. Institutional component of the reform

7.1. Description of Institutional Challenges

Lack of an effective, efficient, transparent institutional system of biodiversity conservation management capable of ensuring proper and full implementation of the Bird and Habitats directives

Limited capacity of the existing management and control system, in particular of the relevant ministry, which performs numerous multidisciplinary functions without adequate staff and resources, as well as of the State Environmental Inspectorate.



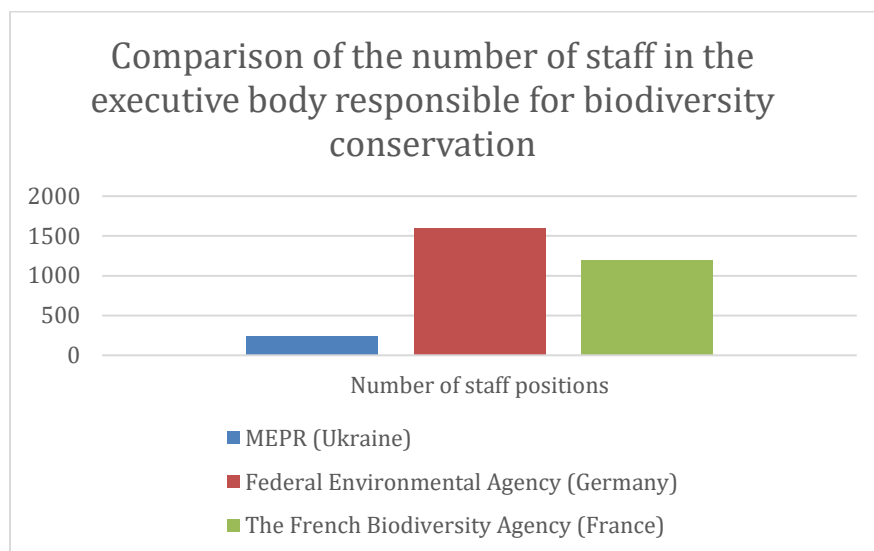
Overloading of the Ministry of Environment. MEPR of Ukraine has more than 170 functions [36], which exceeds the scope of authority of many other ministries (e.g., the Ministry of Justice and the Ministry of Foreign Affairs - about 110 functions each [37, 38]). At the same time, MEPR performs functions very different in their nature.

Conflict of functions. MEPR is responsible for both the formation and implementation of state policy in the field of environmental protection [36], which contradicts the principles of public administration [39] and efficiency. However, the functions of MEPR differ in more than just their nature.

Imbalance of functions. The functions of MEPR range from strategic (fulfilment of international obligations) to operational (pesticide testing). This makes it difficult to allocate resources efficiently.

Limited human resources. Despite the wide range of functions, MEPR has limited human resources (241 staff units [40]). This complicates the fulfilment of its tasks. There is no specialized agency in Ukraine that would deal with the conservation of species of wild flora and fauna, habitats. But the European experience demonstrates the practice of establishing such agencies. For example, with a similar number and nature of functions, with similar areas of territories of states, the Federal Environmental Agency of Germany (Umweltbundesamt) has more than 1,600 employees [41], and a similar body in France - more than 1,200 [42]. It should be noted that the above example bodies carry out a much narrower list of functions than the MEPR. However, even with such a conditional comparison, it is clear that the current number of MEPR staff of 241 people is insufficient. It is especially insufficient for the Ministry of Natural Resources to be able to perform functions similar to those of the German Federal Environmental Agency or the French Biodiversity Agency (OFB). It is not enough even if MEPR directs all its resources to fulfil the functions of biodiversity conservation, which is obviously impossible.

Scheme No. 1. Comparison of the number of staff of the CEA responsible for biodiversity conservation issues

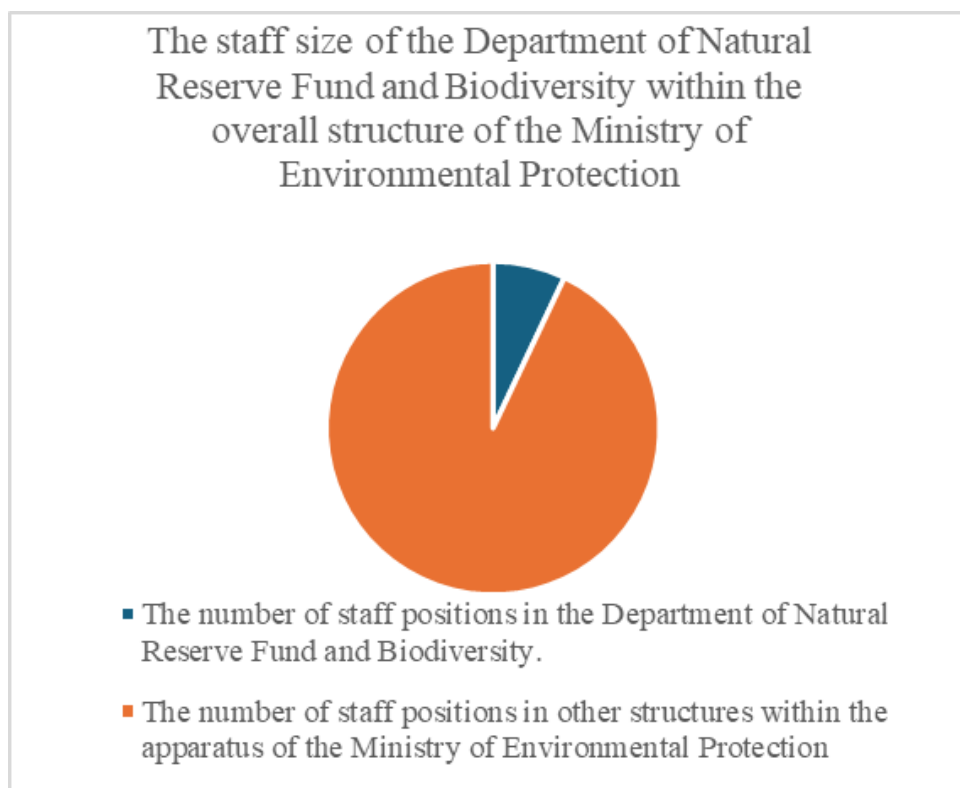


This significant and diverse nature of responsibilities requires a significant amount of staff and resources from the line ministry. In particular, in terms of biodiversity conservation. The functions in this area within MEPR are vested in the Department of Nature Reserve Fund.

Table No. 1 Number of staff of the departments of the Ministry of Environmental Protection and Natural Resources of Ukraine[40]

No.	Department name	Number of staff
1.	Department of Waste Management and Environmental Consequences of Military Activities	17
2.	Department of European Integration, International Cooperation	17
3.	Department of Environmental Assessment	20
4.	Department of Nature Reserve Fund	17
5.	Legal Department	18

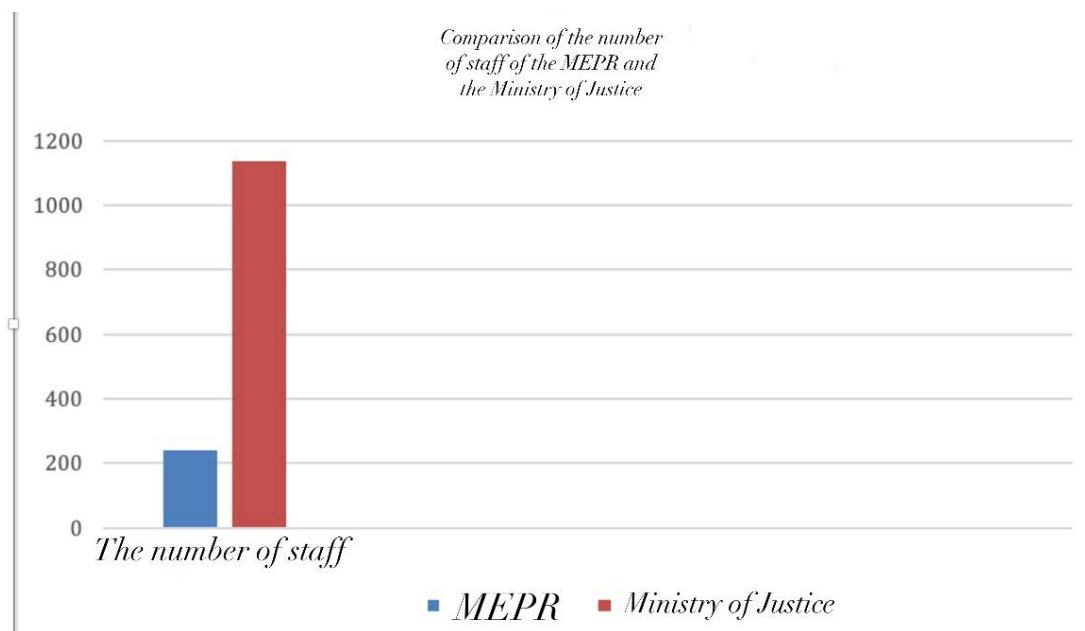
Table No. 2. Number of staff of the Department of Nature Reserve Fund and Biodiversity in the overall structure of the MEPR



As such, 1/14 of the entire MEPR staff is called upon to direct its efforts to biodiversity issues. Only a fraction of these people are responsible for issues of conservation of wild flora and fauna species, natural habitats. Taking into account the need to implement the Birds and Habitats Directives, the negative impact of the war on nature, the Department of Nature Reserve Fund should be strengthened.

Staffing ratio of MEPR and the Ministry of Justice. Both ministries, among many others, have cross-cutting powers to analyse draft regulations. At the same time, the staffing level of MEPR is significantly inferior to that of the Ministry of Justice. According to the structure and staff schedule, the Ministry of Justice employs 1137 people [43], which is almost five times the number of employees of the MEPR.

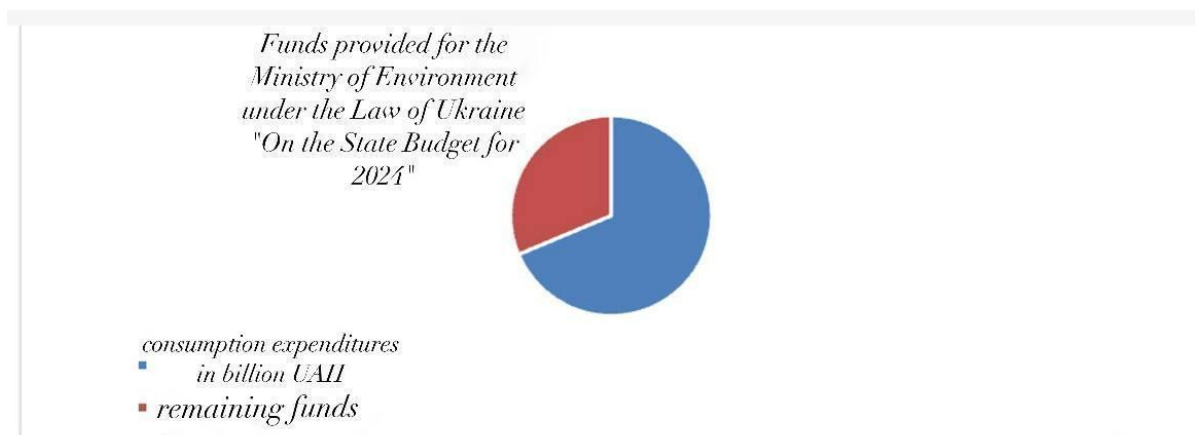
Table No. 3. Comparison of the number of staff of the MEPR and the Ministry of Justice.



Such a difference in the number of staff units affects the level of funding and the ability to fulfil the assigned functions.

Most of the funds of the MEPR go to current expenditures. According to the Law of Ukraine “On the State Budget of Ukraine for 2024”, the amount of consumption expenditures of the MEPR is about 69% [44] of the total funding of the Ministry. Thus, a significant part of the budget funds is directed precisely to consumption expenditures. Consumption expenditures should be understood as current expenditures for the functioning of the Ministry. Under such conditions, there are not enough funds left to finance the establishment and operation of necessary registers, establishment and maintenance of monitoring stations, training and the like.

Table No. 4. Distribution of funds envisaged for the Ministry of Environment



The MEPR receives less funding from the state budget compared to a number of other central executive bodies. The fact that most of the money goes to current expenditures does not mean that the MEPR spends a lot on itself. Rather, it just shows that the available funding is simply not enough.

An imbalance in the funding of the authorities. Some executive authorities receive more funding than the MEPR. For example, the Ministry of Culture and Information Policy (as of 2025 - Ministry of Culture and Strategic Communications of Ukraine) receives much more funding.

Budget allocation is often done without reviewing the real needs and workload of the bodies. In addition, in wartime, funds are predominantly allocated to defense, economy and social needs, which further reduces funding for the environment.

Table 2. Funding of some CERCs

No	Name of body	Funds envisaged by the Law of Ukraine "On the State Budget of Ukraine for 2024" in billion UAH[44]
1.	MEPR	8.9
2..	Ministry of Justice	18.8
3.	Ministry of Culture	10.5
4.	Ministry of Veterans Affairs	9.6
5.	State Consumer Service	7.4

This shows that funds are unevenly distributed and the environment remains not a priority.



Biodiversity conservation is not a priority. Due to the prioritization of other tasks, biodiversity conservation issues are relegated to the background. Key strategic documents have not yet been approved: a strategy and plan for biodiversity conservation, and no effective system for monitoring its status has been established. There are no annual reports on the status of wild flora and fauna species. The implementation of European environmental directives, in particular the Birds and Habitats Directives, remains a difficult task. The imperfect system of environmental monitoring and state environmental control causes additional difficulties.

Inadequate system of environmental monitoring. The system of environmental monitoring in Ukraine remains insufficiently effective and does not meet modern requirements. It functions without a unified, integral observation network, and in some areas there are no such networks at all. The legal and methodological support for monitoring is outdated, which makes it difficult to collect and analyze samples. There are no unified requirements for environmental data processing, no compatible information systems for their storage and exchange. The currently obtained information on the status of the environment is fragmentary. In addition, there is a lack of comprehensive analysis of changes in the status of the environment, which reduces the efficiency of environmental decision making.

In terms of biodiversity monitoring, the situation is even more complicated: primary data are not obtained and no database has been established. Information on the status of biodiversity is collected only by individual scientists on individual species or groups of species of flora and fauna.

Failure to implement environmental control in Ukraine. The environmental control system in Ukraine fails to fulfil its main tasks – conservation of the environment and documenting the damage caused by the invaders. The moratorium on routine inspections introduced in 2014 was supposed to be a temporary solution. However, it has significantly weakened control in the field of environmental protection. Despite the Concept of Reforming State Supervision [45] adopted in 2016-2017, the liquidation of the State Environmental Inspectorate and the establishment of a modern body of state environmental control never took place. The environmental control bodies remain under-equipped, lacking staff, resources and improvement of the procedure, types and forms of state environmental control. In 2022, the Government stopped most inspections under martial law[46], and authorized unplanned activities rarely take place. Draft Law No. 3091[47], designed to reform the environmental control system, was passed in the first reading back in the summer of 2021, but has not yet been submitted to the Parliament for further consideration.

The above shows the limited capacity of the current system of management and control of biodiversity conservation. Clarity in the work of different actors (including at different levels) of this system could improve the situation.



Existence of duplication of functions between different subjects of the management system (including at different levels), including in terms of biodiversity conservation

Too many responsibilities - too little order. In Ukraine, at least seven authorities have overlapping functions in the field of biodiversity conservation, which leads to excessive administrative pressure on business and inconsistent regulatory requirements. The lack of unified coordination and clear procedures hampers interaction between state and local authorities, businesses and the public. Authorized bodies often issue contradictory regulations, which causes confusion in the implementation of environmental protection measures. In this regard, we have a situation from the fable “The Swan, the Pike and the Crawfish”, when there are so many regulations or rules and so different that in the end nothing changes.

In some cases, there is a conflict of interest: the bodies responsible for the formation of state environmental policy are simultaneously exercising control functions. This contradicts the principle of independent oversight.

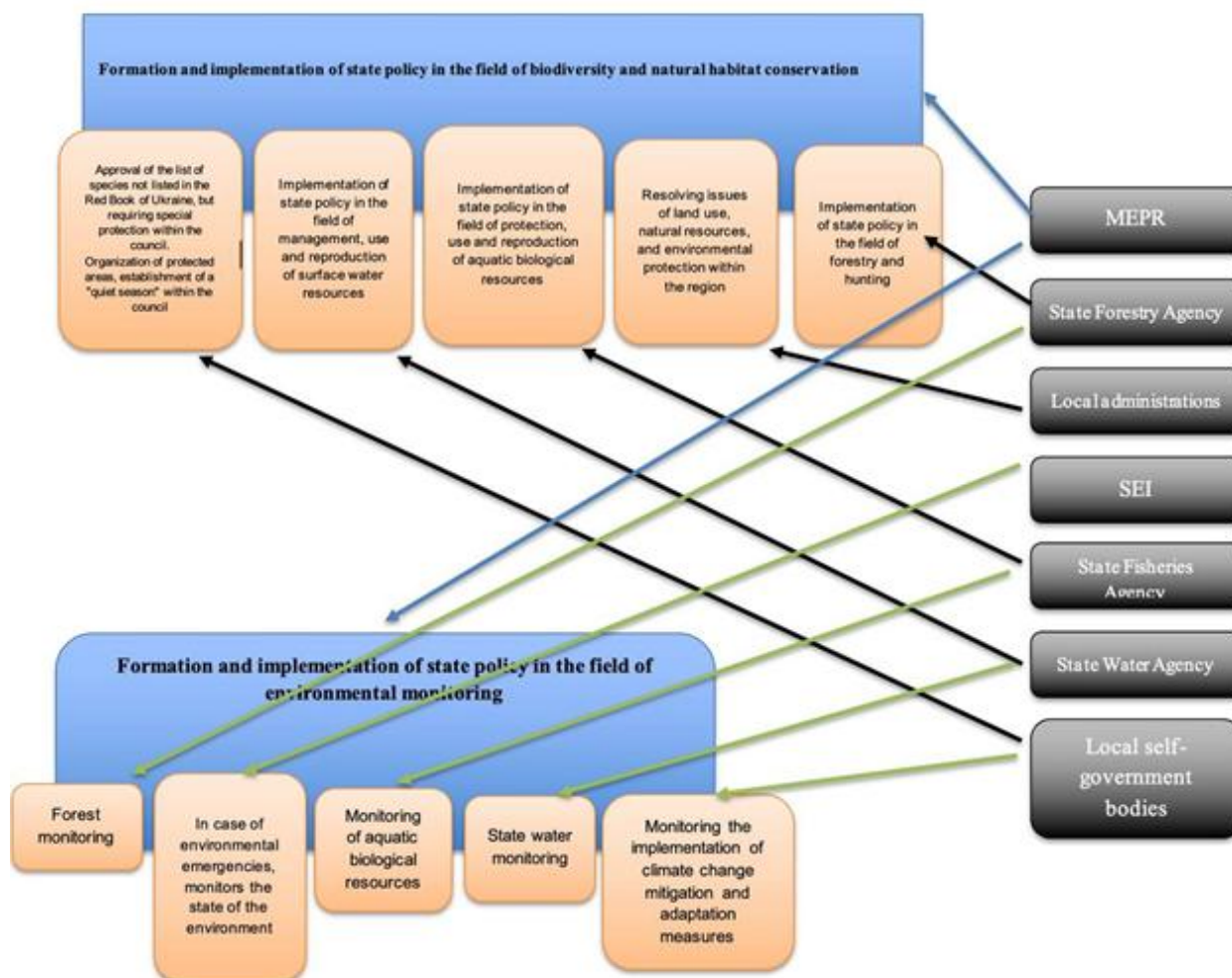
Dispersion of powers. Duplication of functions is consolidated at the level of normative and legal acts. The MEPR, according to the legislation, is responsible for the formation and implementation of policy in the sphere of biodiversity conservation, for monitoring the status of the environment [36]. At the same time, the State Forest Resources Agency has similar powers within forest ecosystems[48], and the SEI carries out state control in the sphere of natural resources protection [49]. A similar situation can be traced in environmental monitoring: according to the legislation, not only the Ministry of Environment, but also other state bodies, enterprises and institutions monitor the level of pollution. All this leads to duplication of data collection and analysis, which reduces the effectiveness of monitoring activities.



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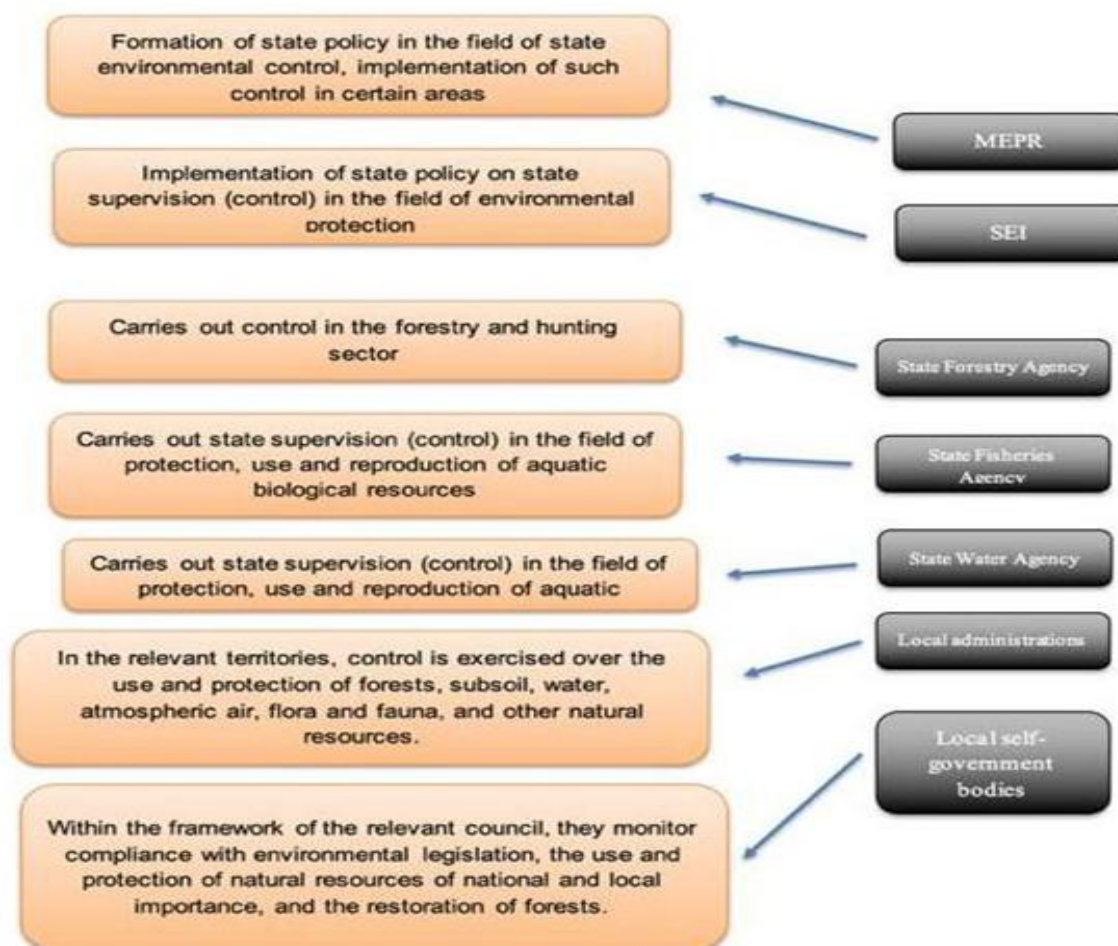


Table No. 5. Distribution of functions between authorities on state policy in the sphere of biodiversity conservation and environmental monitoring.



More than enough inspectors, but not enough order. Conflict of powers is also observed in the sphere of environmental control. For example, the State Forest Resources Agency exercises control over compliance with legislation in the field of hunting economy and hunting[48], while the SEI is also authorized to exercise control in this sphere[49]. Similar duplication of powers is observed between central[39] and local authorities[50]. In particular, control over the use of natural resources, according to the legislation, is exercised by both local administrations[51] and the SEI[49].

Table No. 6. Distribution of functions between the authorities regarding environmental control



Due to duplication of powers, authorities at the national and local levels do not fulfil them in full and proper quality. This not only complicates management, control and monitoring in the sphere of biodiversity conservation, but also causes irrational use of human and financial resources of the state.

Insufficient number of qualified professionals to carry out effective management in the sphere of biodiversity conservation

Need for multidisciplinary specialists. A number of job descriptions for employees of state or local bodies in the field of biodiversity conservation require expertise in ecology, biology, law, chemistry, geography and related fields. However, there are few specialists with in-depth expertise in all of these areas simultaneously. Even fewer are willing to commit their lives to public sector employment or work in local government. Those who have the necessary qualifications usually choose scientific activities, work in the private sector, where working conditions and remuneration are more attractive.



In comparison, other EU countries, such as the Czech Republic, Slovakia and others, the state authorities responsible for the formation and implementation of biodiversity conservation policy employ biologists. They have in-depth knowledge of wild flora and fauna species and natural habitat types.

Staff shortages are harmful to biodiversity. Lack of appropriate staff results in key positions remaining vacant for months or even years. Often these positions are filled by individuals without adequate training. This increases the risk of inaction or poor decision-making. Under such circumstances, environmental compliance is weakened and anthropogenic pressures on biodiversity increases.

Local staffing constraints. Local authorities often lack sufficient resources and skills to effectively conserve biodiversity. The staffing levels of environmental structural units of RMAs in Ukraine vary regardless of the size of the region, the number of conservation sites or the level of industrial pressure. In some regions, there are no specialized offices or departments dealing with environmental issues at all. In addition, the actual number of employees of environmental structural units is often less than the full-time staff. The situation is even more complicated with regard to the implementation of functions of conservation of the Emerald Sites. Departments or other structural units responsible for the fulfilment of such functions are mainly responsible for the objects of the nature reserve fund and other areas, which blurs their attention. As a result, they mainly deal with the issues of the NRF, and the issues of the Emerald Sites remain unattended.

Staffing threat to the fulfilment of European environmental obligations. Implementation of the Habitats and Birds directives requires a professional approach and long-term deepening in this subject. In the conditions of a deficit of qualified specialists and their frequent change, there is a threat of Ukraine's failure to fulfil its international environmental obligations. This generally undermines the state's ability to effectively conserve biodiversity and implement effective reforms.

Imperfection of separate elements of management: mechanisms of defining Emerald Sites, conservation, restoration and management, accumulation of monitoring and reporting data in the sphere of biodiversity conservation.

Problems of defining Emerald Sites. The mechanism of defining the Emerald Sites, stipulated by Ukraine's international obligations, still has no normative regulation at the state level. This complicates the process and weakens the institutional capacity to carry out such a definition. Due to the lack of clear legal norms, authorities of different levels "do not know" which body and how it should define such sites. In turn, the level of coordination between the bodies on these issues does not allow to solve this issue without the adoption of relevant NLAs. As a result, the processes of inclusion of sites into the Emerald Network remain fragmented, as there is no unified approach to the establishment of their legal status and their management.



No plan - no protection. The lack of scientifically based management plans for each site of the Emerald Network is one of the reasons for the fragmented approach to biodiversity conservation. Without defined management plans, the authorities do not have a clear strategy regarding the measures to be taken for the conservation of wild flora and fauna species and natural habitats. This leads to the fact that the protection of sites is carried out without taking into account the specifics of each site. The lack of plans complicates the already difficult issue of coordination between different levels of government. Under such conditions, the mechanism of biodiversity conservation remains ineffective, especially in the sphere of monitoring and recording.

There is no system for monitoring the status of biodiversity. Ukraine lacks a qualitative, unified, centralized system for monitoring the status of biodiversity. This complicates the assessment of the effectiveness of conservation measures. Representatives of different bodies and scientists sometimes take on such monitoring on a fragmented basis. However, they even use different methods of data collection and analysis. This leads to incomplete and irrelevant information, which in turn makes it difficult to implement comprehensive measures for biodiversity conservation.

Data fragmentation. Ukraine still does not have a high-quality, user-friendly and complete unified register of the Emerald Sites or a consolidated database on them. The fragmentation and incompleteness of information in different state bodies and institutions hampers effective recording, management and monitoring. This reduces the effectiveness of conservation measures and prevents coordinated interaction between all participants of the biodiversity management system.

Lack of strategic planning and a system of public reporting on the formation and implementation of policy in the sphere of conservation of species of wild flora and fauna, natural habitats.

Lack of strategic approach. Ukraine lacks planning and defined policy in the sphere of biodiversity conservation. This hampers not only effective management, but also transparency and accountability of the authorities to the public and international partners. The lack of a long-term strategy for biodiversity conservation leads to fragmented activities and poor coordination between government agencies and conservation organizations. It also leads to lower priority of biodiversity issues in governmental programmes and projects.

Lack of accountability. There is no system of public reporting on the implementation of biodiversity conservation measures in Ukraine. This makes it impossible to objectively assess their effectiveness. This weakens public control, limits opportunities for citizen participation in decision-making and reduces the overall effectiveness of environmental policy.

The lack of a systematic approach to planning and reporting in the sphere of biodiversity conservation negatively affects the fulfilment of Ukraine's international obligations. In particular, we are talking about the obligations under the Bern Convention, as well as the transposition and implementation of the Bird and Habitats directives.



7.2. Models for solving institutional problems

A. Leaving things as they are

High risks for biodiversity. This option seems to be the most threatening for the biodiversity of Ukraine. Its materialization will not allow effective modern management of the Emerald Sites for the purpose of protection and conservation. Due to lack of effective management and sufficient resources, natural habitats and rare species of wild flora and fauna may become endangered.

Lack of resources and capabilities. The main problem is lack of funds and expertise. This makes it impossible to properly fulfil the current requirements of Ukrainian legislation and international obligations. Ukraine has a rich biodiversity. However, with so few professional workers in the environmental sphere it is impossible to face modern challenges without significant losses for nature.

No implementation of the EU requirements. Within the framework of European integration, Ukraine is obliged to adapt its nature protection policy to the requirements of the EU legislation, including the implementation of the Birds and Habitats Directives. If this scenario takes place, the implementation of such requirements will become difficult or even impossible.

Absence of financial burden. The only advantage of this option is that there is no need for additional funding. However, due to the gradual decrease in the capacity for effective implementation of conservation policies, this scenario is unacceptable for implementation.

B. Enhancement of the Ministry of Environment, establishment of its representative offices at the regional level

Temporary solution. Expansion of the MEPR could be a temporary solution to strengthen the sphere of biodiversity conservation. This option envisages an increase in the staff of the Ministry, with possible establishment of a new department for the conservation of species of wild flora and fauna, natural habitats, and the opening of regional representative offices of the Ministry of Environment. This may become a transitional stage before the establishment of a separate body responsible for the implementation of policy in the sphere of biodiversity conservation.

Repetition of an ineffective model. The main risk involves keeping of the existing structure, which has already demonstrated low efficiency. Without systemic changes, approaches to staff selection, and management methods, this option may not meet expectations.

Contradiction to management principles. Combining both environmental policy development and its implementation in one body contradicts the principles of public administration. This may lead to inefficiency and insufficient control over the fulfilment of tasks.

Cost. Implementation of this scenario requires significant financial resources for establishment and provision of new positions at the level of MEPR and funds for launching regional offices (premises, branding, personnel, technical support, etc.).



A step towards future reforms. Despite the risks, strengthening of the MEPR is an important step in establishing an effective biodiversity conservation management system that will comply with European legislation.

C. New agency with no regional divisions, and no strengthening of regional administrations

Functional efficiency. This scenario envisages the establishment of a single central agency without regional offices, which will ensure the fulfilment of key tasks in the sphere of biodiversity conservation. The new agency will provide expert support to the Ministry of Environment, implement state policy in the sphere of conservation of wild flora and fauna, types of natural habitats, and fulfil obligations stipulated by international treaties.

Centralization of the model. Centralization of management allows to simplify processes, unify the collection of data on biodiversity, and ensure effective planning of management activities. Concentration of expert potential in one body will contribute to improving the quality of strategic decision-making.

Risks and limitations. The lack of regional structures may complicate the implementation of tasks at the local level. Especially in cases where local knowledge and quick engagement with communities are needed. In addition, the centralized model is not fully consistent with current trends of decentralized power. This may lead to a decrease in local trust in the agency.

Staffing Challenges. The concentration of all functions in the central office will require the involvement of highly qualified specialists from different regions of the country. At the same time, it creates a risk of staff shortages in the environmental sphere in the field.

Comparison with alternative options. Compared to the model of strengthening regional administrations, this scenario provides for a more compact organizational structure, which means that this option provides for lower administrative costs. At the same time, in order to maintain the effective work of the agency, it will be necessary to develop effective mechanisms of interaction with the regions. In particular, this could be done through the establishment of advisory centres or the involvement of local specialists on a project basis.

D. New agency and strengthened regional administrations

Economic efficiency. This scenario proposes a management model that relies on regional state (military) administrations. Within each of these, it is planned to establish separate departments responsible for biodiversity conservation in light of the implementation of the Emerald Network. Such departments can be subsequently redesigned to transition from the Emerald Network to the Natura 2000 network.

Necessary conditions for implementation. For this system to work effectively, clear lines of authority and centralized leadership are required. The central agency will provide expert support,



methodological assistance and coordinate the monitoring of biodiversity, maintenance of the list of Emerald Sites, and the management of the Emerald Network.

Personnel challenges. The main risk is dependence on political influences at the regional level. There is a problem around the lack of specialists capable of carrying out complex tasks of managing conservation of wild flora and fauna species and natural habitats. These include monitoring the status of biodiversity, management planning for Emerald Sites (in the future - Natura 2000).

Workload. Under this scenario, departments responsible for biodiversity conservation in light of the implementation of the Emerald Network (in the future - Natura 2000) are established under each regional administration. They will be responsible for the whole range of tasks at the oblast level, including the identification of new Emerald Sites.

Comparison with other options. In this scenario, the central agency would have a larger staff than in the option with its own regional offices. This may provide better coordination but would also require additional resources to coordinate with the newly established departments.

E. New agency with regional offices

Systemic reform. This scenario proposes significant changes in the management of biodiversity conservation in Ukraine. It envisions a new structure with a small central office and an extensive network of regional offices. This model would provide a strong link between the regions and the central authorities, which would increase the effectiveness of their activities. This model functions in most EU countries.

Clear management structure. At the top level is the MEPR, which sets policy, determines priorities and develops strategies and legislative initiatives. The second level is the newly established state agency for nature and landscape conservation, which implements the policy formed by the MEPR in this sphere, puts into practice the Emerald Network (in the future - Natura 2000), fulfils other international obligations and monitors biodiversity.

The role of regional structures. At the third level there will be regional offices of the agency, which will deal with biodiversity conservation in the regions. Along with them will operate environmental departments of the RMA (RSA), which will no longer be responsible for the conservation of species of wild flora and fauna, and natural habitats. This will free up resources and staff for more effective implementation of existing conservation tasks, which remain under the jurisdiction of the departments.

Strengths of the model. This structure complies with European legislation and establishes a flexible management system, which will allow qualitative implementation of biodiversity conservation policies, relatively quick adaptation to EU requirements (restructuring from the Emerald Network to the Natura 2000 network).

Financial and staffing challenges. Implementation of this scenario requires funds for the establishment of the agency and its regional offices, remuneration of specialists and support for its work (material and technical support). Additional risks are lack of political will, funding and qualified personnel at the regional level. However, despite such challenges, this model is the most systemic reform and will allow for a qualitative adaptation to EU requirements.

The experience of the Czech Republic, where biodiversity conservation management is organized in a similar way, can be cited in favour of this model.

Experience of the Czech Republic in the institutional structure of nature protection and conservation management: lessons for Ukraine

The Ministry of the Environment of the Czech Republic develops and coordinates nature conservation policy.

The Nature and Landscape Protection Section of the Ministry of the Environment of the Czech Republic has four departments:

1. Department of Adaptation to Climate Change.
2. Department of Specially Protected Areas.
3. Department of Species Protection and International Obligations.
4. Department of Water Protection.

The Department of Special Areas of Conservation has four subdivisions:

- 2.1. Division of small areas of conservation (natural reserves and monuments).
- 2.2. Division of protected landscape areas.
- 2.3. Division of National Parks.
- 2.4. The Natura 2000 division (with 4 employees).

In addition, the Czech Republic has the Nature Conservation Agency of the Czech Republic (hereinafter referred to as the Agency). This Agency is a governmental body established in 2015 under the Conservation of Nature and Landscape Act. Its main objective is to protect and conserve nature and landscape throughout the Czech Republic. The Agency manages 24 protected areas (International Union for Conservation of Nature (IUCN) category V) and about 800 other types of protected areas (IUCN categories Ia, III, IV).

At the regional level, 14 administrations (kraj) subordinate to the Ministry of the Environment are in charge of nature protection outside the national parks and zones managed by the Agency. In



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addition, environmental issues in military training areas are handled by separate bodies, which are subordinate to both the Ministry of Defense and the Ministry of Environment. Compliance with environmental legislation is monitored by the Czech Environmental Inspectorate, which has 13 regional offices and is responsible for supervising, dealing with violations and imposing fines.

This institutional model may be useful for Ukraine. The distribution of functions between central and regional bodies ensures high efficiency.



7.3. Description of institutional solutions

In order to eliminate the existing problems in terms of biodiversity conservation management, it is necessary to take a comprehensive approach aimed at strengthening institutional capacity in this area.

Establishment of an effective, efficient, transparent institutional system of biodiversity conservation management, capable of ensuring proper and full implementation of the Birds and Habitats Directives.

Strengthening the institutional capacity of the management and control system through the establishment of a specialized agency for biodiversity conservation

Organizational need. The MEPR, taking into account the requirements of the legislation, limited resources and personnel, has difficulties with the implementation of various functions. It is advised to establish a separate agency for effective fulfilment of tasks on the implementation of state policy in the sphere of biodiversity conservation. This will allow the Ministry to focus on the formation of state policy, while the agency will ensure its practical implementation.

Reasonable use of resources. The introduction of a separate structure will allow for a smarter use of funds and human resources. The agency should be staffed with enough positions to fulfil its tasks. Ministry officials responsible for biodiversity conservation will be able to focus on policy development. The planned agency will receive targeted funding from the state budget, which will reduce the burden on the Ministry's budget. This will ensure the stability of the agency's work and allow the ministry to use the freed up funds for strategic tasks and reforms.

Institutional advantages. The functioning of the agency will contribute to the efficiency of biodiversity conservation due to the concentration of powers in one body. The agency will implement unified approaches to monitoring the status of the Emerald Sites, create an up-to-date database on biodiversity, ensure prompt response to threats to species of wild flora and fauna, and natural habitats. The proposed structure will ensure a balance between the national and regional levels of management. The Agency will have a clear vertical chain of command, which will allow it to quickly adapt to challenges and fulfil tasks within the framework of European integration processes.

In favour of these solutions we can cite the experience of Poland, which has already passed the way to reforming the management of biodiversity conservation.

Poland's experience in implementing Natura 2000

Positive experience that Ukraine can take into account when developing new and amending existing legislation:

- consolidation of the process of identification and approval of Birds Special Protection Areas (SPAs) and Habitat Conservation Areas (SACs) that meet the criteria of EU directives;
- establishment of mechanisms of environmental compensation for damage caused, which is reimbursed to the state by economic entities in case of impossibility to avoid negative impact on protected areas ("Natura 2000"). It is stipulated that such management plans should contain measures for conservation of species and types of natural habitats, establish restrictions for performance of certain activities;
- development of management plans for each Natura 2000 site. It is envisioned that such management plans should contain measures to conserve species and types of natural habitats, as well as establish restrictions on the performance of certain activities;
- implementation of monitoring and control over the status of Natura 2000 sites;
- definition of institutional powers, in particular, a single body responsible for the implementation of Natura 2000 - General Directorate for Environmental Protection was established;
- carrying out a broad information campaign on the implementation of Natura 2000 for representatives of the territories and business owners (consultations for citizens and businesses, etc.)

Negative experience:

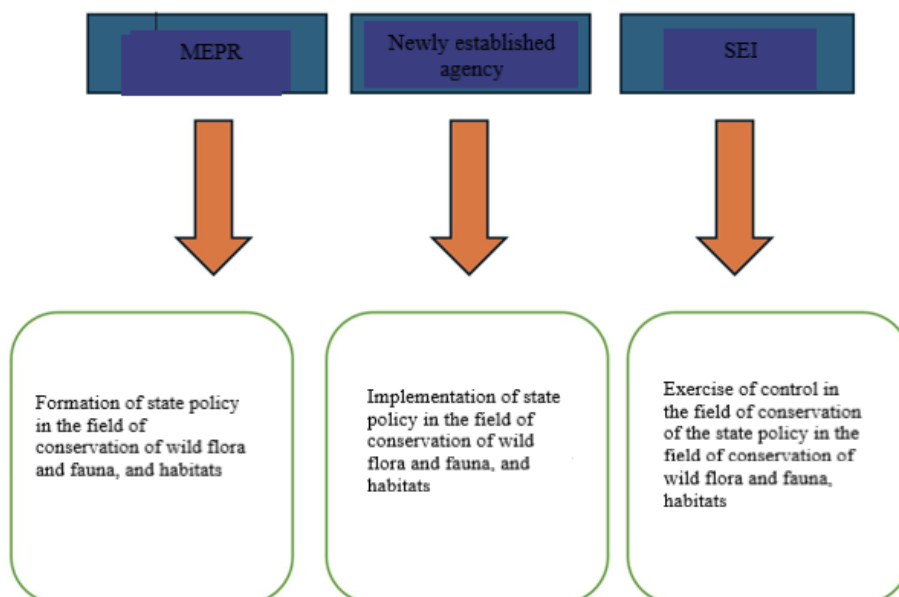
- lack of state funding for the implementation of Natura 2000, lack of control over the use of already allocated funds;
- failure to take into account the interests of businesses (introduction of legislative restrictions on performance of economic activities within Natura 2000 sites without providing business entities with justifications and explanations for this), which led to mass strikes and rallies, claims from farmers to the Polish government; - untimely and improper fulfilment of European integration obligations, which led to the European Commission's lawsuits against Poland.

Elimination of duplication of functions between different actors of the management system (including at different levels) of biodiversity conservation

The problem of duplication of functions between different bodies at different levels requires a comprehensive solution. All functions that are performed simultaneously by different bodies need to be reviewed and streamlined through changes in relevant normative acts.

All functions on implementation of the state policy in the sphere of biodiversity conservation should be transferred to the newly established agency. The MEPR should be engaged in the formation of state policy in this area. Control functions, which are now distributed among various bodies, should be transferred to the SEI. This will avoid duplication, for example, between the State Forest Agency and the SEI. The functions of monitoring the state of biodiversity conservation should be transferred to one body - the newly established agency.

Table 7. Proposed distribution of functions in the sphere of management of conservation of wild flora and fauna species and natural habitats



This will increase the efficiency of management in this area, reduce administrative pressure on business and improve the implementation of biodiversity conservation policies.



Attracting highly qualified professionals for effective management of biodiversity conservation

The system of biodiversity conservation management lacks specialists with the necessary knowledge and skills. The problem needs to be addressed systematically - at both national and local levels.

Clear assignment of responsibilities. The job descriptions of employees need to be revised: their responsibilities should be clearly defined and correspond to specific competencies. One specialist cannot be required to have simultaneous knowledge of biology, geography, chemistry, economics, law, etc. Effective management implies distribution of tasks between specialists of different profiles. This will help to avoid overloading employees with unnecessary functions, improve the quality of decisions and facilitate the selection of new staff.

Interaction. For effective work it is necessary to establish communication between specialists of different spheres. This will allow them to better understand each other, improve the quality of their work and contribute to effective biodiversity management.

Professional development. It is necessary to establish a system of regular training for employees, which will include training, certification courses and training programmes. This will help to update knowledge and skills in accordance with modern requirements. In addition, such a system will be an additional motivating factor for attracting new specialists.

Attractiveness for specialists. It is important to make work in this sphere attractive. For this purpose, it is necessary to introduce motivational mechanisms: competitive salary, social guarantees, career growth opportunities. Special attention should be paid to young specialists - arrange internship programmes, grant support, training opportunities and international cooperation. Selection for key positions should be transparent and based on clear qualification requirements.

Curricula. On the basis of universities and scientific institutions it is necessary to design modern curricula to train specialists for this sphere. These curricula should meet the needs of the state and the international obligations of Ukraine, in particular the requirements of the Birds and Habitats Directives.

Improvement of separate elements of management: mechanisms of defining Emerald Sites, management, recording and monitoring in the sphere of biodiversity conservation

Management of Emerald Sites. The newly established agency should be responsible for the definition of the Emerald Sites. It will also be entrusted with the implementation of a unified procedure for the legal status and management of Emerald Sites (in the future - Natura 2000). This will ensure a unified approach and increase the efficiency of management.

Depending on the approach to the organization of such management in the field, there are several possible models of its functioning.

Table 3. Models of functioning of the implementation of biodiversity conservation management in the field

No.	Approach to implementing biodiversity conservation management in the field	Description of the role of the central agency in field processes
1.	Agency established with local bodies	Will provide regional offices with resources, technical support, training and monitor the activities of local bodies.
2.	Agency without local bodies but strengthened by RMA	Agency will focus on supporting, monitoring and supervising relevant RMA departments.
3.	Centralized agency without local bodies not strengthened by RMA	Independently manage biodiversity conservation in the field.

The agency can be established with local bodies. In this case, it would provide the regional units with resources, technical support, training and would supervise their activities. In another scenario, the agency could be established without local bodies but would be strengthened by the RMA. The management functions of such areas in the field would be carried out by the relevant RMA departments. The agency would focus on supporting, monitoring and controlling their activities. Another possible option: a centralized agency is established without local bodies and RMA strengthening. If the reform will be limited to establishing only a centralized agency, it will have to manage the Emerald Sites in the field on its own. This would require an expanded staff and significant funding.

Management Plans. Each Emerald Site should receive a science-based management plan that takes into account local needs and international requirements. Such plans will be based on environment and natural habitat monitoring data and will also form the basis for integrated biodiversity conservation. Their development and adoption should be the responsibility of a newly established agency.



Biodiversity monitoring. The agency should establish a unified national system of monitoring of wild flora and fauna species and types of natural habitats. This will allow for the qualitative collection, analysis and use of environmental data to assess the effectiveness of conservation measures and their timely correction. The collected data will be entered into a centralized database.

Unified register of sites. Now in Ukraine there is no qualitative and complete, independent, consolidated database on the sites of the Emerald Network. To solve this problem, it is necessary to make a single national register, which will be the basis for their recording, management and monitoring. This registry should be administered by an agency.

Ensuring implementation of strategic planning and system of public reporting on the formation and implementation of policy in the sphere of biodiversity conservation

Strategy development. Strategic planning should begin with the development and implementation of a national strategy for biodiversity conservation. It should become a basic document for long-term planning and coordination of actions of state bodies, good businesses and environmental organizations. The strategy should contain clear priorities and areas of work, ensure a systematic approach, efficiency and transparency of all activities in this area.

Public accountability. To increase accountability, a mechanism for regular public reporting by the MEPR and the agency should be introduced. It will provide accessible information to the public and stakeholders on the status of implementation of the state policy of biodiversity conservation. It is necessary to set specific deadlines, format of reports and make their submission mandatory.

Responsibility for failure to implement the strategy. Authorities and officials should bear clear responsibility for non-implementation of strategic measures or lack of reporting. It is necessary to introduce sanctions for non-compliance with deadlines for strategy implementation or violation of reporting requirements. In case of violations, responsible officials should be subject to disciplinary or other legal liability. This will facilitate the proper implementation of environmental commitments and ensure the effectiveness of the implemented policy.



8. Consequences of not implementing the reforms

1. If all initiatives to further establish, expand and protect the Emerald Network (in the future, - Natura 2000) were to cease, the cost of inaction would include environmental, economic, social and international consequences.

8.1. Environmental losses.

The state of the environment in Ukraine has always been negatively impacted by overdevelopment of agriculture, with the highest percentage of ploughed land in Europe and the third highest in the world (56.8%[52]), with the use of pesticides and chemical fertilizers, deforestation, draining of wetlands, regulation of rivers, powerful influence of industry, emissions of pollutants, lack of waste disposal system and quality water treatment. The natural balance in the country is extremely disturbed. All this affects the state of natural complexes, temperature regime, water resources, soil, air, flora and fauna and climate of the areas.

Due to the full-scale invasion and the war of RF against Ukraine started in 2014, the load on natural ecosystems has increased, direct physical destruction of natural complexes, chemical pollution as a result of military operations, and the formation of waste from destruction and military operations. Ukraine is losing its natural ecosystems and protected areas. Of the 377 sites of the Emerald Network, 160 are occupied or located in the zone of active hostilities [53].

Among the most serious environmental losses caused by the non-implementation of the reform are:

1. Destruction of natural ecosystems by uncontrolled expansion of settlements, infrastructure, agriculture, forestry and manufacturing. Non-implementation of the reform will lead to further degradation of forests, steppes, marshes, rivers and seas, soil degradation and desertification processes, reduction of pollinators, ploughing of new areas, mining in natural areas.
2. Because of the loss of biodiversity and natural heritage of Ukraine as a result of non-establishment of Emerald Sites and non-implementation of environmental management, rare and endangered species of animals, plants and natural habitats may disappear. Some of them are already on the verge of extinction, as only a few places of their habitat and growth within Ukraine are left.
3. Increased fragmentation of the natural environment. The distances between natural ecosystems are becoming ever greater, separated by agro-deserts poisoned by pesticides, preventing the spread of species, communication between populations and exchange of genetic material.
4. The price of growing crops will increase in the future due to a number of factors, including a decline in pollinators. Emerald Sites are a haven for wild pollinators, which do an invaluable job in pollinating crops and thus maintaining our food security.
5. Reduced resilience of natural and semi-natural ecosystems, making them less able to fulfil their habitat-forming functions and losing their ability to clean themselves.



6. Loss of ecosystem services. Emerald Sites fulfil a number of ecosystem services free of charge, such as: water purification and maintenance of water balance in the sites, air purification and cooling, microclimate support, pollinator conservation, outdoor recreation opportunities, and others. The fulfilment of these functions depends entirely on the extent of sites included in the Emerald Network and their effective management and conservation.
7. Deepening of the already disturbed balance between natural and anthropogenic territories. Increase of anthropogenic load on natural complexes due to the predominance of economic interests and development of the economy.
8. Intensification of the consequences of climate change, dehydration of regions, increase in the frequency of droughts and temperature increase, inability to implement measures to adapt to climate change, further destabilization of the climatic situation.
9. Misperception of nature solely as a resource for human economic activity and destruction of resources that are basic for survival.
10. Increased illegal trade in wild species, their parts and derivatives.

8.2. Economic consequences.

Among the economic consequences of not implementing the reform are:

1. Increase in costs for elimination of the consequences of unfavourable natural phenomena: flooding, dust storms, dehydration of regions, etc.
2. Decrease in tourism potential.
3. Loss of opportunities to attract international investment.
4. Negative impact on the agro-sector: reduction of crop yields.
5. Lack of balanced development: overexploitation and consumption of natural resources that should remain for the next generations, etc.

8.3. Social consequences.

Among the social consequences of not implementing the reform are:

Deterioration of the quality of life and health of the population: due to air, water, soil pollution, the number of diseases (allergies, cancer, cardiovascular diseases) will increase.

Reduced opportunities for recreation and tourism.

8.4. International consequences.

Speaking about the international consequences, the following should be emphasized:

1. Non-fulfilment of the European integration obligations to establish and manage a network of nature protection areas of European importance.
2. Lagging behind the conservation instruments already introduced in the EU.
3. The impossibility of expanding the Emerald Network and transforming it into the Natura 2000 network.
4. Reputational losses of the state.



9. Options for implementation of the proposed solutions

Option 1. Adoption of a new law on the conservation of natural habitats and habitats of species and amendments to the existing legislation in the context of the protection of wild flora and fauna + establishment of a separate agency for nature and landscape conservation

Adoption of a special law on the conservation of natural habitats and habitats of species. This option envisages the adoption of a new special law on the conservation of natural habitats and habitats of species, which should transpose: the terminology used in the Habitats and Birds directives; procedures for proposing, approving and recognizing areas for the conservation of natural habitats and species of wild fauna and flora; provisions on management tools (including management plans, other conservation measures); provisions on appropriate assessment; provisions for monitoring the conservation status of natural habitats; provisions on violations in the field of conservation of natural habitat types and species of wild flora and fauna; provisions on amending a number of existing laws to bring their terminology and approaches in line with the new law on the conservation of natural habitats. and habitats of species.

In order to fulfil the obligations under the Bern Convention before Ukraine joins the EU, the provisions of this law will apply to the Emerald Network, which will become part of the Natura 2000 network in the future. At the same time, the adoption of this law will help transpose the requirements of the Habitats and Birds directives.

Register (list) of the Emerald Sites. This option requires the immediate consolidation of the register (list) of designated Emerald Sites including potential ones, by a governmental act.

Ways of implementation. This option can be implemented through the revision of the draft law No. 4461 “On Emerald Network Sites” registered in the Parliament or by preparing and submitting a completely new draft law.

Changes in terms of wild flora and fauna species. In terms of wild flora and fauna species protection, the national legal framework, in particular, the laws of Ukraine “On Fauna”, “On Hunting Economy and Hunting”, “On Flora”, “On Fish Farming, Industrial Fishing and Protection of Aquatic Bioresources” should introduce a definition of “conservation status of species” and introduce approaches that define and ensure a “favourable” conservation status of wild flora and fauna species.

The necessary prohibitions. Sectoral legislation should clearly prohibit sale, transportation for sale, keeping for sale and offering for sale of wild animals (live or dead), as well as their identifying parts and derivatives. The lists of protected species of wild flora and fauna from the Birds and Habitats Directives should be incorporated into Ukrainian legislation and their legal status should be determined in relation to the lists in the Red Data Book of Ukraine.

Effective liability. A separate draft law on amendments to the Code of Administrative Offenses and the Criminal Code of Ukraine should be prepared to strengthen administrative liability and introduce



criminal liability for violations of legislation on the conservation of natural habitats and protected species of wild flora and fauna.

Optimization of the institutional system for biodiversity conservation. The proposed changes in the institutional part include the establishment of a specialized agency for the conservation of nature and landscapes. Depending on funding opportunities and political will, it is proposed to establish it with regional offices or by establishing relevant departments within the RMA.

Efficient use of resources and stable financing. The formation of a separate structure will allow for more efficient use of financial and human resources. The Agency will have enough staff to perform all tasks, while the relevant department of the MEPR will focus on policy development. Targeted financing from the state budget will ensure the stability of the agency's work and optimize the ministry's expenses, which will allow it to direct resources to reforms.

Unified requirements and rapid response. The agency will consolidate its powers in the field of biodiversity conservation, which will increase management efficiency. It will ensure unified approaches to monitoring the Emerald Network (in the future, Natura 2000), establish an up-to-date database, and respond more quickly to threats. A clear chain of command will allow for prompt adaptation to challenges and effective implementation of European integration tasks.

Eliminate duplication of functions. To increase the efficiency of governance, it is necessary to eliminate duplication of powers between different bodies. All functions currently performed by several CEBs should be reviewed and unified through legislative changes. The Agency will be responsible for biodiversity conservation. The MEPR will be responsible for formulating biodiversity policy, while control functions will be transferred to the State Environmental Inspectorate. This will avoid duplication, in particular between the State Forest Resources Agency and the SEI. Monitoring functions will also be concentrated in the agency.

HR capacity building. The job descriptions of specialists should be revised to ensure that their tasks correspond to their competencies. It is unacceptable to require one employee to have knowledge of biology, geography, chemistry, economics, and law. Involving specialists of different profiles will help avoid overload, improve the quality of decisions, and simplify recruitment. To increase work efficiency, it is important to establish interaction between specialists from different fields. Training, certification courses, and specialized programmes will help to update knowledge in line with current challenges.

Attractiveness of vacancies. Work in the field of biodiversity conservation should become attractive to professionals. To do this, it is necessary to introduce competitive remuneration, social guarantees, and career opportunities. Young professionals should be attracted through internships, grant support, and international programmes.



Education and training. Modern curricula should be established on the basis of universities and research institutions that meet Ukraine’s national needs and international obligations, including the requirements of the Birds and Habitats Directives.

Option 2. Adoption of a new law on the conservation of natural habitats and habitats of species and amendments to existing legislation in terms of wild flora and fauna protection + strengthening the Ministry of Environmental Protection and Natural Resources

Adoption of a special law on the conservation of natural habitats. and habitats of species. This option envisages the adoption of a new special law on the conservation of natural habitats and habitats of species, which should transpose: the terminology used in the Habitats and Birds directives; procedures for proposing, approving and recognizing areas for the conservation of natural habitats and species of wild flora and fauna; provisions on management tools for such areas (including management plans, other conservation measures); provisions on appropriate assessment; provisions on monitoring provisions on monitoring the conservation status of natural habitats and species of wild flora and fauna, both within and outside the respective territories; provisions on violations in the field of conservation of natural habitats and species of wild flora and fauna within such territories; provisions on amending a number of existing laws to bring their terminology and approaches in line with the new law on the conservation of natural habitats and habitats of species.

To fulfil the obligations under the Bern Convention before Ukraine joins the EU, the provisions of this law will apply to the Emerald Network, which will be included in the Natura 2000 network in the future. At the same time, the adoption of such a law will help to transpose the requirements of the Habitats and Birds directives.

Register (list) of Emerald sites. This option also requires the immediate consolidation of the register (list) of designated Emerald Sites, including potential ones, by a governmental act.

Ways of implementation. This option can be implemented through the revision of the draft law No. 4461 “On Emerald Network Sites” registered in the Parliament or by preparing and submitting a completely new draft law.

Changes in terms of wild flora and fauna species. In terms of wild flora and fauna species protection, the national legal framework, in particular, the laws of Ukraine “On Fauna”, “On Hunting Economy and Hunting”, “On Flora”, “On Fish Farming, Industrial Fishing and Protection of Aquatic Bioresources” should introduce a definition of “conservation status of species” and introduce approaches that define and ensure a “favourable” conservation status of wild flora and fauna species.

Prohibitions are needed. Sectoral legislation should clearly prohibit sale, transportation for sale, keeping for sale and offering for sale of wild animals (live or dead), as well as their identifying parts and derivatives. The lists of wild flora and fauna species from the Birds and Habitats Directives should



be incorporated into Ukrainian legislation and their legal status should be determined in relation to the lists in the Red Data Book of Ukraine.

Effective liability. A separate draft law should be prepared to amend the Code of Administrative Offenses and the Criminal Code of Ukraine to strengthen administrative liability and introduce criminal liability for violations of legislation on the conservation of natural habitats and species of wild flora and fauna.

Expansion of the MEPR as a temporary solution. One of the options for strengthening the institutional sphere of conservation of wild flora and fauna species and natural habitats is to expand the Ministry of Environment. This involves increasing staff, establishing a new specialized department with the possible opening of regional offices of the Ministry. This approach may become a transitional stage before the formation of a separate body responsible for implementing policy in this area.

Impact of changes. Despite the risks, the expansion of the Ministry of Ecology may be an important step towards the formation of an effective management system for the conservation of wild flora and fauna species and natural habitats. This will partially solve personnel and organizational problems, create the necessary structural conditions for further reforms, and ensure that management processes comply with European legislation.

Eliminating duplication of functions. To increase the efficiency of management, it is necessary to eliminate duplication of powers between different bodies. All functions currently performed by several institutions should be reviewed and unified through legislative changes. The MEPR will be responsible for policy formulation and implementation, while control functions will be transferred to the State Environmental Inspectorate. This will avoid duplication, in particular between the State Forest Resources Agency and the SEI. Monitoring functions will also be concentrated in the newly established department of the MEPR.

HR capacity building. The job descriptions of specialists should be revised to ensure that their tasks correspond to their competencies. It is unacceptable to require one employee to have knowledge of biology, geography, chemistry, economics, and law. Involving specialists of different profiles will help avoid overload, improve the quality of decisions, and simplify recruitment. To increase work efficiency, it is important to establish interaction between specialists from different fields. Training, certification courses and specialized programmes will help to update knowledge in line with modern challenges.

Attractiveness of vacancies. Work in the field of biodiversity conservation should become attractive to professionals. To do this, it is necessary to introduce competitive remuneration, social guarantees, and career opportunities. Young professionals should be attracted through internships, grant support, and international programmes.



Education and training. Modern curricula should be developed on the basis of universities and research institutions that meet Ukraine's national needs and international obligations, including the requirements of the Birds and Habitats Directives.

Option 3. Implementation of the habitat approach and requirements for wild flora and fauna protection in the current legislative acts of Ukraine + establishment of a separate agency for nature and landscape conservation

Including provisions on the conservation of natural habitats and the habitats of species in the current legislation. This option envisages the introduction of key provisions on the conservation of natural habitats and the habitats of species into the Law of Ukraine "On the Ecological Network of Ukraine". Lists of types of natural habitats and species of flora and fauna to be conserved may be consolidated in annexes to the law or approved by governmental acts. It is proposed to integrate the Habitats Directive's provisions on appropriate assessment into the Laws of Ukraine "On Strategic Environmental Assessment" and "On Environmental Impact Assessment". To harmonize the regulatory framework, changes are also needed to the Forest Code of Ukraine and a number of special laws, including: "On Environmental Protection", "On the Nature Reserve Fund of Ukraine", "On Fauna", "On Flora", "On Fish Farming, Industrial Fishing and Protection of Aquatic Bioresources."

Protection of flora and fauna species. The Laws of Ukraine "On Fauna", "On Hunting Economy and Hunting", "On Flora" and other acts should include the concept of "conservation status of species", amendments should be made and approaches to assessing and ensuring a favourable conservation status of wild flora and fauna species should be introduced. Sectoral legislation should contain clear requirements to prohibit sale, transportation, keeping for sale and offering for sale of live or dead specimens of wild flora and fauna, their parts and derivatives. It is necessary to implement the annexes to the Birds and Habitats Directives into national legislation, to determine their legal status and correlation with the lists of the Red Data Book of Ukraine.

Effective liability. A separate draft law should be prepared to amend the Code of Administrative Offenses and the Criminal Code of Ukraine to strengthen administrative liability and introduce criminal liability for violations of legislation on the conservation of natural habitats and species of wild flora and fauna.

Optimization of the institutional system for biodiversity conservation. The proposed changes in the institutional part include the establishment of a specialized agency for the conservation of nature and landscapes. Depending on funding opportunities and political will, it is proposed to establish it with regional offices or by establishing relevant departments within the RMA.

Efficient use of resources and stable financing. The formation of a separate structure will allow for more efficient use of financial and human resources. The Agency will have enough staff to perform all tasks, while the relevant department of the MEPR will focus on policy development. Targeted financing from the state budget will ensure the stability of the agency's work and optimize the ministry's expenses, which will allow it to direct resources to reforms.



Unified approaches and rapid response. The agency will consolidate its powers in the field of biodiversity conservation, which will increase management efficiency. It will ensure unified approaches to biodiversity monitoring, create an up-to-date database, and respond more quickly to threats. A clear chain of command will allow for rapid adaptation to challenges and effective implementation of European integration tasks.

Eliminating duplication of functions. To increase the efficiency of management, it is necessary to eliminate duplication of powers between different bodies. All functions currently performed by several institutions should be reviewed and unified through legislative changes. MEPR will be responsible for policy formulation and implementation, while control functions will be transferred to the State Environmental Inspectorate. This will avoid duplication, in particular between the State Forest Resources Agency and the SEI. Monitoring functions will also be concentrated in the newly established department.

HR capacity building. The job descriptions of specialists should be revised to ensure that their tasks correspond to their competencies. It is unacceptable to require one employee to have knowledge of biology, geography, chemistry, economics, and law. Involving specialists of different profiles will help avoid overload, improve the quality of decisions, and simplify recruitment. To increase work efficiency, it is important to establish interaction between specialists from different fields. Training, certification courses and specialized programmes will help to update knowledge in line with modern challenges.

Attractiveness of vacancies. Work in the field of biodiversity conservation should become attractive to professionals. To do this, it is necessary to introduce competitive remuneration, social guarantees, and career opportunities. Young professionals should be attracted through internships, grant support, and international programmes.

Education and training. Modern curricula should be developed on the basis of universities and research institutions that meet Ukraine's national needs and international obligations, including the requirements of the Birds and Habitats Directives.

Option 4. Implementation of the habitat approach and wild flora and fauna protection requirements in the current legislation of Ukraine + strengthening of the Ministry of Environmental Protection and Natural Resources

Including provisions on the conservation of natural habitats and the habitats of species in the current legislation. This option envisages the introduction of key provisions on the conservation of natural habitats and the habitats of species into the Law of Ukraine "On the Ecological Network of Ukraine". Lists of types of natural habitats and species of flora and fauna to be conserved may be consolidated in annexes to the law or approved by governmental acts. It is proposed to integrate the Habitats Directive's provisions on appropriate assessment into the Laws of Ukraine "On Strategic Environmental Assessment" and "On Environmental Impact Assessment". To harmonize the regulatory framework, changes are also needed to the Forest Code of Ukraine and a number of special laws, including: "On Environmental Protection", "On the Nature Reserve Fund of Ukraine", "On Fauna", "On Flora", "On Fish Farming, Industrial Fishing and Protection of Aquatic Bioresources."



Protection of flora and fauna species. The Laws of Ukraine “On Fauna”, “On Hunting Economy and Hunting”, “On Flora” and other acts should include the concept of “conservation status of species”, amendments should be made and approaches to assessing and ensuring a favourable conservation status of wild flora and fauna species should be introduced. Sectoral legislation should contain clear requirements to prohibit sale, transportation, keeping for sale and offering for sale of live or dead specimens of wild flora and fauna, their parts and derivatives. It is necessary to implement the annexes to the Birds and Habitats Directives into national legislation, to determine their legal status and correlation with the lists of the Red Data Book of Ukraine.

Effective liability. A separate draft law should be prepared to amend the Code of Administrative Offenses and the Criminal Code of Ukraine to strengthen administrative liability and introduce criminal liability for violations of legislation on the conservation of natural habitats and species of wild flora and fauna.

Expansion of the MEPR as a temporary solution. One of the options for strengthening the institutional sphere of conservation of wild flora and fauna species and natural habitats is to expand the MEPR. This involves increasing staff, establishing a new specialized department with the possible opening of regional offices of the Ministry. This approach may become a transitional stage before the formation of a separate body responsible for implementing policy in this area.

Impact of changes. Despite the risks, the expansion of the MEPR may be an important step towards the formation of an effective management system for the conservation of wild flora and fauna species and natural habitats. This will partially solve personnel and organizational problems, create the necessary structural conditions for further reforms, and ensure that management processes comply with European legislation.

Eliminating duplication of functions. To increase the efficiency of management, it is necessary to eliminate duplication of powers between different bodies. All functions currently performed by several institutions should be reviewed and unified through legislative changes. MEPR will be responsible for policy formulation and implementation, while control functions will be transferred to the State Environmental Inspectorate. This will avoid duplication, in particular between the State Forest Resources Agency and the SEI. Monitoring functions will also be concentrated in the newly established department.

HR capacity building. The job descriptions of specialists should be revised to ensure that their tasks correspond to their competencies. It is unacceptable to require one employee to have knowledge of biology, geography, chemistry, economics, and law. Involving specialists of different profiles will help avoid overload, improve the quality of decisions, and simplify recruitment. To increase work efficiency, it is important to establish interaction between specialists from different fields. Training, certification courses and specialized programmes will help to update knowledge in line with modern challenges.

Attractiveness of vacancies. Work in the field of biodiversity conservation should become attractive to professionals. To do this, it is necessary to introduce competitive remuneration, social guarantees,



and career opportunities. Young professionals should be attracted through internships, grant support, and international programmes.

Education and training. Modern curricula should be on the basis of universities and research institutions that meet Ukraine's national needs and international obligations, including the requirements of the Birds and Habitats Directives.

10. Stakeholder map, description of the impact on stakeholders and their role in the reform implementation

Depending on the possible reactions to this reform, the degree of involvement in its implementation and the impact of changes on their interests, all stakeholders can be divided into three groups:

1. The group of likely resistance (some business structures, some state and local authorities, in particular, regional state (military) administrations, local self-government bodies and the Ministry of Finance of Ukraine);
2. The group of likely supporters (protected areas institutions, some research institutions and individual scientists, some higher education institutions, some representatives of the environmental movement);
3. The group of support and implementation (institutions that ensure the implementation of the reform, its implementation in practice, institutions of indirect impact)

At the same time, this division is conditional, since individual participants can simultaneously combine different roles, partially or completely change their attitude to the reform.

10.1. The group of likely resistance

Some of the business structures that are likely to impede the implementation of the reform, depending on their field of activity, include six main sectors energy business - companies engaged in the construction of large energy facilities, including hydro and wind power plants (HPPs, WPPs), which formally belong to the renewable, environmentally friendly energy sector, but intend to build on the Emerald Sites or potential protected areas; forestry - involving timber harvesting, forestry and commercial use of forest resources extractive industry - which plays a significant role in the country's economy and includes subsoil use, extraction of minerals such as oil, gas, coal, metal and non-metallic ores, sand, clay, granite, peat, etc; construction - represented by construction and development companies, as well as companies that implement resort and hotel construction projects, commercial real estate development; agribusiness - which includes the production of grains, oilseeds, livestock, cultivation and processing of agricultural products; hunting - which involves complex activities that include organization of hunting, maintenance and development of hunting grounds, and provision of related services.



A common reason for resistance to the reform, for all these business sectors, is the fear of financial losses due to the need to comply with European environmental legislation, as well as the unwillingness to limit economic interests, such as maximizing profits or maintaining competitive advantages.

At the same time, each business sector has its own reasons for opposing the reform and resorts to different methods of slowing it down.

Energy front: green progress or green profit? The energy sector, unfortunately, is potentially one of the main parties to the resistance to the reform, as its implementation creates significant restrictions for it. Wind and hydropower companies are seeking to build new energy facilities in particularly valuable natural areas that either already belong to the Emerald Network or are proposed for inclusion in it.

Accordingly, the expansion of the Emerald Network, compliance with the requirements for the protection of wild flora and fauna species and the conservation of natural habitats means for this business: a ban or significant restrictions on the construction of energy facilities; mandatory impact assessment procedures in the Emerald Network to obtain a conclusion on the possibility or impossibility of implementing projects, which complicates and increases the cost of their implementation.

This problem is especially acute in the Carpathians, where wind energy companies are trying to build wind farms in the most valuable mountainous regions with relict alpine and subalpine ecosystems vulnerable to damage to vegetation and soil cover with low potential for self-healing. The issue of environmental friendliness of wind farms in the mountains is debatable, as the construction of wind farms destroys natural ecosystems, increases the anthropogenic load on the territory, and levels the recreational and tourist value. This calls into question whether such projects belong to green energy and are in line with the ideas of environmental conservation, as well as suggests that the construction of wind farms there is not dictated by environmental feasibility but solely by commercial interests.

To keep the possibility of implementing their projects, representatives of this business use various instruments of influence:

legal manipulations - using forensic examinations to establish whether the areas where construction is planned belong to the mountainous areas of the Carpathians as a way to delay the trial and influence the court's decision; filing lawsuits against MEPR to cancel the established restrictions on the EIA procedure;

administrative pressure on the authorities - to issue or accelerate the issuance of permits;



political pressure - promotion of personnel decisions that result in the dismissal of employees of state institutions implementing the reform;

legislative lobbying - promoting changes to laws that ease environmental restrictions on the construction of wind and hydroelectric power plants;

financial motivation - companies promise local economic benefits for authorities and communities (budget revenues from energy exports, new jobs, etc.) in exchange for supporting projects;

misinformation of the population - dissemination of false statements about the environmental safety of wind and hydroelectric power plants that do not take into account real environmental risks.

Currently, there is evidence of some business representatives continuing to carry out preparatory work and construction of wind farms without proper permits, including through the involvement of employees of state forestry companies.

Forest management - between conservation and enrichment. Forest management in Ukraine balances economic and environmental interests. On the one hand, this industry provides the country with timber, creates jobs and generates income. On the other hand, it plays a key role in conserving biodiversity and maintaining ecological balance.

The central position in this sector is occupied by the State Enterprise “Forests of Ukraine” - the largest forest user in Ukraine and one of the largest in Europe. The company operates even in the Emerald Network, managing 6.6 million hectares of state forests transferred to it for permanent use. At the same time, the company does not receive funding from the state budget, but has to provide for its own activities, which makes it economically dependent on logging.

The State Enterprise “Forests of Ukraine” simultaneously fulfils two incompatible roles. As an environmental protection organization, the company is obliged to ensure the rational use, protection and restoration of forests.

As a logging company, it is interested in maximizing profits, which directly depends on the volume of logging. This dual function creates an internal conflict of roles, which has become particularly evident in the context of the reform implementation.

The study of the company’s activities shows that it is economic interest that takes precedence. In particular, this is manifested in *massive deforestation without proper environmental impact assessment*, which is a direct violation of the law. In recent years, the State Bureau of Investigation (SBI) has uncovered numerous abuses in the field of logging in: Volyn region - illegal logging without an EIA, which caused losses to the state of more than 39 million UAH; in Kyiv region - signing of logging tickets without an EIA, which led to the destruction of 3 thousand trees worth 15.5 million UAH; in Vinnytsia region - illegal logging of more than 10 thousand trees without legal grounds, which caused



losses of 58.5 million UAH; in Odessa region - illegal logging in a 200-hectare nature protection zone, which caused losses of 145 million UAH. [54]

In addition to direct violations in the field of logging, forest management is closely linked to other business sectors and is a *key component of shadow schemes*. Forests often become a resource base for the energy sector, which uses wood as fuel for thermal power plants and boilers.

Another important ally of the forestry business is the mining industry. Mineral deposits are located on the lands managed by the State Enterprise “Forests of Ukraine”, and other types of logging are used to free up areas for their extraction. These shadow schemes allow businesses to avoid official restrictions and regulatory barriers.

Any restrictions imposed as part of the reform are perceived by the company as a threat to its financial stability, a barrier to large-scale timber harvesting, and an impossibility to avoid administrative procedures. For this reason, some representatives of the forestry business are actively opposing the expansion of the Emerald Network. One of the most prominent examples of such opposition was the lobbying of the draft law No. 9516, which was supposed to abolish EIA for clear sanitary felling of up to 10 hectares, as well as in areas affected by fires, windfalls, or “massive drying out.” [55] This initiative opened up wide opportunities for abuse, making it virtually impossible for public control over deforestation. Due to the active opposition of the environmental community and some MPs, draft law No. 9516 was rejected and withdrawn from consideration on September 4, 2024. However, the practice shows that some representatives of the forestry business want to continue to influence the legislative process by promoting economically beneficial bills under the guise of forestry optimization.

Digging deeper: why are some representatives of the extractive industry likely to be among the reform’s opponents? Unlike many other business sectors, some representatives of the extractive industry cannot quickly change their place of business. Subsoil users are “tied” to specific subsoil areas, because extraction is possible only where minerals are located. It is this territorial dependence that makes the extractive industry particularly sensitive to restrictions. Some mineral deposits are located in the sites of the Emerald Network. If the land plot where the deposit is located is granted environmental protection status by law, it will make mining impossible or significantly more difficult. Thus, companies will be forced to look for other, alternative sources of raw materials. That is why the reform aimed at establishing new and expanding the existing sites of the Emerald Network may cause resistance from representatives of the extractive business.

At the same time, changes in the legislative regulation of the Emerald Network sites will lead to: 1) tighter control over: the processes of granting, extending or revoking special permits for subsoil use; 2) compliance with the conditions of subsoil use established in the permit. The processes will become clearer, more transparent, and reduce corruption factors. This will enable representatives of the extractive business to avoid corruption pressure, write realistic business plans and implement them transparently.



The situation in the Dniester floodplain is an illustration of potential conflicts between economic interests and the conservation of valuable natural areas. There, a peat extraction project was planned in an area of high conservation value that was considered a potential part of the Emerald Network. Despite the Ministry of Environment's initial refusal to issue a permit due to threats to aquatic ecosystems, the permit was granted within a few months. The economic activity has led to the drainage of reclamation canals, deforestation, and the destruction of wetlands. The lack of proper legal status of such areas and the instability of decisions by authorized bodies made it impossible to effectively protect the valuable site. This suggests that without legalization of the status of the Emerald Network (in the future - Natura 2000) and without appropriate monitoring, management and control mechanisms, the risks of loss of natural complexes remain high.

At the same time, even now, before the reform is implemented, some companies prefer dubious business schemes that allow them to maintain access to resources without additional costs, bypassing legislative restrictions and control tools. An example of this is the use of the "forestry easement" scheme for actual mining. An extractive company submits an application to the State Enterprise "Forests of Ukraine" to obtain a land plot for temporary forest use. After the formal consideration of the application, the parties enter into a land easement agreement. Under the guise of recreational or other types of logging, the forestry enterprise clears the territory, in fact preparing the site for mining. As a result, the extractive company gets access to the site for quarrying and mining without undergoing an EIA at all, or with an EIA report that does not contain information on deforestation and does not reflect the real environmental impact.

The implementation of such a scheme became possible as a result of the adoption of Law No. 2805-IX "On amending some normative legal acts of Ukraine regarding improving the legislation in the area of subsurface use" [56], which was actively lobbied by subsoil users. Despite the declared goal of "simplifying the work of business," the law opened wide opportunities for abuse: it simplified access to land plots; allowed land to be registered as forest, when in fact, land was used for mining; deprived communities of mechanisms to influence decisions on mining; and ignored environmental risks. This is another example of *how business uses legislative initiatives* to protect its own interests, despite threats to the environment.

Construction without restrictions. The expansion of the Emerald Network, integration of biodiversity protection regulations into urban planning, and increased control over the environmental impact of construction pose a number of challenges for the construction business: a complete ban or restriction on the development of land planned for commercial or residential projects; increased costs and time required to obtain construction approvals; the need to undergo an environmental impact assessment (EIA), which involves public discussion of construction projects, submission of comments and proposals to the construction projects that require consideration and response; the need to undergo an impact assessment in the Emerald Network; the risk of losing investments, for example, when a



construction project is blocked by a decision of a state executive body or a court, which causes financial losses to companies.

Therefore, some construction business representatives use a wide range of methods to implement construction projects, which at the same time are counteracting the reform:

Inhibition of legislative initiatives - the lack of normative regulation of the Emerald Network sites, and later - Natura 2000 sites, means no restrictions on construction, which in turn allows the construction of renewable energy sources, gas stations, cemeteries on the sites of the Emerald Network.

Lobbying for the adoption of legislation that abolishes: the EIA procedure for the implementation of certain construction projects; restrictions on the logging of trees and forest plantations for construction projects.

In particular, for the implementation of pilot projects for the construction of the Kakhovka HPP and the National Military Memorial Cemetery (NMMC), derogations from the mandatory environmental impact assessment procedure were introduced. In the case of the NMCC project, this derogation laid the groundwork for further decisions that allowed deforestation within the Emerald Sites without obtaining logging tickets. To ensure this decision, the Cabinet of Ministers of Ukraine adopted Resolution No. 225 of March 1, 2024 [57], which abolished the requirement for a special permit for the use of forest resources. It was later recognized as unlawful and invalidated by a court decision. These examples demonstrate that deviations from mandatory environmental procedures without proper impact analysis not only increase environmental risks, but also provoke social tensions and instability in law enforcement, and negatively affect the image of both business representatives and government agencies or their authorized decision makers.

influencing the state authorities to adopt positive EIA conclusions that allow the implementation of construction projects;

legalization of shadow schemes for the implementation of construction projects: withdrawal of land plots from use without the consent of land users and change of the designated purpose of the land plot to make it suitable for construction; exclusion of the public from participation in discussions of construction projects; promises of financial prospects and employment of local residents to support construction projects.

A vivid example of shadow practices at the level of legislative initiatives is the draft law No. 12089, approved by the Verkhovna Rada of Ukraine [55]. Formally, the draft law is aimed at protecting bonafide purchasers of property, but in practice it creates a tool to legalize the illegal seizure of land, including forest, water and other particularly valuable areas. It significantly complicates the possibility of returning such lands to the community or the state, even in cases where they were acquired through corruption schemes. At the same time, there are no exceptions for natural areas that do not



have a finalized legal status - such as the Emerald Sites - which only increases the risk of their loss under the pressure of development.

A ploughed emerald: certain agribusiness representatives against the environment. Certain agribusiness representatives are primarily concerned that the implementation of the reform will lead to the loss of arable land and the inability to use it for agricultural activities.

In practice, there are cases when certain agricultural companies operate without proper permits and avoid even basic investments in landscaping. Key risks also include restrictions on the use of agrochemicals that are prohibited by EU law, which in turn may affect yields. Opposition to the reform is manifested in the ploughing of the Emerald Sites, unauthorized land development, pressure on land managers to use the Emerald Sites in their own interests by financing various third-party projects; lobbying for the interests of certain agribusiness groups in parliament.

At the same time, constructive engagement of agribusiness in cooperation within the framework of the Emerald Network (and in the future, the Natura 2000 network) can be the basis for long-term benefits for both the environment and the business itself.

Conserving natural landscapes near agricultural land helps to improve soil quality, stabilize water regimes, and reduce the cost of agrochemicals in the long run. Openness to nature-based solutions will allow agricultural producers to participate in pilot projects, develop public-private partnerships, and attract funding from international donors. This will help strengthen the reputation of companies, increase the level of trust from consumers, local communities, and partners, and improve business competitiveness as Ukraine transitions to the principles of sustainable development.

Hunting in the context of reform: threats and changes. One of the likely reasons for opposition occurring to this reform is the restriction of hunting areas. The inclusion of hunting grounds in the Emerald Sites will lead to the introduction of stricter rules of use or a complete ban on hunting in certain areas. The reform envisages enhanced monitoring and regulation of wildlife numbers, which may limit traditional practices of regulating populations of game species through shooting. To prevent these changes, some representatives of this sector use:

Lobbying of interests aimed at limiting the rights of environmental authorities or simplifying the use of land;

Formation of a public narrative in which hunters are positioned as “the only guardians of the forest and biodiversity”;

Financial incentives for local communities to strengthen resistance.

In addition to the business sector, possible resistance to the reform may also arise among the state and local authorities, which are formally parties to the reform but may perceive the changes being introduced as a threat to existing management practices, institutional stability, or financial priorities.



In this context, it is worth highlighting regional state administrations, local self-government bodies, and the Ministry of Finance of Ukraine, which for various reasons may hinder the implementation of the reform.

Regional state administrations: conflict of roles. Regional state administrations (RSAs) occupy a special place in the implementation of the reform, combining the functions of local reform implementers and managers of state-owned land.

They are responsible for including the Emerald Network in regional development strategies, developing management plans for the Emerald Sites, and controlling land use in accordance with environmental requirements. At the same time, as the administrator of state-owned land, regional state administrations make decisions on the allocation of land plots for use, lease or construction, including those that belong/potentially belong to the Emerald Network.

The combination of government and economic functions creates a risk of decision-making not in the interests of the environment, but in the interests of economic gain or political expediency. As practice shows, RSAs can act under the pressure of certain business or political actors, which makes it impossible to implement environmental priorities at the regional level. In situations where it is necessary to choose between the conservation of a site and its economic use, short-term economic benefits often prevail.

The lack of effective control over land use and sometimes low transparency in decision-making not only complicates the implementation of the reform, but also undermines the trust of communities and environmentalists in its feasibility.

Local self-government bodies - important but heterogeneous reform actors (LGAs) - village, town and city councils - are crucial for the success of the reform at the local level. Their legal status as representative bodies of the community implies that decisions should be made in the interests of the residents of the territorial community. However, practice shows that in reality these interests are often supplanted by economic, political or private priorities.

It is LGAs that are authorized to include Emerald Sites (and in the future, Natura 2000 sites) in strategic development documents, establish management plans, ensure the conservation of wild flora and fauna and natural habitats, and interact with scientific and environmental organizations. At the same time, these same bodies make decisions on the allocation of land plots for use and changes in their designated purpose, which creates a risk of conflict between environmental interests and economic expediency. This duality of roles is particularly acute in cases where communities have limited financial resources and biodiversity protection is perceived as an obstacle to local development.

Nevertheless, local self-government bodies have the potential to become leaders of the reform. They interact directly with citizens, have a better understanding of local needs, and can respond more quickly to environmental challenges. Given political will, environmental awareness, sufficient



knowledge, and active cooperation with institutions, local self-government bodies can ensure effective management of Emerald Sites (and later Natura 2000 sites).

However, risks remain. Lack of professional knowledge, transparent procedures, and open dialog with the public increases the likelihood of conflicts and environmental damage. If local self-government bodies are not provided with methodological support, access to quality data, and an understanding of the long-term goals of the reform, their activities will remain inconsistent and the potential for change will not be realized.

Ministry of Finance of Ukraine: a budget filter for reforms

The Ministry of Finance of Ukraine is a budget filter for reform. The Ministry of Finance of Ukraine is not directly involved in the implementation of reforms, but it plays a key role in determining the financial framework on which their implementation depends. Despite its declared support for environmental initiatives, the Ministry of Finance usually takes an extremely cautious approach to new expenditures. This is manifested in high requirements for justification of expenditures, careful analysis of expected results, and the need to find compensators for budget expenditures. This approach is not always consistent with the logic of transformations in the environmental sector, where the effect is often delayed and cannot be quickly quantified. As a result, the Ministry of Finance may perceive initiatives as financially unjustified or as posing risks to budget balance. In the absence of political support, clear financial calculations, and interagency coordination, the Ministry of Finance is likely to become a deterrent to reforms.

10.2. Group of likely supporters

The group of likely supporters of the reform are active participants in social change who seek to improve the legal, institutional and financial mechanisms for its implementation. They are most likely to support the reform. At the same time, each of the participants has their own interests, vision and concerns about the changes. Different approaches, different levels of involvement, and divergent priorities can both contribute to positive transformations and create challenges in the reform process.

Science and reform: support that requires independence. Research institutions and scientists are an important party to support the reform. They are tasked with preparing scientific justifications, establishing new and expanding existing Emerald Sites, researching and monitoring the state of natural habitats and species of wild flora and fauna, developing and providing methodological recommendations for effective management of the Emerald Sites. They have the opportunity to popularize the reform among governmental and non-governmental institutions and the public by disseminating scientifically based information.

On the one hand, the reform opens up opportunities for expanding research, improving the quality of scientific papers, attracting additional financial resources, and integrating into the European scientific



space. On the other hand, it poses challenges for scientific institutions and professionals to adapt to stricter European legislation, which may be perceived as a threat to their usual working methods.

A risk that may affect the implementation of the reform is a conflict of interest, when some research institutions or individual researchers receive funding and/or other benefits from certain business structures interested in certain research results. In practice, there have been cases where certain scientific conclusions about the value of territories or the environmental impact of certain projects did not reflect complete, objective, and reliable information but were distorted in favour of commercial entities. This provokes distrust in the results of research, as well as risks and preconditions for decision-making solely in favour of business, not the environment. An illustrative example was the situation with the project to build a wind farm in the Borzhava valley, an area of high environmental value and part of the Emerald Network. The EIA report submitted by the developers contained significant distortions and inaccurate information: the impact on soils and hydrological processes was underestimated, and the analysis of the legislation contained factual errors. As a result, the EIA conclusion was cancelled in court.

Higher education institutions - a balance between theory and practice. Higher education institutions are the party entrusted with the long-term task of ensuring the sustainable development of the reform. It is today's students who will become tomorrow's specialists, who will in turn determine the future of Ukraine's environmental sector.

The reform gives an opportunity to modernize curricula, attract international grants and expand cooperation with European universities. However, it also highlights significant problems in the training of specialists (ecologists, biologists, geographers, etc.).

At present, Ukrainian higher education institutions lack specialized disciplines that would comprehensively cover issues related to the Emerald Network, Natura 2000, protection of wild flora and fauna, conservation of natural habitats, and management of valuable areas. They are addressed in a fragmented manner within general environmental courses.

Due to the lack of modern curricula and poor integration of practical experience into the educational process, graduates do not have sufficient knowledge and skills to work in the environmental sector. This creates a risk of forming a generation of specialists who are not ready to implement the reform in practice.

The tasks that should have been performed by educational institutions have been taken over by non-governmental organizations. They are implementing educational initiatives, engaging eco-conscious young people in studying environmental issues and problems. However, if the situation does not change in the near future, there is a threat that the reform will be left without qualified implementers, which will lead to its slowdown or even partial loss of the achievements made.



Representatives of the environmental movement as catalysts for change: opportunities and risks.

These structures play an important role in the establishment of the Emerald Network, (later Natura 2000) and in the implementation of the reform. They provide information, analytical, expert and educational support for the reform implementation process. They monitor legislative initiatives, control the implementation of environmental legislation, advocate for necessary changes, and inform the public about the purpose of the reforms.

Due to their flexibility and independence from government agencies, they can respond quickly to reform challenges, engage international partners in cooperation, and, if necessary, mobilize the public to protect the Emerald Network areas and conserve biodiversity.

Representatives of the environmental movement perform many tasks that are de jure assigned to state institutions. In some cases, it is the representatives of environmental communities who become the only effective environmental defenders when government agencies are “silent”, evade their responsibilities or act in a conflict of interest. Preventing the implementation of a number of destructive construction business projects in the Emerald Network was only possible through the initiation of lawsuits by environmental organizations.

Despite their active stance, representatives of the environmental movement do not have the authority to make decisions, so their influence on decision-making is limited, and their initiatives are and/or may be opposed by some unscrupulous businesses and officials.

There are also cases of greenwashing, when under the pretext of protecting nature, the interests of business or certain political groups are actually being lobbied. In practice, reports and studies submitted on behalf of organizations such as independent expert appraisals may contain unfounded conclusions or manipulated data. Such materials are used not for objective analysis, but as an element of pressure on government or business structures. This distorts the essence of the reform and undermines public trust. It weakens the effectiveness of the public sector and can slow down the implementation of changes.

The lack of quality interaction with public authorities and other institutions can lead to a situation where individual projects within the reform are successful, but the overall result of implementation remains declarative.

Local residents: participants of change or hostages of the reform? Local residents who live near the Emerald Network sites are directly involved in the reform. At the same time, it is important to distinguish their position from the official position of local self-government bodies, as the interests of citizens do not always coincide with the decisions of local authorities.

While local self-government bodies may be neutral or openly oppose the reform, residents may support the changes. At the same time, some community members may neutralize the significance of the reform by treating it with distrust.



The main concerns of the local population are related to possible restrictions on the use of natural resources. Lack of reliable information and insufficient communication from government institutions lead to the spread of myths that the Emerald Network and, in the future, Natura 2000 areas completely exclude economic activity, which can lead to job losses and lower incomes.

Thus, local residents are often targeted for manipulation by business and political actors. Some unscrupulous business structures use residents' dissatisfaction as a tool to put pressure on government agencies.

Nevertheless, active and environmentally conscious residents demonstrate a willingness to cooperate, implement and develop the reform, and initiate eco-business models, including organic production and local environmental projects. However, such initiatives currently lack systemic support, information support, and financial instruments that would allow local residents to become active participants in the reform rather than hostages to it.

The lack of effective cooperation between residents and ATCs, as their representative body, and other institutions can lead to social resistance and conflicts, which will slow down the reform and offset the achievements already made.

10.3. Reform Support and Implementation Group

This stakeholder group includes institutions that play a key role in policy making, strategic and operational planning, decision-making, financing and practical implementation of the reform. As with other groups, the position of individual actors is not stable: some may act as agents of change, while in other contexts they may act as barriers to change.

In addition to direct actors, this group also includes institutions that do not directly implement reforms but have an indirect impact on their course. Their role is often to shape public demand, mediate between stakeholders, or influence decisions through expertise and advocacy.

Verkhovna Rada of Ukraine: a legislative engine or an arena for political games? The Verkhovna Rada of Ukraine is the central institution that determines the availability and quality of the legislative framework for reform implementation. Without a legislative framework, other reform stakeholders cannot act effectively.

The Verkhovna Rada of Ukraine is called upon to ensure the development, consideration of draft laws and adoption of laws on the Emerald Sites, full transposition of the Birds and Habitats Directives into national legislation, and parliamentary control over the implementation of government decisions in the field of biodiversity protection.

In practice, the implementation of this role is often complicated by the influence of internal and external factors. The Verkhovna Rada of Ukraine is a mosaic of political interests. Its attitude to



environmental changes is shaped by the political situation, inter-factional agreements, regional interests, and pressure from some business structures. Some MPs are directly or indirectly connected to certain business sectors whose interests are potentially affected by the reform, which leads to lobbying for positions that contradict the Emerald Network's goals.

Draft laws in the environmental sector are blocked by returning them for revision, introducing a large number of amendments or delaying their consideration. Legislative initiatives are used as a bargaining chip: support for an environmental bill can be exchanged for votes on the budget or personnel appointments or simply postponed "until a convenient moment." Different committees of the Verkhovna Rada of Ukraine may have conflicting approaches to the same initiative. Without inter-committee agreement and coordination, even a technically prepared draft law can get "stuck".

Some MPs perceive the reform as a technical requirement from the EU, without understanding its content and long-term value. This leads to their formal approach to the consideration of draft laws.

Nevertheless, there is a small but active core of MPs in the parliament, who systematically support environmental initiatives, cooperate with NGOs, experts, and scientists. They initiate parliamentary hearings, promote legislative changes, and coordinate with international partners. However, these efforts are often insufficient to overcome the above factors and institutional indifference.

The Cabinet of Ministers of Ukraine - between coordination and indifference. The Cabinet of Ministers of Ukraine is responsible for ensuring the implementation of the reform: developing and adopting bylaws that detail the main legislation and regulate the implementation of the reform in practice; coordinating and harmonizing the actions of ministries in the framework of the reform.

Ideally, the CMU should be the platform for consolidating efforts between ministries, parliament, local authorities, civil society organizations and international partners. However, in practice, this role is being fulfilled in a fragmented manner.

The reform of the Emerald Network (and in the near future, Natura 2000) is not on the list of publicly declared government priorities, which reduces the focus on it in decision-making. In the context of war and economic crisis, environmental issues are pushed to the background. Despite having approved plans and set deadlines for implementation, the measures aimed at implementing the reform have not been implemented. Even if the political will exists, the CMU's real steps can be delayed due to frequent changes in the political leadership, complicated procedures for approving ministries, bureaucratic caution, or shifting priorities depending on the composition of the government.

The government balances its obligations to the EU with its own economic interests. As a result of the establishment of the Emerald Network (and in the near future, the transition to Natura 2000), the implementation of the directives is seen as an "obstacle for investors" rather than a strategic necessity.



In turn, the EU and international partners expect rapid progress. Of course, such expectations will have an impact on the pace of reform implementation. At the same time, it is important that the decisions made contain real mechanisms for implementing the reform, and not be declarative. After all, the success of our accession to the EU depends on both the speed and quality of the reform, among other things.

Is the Ministry of Justice an invisible barrier or a necessary filter? The role of the Ministry of Justice is important in the procedural chain of reform implementation. It is the Ministry that carries out legal expertise of regulatory acts and checks the compliance of legislative initiatives with the current legal norms. Without the approval of the Ministry of Justice, the reform cannot move forward: legal acts adopted by the Cabinet of Ministers of Ukraine or ministries do not enter into force without state registration with the Ministry of Justice. In the absence of legal support from the Ministry of Justice, the Emerald Network (and later Natura 2000) reform risks remaining informalized - with good intentions but no legal mechanisms for implementation.

At the same time, in practice, legal proceedings often become a place of inhibition. The Ministry of Justice can delay the review or return documents for revision for formal reasons, even if these acts are supported by the government or international partners. The situation is particularly sensitive when environmental initiatives affect the interests of players in the land use or construction sectors. In such cases, documents can get stuck in legal procedures for a long time.

Formalism and conservatism in approaches to environmental legislation, the lack of specialized environmental lawyers in the ministry with an understanding of the necessary discretion in decision-making procedures, and the possible influence of political or business pressure creates challenges in implementing the reform.

Institutions of indirect influence. Among the institutions that do not directly implement the reform, but have an impact on its implementation, we should highlight the ministries that form the regulatory field in the field of land use, spatial planning, and infrastructure. Their decisions can both facilitate the reform and form barriers to achieving its goals.

The Ministry of Agrarian Policy and Food of Ukraine shapes land use policy and, through its subordinate State GeoCadastre, defines the boundaries of potential Emerald sites, which is critical for them to acquire legal status.

The Ministry for Communities and Territories Development of Ukraine is responsible for spatial planning and integration of the Emerald Network into urban planning documents, which opens up opportunities for conserving sites but also creates risks if priority is given to development.

The MEPR as a core part of the reform. The MEPR is the specialized body responsible for implementing the reform and fulfilling Ukraine's European integration commitments in the



environmental sphere. The Ministry is responsible for formulating the state policy in the field of biodiversity conservation and determining the strategic priorities of the reform.

The Ministry held a series of professional discussions on the reform implementation. In cooperation with civil society organizations and scientific institutions, it ensured the submission of new sites for inclusion in the Emerald Network. However, the Ministry does not have sufficient political weight in the executive branch. In fact, the reform is trapped between the sectoral interests of other ministries.

Serious challenges in implementing the reform for the MEPR are:

financial dependence - budget funds are insufficient to implement all the necessary measures, making it difficult to fulfil international obligations;

administrative chaos - lack of coordination between ministries leads to duplication of functions, contradictory decisions and slowdown of reforms. Initiatives of the MEPR are often blocked or nullified during interagency coordination, in particular with the Ministry of Agrarian Policy or the Ministry of Infrastructure;

overload - the Ministry's departments are overloaded, with limited staff capacity. In addition, the ministry has limited influence on the regions, where the actual implementation of the reform depends on the positions of local authorities, RSAs and the balance of interests with local businesses;

legal manipulations - inconsistency of environmental regulations with the laws of other sectors gives rise to lawsuits against the decisions of the Ministry of Environment;

dependence on the political leadership - which makes the reform vulnerable to changes in power;

Conflict between the environment and the economy - the Ministry operates in a conflict between environmental requirements and economic realities, which leads to the risk of commercial interests prevailing, mitigating environmental standards or imposing them selectively.

Bodies subordinated to the MEPR in implementing the reform. State agencies subordinated to the Ministry of Environment, the State Service of Geology and Subsoil and the State Environmental Inspectorate are responsible for integrating the requirements of the directives into economic activities, issuing permits and monitoring compliance with environmental legislation.

In the context of the reform, the State Agency of Forest Resources of Ukraine (SAFR) should adapt its activities to the requirements of the directives, ensure the conservation of biodiversity in the Emerald Network (and in the future - in Natura 2000 areas). At the same time, the focus on the resource-based management model and economic dependence on logging hinder the implementation of reforms.

The State Agency of Water Resources of Ukraine (SAWR) is called upon to ensure the conservation of hydro-dependent natural habitats by integrating the environmental component into water



management. However, as of today, management practices remain focused mainly on water management needs. Biodiversity conservation issues are not systematically taken into account.

The State Service of Geology and Subsoil of Ukraine (Derzhgeonadra) formally takes into account environmental interests when issuing special permits for subsoil use, but in practice, business interests often prevail when making decisions on issuing permits and setting their conditions.

The State Environmental Inspectorate of Ukraine (SEI) remains the only control authority in the field of environmental protection. Despite its declared openness to reform, its institutional capacity remains limited. Without building up its human and technical capacity, as well as updating its control tools, its capacity will remain limited.

Nature Reserve Fund institutions (NRF) play an important role in the implementation of the reform, as they provide direct management of many sites within the Emerald Network (and in the future will be included in Natura 2000 areas). With the start of the reform implementation process, these institutions will be assigned new functions related to adaptation to European approaches to biodiversity protection. This implies a transition from formal inclusion of areas into the NRF to active management, monitoring of the status of natural habitats, management of measures of protection of species of wild flora and fauna and conservation of natural habitats.

At the same time, many NRF institutions face lack of resources, staffing capacity, and insufficient regulatory and financial support to fulfil their tasks, as well as a low level of environmental awareness among certain community members and local businesses. In addition, the NRF employees have no practical experience in developing or implementing management plans in accordance with EU requirements. Participation in the implementation of the Emerald Network is often perceived by NRF staff as an additional burden without clear institutional support or funding.

In fact, the institutions remain isolated in the decision-making system, and their role is often limited to technical implementation without proper influence on planning or land use. If the needs of protected areas as key actors are not taken into account, the implementation of the reform in practice risks remaining fragmented.

Each of these stakeholder groups has its own influence on the implementation of the reform. Implementation of changes in practice is impossible without synergy of efforts: deterring potential resistance, increasing the activity of supporters and support for implementers who can ensure practical implementation of the reform, convincing opponents and turning them into allies. The effectiveness of its implementation depends on constructive interaction between all stakeholders, which implies open dialogue, balance of interests and joint responsibility for achieving results. After all, the achieved result should be the development of environmentally friendly business, conservation of particularly valuable species of wild flora and fauna, and fulfilment of European integration obligations for full EU membership.

11. Transposition and implementation of the Habitats and Birds Directives in Ukraine: economic aspects

Key take-aways

- Severe underfunding persists for the management of Emerald Network sites across Ukraine, with most regions investing less than €2 per hectare annually, and some even less than €1 per hectare.
- Funding disparities across regions present a major challenge to ensuring consistent biodiversity protection nationwide, threatening Ukraine's ability to meet European conservation standards.
- There is a critical gap between current and optimal financing, especially for strategic investment areas such as land acquisition, habitat restoration, species management, and community engagement.
- Structural reforms are urgently needed to better align funding with conservation priorities, ensure equitable distribution across regions, and create long-term financial mechanisms.
- Baseline management costs for Ukraine's Emerald Network sites are estimated at €66 per hectare per year (slightly higher than some EU countries due to current network structure in Ukraine and historic underestimations in the EU).
- Expanding the protected area network offers major efficiency gains: scaling up Emerald Network coverage from 13% to 35% of Ukraine's territory could reduce average management costs by nearly 40%.
- The Emerald Network is estimated to generate substantial economic benefits, valued at around €1.9 billion (equivalent of €238 per hectare) annually, driven by timber, tourism, freshwater services, climate regulation, and other ecosystem services.
- Overall, the estimated economic benefits of the Emerald Network outweigh the projected costs of investing in the sites and managing them.

Current state of financing for environmental protection activities

An analysis of regional funding for nature conservation and sustainable resource use within Ukraine's Emerald Network sites between 2018 and 2024 reveals strong territorial disparities. The highest average annual funding per hectare was recorded in the Zaporizhzhia region (€32.93/ha/year), significantly outperforming other regions. In contrast, the majority of Ukrainian regions allocate less than 2 €/ha/year to these activities, and some regions - particularly in the south and north - invest less than 1 €/ha/year.

This uneven distribution of financial support at the local level points to systemic challenges in ensuring consistent biodiversity protection across Ukraine. Given that the Emerald Network is an essential part of the pan-European ecological network, such fragmentation threatens Ukraine's ability to meet its conservation obligations under European standards. The findings highlight the urgent need for more strategic financial planning and harmonisation across all regions to ensure a baseline standard of conservation management.



These concerns are compounded by the significant gap between current and optimal levels of funding for the development and maintenance of protected areas. As shown in Figure 2, a survey of managers responsible for these protected areas shows that current funding does not meet needs in almost all cost categories.

The largest gaps were identified in one-off investment needs, such as land acquisition and compensation payments related to development restrictions. Respondents pointed out that Ukrainian legislation often does not provide for such expenditure, despite the recognised need for such investment. In these categories, the funding gap is effectively total - recorded as 100%, meaning that no funding is currently available.

A similar situation exists for specific recurrent costs, such as the implementation of measures to maintain the favourable conservation status of species and ecosystems, or the establishment of cooperative management schemes with landowners and users. In these areas, the lack of dedicated financial support reflects a wider neglect of long-term biodiversity management at government level.

Even in categories where the funding gap is somewhat smaller - such as site monitoring (75.2% gap) or community engagement and compensation payments (81.1% gap) - the level of unmet need remains alarmingly high.

Across all funding groups - both one-off and recurring - the results indicate a severe underfunding of the core strategic areas essential for the long-term sustainability of the Emerald Network. Activities such as strategic ecosystem restoration, landowner engagement and effective conservation planning are among the least supported, despite being critical to building a resilient conservation framework.

The findings highlight that addressing the crisis requires more than simply increasing overall funding. Structural reforms are needed to better align funding allocations with actual conservation priorities. This includes:

- Targeting resources towards strategic planning, restoration efforts and stakeholder engagement.
- Integrating the valuation of ecosystem services into budget planning.
- Ensuring an equitable distribution of funding across all regions.
- Establishing mechanisms for consistent, long-term funding to secure the ecological integrity and socio-economic benefits of the Emerald Network.

Projected Funding Needs for the Management of Emerald Network Sites in Ukraine

The financial needs for managing the Emerald Network sites in Ukraine were estimated using a predictive model based on the experience of 25 European countries. The analysis applied a weighted quantile regression forest approach, which accounts for non-linear relationships and better reflects the realities of countries with socio-economic conditions similar to Ukraine.

The modeling results show that the baseline cost of managing the Emerald Network sites in Ukraine is approximately €66 per hectare per year. After adjusting the model to narrow the prediction range, the estimated costs fall between €57 and €74 per hectare annually. These figures offer a reliable foundation for financial planning and highlight that Ukraine's expected costs are slightly higher compared to some EU member states. This difference is largely attributed to the current spatial



structure of Ukraine's Emerald Network, which does not yet benefit from economies of scale, and to historical underestimations of costs in EU countries.

Further analysis explored the effect of expanding the Emerald Network's coverage. Results clearly demonstrate that as the protected area increases, unit management costs decrease significantly. For example, increasing the coverage from the current 13% to 20% of the national territory would reduce costs to €56 per hectare per year. A more ambitious expansion to 35% would lower them even further to approximately €40 per hectare annually. This trend supports the economic rationale for expanding protected areas: larger networks allow administrative and operational costs to be spread over a greater area, improving cost-efficiency.

The findings emphasize that strategic expansion of the Emerald Network is not only beneficial from a biodiversity conservation perspective but also from a budgetary standpoint. Scaling up the network could substantially lower the average cost per hectare while improving the effectiveness and resilience of conservation efforts. In addition, a broader network would bring Ukraine closer to the targets set by the EU Biodiversity Strategy for 2030, fostering better integration into European environmental frameworks.

Based on the results, it is recommended that Ukraine pursue a gradual and structured expansion of the Emerald Network, aiming to reach at least 30% national coverage in the medium term. Financial planning should incorporate the predicted cost decreases associated with larger network sizes. Furthermore, optimizing the spatial structure of protected areas could yield additional savings. Strengthening the network now would create long-term economic and ecological benefits, aligning Ukraine's conservation efforts with European standards while ensuring more sustainable and cost-effective management of its natural heritage.

Economic benefits arising from the Emerald Network Sites in Ukraine

The economic benefits of the Emerald Network in Ukraine are substantial, demonstrating its critical role in both biodiversity conservation and sustainable economic development. Using adapted European approaches, the annual economic value of the network has been estimated at around €1.9 billion, or about €238 per hectare.

The valuation covers a wide range of ecosystem services. Direct benefits include timber production, tourism and freshwater supply. In the Carpathian region alone, the value of harvested timber was estimated at €106 million per year and water supply services at over €1.27 billion per year. These figures underline the importance of mountain ecosystems not only for local communities, but also for national water security and economic stability.

Indirect benefits such as flood prevention and climate regulation were found to add significant value. Services such as carbon sequestration by old-growth forests in the Carpathians contribute to Ukraine's efforts to mitigate climate change and provide additional economic benefits. The overall contribution of regulating ecosystem services strengthens the resilience of agricultural production, urban water supplies and infrastructure.

Non-use values - reflecting public willingness to support conservation for its own sake - were also significant. After adjusting for local economic conditions, willingness-to-pay estimates suggest that the Ukrainian public values the existence of healthy ecosystems and biodiversity at an additional €320 million per year.



The analysis confirms that the expansion and proper management of the Emerald Network is not only an environmental necessity, but also a sound economic strategy. It supports rural development through ecotourism and sustainable resource use, reduces disaster risks and strengthens Ukraine's position in meeting European Union biodiversity standards.

Investing in the Emerald Network would thus yield multiple returns: protecting natural capital, promoting socio-economic growth, and helping to meet international commitments under the EU integration process and the post-2020 Global Biodiversity Framework. Strengthening financial mechanisms and integrating nature-based solutions into national and regional development plans should therefore become a strategic priority for Ukraine.

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Appendix 1 Glossary of Terms

1. Wild flora – дика флора
2. Wild fauna – дика фауна
3. Biodiversity conservation – збереження біорізноманіття
4. Favorable conservation status - сприятливий стан збереження
5. Conservation status of a natural habitat - стан збереження природного оселища
6. Conservation status of species – стан збереження виду
7. Natural habitats – природні оселища
8. Habitat of a species – оселище виду
9. Species of Community interest - види, що становлять інтерес для Європейського Співтовариства
10. Priority species - пріоритетні види
11. Endangered species - види, які перебувають під загрозою зникнення
12. Vulnerable species – вразливі види
13. Rare species – рідкісні види
14. Endemic species - ендемічні види
15. Emerald Site - територія Смарагдової мережі
16. Special area of conservation - спеціальна територія збереження
17. Conservation of natural habitats and habitats of species – збереження природних оселищ та оселищ видів
18. Protection of species – охорона видів
19. Appropriate assessment – оцінка впливу планів і проектів на спеціальні території збереження