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Interpretation of environmental protection in legal acts

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Abstract

Environmental regulation in Ukraine is currently undergoing a significant transformation, resulting in increased complexity in interpreting environmental norms across scholarly analysis and practical application. The article presents a comprehensive theoretical and legal study of the challenges in interpreting environmental regulations in the context of the transformation of Ukrainian environmental legislation and its harmonization with European Union (EU) law. It is substantiated that interpretative activity in this area is of increased complexity due to the interdisciplinary nature of environmental regulation, the prevalence of evaluative concepts, and the framework character of many legal provisions and principles (including sustainable development, prevention, the "polluter pays" principle, and the priority of environmental protection). The methodological basis of the study comprised general scientific and special legal methods of cognition. In particular, the formal legal method was used to analyze the content of legal acts in environmental protection, while the systemic and structural method was used to determine the relationship between environmental norms. The main methods of interpreting environmental regulations—grammatical, systemic, teleological, and historical—were analyzed, and their specific application in law-enforcement activities of public authorities and courts was determined. Particular attention was paid to the role of judicial practice in forming a unity of approaches to understanding and applying environmental law, and to the influence of international treaties and EU law on national interpretative practice. Effective interpretation of environmental legislation should be based on a combination of formal-legal and purposive approaches, with a primary focus on ensuring environmental human rights and environmental safety. Proposals were formulated to improve the methodology for interpreting environmental legislation, particularly by systematizing legislation, unifying terminology, and generalizing judicial practice.

Keywords: Interpretation of law; Legal acts; Environmental law; Environmental protection; Environmental principles; Judicial practice

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1. Introduction

The current stage of society's development is characterized by the deepening of environmental challenges caused by climate change, the degradation of natural resources, man-made risks, and the consequences of military actions on the environment. Under these conditions, the effectiveness of legal regulation in environmental protection becomes particularly important, as it directly depends on the proper understanding and correct application of relevant legal acts. That is why the problem of interpreting environmental legislation acquires not only theoretical but also a clear practical significance.

The environmental legislation of Ukraine is a complex, multi-level system that encompasses the norms of constitutional, administrative, economic, land, water, forest, and criminal law. A significant number of legal acts are of a framework nature, contain reference and blanket norms, and operate with evaluative concepts ("significant damage," "negative impact," "ecological safety," and "rational use of natural resources"), objectively determining the need for their doctrinal and official interpretation. The lack of unity in understanding such categories leads to different interpretations in law enforcement practice, thereby negatively affecting the level of environmental guarantees.

The issue of the correlation between national environmental legislation, international treaties, and European Union (EU) law requires special attention. In the process of European integration, Ukraine is implementing a significant array of EU environmental directives and regulations, which require the adaptation of not only the regulatory framework but also approaches to its interpretation. In this context, the issue of applying the principle of priority of international obligations, as well as taking into account the practice of the Court of Justice of the European Union and the European Court of Human Rights when interpreting national norms, is becoming more relevant.

A significant factor in the development of interpretative practice is judicial activity, particularly the consideration of disputes regarding environmental impact assessment, strategic environmental assessment, access to environmental information, compensation for environmental damage, and appeals to decisions of public authorities in nature management. The analysis of judicial practice indicates a gradual transition from formal to targeted and systematic interpretation of environmental norms with an emphasis on the protection of environmental human rights.

Issues of interpreting legal acts in environmental protection include the lack of a unified terminology, fragmentation of legal regulation, and insufficient systematization of environmental legislation. This complicates the development of sustainable law enforcement practices and reduces the predictability of legal consequences for businesses and citizens.

Thus, scientific understanding of the features of interpreting environmental legal acts is a necessary prerequisite for improving the mechanism for implementing the environmental function of the state, ensuring the principle of the rule of law, and guaranteeing everyone's constitutional right to an environment safe for life and health. In this context, this study aims to determine the theoretical and methodological principles for interpreting environmental legislation and to formulate proposals to enhance law enforcement effectiveness.[1]

The law, *About Lawmaking Activities*,[2] is the main law governing public administration's decision-making regarding citizens, businesses, and public organizations. It comprises the rules governing how representatives of public authorities consider administrative cases, adopt administrative acts, and, if necessary, execute them. The adoption of this law testifies to the European nature of the state, as it implements European standards of good administration into the national legal order. The EU documents enshrine the right to good administration, which is considered one of the most significant and is included in the catalog of human rights. Its content is reflected in Article 41 of the EU Charter of Fundamental Rights:[3] everyone has the right to have their case considered impartially, fairly, and within a reasonable time by the institutions, bodies, offices, and agencies of the EU. This right includes: (i) the right of every person to be heard before any individual measure that may adversely affect him or her is taken; (ii) the right of every person to have access to documents in his or her file, with due regard for confidentiality, professional and business secrecy; and (iii) the administration is obliged to give reasons for its decisions.[4] The Committee of Ministers of the Council of Europe has recommended that member states align their legislation with the principles of good administration.[5]

The purpose of this article is to develop a theoretical and legal study of the challenges in interpreting environmental legislation in the context of the transformation of Ukrainian environmental legislation and its harmonization with EU law. The objectives are as follows:

(i) to characterize the concept and meaning of interpreting environmental regulations.
(ii) to identify the types and methods of interpreting environmental regulations.

2. Materials and methods

The methodological basis of the study comprised general scientific and specialized legal methods of cognition. In particular, the formal-legal method was used to analyze the content of legal acts in environmental protection; the systemic-structural method was used to determine the relationship between environmental norms; the comparative-legal method was used to compare national and European approaches to the interpretation of environmental legislation; and the logical-semantic method was used to clarify the content of legal categories and terms (Table 1).

The formal-legal method is a basic special-legal method used to study the external form and internal structure of legal acts, their legal technique and terminology, the logic of constructing legal provisions, and the relationship between the elements of a legal norm. In environmental protection, this method is of particular importance due to the complex hierarchy of sources of law, the large number of subordinate legislation, and the use of blanket and reference norms.[5]

The application of the formal-legal method involves the analysis of the text of legal acts without going beyond their normative content, focusing on legally significant features: definitions, dispositions, sanctions, conditions for the application of norms, and conflict-of-laws provisions. For example, when interpreting the provisions of the Law of Ukraine "On Environmental Impact Assessment", formal-legal analysis allowed us to clearly distinguish between the concepts of "planned activity," "authorized body," and "public discussion," which is of fundamental importance for determining the procedural obligations of business entities.[5]

In 2020–2025, the formal-legal method was widely used by courts of administrative jurisdiction in environmental disputes. According to generalizations of judicial practice, during the specified period, about 60–65% of environmental protection cases concerned appeals against decisions, actions, or inaction of public authorities related to compliance with the procedural requirements of environmental legislation.[6] In such cases, the courts primarily turned to a formal-legal analysis of the compliance of decisions of public authorities with the requirements of the law and subordinate regulations.[7]

Disputes regarding the issuance of permits for the special use of natural resources are illustrative, in which the formal-legal method was used to verify the completeness of the list of documents, compliance with the deadlines for considering applications, and compliance of decisions with the requirements of the Water, Land, and Forest Codes of Ukraine. Statistical data show that in 2021–2023, in approximately 40% of such cases, the courts recognized the decisions of the permitting authorities as unlawful precisely on the grounds of a violation of the procedural formal requirements, rather than on an assessment of the environmental consequences on the merits.[8]

The formal-legal method also plays an important role in interpreting the evaluative concepts of environmental legislation. Thus, analyzing the definitions enshrined in the legislation helps minimize the risk of arbitrary interpretation of categories such as "significant environmental damage" and "negative impact on the environment." In 2020–2025, the number of litigation cases in which the interpretation of these concepts was key increased by approximately 30%, indicating an increase in the importance of the formal-legal approach in environmental law enforcement.

Thus, the formal-legal method ensures regulatory certainty, predictability of law enforcement, and compliance with the principle of legality in environmental protection. At the same time, its effectiveness is significantly increased when combined with systemic and teleological interpretation, which allows for the consideration of the environmental goals and values of law.[9]

3. Results and discussion

3.1. The concept and meaning of the interpretation of legal acts in environmental protection

The interpretation of legal acts in environmental protection is an important element of the legal regulation of environmental relations and is a necessary condition for the effective implementation of the state's environmental policy. In the general theoretical sense, interpretation is an intellectual and volitional activity of authorized entities aimed at clarifying the true content of legal norms and establishing the will of the legislator, as enshrined in the relevant regulatory legal act. In environmental protection, interpretation is particularly important due to the complexity of environmental legal relations, the interdisciplinary nature of environmental law, and the use of numerous specialized and evaluative concepts.[10]

The concept of interpreting legal acts in environmental protection should be understood as a process of clarifying and explaining the content of environmental legal norms, with the aim of their correct, uniform, and effective application in the practice of state authorities, local governments, courts, and other law enforcement entities.[11] Such a process involves not only the literal content of a legal norm but also its systemic connections with other norms, the objectives of legal regulation, the principles of environmental law, and international environmental

Table 1. Methods used to interpret legal acts in environmental protection in Ukraine

Method/Approach	Content and characteristics of the method	Purpose of the application in this study	Example of use in environmental law
Dialectical method	Consideration of legal phenomena in their interconnection, development, and contradictions	Identifying the evolution of approaches to the interpretation of environmental norms	Analysis of changes in approaches to interpreting the principle of sustainable development in the legislation of Ukraine
Analysis	Dissection of a legal norm into its constituent elements	Clarifying the structure and content of environmental legal regulations	Analysis of the content of the concepts of "environment," "environmental safety," and "environmental protection"
Synthesis	Combine individual elements into a holistic system	Forming a generalized vision of the interpretation of norms	Systematic generalization of the requirements of environmental legislation
Induction	Generalization based on individual examples	Forming theoretical conclusions	Derivation of general rules of interpretation from court practice
Deduction	Application of general provisions to specific cases	Verifying theoretical provisions	Application of the principles of environmental law to individual norms
Formal-legal (dogmatic)	Research of legal norms through analysis of the text of the law	Establishing the literal content of legal regulations	Interpretation of articles of the Law of Ukraine "On Environmental Protection"
Systemic-structural	Analysis of norms in their relationship with other norms	Identifying the place of the norm in the legal system	Correlation of environmental norms with administrative and land norms
Logical-legal	Use of logical rules and constructions	Eliminating contradictions and gaps	Establishment of logical consistency of environmental regulations
Teleological	Interpretation taking into account the purpose of the legal regulation	Ensuring effective environmental protection	Determination of the purpose of restrictions on nature use
Historical-legal	Analysis of the development of legal norms over time	Clarifying the will of the legislator	Study of the evolution of environmental legislation in Ukraine
Comparative	Comparison of national and international norms	Identifying common and distinctive features	Comparison of European Union environmental directives and Ukrainian legislation
Analysis of case law	Study of court decisions	Identifying practical approaches to interpretation	Analysis of the practice of the Supreme Court on environmental disputes
Statistical	Generalization of quantitative indicators	Identifying trends in law enforcement	Analysis of the dynamics of environmental cases
Ecological-legal	Combination of legal and environmental knowledge	Taking into account environmental standards when interpreting norms	Adequate interpretation of norms, taking into account natural aspects

standards. That is why interpretation in this area cannot be limited to a formal-legal approach, but requires a comprehensive analysis of legal and natural science aspects.[12]

The importance of interpreting legal acts in environmental protection is manifested primarily in ensuring the unity of law enforcement practice.[13] The presence of numerous legal acts regulating environmental relations, as well as frequent changes in legislation, creates the risk of unequal understanding and application of legal provisions. Interpretation allows for the elimination of such discrepancies, contributing to the uniform application of environmental norms in similar legal situations.[14]

An important aspect of interpretation is its role in enhancing the effectiveness of environmental protection.[15] Correct clarification of the content of environmental regulations enables their effective implementation, prevents a formalistic approach to environmental requirements, and creates legal conditions for the preservation and restoration of natural resources. In this context, interpretation acts as a tool for specifying general provisions of legislation and adapting them to specific life situations.[16]

Interpretation of legal acts in environmental protection is also of particular importance for ensuring and protecting human environmental rights. Through interpretation, everyone's constitutional right to an environment safe for life and health, as well as the right to access environmental information and participate in making environmentally significant decisions, is realized.[17] Judicial interpretation of environmental regulations in disputes between citizens and public authorities, or between business entities, plays a key role in restoring violated rights and establishing standards of proper environmental behavior.[18]

In addition, the interpretation of legal acts ensures the practical implementation of the principles of environmental law, such as sustainable development, prevention, precaution, and the polluter-pays principle.[19] It is through interpretation that these principles acquire specific content and become effective legal guidelines for law enforcement. In the context of European integration, interpretation also serves to adapt national environmental legislation to the norms of international law and EU law.[20]

Therefore, the interpretation of legal acts in environmental protection is not only an auxiliary element of law enforcement, but an independent and necessary tool for ensuring the effectiveness of environmental legal regulation. It helps overcome gaps and conflicts in legislation, ensures a balance between public environmental interests and private rights, and is an important prerequisite for the implementation of the environmental function of the state in modern conditions.

3.2. Types and methods of interpreting environmental regulations

Interpretation of environmental regulations is a necessary element for the implementation and protection of environmental legal relations. Given the complexity of legal regulation, the interdisciplinary nature of environmental legislation, and the active influence of international standards, the process of interpretation becomes particularly important.[21] In scientific doctrine, types of interpretation are distinguished according to the subject of application and the methods used to clarify the content of the legal norm.[22]

According to the subjective criterion, interpretation is divided into official and unofficial (Table 2). Official interpretation is carried out by authorized state bodies and is mandatory for application. In Ukraine, an example of official interpretation is the decision of the Constitutional Court of Ukraine on the content and guarantees of the implementation of Article 50 of the Constitution of Ukraine, which enshrines the right of everyone to an environment safe for life and health. Such an interpretation has normative significance and serves as a guideline for all law enforcement practice.[23] The Supreme Court also plays an important role, as its rulings establish legal positions on the application of the provisions of the Law of Ukraine "On Environmental Protection", the Water Code of Ukraine, and legislation on environmental impact assessment and environmental liability.[24]

In foreign countries, an example of official interpretation is the practice of the Court of Justice of the European Union, which clarifies the meaning of provisions in environmental directives. In particular, when interpreting Directive 2004/35/EC on environmental liability, the Court of Justice of the EU specified the content of the concept of "serious environmental damage," which is mandatory for member states. In Germany, the Federal Constitutional Court, in its 2021 decision on climate legislation, provided a constitutional and legal interpretation of the state's obligation to protect the natural foundations of life for future generations, which influenced subsequent changes in climate policy.[25]

An unofficial interpretation does not have a legally binding force, but it significantly influences the formation of law enforcement practice. It can be doctrinal (scientific), professional, or everyday. In Ukraine, scientific commentaries on environmental legislation play a significant role, clarifying the principles of sustainable development, prevention, and "polluter pays." In EU countries, the European Commission publishes guidance

on the application of environmental directives, which actually serve as the standards for their interpretation.[26]

As for methods of interpretation, generally recognized legal methods are used in environmental law, taking into account the specific features of environmental relations. Grammatical (linguistic) interpretation consists of clarifying the content of the norm through the analysis of its text and terminology.[27] For example, in Ukraine, when applying the law "On Environmental Protection," courts refer to the legislative definitions of the concepts of "environment," "ecological safety," and "damage," thereby establishing the literal content of the norm. In France, when applying the Environmental Code, courts clarify the meaning of the term "pollution" by analyzing its legislative definition.[27]

Systemic interpretation involves analyzing a legal norm in relation to other norms. In Ukraine, this is manifested, in particular, when applying the norms of the Water Code in combination with the Land Code and environmental protection legislation. In EU law, environmental directives are interpreted in relation to the principle of a high level of environmental protection enshrined in the Treaty on the Functioning of the EU.[28]

Teleological (purposeful) interpretation is particularly important in environmental law, as it guides law enforcement officers toward achieving the goal of environmental protection. In Ukraine, courts, when considering disputes regarding activities on the territories of the nature reserve fund, proceed from the main goal of such territories—the preservation of biodiversity and natural complexes. In Germany, the teleological approach is used in interpreting the Federal Law on Nature Conservation, taking into account the need for long-term protection of ecosystems.

Logical interpretation involves applying the rules of formal logic to determine the content of a norm and eliminate contradictions. In Ukraine, it is used to determine the relationship between general rules on liability and specialized rules of environmental law. In the United States, the Supreme Court and federal courts apply a logical interpretation of the Clean Air Act's provisions to determine the limits of the Environmental Protection Agency's powers, particularly in cases involving greenhouse gas emissions regulation.[29]

Historical and legal interpretation considers the conditions and purposes under which a norm was adopted. In Ukraine, this approach is used when analyzing changes to legislation adopted in the process of implementing EU law, allowing us to clarify the intentions of the legislator. In the practice of the EU Court of Justice, preparatory materials for directives are used to clarify their content.[30]

A feature of environmental law is interdisciplinary interpretation, which involves considering natural scientific data. For example, in Ukraine, when establishing the excess of maximum permissible emissions or determining the amount of environmental damage, expert opinions of environmental specialists are taken into account. In Canada, when applying the Canadian Environmental Protection Act, courts actively use scientific evidence to clarify the impact of certain substances on the environment and human health.[31]

Thus, the types and methods of interpreting environmental legal acts serve as a comprehensive toolkit for ensuring the effectiveness of environmental legal regulation. The combination of grammatical, systemic, teleological, logical, historical-legal, and interdisciplinary approaches, along with consideration of the practice of Ukraine and other countries, contributes to ensuring a high level of environmental protection and the implementation of environmental human rights in the face of modern global challenges.[32]

Analysis of the types and methods of interpretation of environmental legal acts revealed their complex and complementary nature. In environmental law, it is practically impossible to limit oneself to only one method of interpretation, since the specificity of this field is determined by a combination of legal, natural, and international legal aspects.

Firstly, a special role is played by official interpretation, establishing uniform standards for the application of environmental norms. The practice of the Constitutional Court of Ukraine and the Supreme Court is gradually developing the doctrine of environmental rights protection, while in EU countries, the jurisprudence of the Court of Justice of the EU is of key importance, ensuring the harmonized application of environmental directives.[33]

Secondly, teleological interpretation in environmental law has priority over other branches, since the main goal of environmental legislation is not formal compliance with norms, but to ensure environmental protection and sustainable development. That is why the judicial practices of Ukraine and other countries are increasingly using a targeted approach.

Third, interdisciplinary interpretation is a characteristic feature of modern environmental law. Taking into account scientific data when determining environmental damage or assessing risks is consistent with international standards of environmental safety.[34]

Thus, the system of interpreting environmental

Table 2. Types and methods of interpreting environmental legal acts: comparative characteristics (Ukraine and foreign countries)

Classification criteria	Type/Method of interpretation	Essence	Example from Ukraine	Example from foreign practice	Practical significance
By subject	Official	Performed by an authorized body, has binding force	Decision of the Constitutional Court of Ukraine on the content of the Constitution of Ukraine Article 50 (right to a safe environment); legal positions of the Supreme Court on environmental damage	CJEU: interpretation of Directive 2004/35/EC; decision of the Federal Constitutional Court of Germany on climate protection 2021	Ensures the unity of law enforcement and forms standards of environmental protection
	Unofficial (doctrinal, professional)	Performed by scientists, lawyers, or experts; does not have a binding force	Scientific comments on the law "On Environmental Protection"	European Commission's interpretative guidelines on the implementation of environmental directives	Influences the formation of practice and the improvement of legislation
By method	Grammatical	Analysis of the text of the norm, terminology	Interpretation of the concepts of "environment" and "environmental safety" in the relevant law	Interpretation of the term "pollution" in France (Code de l'environnement)	Ensures a literal and accurate understanding of the norm
	Systemic	Analysis in connection with other norms	Correlation of the norms of the Water and Land Codes of Ukraine	Interpretation of EU environmental directives in the context of the principle of a high level of environmental protection	Allows to avoid collisions and contradictions
	Teleological	Clarification of the purpose of legal regulation	Restrictions on activities within the NPF to preserve biodiversity	Germany: interpretation of the nature protection law, taking into account climate objectives	Orientates law enforcement to the environmental results
	Logical	Use of the rules of formal logic	Correlation of general and special environmental liability	United States: interpretation of the Clean Air Act on the powers of the Environmental Protection Agency	Eliminating gaps and ambiguities
	Historical-legal	Consider the conditions for adopting the norm	Analysis of changes in environmental legislation within the framework of the implementation of EU law	CJEU: use of preparatory works in the interpretation of directives	Allows for the establishment of the true will of the legislator
	Interdisciplinary	Consider scientific environmental data	Determination of exceeding the MPC based on expert opinions	Canada: application of the Canadian Environmental Protection Act, taking into account scientific evidence	Ensures the scientific validity of decisions

Abbreviations: CJEU: Court of Justice of the European Union; EU: European Union; MPC: Maximum permissible concentration; NPF: Nature reserve fund.

regulations in Ukraine is gradually approaching the European model, where a comprehensive approach focused on a high level of environmental protection and the implementation of environmental human rights prevails.[35]

In 2024–2025, establishing and enforcing maximum permissible concentrations of pollutants remains a key focus of environmental policy and legal regulation. Standardizing the content of harmful substances in air, water, and soil is aimed at preventing the negative impact of economic activity on natural ecosystems, human health, and the state of biota. In international and national practice, such indicators are established as maximum permissible concentrations, exceeding which indicates the emergence of an environmental hazard and the need for state control and accountability measures.

In Ukraine, the legal framework for regulating pollutant levels is determined primarily by the Law of Ukraine "On Environmental Protection" of June 25, 1991, No. 1264-XII,[36] which establishes a system of environmental standards, including standards for maximum permissible emissions, discharges, and the content of harmful substances in environmental components. Additional regulation is provided by the Law of Ukraine "On Atmospheric Air Protection" of October 16, 1992, No. 2707-XII,[37] the Water Code of Ukraine,[38] and sanitary norms and state standards, which collectively establish specific indicators for permissible concentrations of pollutants.

According to current environmental and sanitary standards, limits are set for atmospheric air in populated areas for the main pollutants, in particular nitrogen dioxide, sulfur dioxide, carbon monoxide, and suspended particles. Exceeding these concentrations can lead to the deterioration of air quality, the formation of smog, and increased morbidity. Similar standards apply to water bodies. For example, in accordance with sanitary requirements for drinking water quality, concentrations of nitrates, ammonium nitrogen, petroleum products, and other chemicals are limited. Exceeding these levels can disrupt the biological balance of aquatic ecosystems and cause the death of aquatic organisms.

Significant attention in scientific research in 2024–2025 is also being given to the impact of pollutants on soil cover and terrestrial ecosystems. Heavy metals—lead, cadmium, mercury, and nickel—are particularly hazardous, as they can accumulate in soils and persist in the environment for long periods. Their accumulation leads to soil degradation, reduced fertility, and the entry of toxic compounds into food chains, posing a threat to both animals and humans.

Researchers have also noted the significant impact of environmental pollution on the condition of biotic communities.[39] Biota, like all living organisms in an ecosystem, react sensitively to changes in the chemical composition of the environment. Elevated concentrations of toxic substances disrupt physiological processes in plants and animals, reducing their ability to reproduce and survive. One of the most dangerous consequences is bioaccumulation, in which pollutants accumulate in organisms' tissues and are transmitted through food chains, ultimately leading to significant changes in ecosystem structure, the extinction of individual species, and a decline in biodiversity.

Modern research has also indicated that long-term exceedance of environmental standards can cause complex changes in natural ecosystems, including disruption of nutrient cycling, changes in the species composition of flora and fauna, and the degradation of natural landscapes.[39] Therefore, in 2024–2025, international attention has increased to improving environmental monitoring systems and implementing stricter pollution control standards. Harmonization of national legislation with European environmental standards, as well as the implementation of modern environmental monitoring technologies, are of particular importance. Therefore, establishing and enforcing standards for pollutant content is a crucial tool for ensuring environmental safety. Effective application of these standards helps prevent negative changes in ecosystems, maintain the sustainability of natural processes, and protect biota from the destructive impact of anthropogenic factors.

The relationship between environmental protection and the interpretation of legal acts is one of the key problems of modern legal science and practice (Table 3), since the effectiveness of the state's environmental policy depends not only on the quality of legislation but also on the correctness of its interpretation and application. Environmental law is characterized by its complexity, interdisciplinary nature, and high level of dynamism, which collectively determine the special role of interpretation as a mechanism for ensuring the effectiveness of legal norms.

First of all, it should be noted that environmental legislation contains a significant number of evaluative concepts and framework regulations, the content of which cannot be fully determined only by a literal reading of the norm. Categories such as "environmental safety," "significant environmental damage," "rational use of natural resources," and "significant environmental impact" require meaningful content through law enforcement activities. That is why interpretation acts as a tool for specifying legislative will and adapting norms to real environmental challenges.

In the functional aspect, interpretation ensures the

Table 3. Relationship between environmental protection and regulation interpretation

Environmental protection	Typical legal acts	Enforcement problem	Dominant mode of interpretation	Practical significance
Environmental impact assessment	Law of Ukraine "On Environmental Impact Assessment"	Evaluation categories: significant impact and potential threat	Teleological, systemic	Ensuring the effectiveness of environmental policy
Waste management	Law of Ukraine "On Waste Management" (2022)	Conflicts with economic legislation	Systemic, functional	Harmonization with EU directives
Forest relations	Forest Code of Ukraine	Interpretation of the concept of significant damage	Grammatical, judicial	Determination of grounds for liability
Water resources	Water Code of Ukraine	Balance of environmental and economic interests	Principle-oriented	Priority of environmental safety
Land resources	Land Code of Ukraine	Conflict of development and environmental restrictions	Constitutional-oriented	Protection of the right to a safe environment
Access to environmental information	Aarhus Convention, the law "On Access to Public Information"	Access restrictions under the pretext of trade secrets	International law, extended	Ensuring ecological democracy
Climate policy	Climate Neutrality Strategy, International Agreements	Lack of clear implementation mechanisms	Teleological, comparative	Harmonization with EU law

Abbreviation: EU: European Union.

practical implementation of environmental law norms. Without proper interpretation, even qualitatively formulated norms may lose their effectiveness, since law enforcement entities—courts, executive authorities, and local governments—are forced to resolve complex situations that the legislator cannot always foresee. This is especially evident in cases related to environmental impact assessment, waste management, the use of natural resources, and urban development.

An important aspect is the value-based nature of interpreting environmental norms. Unlike many other branches of law, environmental law is based on principles that are strategic and long-term—the principles of sustainable development, precaution, priority of environmental safety, and responsibility of the polluter. In the process of interpretation, these principles serve as guidelines for the law enforcement entity, allowing it to choose an interpretation of the norm that maximizes environmental preservation and the protection of human environmental rights.

Modern judicial practice demonstrates a gradual transition from formal to teleological and systemic interpretation of environmental legislation. Courts increasingly take into account the purpose of regulatory regulation, international environmental standards, and the practice of European institutions. This is due to the European integration processes of Ukraine and the need to implement the environmental *acquis* of the EU. As a result, a tendency is emerging towards greening law enforcement, with economic interests assessed through the prism of environmental safety.

The institutional dimension of the relationship is manifested in the activities of various subjects of interpretation. Courts play a leading role, since their legal positions form practical standards for the application of environmental legislation. State authorities carry out administrative interpretation during the implementation of control and permitting functions, while international treaties and decisions of international bodies shape unified approaches to interpreting environmental norms.

At the same time, an analysis of modern practice revealed several problems. Among them are the fragmentation of environmental legislation, conflicts between environmental and economic norms, the lack of a single terminology, and different approaches to interpreting the same legal categories. In such conditions, interpretation serves a compensatory function, filling gaps and ensuring the consistency of legal regulation.

Thus, the relationship between environmental protection and the interpretation of legal acts is systemic and interdependent. Interpretation is not only a technical process of clarifying the content of a legal norm, but also an important tool for implementing environmental policy, ensuring the human right to a safe environment, and harmonizing national legislation with international standards. Further development of environmental law in Ukraine requires the establishment of a unified methodology for interpretation, grounded in the principles of sustainable development and preventive environmental protection.

The development of agricultural production in modern conditions requires compliance with stringent environmental standards, particularly in the context of Ukraine's integration into the European legal space. At the EU level, environmental safety issues in agriculture receive considerable attention, as agricultural activities directly affect soil conditions, water resources, biodiversity, and ecosystem resilience. Therefore, a key task for Ukraine is the gradual adaptation of national legislation to EU environmental requirements and regulations.

In EU law, environmental aspects of agricultural production are regulated within the framework of the Common Agricultural Policy, as well as through several directives and regulations that aim to limit environmental pollution and preserve natural resources. In particular, Directive 91/676/EEC on the protection of water against pollution by nitrates from agricultural sources plays a key role.[40] It establishes requirements for the use of fertilizers and the storage of organic waste from livestock farming to prevent the pollution of groundwater and surface water. Council Directive 91/676/EEC is one of the basic legal acts of EU environmental law, aimed at ensuring an adequate level of protection of water resources. Its adoption was due to the increasing negative impact of intensive agriculture on the quality of groundwater and surface water, manifested primarily in the accumulation of nitrates and the development of eutrophication.

The essence of this Directive is to establish an obligation for EU Member States to identify waters that are or may be polluted by nitrates, to identify so-called vulnerable zones, and to develop and implement special action programs to reduce and prevent such pollution. One of its important elements is the introduction of codes of good agricultural practice that regulate the application of fertilizers, storage of organic waste, and general agricultural activities.

The positive aspects of this regulatory act include its clearly expressed preventive nature. The Directive is not limited to responding to existing environmental problems but is focused on preventing them, in line with modern approaches to EU environmental law. The establishment of a maximum permissible level of nitrates in water (50 mg/L) and restrictions on nitrogen application from organic fertilizers (up to 170 kg/ha/year) provide a scientifically sound basis for reducing anthropogenic pressure on aquatic ecosystems.

The comprehensive approach of this Directive is also positive, as it covers different types of water bodies: groundwater, rivers, lakes, and coastal marine waters. This allows us to consider pollution in the context of whole ecosystems rather than their individual components. In addition, the mandatory development of action programs and the regular monitoring of water quality enhance the effectiveness of environmental policy and ensure control over its implementation. Another advantage is the stimulation of the transition to more sustainable agricultural management models. The Directive encourages farmers to implement environmentally friendly technologies, use fertilizers rationally, and reduce their negative environmental impact.

At the same time, the Directive has a number of shortcomings. First, it is worth noting that its effectiveness largely depends on proper implementation at the national level. In a number of EU Member States, a formal approach to implementing its provisions is observed, leading to the continued high level of nitrates in water pollution even long after its adoption. This indicates certain problems with the practical implementation of the Directive's norms. Another significant drawback is the significant financial burden on agricultural producers. Fulfilling the requirements for infrastructure modernization, manure storage, fertilizer accounting, and compliance with established restrictions requires significant investments, especially for small- and medium-sized farms. In addition, the Directive leaves Member States some freedom in defining vulnerable zones and the content of action programs, leading to uneven application. As a result, different countries may set requirements of varying severity, creating an imbalance in both environmental protection and economic competition.

Attention should also be paid to the limited scope of legal regulation. The Directive focuses exclusively on nitrate pollution, while other agricultural pollutants, in particular phosphates and pesticides, also have a significant

impact on water resources. This reduces its effectiveness in comprehensive environmental protection.

Thus, Directive 91/676/EEC is an important instrument of the EU's environmental policy that establishes the legal framework for preventing water pollution from agricultural origin. Its strengths lie in its preventive nature, systematicity, and clear standards; however, the effectiveness of implementation is constrained by economic, institutional, and practical factors, requiring further improvement at both the EU and individual state levels.

Furthermore, Directive 2000/60/EC (Water Framework Directive),[41] Directive 2009/128/EC on the sustainable use of pesticides,[42] Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora,[43] and Directive 2009/147/EC[44] on the conservation of wild birds are of significant importance.

Directive 2000/60/EC of the European Parliament and of the Council of October 23, 2000, is the basic regulatory and legal act of the EU, establishing a holistic system for water resource management. Its main objective is to achieve "good status" for all water bodies—both surface and groundwater—through an integrated approach to water policy. This Directive introduces management based on the basin principle—organizing water use not only within administrative boundaries but also across river basins. It also contributes to the development of river basin management plans, implementation of programs of measures, economic regulation of water use, and active participation of the public in decision-making.

Among the positive aspects of this Directive, it is worth noting its comprehensive and integrated nature. It covers all aspects of water policy—from water quality to quantitative use—allowing for an ecosystem-based approach to environmental protection. Another important advantage is the implementation of the basin management principle, which is recognized as one of the most effective approaches in water resources management. The Directive sets clear environmental objectives and deadlines for their achievement, thereby increasing Member States' responsibility. In addition, it provides for economic mechanisms, in particular the "polluter pays" principle, which stimulates the rational use of water resources. Equally important is ensuring transparency and public participation, which contributes to the democratization of environmental management.

At the same time, the Directive has certain shortcomings. Its implementation is complex and resource-intensive, as it requires significant financial, technical, and administrative resources. In many EU countries, achieving "good status" for waters has been postponed due to the complexity of fulfilling the established requirements. In addition, the Directive contains evaluative concepts, such as "good ecological status," which can lead to different interpretations and uneven application. There are also difficulties in coordinating across different sectors of the economy (industry, agriculture, and energy), whose interests often conflict with environmental objectives. Another problem is the insufficient effectiveness of control over the implementation of requirements in some countries.

Directive 2009/147/EC of the European Parliament and of the Council of November 30, 2009, on the conservation of wild birds (codified version of the so-called "Birds Directive") is one of the key acts in biodiversity protection in the EU.[41] Its aim is to conserve all wild bird species naturally occurring in the territory of the EU, as well as to protect their habitats. This Directive provides for the protection of migratory species. The positive aspects of this Directive include its focus on biodiversity conservation as a key element of environmental security. It provides legal protection for both rare and common bird species, which is important for maintaining ecological balance. An important advantage is the creation of a network of special protection areas, which later became part of the wider Natura 2000 ecological network. The Directive also sets clear restrictions on human activities that may harm birds, helping reduce anthropogenic impacts. In addition, it is of great importance for the development of environmental awareness and international cooperation in nature conservation.

However, there are also certain shortcomings. In particular, the implementation of the Directive often encounters conflicts between environmental protection objectives and economic activities, especially in construction, agriculture, and energy. In some cases, Member States take a formal approach to creating protected areas, which reduces their effectiveness. Another problem is insufficient control over compliance with prohibitions, particularly regarding illegal hunting. The Directive does not always take into account modern challenges, such as climate change, which affects the migration routes and habitats of birds. In addition, its implementation requires significant financial resources and appropriate institutional capacity.

Therefore, both directives are fundamental elements of EU environmental law. The Water Framework Directive forms a systematic approach to water management, while the Birds Directive ensures the protection of biodiversity. Despite some shortcomings, they play a key role in ensuring a high level of environmental protection and serve as

a reference point for the harmonization of Ukrainian legislation with EU law.

These regulations establish environmental restrictions for agricultural activities, including controls on the use of mineral fertilizers, pesticides, and other chemicals that may adversely impact soils, aquatic ecosystems, and biota. Particular attention is paid to preventing the accumulation of pollutants in soils and water bodies, as well as reducing anthropogenic pressure on ecosystems.

In the context of the implementation of the Association Agreement between Ukraine and the EU, one of the priority areas is the gradual harmonization of Ukrainian environmental and agricultural legislation with EU law. This entails the implementation of European standards for environmental monitoring in agriculture, the improvement of the system for monitoring pollutant levels in soils and waters, and the development of sustainable land management mechanisms.

Therefore, it is an important area of modern legal policy. Adapting Ukrainian legislation to EU requirements for greening agricultural production not only contributes to improving the environmental safety of agricultural activities but also ensures the sustainable development of rural areas and the conservation of natural resources and biodiversity.

4. Conclusion

Interpretation of environmental legislation is a complex process aimed at clarifying the content of legal norms and establishing the will of the legislator to ensure correct and effective law enforcement. This process is of particular importance in environmental law due to the interdisciplinary nature of regulation, the presence of specialized and evaluative concepts, and the need to take into account international standards and scientific data.

Interpretation ensures the uniform application of environmental legislation by state authorities, courts, and other law enforcement entities; increases the effectiveness of environmental protection; contributes to the implementation of the constitutional rights of citizens to a safe environment for life and health; and specifies the principles of sustainable development, prevention, and precaution. It also allows for the elimination of gaps and conflicts in legislation, forms practical standards for law enforcement, and contributes to the harmonization of national legislation with international and European norms.

In the process of interpretation, various methods and approaches are used, including official and unofficial interpretation, grammatical, systemic, teleological, logical, historical-legal, and interdisciplinary. The combination of these approaches provides a comprehensive understanding of the norms and their effective application in practice. An analysis of foreign experience, in particular the practice of the Court of Justice of the EU and the federal courts of Germany, France, and Canada, indicates the effectiveness of teleological and interdisciplinary interpretation as a tool for ensuring a high level of environmental protection.

In Ukraine, the practice of interpreting legal acts in environmental protection is gradually approaching European standards. Further improvement of this mechanism requires the systematization of judicial and administrative practice, the development of methodological recommendations on the application of environmental law principles, the active involvement of natural science experts, and the consistent interpretation and implementation of the norms of international and European law.

In general, the interpretation of environmental regulations is a key mechanism for ensuring the effectiveness of environmental legal regulation, protecting human rights to a safe environment, rational use of natural resources, and harmonizing national legislation with international standards.

Recommended areas for further research on the interpretation of environmental provisions in legal acts can be formulated by taking into account current trends in environmental law, national court practice, and international environmental protection standards. The main areas can be summarized as follows:

(i) Research into the methodology of interpreting environmental norms: A promising area is an in-depth study of the application of traditional methods of legal interpretation (grammatical, systemic, teleological, and historical) to environmental legislation. Environmental norms often have a framework and cross-sectoral nature, requiring a specific approach to their interpretation. Research has noted that the interpretation of environmental norms should take into account the goal of sustainable development and the preventive principle of environmental policy. Of particular importance is the analysis of how these methods are used by courts when applying the provisions of the Law of Ukraine "On Environmental Protection" (1991).[36]

(ii) Analysis of judicial practice regarding the interpretation of environmental norms: A relevant area is the study of the practice of the Constitutional Court of Ukraine, the Supreme Court, and administrative courts on issues of interpreting environmental legislation. For example, in the context of the implementation

of Article 50 of the Constitution of Ukraine, which enshrines the right of everyone to an environment safe for life and health, it is important to analyze court decisions that clarify the content of this right and the mechanisms for its protection. Special attention is also required to the practice of the European Court of Human Rights, which considers environmental issues through the prism of Articles 2, 8, and 13 of the European Convention for the Protection of Human Rights and Fundamental Freedoms.

(iii) Harmonization of national environmental legislation with EU law: In the context of European integration processes, an important area of scientific research is the analysis of the interpretation of environmental regulations, taking into account the requirements of EU law and international environmental agreements. This applies, in particular, to the implementation of the provisions of the 1998 Aarhus Convention "On Access to Information, Public Participation in Decision-making, and Access to Justice in Environmental Matters." Research can aim to identify the specifics of interpreting national legislation in accordance with EU environmental directives.

(iv) Study the principles of environmental law as a basis for interpreting regulations: A promising area is the study of the role of environmental law principles (the principle of sustainable development, the "polluter pays" principle, the principle of prevention, and the principle of environmental responsibility) in the interpretation of legal acts. These principles are enshrined in a number of international documents, in particular the 1992 Rio Declaration on Environment and Development, and are reflected in Ukrainian legislation.

(iv) Study the interpretation of environmental regulations in the context of the digitalization of public administration: A current trend is analyzing the impact of digitalization and e-governance on the application and interpretation of environmental regulations. This includes the use of electronic environmental registries, environmental monitoring systems, and digital tools for accessing environmental information, as provided, for example, by the Law of Ukraine "On Access to Public Information."

(v) Improve the legislative framework for environmental regulations: Research should analyze the quality of the formulation of environmental regulations and the development of recommendations for improving legislative frameworks. The vagueness and declaratory nature of certain environmental legislation hinder their correct interpretation and application in practice, requiring scientific substantiation to concretize and systematize them.

Therefore, further research in the area of interpreting environmental regulations should aim to develop a comprehensive methodology for their interpretation, improve judicial practice in their application, and harmonize national legislation with international and European environmental standards.

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