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DOI: <https://doi.org/10.5281/zenodo.20826655>**ASSESSMENT OF THE LEGAL FRAMEWORK OF THE STATE-PROTECTED AREAS
AND VULNERABILITIES THAT FACILITATE ENVIRONMENTAL CRIME**

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Abstract

This scientific study aims to assess the legal framework applicable to protected natural areas from the perspective of the effectiveness of legal norms designed to prevent, detect and sanction unlawful acts that affect protected natural values. The study is based on the premise that protected areas represent spaces subject to a special legal regime, within which biodiversity conservation, the protection of natural habitats and the maintenance of ecosystem balance require coherent regulatory mechanisms, functional institutions and effective instruments of administrative and judicial control.

In this context, the study examines normative, institutional and practical vulnerabilities that may facilitate environmental crime, including the fragmentation of regulations, the insufficient delimitation of the competences of public authorities, deficiencies in the monitoring system, the sometimes formal nature of ecological control, as well as the inconsistent application of legal liability.

The purpose of the research is to identify the dysfunctions that reduce the effectiveness of the legal protection of protected natural areas and to outline directions for strengthening the mechanisms aimed at preventing and combating environmental crime. The study highlights the need for an integrated, interdisciplinary and systemic approach, by correlating environmental law norms with the instruments of administrative, contraventional and criminal law, in order to ensure the real, effective and sustainable protection of natural heritage.

Keywords: state-protected natural areas, environmental crime, biodiversity, legal vulnerabilities, legal liability, environmental protection, ecological conservation.

**EVALUAREA CADRULUI JURIDIC AL ARIILOR PROTEJATE DE STAT
ȘI A VULNERABILITĂȚILOR CARE FACILITEAZĂ CRIMINALITATEA DE MEDIU****Abstract**

Prezentul demers științific are ca obiect evaluarea cadrului juridic incident ariilor naturale protejate, din perspectiva eficienței normelor juridice destinate prevenirii, constatării și sancționării faptelor ilicite care aduc atingere valorilor naturale ocrotite. Studiul pornește de la premisa că ariile protejate constituie spații cu regim juridic special, în cadrul cărora conservarea biodiversității, protecția habitatelor naturale și menținerea echilibrului ecosistemic reclamă mecanisme normative coerente, instituții funcționale și instrumente eficiente de control administrativ și jurisdicțional. În acest context, sunt examinate vulnerabilitățile de ordin normativ, instituțional și aplicativ care pot favoriza manifestarea criminalității de mediu, între care se evidențiază fragmentarea reglementărilor, insuficiența delimitare a competențelor autorităților, carențele sistemului de moni-

torizare, caracterul uneori formal al controlului ecologic, precum și aplicarea neunitară a răspunderii juridice.

Finalitatea cercetării constă în identificarea disfuncționalităților care diminuează eficacitatea protecției juridice a ariilor naturale protejate și în conturarea unor direcții de consolidare a mecanismelor de prevenire și combatere a criminalității de mediu. Demersul relevă necesitatea unei abordări integrate, interdisciplinare și sistemice, prin corelarea normelor de drept al mediului cu instrumentele dreptului administrativ, contravențional și penal, în vederea asigurării unei protecții reale, efective și durabile a patrimoniului natural.

Cuvinte-cheie: arii naturale protejate de stat, criminalitate de mediu, biodiversitate, vulnerabilități juridice, răspundere juridică, protecția mediului, conservare ecologică.

Introduction. In the current context, the relationship between human activity and the natural environment has become one of society's essential concerns. Economic development can no longer be viewed separately from environmental protection, as it is necessary to strike a balance between the use of natural resources and their conservation for future generations. Therefore, the analysis of the legal regime of protected areas makes it possible to highlight the way in which environmental relations influence the formation and evolution of constitutional and legal norms. At the same time, such research reveals the capacity of law to effectively regulate the specific relations between society and nature, thereby contributing to the consolidation of a sustainable development model.

The benefits provided by nature often constitute effective and sustainable solutions for meeting human needs. For this reason, the integration of norms concerning ecosystem protection into environmental management policies represents an essential condition for balanced development.

Investment in a functional environment is often regarded as a luxury. This perception is largely determined by the lack of clarity of regulations concerning ecosystem protection and by the tendency to treat natural resources as being available indefinitely. Consequently, numerous public or economic decisions are adopted without an adequate assessment of their environmental effects. However, the excessive use of limited natural resources inevitably leads to the degradation of natural capital, affecting both ecological balance and the quality of present and future life.

Protected areas are the backbone of nature conservation; however, this type of "protection regime" is not sufficient to address the significant pressures affecting European biodiversity, such as semi-natural habitats and species whose survival ranges are linked to agricultural land lost through the abandonment of farming practices or the intensification of agriculture; large-scale alteration of freshwater systems; pollution; and unsustainable marine fishing. The clear benefits of protected areas can only be sustained through broader social changes.

By their nature and purpose, they constitute areas subject to a special legal regime, within which the public interest in environmental protection prevails over certain forms of economic exploitation that are incompatible with conservation objectives. In this regard, the protection of protected natural areas cannot be reduced to mere normative recognition; rather, it requires the existence of a coherent system of regulation, administration, monitoring, control and sanctioning of acts that affect the protected natural values.

The improper exploitation of the environment has caused many components of nature to lose their former appearance, qualities and structure; therefore, it became necessary to implement the concept of sustainable development.

The establishment of the protected areas fund aims to ensure the protection and conservation of natural objects and complexes for the present generation and future generations. This requires the effective correlation of organizational, economic and educa-

tional measures with potential anthropogenic activities, ensured through legal norms.

The topicality of the subject is determined by the intensification of pressures exerted on natural heritage, including illegal logging, poaching, unauthorized exploitation of natural resources, pollution, illegal construction, habitat degradation and other forms of unlawful conduct that may fall within the scope of environmental crime. These manifestations highlight not only the risk of irreversible damage to ecosystems, but also the existence of normative, institutional and practical vulnerabilities that limit the effectiveness of legal protection mechanisms.

The relevance of the research also results from the fact that, although the Republic of Moldova has a relatively complex regulatory framework in the field of protected natural areas, its practical application is affected by a series of institutional, administrative, economic and social vulnerabilities. According to the Yearbook of the Inspectorate for Environmental Protection – 2024 [1, p.121], the area of state-protected natural areas amounts to 66,995 ha, or 4.65% of the country's territory, and includes 387 sites, including 294 secular trees. According to this indicator, the Republic of Moldova ranks among the lowest in Europe.

The relatively low share of state-protected natural areas does not ensure the effective conservation of biological diversity in accordance with the requirements of international treaties in the field. Thus, as part of the response to the limited share of protected natural areas, as well as in order to address threats to biodiversity, the National Ecological Network was created, covering 11,113 km². The National Ecological Network emphasizes the importance of a landscape-level approach as a mechanism for conserving ecological processes and patterns. According to the National Development Strategy "European Moldova 2030", the target for expanding the network of protected areas is set at 10.0% of the country's territory by 2030 [2].

In this context, the assessment of the legal framework governing protected areas becomes necessary in order to identify the shortcomings that facilitate violations of the protection regime. The fragmentation of regulations, the overlapping or insufficient delimitation of the competences of public authorities, the formal nature of certain control mechanisms, the lack of effective monitoring, and the inconsistent application of legal liability are aspects that may reduce the state's capacity to prevent and combat environmental crime.

The purpose of the research is to analyse the legal framework applicable to protected natural areas from the perspective of its effectiveness in preventing, detecting and sanctioning unlawful acts affecting the environment. At the same time, the research aims to highlight the main vulnerabilities that facilitate environmental crime and to formulate guidelines aimed at strengthening the legal protection of natural heritage.

Therefore, the study aims to contribute to the substantiation of an integrated approach in which environmental law norms are correlated with the instruments of administrative, contraventional and criminal law, so that protected areas may benefit from real, effective and sustainable protection, also taking into account the well-known maxim: "think globally and act locally".

Methods and materials applied. In carrying out this scientific study, general and special methods of legal research were used, capable of ensuring a complex analysis of the regulatory framework applicable to protected natural areas and of the vulnerabilities that may facilitate environmental crime. The normative analysis method made it possible to examine the legal regulations relevant to environmental protection, biodiversity conservation and legal liability for unlawful acts committed within the perimeter of protected areas. At the same time, the systemic method was used to highlight the connections between the norms of environmental law, administrative law, contraventional law and

criminal law, in order to determine the degree of coherence and effectiveness of legal protection mechanisms.

Furthermore, the comparative method was applied in order to identify relevant normative and institutional benchmarks in the field of preventing and combating environmental crime, while the logical and deductive methods served to formulate conclusions regarding existing dysfunctions and directions for improving the legal framework. The research was based on the analysis of national legislation in the field of environmental protection and protected natural areas, relevant international instruments, specialised legal doctrine, as well as institutional materials concerning the administration, monitoring and control of activities carried out within protected areas.

Discussion and results obtained. One of the areas that has found adequate reflection in the legal regime of protection, both in international and national legislation, is the field of natural objects subject to a special protection regime or, in other words, specially protected natural areas. The legislation of the Republic of Moldova defines a **protected natural area** as “a geographically delimited natural space, containing representative and rare natural elements, designated and regulated for the purpose of conserving and protecting all environmental factors within its boundaries”. However, in order to avoid certain difficulties in understanding this concept in relation to other similar notions, we consider it necessary to distinguish between the concept of a protected natural area and that of the fund of protected natural areas.

Thus, the notion of the “fund of protected areas” designates “a much broader domain, consisting of the totality of natural areas in their diversity, as well as the objects and natural complexes protected by the state”.

Therefore, state-protected natural areas represent terrestrial, aquatic and/or underground areas with legally established boundaries and a special regime of protection and conservation, within which there are species of wild plants and animals, as well as biogeographical, landscape, geological, paleontological, speleological or other elements and formations of particular ecological, scientific or cultural value.

International, EU and national documents distinguish the following categories of protected areas, depending on the protection regime established: Category I – scientific reserves/strict nature reserves; Category II – natural parks; Category III – natural monuments/significant natural features; Category IV – nature conservation reserves/divided nature reserves/fauna sanctuaries; Category V – protected terrestrial or marine landscapes; Category VI – natural resource reserves; Category VII – natural biological regions/anthropological reserves; Category VIII – natural areas managed for multiple use/natural resource management areas; Category IX – biosphere reserves; Category X – natural properties of world heritage.

The establishment of protected areas occupies an important place among the methods and means of nature protection and conservation, by preserving and safeguarding representative natural samples so that they may be transmitted to future generations. In the same vein, Article 6 of the Law on the Fund of State-Protected Natural Areas [3] expressly enshrines the purpose of establishing this fund, aimed at regulating relations in the field of environmental protection; conserving natural objects and complexes for the present generation and future generations; carrying out an in-depth study of natural processes within biocoenoses, including important forest and steppe ecosystems, wetlands, breeding and hibernation sites and animal migration routes; restoring ecological balance in protected natural areas; maintaining the genetic fund within the biological capacities of natural objects and complexes; holding liable natural and legal persons who have caused

damage to protected natural areas; and ensuring compliance with international conventions and agreements concerning protected natural areas.

In the same context, it should be noted that the objects and complexes within the fund of protected areas are used for: the protection of the most representative natural areas; the preservation of the gene pool; biodiversity conservation; the preservation of the natural appearance of the geographical landscape; the protection of migration routes and breeding sites; the conduct of scientific research; the monitoring of protected natural areas; ecological, cultural and aesthetic education; and the recreation of citizens.

Therefore, it can be observed that these areas fulfill not only functions related to the conservation of biological diversity and the heterogeneity of environmental conditions, as well as socio-educational functions, but also an important scientific role through the research that may be carried out in these areas where ecological balance is not disturbed. This ensures a deeper understanding of the processes of biological productivity and of the stability of environmental protection.

With regard to the principles underlying the administration regime of the fund of protected areas, Article 19 of the Law [3] stipulates that: “The Government shall establish the entity responsible for the administration and management of protected natural areas, landscapes, Emerald sites and Natura 2000 sites, for ensuring the conservation of wild flora and fauna species, habitats and ecological corridors, as well as for their monitoring, management and protection”.

The enshrinement of these principles constitutes a sectoral reflection of the constitutional obligations of the state to ensure the restoration and protection of the environment, as well as the maintenance of ecological balance [4, Art. 126 para. (2) lit. f], and the rational exploitation of land and other natural resources, in accordance with national interests [4, Art. 126 para. (2) lit. e].

The current regulatory and institutional framework concerning the protection and sustainable use of biological diversity is relatively well developed and has been progressively built in accordance with international commitments, including the CBD, Ramsar, CITES, Bonn and Bern Conventions, as well as the Republic of Moldova–European Union Association Agreement. The key normative acts include: Law No.1515/1993 on Environmental Protection; Law No.1538/1998 on the Fund of State-Protected Natural Areas; Law No.94/2007 on the National Ecological Network; Law No.325/2005 on the Red Book; Law No.149/2006 on the Fishery Fund; Law No.55/2024 on the Hunting Fund; and others. Environmental impact assessment instruments, regulated by Law No.11/2017, and strategic environmental assessment, regulated by Law No.86/2014, ensure the integration of conservation principles into planning.

However, the overall analysis of the regulatory framework and its implementation identifies a series of gaps and constraints that affect the effectiveness of conservation policies:

- The fragmentation and overlapping of institutional competences among environmental, agricultural, forestry and local public administration authorities, which complicates the uniform application of legal provisions and the integrated management of ecosystems;

- The lack of a coherent framework for ecosystem-based management, reducing the capacity for long-term planning and for maintaining ecosystem services; regulations remain largely focused on species and habitats, without a clear intersectoral approach;

- The insufficiency of economic and financial mechanisms aimed at stimulating biodiversity conservation, such as payments for ecosystem services, compensation measures and fiscal incentives, which limits the application of the “beneficiary pays” principle;

— Gaps in the updating and digitalisation of national databases, including registers of species and habitats, hunting and fishery inventories, affecting the accuracy of monitoring and reporting;

— The weak correlation between framework legislation and secondary legislation, especially between regulations on environmental protection, water management, agricultural and forestry land management, generating inconsistencies and divergent interpretations;

— Limited institutional capacities and human resources, particularly at local level, which affect the enforcement of norms, planning and compliance control;

— The absence of clear financing mechanisms for the management of protected areas, as the status of many areas remains merely formal in the absence of management plans and effective monitoring.

In the context of the Republic of Moldova's accession process to the European Union and of the commitments undertaken within the accession negotiations, particularly in the field of environmental protection, biodiversity conservation and the sustainable use of natural resources, the Draft Biodiversity Programme for 2026-2030 establishes the institutional, legal and operational framework necessary for the establishment, development and functioning of the Natura 2000 network as an integral part of the national biodiversity conservation system. It ensures the progressive alignment of national legislation, policies and practices with the standards and requirements of the European Union *acquis*. The Programme also highlights the need to overcome the limited approach focused exclusively on protected areas and to move towards an integrated ecosystem-based approach [5].

At the same time, the National Programme for Forest Extension and Rehabilitation for the period 2023-2032 (hereinafter – NPFER) [6] was conceptualised in order to achieve these objectives and to address socio-economic, ecological and climate-related challenges. The NPFER is aligned with global commitments and trends related to forests and land use, including the Glasgow Leaders' Declaration on Forests and Land Use, the United Nations Strategic Plan for Forests 2017-2030, and the European Green Deal. Taking into account the specific nature of the forestry sector, as well as the objectives established, the NPFER cannot be implemented within a medium-term period of 3-5 years. The achievement of the objectives set for the forestry sector in the "European Moldova 2030" Strategy and in the Government Activity Programme "Moldova of Good Times" requires a period of at least 10 years.

During 2024, forestry entities subordinated to the "Moldsilva" Agency afforested 4,292 ha within the framework of the NPFER (*Table No.1*).

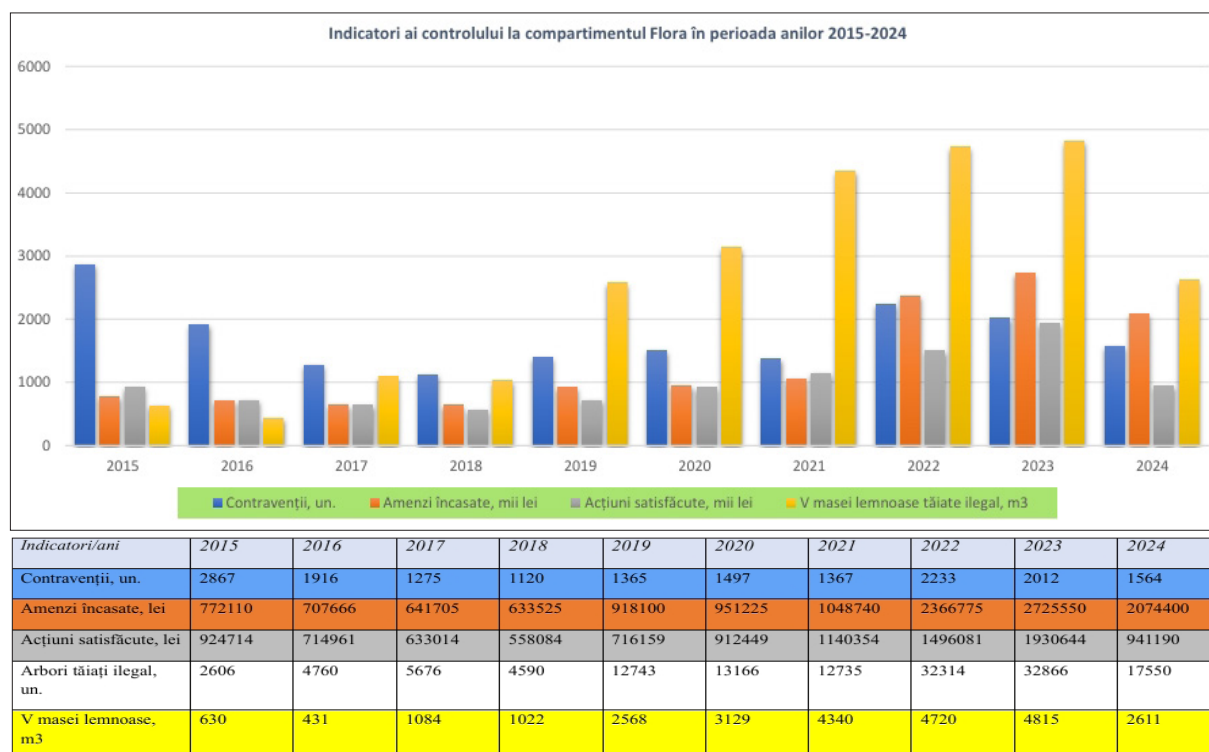
Entitatea silvică	
ÎS Bălți	146
ÎS Călărași	268
ÎS Chișinău	200
ÎSC Cimișlia	129
ÎS Comrat	192
ÎS Edineț	384
ÎS Glodeni	181
ÎS Hîncești silva	427
ÎS Iargara	184
Î.S.Nisporeni Silva	171
ÎS Orhei	301
ÎS Silva Centru	159
ÎSC Sil-Răzeni	89
ÎS Silva Sud	316
ÎS Soroca	216
ÎSC Strașeni	156
ÎS Șoldănești	124
ÎS Telenesti	131
ÎS Tighina	287
RN Pădurea Domn	72
RN Codrîi	65
RN Plaiul Fagului	73
RN Prutul de Jos	21

Tabelul 1: Afforestation Area in 2024 under the National Program for Forest Expansion and Rehabilitation (NPFER)

The Inspectorate for Environmental Protection is empowered, under the provisions

of the Regulation on the organisation and functioning of the Inspectorate for Environmental Protection, approved by Government Decision No.548/2018, to carry out state supervision and control in the field of environmental protection and the rational use of natural resources, and to perform its functions in several areas, including the protection of flora, fauna and protected natural areas [7, Art. 8, point 8.4].

The results of state control concerning environmental protection under the “Flora” section are presented in Table No.2.



Tabelul 2: The results of state control concerning environmental protection under the “Flora” section

Legal Liability. The establishment of the fund of protected areas aims to ensure the protection and conservation of natural objects and complexes for the present generation and future generations. This presupposes an effective correlation between organisational, economic and educational measures and potential anthropogenic activities, ensured through legal norms.

Thus, the law expressly provides for the civil, administrative or criminal liability of natural and legal persons who have caused damage to protected areas [3, Art. 98 para. (1)].

For the establishment of environmental liability, the provisions of Law No.107/2025 on environmental liability in relation to the prevention and remedying of environmental damage shall apply [3, Art. 98 para. (3)].

“Material damage caused by natural and legal persons to the objects and complexes within the fund of protected areas shall be compensated in the manner established by the legislation in force” [3, Art. 99 para. (1)].

Such a situation is generated by the right of every person to benefit from a healthy and balanced ecological environment, enshrined in Article 37 of the Constitution of the Republic of Moldova [3]. Thus, although in the vast majority of cases, pursuant to the provisions of Article 166 of the Civil Procedure Code of the Republic of Moldova [8], which establishes that “anyone who claims a right against another person or has an interest in

establishing the existence or non-existence of a right must file a statement of claim with the competent court”, the person bringing an action is required to demonstrate their own injured personal interest, an aspect which is most often reflected in the impairment of an individual interest or right, nevertheless, in cases involving damage caused to objects and complexes within the fund of protected areas, such an approach is no longer appropriate.

This is explained by the fact that the interest in maintaining the integrity of the objects and complexes forming part of the fund of state-protected natural areas must be analysed from the perspective of the need to ensure ecological balance, as a value of general public interest. Indeed, the protection of these natural objectives is not merely an obligation of public authorities, but also a legal guarantee for the exercise of the fundamental right to a healthy environment.

In this regard, the beneficiary of constitutional protection is not exclusively the citizen of the Republic of Moldova, but any person located on the territory of the state, irrespective of citizenship or national affiliation. This interpretation follows from the wording of Article 37 of the Constitution of the Republic of Moldova [3], which enshrines the right to a healthy environment by using the phrase “every human being”, thereby conferring upon the constitutional norm a universal and non-discriminatory character.

Therefore, where, through the statement of claim, the claimant formulates claims concerning compensation for damage caused to the environment, the court is not entitled to make the admissibility of the action conditional upon the indication of a specific real right allegedly infringed by the harmful act. This is because ecological damage does not exclusively affect an individual patrimonial right, but infringes upon a public interest in environmental protection, including the right of every person to a healthy environment.

When analysing a person’s right to an ecologically balanced environment, it is not sufficient merely to recognise its universal character; it is also necessary to acknowledge the effective possibility for the holders of this right to seek its protection through administrative or judicial means.

Therefore, the fact that a natural or legal person has referred the matter to the court or to the competent authority in order to obtain compensation for damage caused to objects and complexes within the fund of protected areas, and that the claim has been admitted, does not exclude the right of other persons to formulate similar claims, insofar as the ecological damage has not been fully remedied. Where the measures ordered do not fully cover the damage caused to the environment, other interested persons may request the supplementation of the claims, intervene in the proceedings or initiate a separate action, in order to ensure the effective and full remediation of ecological damage.

With regard to the right of the author of the damage to repair the harm in kind, as well as the right of the injured person to request such a form of reparation, both enshrined as general rules of civil liability, it should be specified that, in matters concerning damage caused to objects and complexes within the fund of state-protected natural areas, the application of this rule is limited.

This particularity results from the complex nature of ecological damage, which may affect ecosystems, habitats, species, soils, waters, natural formations and interdependent ecological processes. The restoration of the previous state cannot be left exclusively to the discretion of the perpetrator, as it requires specialised scientific and technical knowledge.

In such a situation, the only possibility for achieving reparation is based on the rule of compensation by equivalent value.

It follows from the foregoing that, in the case of damage caused to objects and com-

plexes within the fund of state-protected natural areas, both the authority competent to conduct the preliminary settlement procedure and the court must give priority to analysing reparation by equivalent value.

Thus, the object of the examination shall relate either to the value of the expenses necessary to remove the harmful consequences or to the amount of compensation established according to the criteria provided by law for environmental damage. In such situations, the emphasis is not placed on the perpetrator's right to choose the method of reparation, but on ensuring effective, proportionate compensation that complies with the special legal regime of protected natural areas.

In another respect, the hypothesis in which environmental damage is caused intentionally, through unlawful conduct consciously assumed by the perpetrator, cannot be excluded. This category includes acts such as poaching, unauthorised fishing, the capture or destruction of specimens of wild fauna, as well as the unauthorised import or export of rare species or of species included in the Red Book. Such actions affect not only the economic value of natural resources, but also biodiversity, ecological balance and the integrity of protected natural objects and complexes. Therefore, the prevention, respectively the anticipation, of environmental damage constitutes an essential prerogative of the democratic state.

A brief analysis of Law No.407/2006 on hunting and the protection of the hunting fund in Romania makes it possible to observe that the Romanian legislature expressly establishes the list of wild fauna species of hunting interest for which hunting is prohibited, as well as the amount of compensation applicable in the event of unlawful acts, including poaching or illegal hunting. At the same time, the Romanian regulatory framework enshrines procedural mechanisms concerning the identification and assessment of damage caused by specimens of fauna species of hunting interest.

In this regard, the assessment of the damage falls within the competence of a specially established commission, composed of representatives of the administrative-territorial unit within whose jurisdiction the damage occurred, of the county directorate for agriculture, as well as of the territorial structure of the central public authority competent in the field of hunting or environmental protection, as the case may be. The failure to appoint representatives of the competent institutions entails contraventional liability, thereby giving the procedure a mandatory and functional character.

By comparison, national regulations [9, Annex 6] provide for payments collected for damage caused by natural and legal persons through the hunting, acquisition, sale, possession, unlawful export or destruction of game animals. However, the amount of these payments is considerably lower than the compensation provided under Romanian legislation. For example, for the destruction of an elk, the national framework establishes a payment of 500 conventional units, equivalent to approximately EUR 1,200, whereas Law No.407/2006 provides for compensation of EUR 20,000.

Under these circumstances, it is necessary to formulate a *de lege ferenda* proposal regarding the revision of the national regulatory framework, with a view to bringing it closer to the standards of Romanian hunting legislation, particularly in terms of assessing damage per specimen hunted illegally. Increasing the amount of compensation would contribute not only to the harmonisation of national legislation with European requirements in the field of biodiversity protection, but also to the strengthening of the preventive function of legal liability, discouraging the commission of unlawful acts directed against wild fauna and protected natural areas [10, p.87].

"Reparation for damage caused to objects and complexes within the fund of protected

areas shall be carried out voluntarily or by court judgment" [3, Art. 99].

Legal action constitutes the procedural means by which the right to claim reparation for damage caused to objects and complexes within the fund of state-protected natural areas is enforced, where the author of the harmful act refuses to repair such damage within the framework of the prior extrajudicial procedure.

In the civil procedural law of the Republic of Moldova, the statement of claim represents the main instrument through which an interested person seeks the protection of an infringed or contested right, freedom or legitimate interest. In matters concerning damage caused to protected areas, it has a patrimonial character, as it seeks to compel the perpetrator to compensate for the damage caused to protected natural values.

At the same time, the right to request reparation for damage must not be linked exclusively to the existence of a real right over the affected property. Any person may invoke the need to repair ecological damage on the basis of the fundamental right to a healthy and ecologically balanced environment.

The extent of compensation shall be determined according to the value of the direct damage, as well as the foreseeable and unforeseeable consequences of the unlawful act, including those that may materialise in the future. In this matter, the principle of full reparation of damage applies, so that compensation reflects the seriousness of the harm caused to the objects and complexes within the fund of protected areas and seeks, as far as possible, to restore the affected ecological balance.

In cases where restoration in kind is impossible, such as when an animal within a protected natural area has perished, the claim for reparation of the damage may only seek as its exclusive object, compensation in the form of a monetary equivalent.

In matters concerning damage caused to objects and complexes within the fund of state-protected natural areas, the liability of the author of the harmful act is, in principle, objective in nature and independent of fault. Therefore, the injured person is not required to prove the perpetrator's guilt, it being sufficient to establish the unlawful act, the damage and the causal link between them. In such cases, liability may be incurred regardless of the form of guilt, discernment, age or mental state of the author of the damage, insofar as the special law does not provide otherwise.

At the same time, the court determines the method of compensation in relation to the nature of the damage and the circumstances of the case. Thus, in the case of injury to an animal within a protected area, reparation may consist of covering the expenses necessary for its treatment and recovery. By contrast, in the case of the animal's killing, compensation does not represent merely the monetary equivalent of the lost specimen, but also a form of covering the ecological damage generated by its removal from the natural environment and by the impairment of the ecosystem balance of the protected area.

Here, as mentioned previously, even if reparation in kind may be carried out personally by the perpetrator, the appropriateness of applying such a method is nevertheless examined by the court in each individual case. In any event, reparation by equivalent value represents the basic form of compensation. From the perspective of appropriateness, reparation through the perpetrator's own actions may be admitted only where the perpetrator is a specialist in this field and their occupation is specifically related to the treatment of animals or to the restoration of the natural conditions of wildlife habitats.

It should be specified that only the court may order such a method of reparation. Likewise, the court also determines the amount of reparation by monetary equivalent. It does so according to the extent of the damage as assessed on the date of delivery of the judgment.

Taking into account the continuous nature of natural processes, as well as the fact that the nature and extent of the damage caused to the animal kingdom cannot always be fully known, the claimant may also, after the adoption of the judgment, file a claim for compensation concerning damage that arose after the delivery of that judgment [10, p.111].

In a case [11] examined by the national court, it was established that, on 29 December 2022, Calugareanu D.G., pursuing the purpose of illegal hunting, being aware of the prejudicial nature of his actions, foreseeing their consequences and consciously accepting the occurrence of such consequences, without the appropriate hunting authorisation and without being included in any group of hunters authorised to hunt, during a prohibited period and time, intentionally installed several metal snares on a fence located in the “Plaiul Fagului” Reserve, Ungheni district, Rădenii Vechi village, with the purpose of capturing a wild animal.

It is noted that the civil action brought within the criminal proceedings has as its object the engagement of tort liability of the persons responsible under civil law for the damage caused by the commission of the act forming the subject matter of the criminal action. The Court notes that, on 15 February 2022, the injured party, the State Enterprise “Plaiul Fagului” Natural Reserve, located in Rădenii Vechi village, Ungheni district, IDNO: *****, filed a civil action against the defendant Calugareanu D.G., seeking recovery of the material damage caused by the offence in the amount of 12,000 lei (case file, pp.37-40).

In this regard, the Court finds that the conditions for tort liability are met in the present case, since, through the defendant’s unlawful act, according to the indictment, he directly caused patrimonial damage in the amount of 12,000 lei. Thus, it is noted that, in criminal proceedings, the civil action constitutes a means of repairing the damage caused by the offence, and its exercise requires the cumulative fulfillment of certain conditions.

Based on the foregoing, the court concludes that the claim filed by the injured party, the State Enterprise “Plaiul Fagului” Natural Reserve, concerning the recovery of material damage in the amount of 12,000 lei, is well-founded and, for these reasons, shall be admitted in full.

As a result, the Court found Calugareanu D.G., guilty and convicted him under Article 233 para. (1) of the Criminal Code of the Republic of Moldova, sentencing him to 1 (one) year of imprisonment, to be served in a semi-closed penitentiary, with conditional suspension of the sentence for a probation period of 1 (one) year, and ordering him to pay the damage caused in the amount of 12,000 (twelve thousand) lei.

With regard to the above-mentioned aspects, we conclude that the administration of justice requires a clear delimitation of the competences of courts and of the authorities involved in identifying, assessing and repairing damage caused to objects and complexes within the fund of state-protected natural areas, in order to avoid any overlapping of powers or the existence of uncovered areas.

Where the damage is caused by several persons, they shall be jointly and severally liable for the entire damage. The claimant may bring the action against any of the perpetrators, without being obliged to identify all of them by name, and may seek full reparation of the damage. The defendant who has fulfilled the compensation obligation subsequently has the right of recourse against the other co-authors.

However, it is necessary to distinguish between the main action and the recourse action. In the main action, liability for damage caused to protected areas is assessed according to the special rules of environmental law, including on the basis of objective liability, independent of fault. By contrast, in the recourse action, the rules of civil law governing relations between joint and several debtors apply, with the court examining

not the ecological damage itself, but the allocation of the pecuniary obligation among the co-authors of the harmful act.

The Contraventional and Criminal Regime Applicable to Acts Committed within Protected Areas. The legal protection of state-protected natural areas is ensured not only through rules of administration and conservation, but also through mechanisms of legal liability. In this regard, the Contravention Code of the Republic of Moldova provides sanctions for violations of the protection regime applicable to objects and complexes within the fund of state-protected natural areas. Article 141 of the Contravention Code [12] sanctions violations of the protection regime of objects and complexes within the fund of state-protected natural areas.

At the same time, the law [3, Art.98 para. (2)], expressly provides for the acts that are considered contraventions, unless they constitute offences under the law, as follows:

a) The use of protected natural areas for purposes other than those provided for by this Law;

b) The approval of the development of planned activities within state-protected natural areas and Emerald sites without their prior submission to the environmental impact assessment procedure and/or, where applicable, biodiversity assessment, in accordance with Law No.86/2014 on Environmental Impact Assessment;

c) The deterioration or destruction of protected natural areas;

d) The failure to eliminate the ecological consequences of accidents, disasters and other destructive phenomena;

e) The introduction of plants and animals alien to the respective area, which pollute the native gene pool;

f) The violation of the rules on the export of plants and animals placed under state protection;

g) The unauthorised execution of any development or construction works;

h) The discharge of industrial and household waste into waters or onto land, as well as its storage within protected natural areas and their protection zones;

i) The use of chemicals in protection zones beyond the permitted limits;

j) The unauthorised harvesting of forest fruits and berries, mushrooms, medicinal plants, seeds and aquatic organisms;

k) The unauthorised relocation of the boundaries of protected natural areas;

l) The damage, removal or erasure of boundary, geodetic or topographic markers, warning panels or signs;

m) The entry of unauthorised persons, with or without motor vehicles, into strictly protected zones;

n) Camping in prohibited areas;

o) Grazing in prohibited areas;

p) The unauthorised organisation and carrying out of economic, tourism and recreational activities;

r) Photographing or filming for commercial purposes without the payment of the required fees.

Therefore, the contraventional norm has both a preventive and a sanctioning role. It applies in situations where unlawful acts do not reach the level of social danger required to constitute a criminal offence, but nevertheless affect the special protection regime.

In more serious cases, criminal liability becomes applicable. The Criminal Code of the Republic of Moldova [13] contains a chapter dedicated to environmental offences, aimed at protecting the environment, natural resources and ecological balance.

It is important to mention that, in the Environmental Strategy for 2024-2030, our state acknowledges that the sanctions regime for non-compliance with environmental legislation contains several weaknesses that require interventions for improvement. The sanctions applied for non-compliance with environmental legislation are not sufficiently severe, do not fully reflect and are not proportionate to the damage caused to the environment, and do not encourage compliance with the law, even though, in recent years, amendments have been made to the Criminal Code of the Republic of Moldova No.985/2002 and to the Contravention Code of the Republic of Moldova No.218/2008, with a view to strengthening the environmental sanctions system. Environmental fines are also too low and do not determine economic operators and companies to reduce pollution levels, to comply with and observe environmental requirements, which involve costs significantly higher than the value of the fines currently applied [2, p. 17].

In turn, the methodologies for calculating environmental payments and the instructions for assessing environmental damage are outdated, no longer correspond to the current requirements of the country and do not take into account the impact of emissions on the environment, the extent of damage resulting from the use of natural resources, or the real financial cost of compensating environmental damage. There is also a differentiated approach by cities and areas regarding the amount of payments for the same types of pollution, which does not encourage the abandonment of polluting technologies, but rather creates the premises for locating environmentally harmful installations in areas with a lower level of pollution payments. Therefore, changes in the application of environmental payments must be implemented as soon as possible and should aim to encourage compliance with and observance of environmental requirements [2, p.18].

Therefore, from a criminal law perspective, environmental crime committed within protected areas presents increased gravity, as it affects not only an individual natural asset, but an entire ecological system protected by law. The damage is not limited to the economic value of the destroyed resource, but also includes the loss of biodiversity, habitat degradation, the impairment of ecosystem functions, the diminution of the scientific and landscape value of the territory, as well as the reduction of its natural regeneration capacity.

Sanctioning vulnerability also manifests itself when contraventional sanctions are not sufficiently deterrent in relation to the economic benefits obtained through the illegal exploitation of resources. If the fine is lower than the profit resulting from illegal logging, illegal hunting, unauthorised fishing or land use, the legal norm loses its preventive character. Under such circumstances, perpetrators may regard the sanction as a “cost of illegal activity”, which diminishes the effectiveness of legal protection.

A distinct problem is the difficulty of assessing ecological damage. In the case of protected areas, the damage is not always immediately visible and cannot be reduced to the material value of the felled trees or extracted resources. Habitat degradation, species disappearance, soil damage, ecosystem fragmentation and the loss of ecological functions constitute complex, sometimes irreversible damage, requiring specialised expertise. In the absence of clear and uniformly applied methodologies, the establishment of liability may become difficult.

In addition to these issues, there is also the insufficiency of technical equipment. Combating environmental crime requires the use of modern technologies, such as GIS systems, drones, surveillance cameras, digital databases, applications for reporting violations, interactive maps and updated registers of protected areas. Without such instruments, control remains predominantly reactive and dependent on citizens' reports or

occasional inspections.

Comparative Analysis of Legislation and Practices in EU Countries. At the European level, the Natura 2000 Network represents the main instrument of nature conservation policy, being composed of Special Protection Areas for birds – SPAs, designated under the Birds Directive, and Special Areas of Conservation – SACs, established pursuant to the Habitats Directive.

SPAs are designated directly by the Member States and notified to the European Commission, whereas SACs involve a staged procedure: the proposal of sites of Community importance, their selection at European level and the establishment of definitive protection by the states. Consequently, the level of protection may vary depending on the category of the area, the conservation objectives and the measures applied at national level.

In Germany, the Federal Nature Conservation Act – *Bundesnaturschutzgesetz* [14] – regulates the main categories of protected areas and establishes specific conservation objectives. Among these, the most relevant are national parks, nature reserves – *Naturschutzgebiete*, NSG – and protected landscapes – *Landschaftsschutzgebiete*, LSG.

The legal regime differs depending on the protection category. Thus, national parks imply a high level of conservation, with severe limitations on economic activities, while nature reserves prohibit, pursuant to § 23 BNatSchG, activities likely to destroy, damage or alter the protected area or its components.

For protected landscapes (*Landschaftsschutzgebiete*, LSG), the level of protection is lower compared to national parks and nature reserves. Pursuant to § 26 BNatSchG, their purpose is to maintain, develop or restore the functionality of ecosystems, their capacity for regeneration and the sustainable use of natural resources.

In this regard, German legislation establishes certain rules and prohibitions applicable to activities, including agricultural activities, in order to achieve conservation objectives. Unlike the European model, which is predominantly focused on achieving conservation outcomes, the German regulation of national protected areas is more strongly conduct-oriented, directly establishing the actions that are permitted, limited or prohibited.

In Germany, restrictions on the use of agricultural land within protected areas vary depending on the objectives of each area and are generally established through individual normative acts.

Nature reserves and protected landscapes frequently prohibit construction works, the exploitation of mineral resources and the removal of landscape elements. Conditions may also be imposed regarding the water regime, mowing, grazing, the period of land use and livestock density.

According to § 14 BNatSchG, activities that affect protection objectives are considered interventions in nature and must be avoided or compensated. However, agriculture carried out in accordance with good agricultural practices is not, as a rule, classified as an intervention under the so-called “agricultural clause”, without excluding the possibility of establishing special restrictions for certain protected areas.

It is also relevant to provide a concise presentation of the regime of protected natural areas in Romania, a state characterised by remarkable biodiversity, determined by its geographical position and the diversity of its landforms.

The Carpathian Mountains and the Danube Delta are included in WWF’s “Global 2000” [15] among the 200 most important Ecoregions in the world for the conservation of habitats and biodiversity. Following Romania’s accession to the European Union, protect-

ed natural areas continued to expand.

Since human activities — economic, social and cultural — are interdependent with the natural environment, the development of protected areas must be based on the principle of conservation integrated with sustainable development.

In multifunctional landscapes, ecosystem protection may coexist with the responsible use of resources, so that economic and social services are maintained without compromising biodiversity. In this regard, the valorisation of ecosystem services must be correlated with sustainable economic activities, since individual and collective well-being depends directly on the quality of the environment and the effectiveness of conservation measures.

Another example of this kind is Sweden [16], where an active environmental policy is implemented both at state level and at public level. The main objectives of this policy are health protection, the conservation of natural biological diversity, environmental management aimed at its optimisation, and the protection of natural and cultural landscapes. The country implements an energy conservation programme and promotes the predominant use of environmentally safe energy sources, including biomass and alternative sources. Strict restrictions have been introduced on emissions of harmful substances from vehicles. A decision has also been taken to gradually phase out nuclear energy.

Another example is the Netherlands, whose Constitution also contains a special article on the protection and improvement of the environment, aimed at enhancing the quality of life. In this country, the public environmental organisation “Children of the Earth” operates actively and implements, in the field of environmental management [17], an action plan based on scientific principles.

Certain successes have also been achieved in France, whose environmental system is much more centralised. The Czech Republic is an example of a country where protected landscape areas form the basis of the national system of protected areas, although three national parks have also been established in the northern and southern border regions [18]. France has developed a slightly different system of protected areas, including national parks, regional parks and nature reserves [19].

In conclusion, the effective implementation of the European Union’s sustainable development strategy requires the consolidation of a coherent environmental policy that is integrated and adapted to new ecological, economic and social realities. Such a policy must be based on the principle of concentrating institutional efforts and on effective cooperation between the structures of the European Union, the Member States and the supranational actors involved in the field of environmental protection.

At the same time, the development of environmental policy must reflect its multifactorial and participatory nature, taking into account the simultaneous involvement of public authorities, the economic sector, civil society and environmental protection organisations. Within this framework, the conservation of the natural environment and the guarantee of ecological security must prevail over circumstantial economic interests, constituting essential premises for sustainable development at European level.

Conclusions. A clean and healthy environment represents a fundamental condition for the observance of human rights enshrined in the Constitution of the Republic of Moldova, such as the right to life and the right to physical and moral health. Maintaining the quality of the main components of the environment — air, water, soil, flora and fauna — is essential for ensuring sustainable development.

In this context, protected natural areas play a crucial role, contributing to the conservation of biodiversity, ecosystems and rare habitats, as well as to the protection of

plant and animal species. Through the special restrictions applied, they maintain ecological balance, protect natural, geological and cultural heritage, support the fight against climate change and provide opportunities for scientific research, education and recreation, while ensuring the sustainable use of natural resources.

The implementation of adaptation measures in environmental conservation management at local level represents a complex process, determined by the ecological, social, economic and institutional particularities of each region or country. For this reason, the identification of effective solutions requires a transdisciplinary approach that integrates legal, ecological, administrative and socio-economic perspectives.

This research synthesises the main difficulties concerning the implementation of recommendations in the field of protected natural areas at the level of national legislation, formulating conclusions and proposals regarding their monitoring, the assessment of the vulnerability of protected areas, the improvement of current and future management practices, as well as the consolidation of the legal and policy framework applicable to biodiversity conservation.

International case studies on the effectiveness of protected areas increasingly highlight the interdependence between socio-economic outcomes and environmental conservation objectives. The effective protection of biodiversity cannot be achieved exclusively through restrictive measures; rather, it requires institutional support, local cooperation and the involvement of communities located in the vicinity of protected areas.

In this regard, protected areas must contribute, directly or indirectly, to the economic well-being of local communities through activities compatible with conservation, such as ecotourism, environmental education, the sustainable use of resources and the development of ecosystem services. However, although the importance of the socio-economic dimension is increasingly recognised, research that rigorously assesses the impact of protected areas on local communities remains relatively limited, especially in the context of developing states.

Local public administration represents an essential link in the application of environmental legal norms, as it is in direct contact both with the population and with the immediate users of natural resources. Through this position, local authorities can promptly identify risks of degradation, prevent violations of the protection regime and contribute to the effective conservation of protected natural areas located within the boundaries of localities.

In this regard, the legislation of the Republic of Moldova must provide for a clear mechanism for holding local public authorities accountable, complemented by the continuous training of civil servants in the field of biodiversity protection. This mechanism must be based on transparency, access to environmental information, the up-to-date nature of data and the involvement of citizens in local ecological issues and biodiversity protection, from the perspective of the benefits they provide.

Contemporary constitutional and environmental legislation is characterised by the recognition of environmental protection as a fundamental objective of the state, as well as by the grounding of the right to a healthy environment in essential ecological principles, such as the principle of minimum intrusion, the principle of environmental conservation and, last but not least, the principle of cooperation.

At the same time, the effectiveness of protected natural areas depends on the implementation of special management, monitoring and ecological restoration programmes. The ecological, social and economic issues generated by habitat connectivity and the integration of protected areas into the landscape require the adaptation of biodiversity

conservation strategies at different levels of implementation: national, regional and local.

In this context, the Information System “Register of Protected Natural Areas” (hereinafter – IS RPNA) and the Regulation on the manner of maintaining the Register of Protected Natural Areas should be implemented. This would allow existing information to be consolidated into a single platform, reducing data fragmentation and providing a solid basis for decision-making in the field of environmental protection. At the same time, the information system would support interinstitutional cooperation and facilitate the fulfilment of the Republic of Moldova’s international commitments in the field of biodiversity conservation.

The Register would also contribute to compliance with international reporting obligations, simplifying the process of alignment with European standards. In addition, the integrated data would provide solid support for the development of public policies and for decision-making in the field of environmental protection. The system will facilitate the identification of vulnerable areas, the adoption of conservation measures and rapid access to data, supporting evidence-based decisions and the sustainable management of natural resources. At the same time, transparency and interoperability will hold institutions accountable and involve local communities in environmental protection [20].

The implementation of the IS RPNA will bring significant benefits to the public sector, providing an efficient tool for managing data on the protected natural areas of the Republic of Moldova. The system will contribute to reducing the time and resources required for verifying and updating information, ensuring a single and reliable record, and will facilitate data exchange and interoperability among public institutions and with other state information systems through the MConnect platform. This will lead to an increase in the quality of public services and to the modernisation of information management concerning protected natural areas [20].

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