Contemporary Readings in Law and Social Justice
ISSN: 1948-9137, e-ISSN: 2162-2752
Vol 18 (01), 2026
pp. 113 - 127

Classification of Protected Areas as a Mechanism for Biodiversity Conservation in Aquatic Environments

Dr. Yassine Ghouraf[1]

[1]Lecturer A, Institutional Law Lab, Faculty of Law and Political Science, University of Djillali Liabes, Sidi Bel Abbes, Algeria. Email: **Yassine.ghouraf@univ-sba.dz**

ABSTRACT: Aquatic environments are rich in unique biodiversity that cannot be found elsewhere. However, these environments face numerous severe environmental violations that threaten this biodiversity's existence.

In response, legislators have adopted various mechanisms to preserve biodiversity in these environments. One of the most effective and efficient of these is the classification of protected areas. This research paper will explore the procedures for classifying protected areas, their role in safeguarding biodiversity in aquatic environments and the legal protection of these areas as a means of conserving biodiversity.

Keywords: aquatic environments, protected areas, biodiversity, classification.

Received: 24/05/2025 **Accepted: 14/10/2025** **Published: 19/01/2026**

Introduction

Aquatic environments are of great importance to any ecosystem due to their rich plant and animal resources. These contribute to valuable biological diversity, which is an important economic, tourist and environmental asset.

However, these environments are currently experiencing significant deterioration and a sharp decline in biodiversity due to pollution caused by human industrial and economic activities, as well as natural disasters.

To preserve these environments, legislators have adopted numerous legal mechanisms aimed at protecting them from the various harms that could contribute to their degradation and destruction. This is evident in fundamental environmental legislation such as Law 03-10, as well as various other related environmental laws.

One such mechanism is the classification of protected areas, introduced particularly through Law 11-02 concerning protected areas within the framework of sustainable development. The provisions outlined in this legislation suggest that protected areas could genuinely protect aquatic environments and the diverse plant and animal species they harbour from any deterioration. This is especially significant as it imposes various restrictions, procedures and measures that limit actions or activities which could threaten these environments and their biodiversity.

Therefore, based on the above, this research paper will attempt to address the following question: How can the mechanism for classifying protected areas in aquatic environments contribute to conserving the biodiversity they harbour?

Section One: Procedures for Classifying Protected Areas and Their Role in Protecting Biodiversity in Aquatic Environments

Certain natural environments are of great importance due to their rich diversity of plant and animal species, as well as the interactions between them. Any impact on a single species can disrupt the overall balance of these environments, affecting the environment as a whole and leading to ecological and economic losses that can also have repercussions for humans, given the health benefits and other advantages derived from this biodiversity.

Aquatic environments are among the most critical of these systems and many of them exhibit significant biological diversity that is increasingly under threat from activities that pose a risk of damage or annihilation. This situation has prompted legislators to establish various preservation mechanisms, including the classification of protected areas.

In this section, therefore, we will explore the procedures for classifying protected areas and their role in safeguarding biodiversity in aquatic environments. First, however, we will address the definitions of various related concepts.

First: The concept of biodiversity, protected areas and aquatic environments

We will begin by discussing the concept of biodiversity, followed by protected areas, and then the concept of aquatic environments.

1. The concept of biodiversity

The United Nations believes that biodiversity is the strongest natural defence against climate change. This is because the ecosystems of the land and oceans currently absorb 60% of the emissions produced on Earth. It is also considered an effective means of storing large quantities of carbon dioxide[1].

The term 'biodiversity' or 'biological diversity' emerged in the mid-1980s among environmentalists[2] due to significant and accelerating environmental damage and the drastic

---

[1]- Chahrzad Fekiri, 'Biodiversity loss and its impacts on global food security', Al-Mayar Journal, University of Tissemsilt, Algeria, Vol. 14, No. 2, December 2023, p. 384.

[2]- The environment is defined as the set of primary factors under human perception and observation where human involvement plays a significant role in creating effects such as light, heat and humidity, which led to the emergence of ecology as a science.

Hamida Jamila, The Legal System of Environmental Damage and Mechanisms of Compensation, Dar Al-Khaldounia for Publishing and Distribution, Al-Quba, Algeria, 2011, p. 26.

The environment can also be defined as all the natural elements that surround humans, animals and plants. These elements form a life system for all living organisms in a particular place, creating an interconnected ecological unit. Ibtisam Saeed Al-Malkawi, The Crime of Environmental Pollution: A Comparative Study, 1st edition, Dar Al-Thaqafa for Publishing and Distribution, Amman, Jordan, 2018, p. 28.

The environment is further defined as: 'A collection of systems, factors and natural materials with which humans interact in their workplaces, living spaces or recreational areas, influencing and being influenced by them. This

decline of various plant and animal species. They have called on the international community to take responsibility for protecting living organisms and their ecological environments as these constitute a natural heritage formed over different periods of time[3].

Biodiversity refers to the variety of species and forms of life that inhabit the Earth. These living organisms are classified on a spectrum ranging from the smallest to the largest species. The 1992 Convention on Biological Diversity was the first to adopt this concept, defining[4] it as follows: 'The diversity of genes, species and ecosystems, which is the secret of life that manifests or crystallises in a vast genetic dictionary known as DNA, typically containing billions of genetic codes that ensure growth, life and development.' The sustainable exploitation of all forms of biodiversity plays a crucial role.

These plant and animal species, along with other living organisms, can be found in natural environments, as well as in terrestrial and aquatic ecosystems which have experienced significant and dangerous depletion in the past. Therefore, efforts must be made to combat this depletion and conserve the affected resources[5].

The Algerian legislator defined biodiversity in Article 3 of the fundamental environmental protection legislation as follows: 'The variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are a part. This includes diversity within and between species, as well as diversity of ecosystems"[6].

2. The concept of protected areas

Protected areas are natural regions of land, sea or water with defined boundaries. The law grants them the necessary protection to preserve their animal and plant diversity, and to safeguard them from excessive exploitation or harmful natural changes. These areas are vital sources of economic, aesthetic and cultural resources, and are under threat of degradation or extinction.

---

includes, but is not limited to, air, water, soil, wildlife, marine life, food, mineral materials, chemicals, energy sources and various social factors.'

(Abdel-Aal Al-Dirbi, International Protection of the Environment and Mechanisms for Dispute Resolution: A Theoretical and Applied Study with Special Reference to the Role of the International Tribunal for the Law of the Sea, 1^(st) edition, The National Center for Legal Publications, Cairo, Egypt, 2016, p. 20).

[3]- Souleiman Kharoubi, 'The Role of Ecotourism in Enhancing Biodiversity in Algerian Legislation', Research Journal of Law and Political Science, Faculty of Law and Political Science, Ibn Khaldun University, Tiaret, Algeria, Vol. 7, No. 1, 2021, p. 417.

[4]- Prior to the convening of this convention, there were some legal instruments that attempted to address this phenomenon. However, they were criticised for not encompassing all aspects related to biodiversity and for including only a small number of countries, which hindered their ability to achieve the intended goals.

Yasmina Mokhtaria, 'The Principle of Sovereignty and its Impact on the Establishment and Implementation of International Rules for Environmental Protection', Thesis submitted for a Doctorate in Science, Faculty of Law and Political Science, University of Jilali Liabes, Sidi Bel Abbes, Algeria, 2025, p. 77.

[5]- Kahina Belkassimi, 'Conserving biodiversity and its role in achieving sustainable development', Tabna Academic Scientific Studies Journal, Sihahwas University Centre, Berrikah, Algeria, Vol. 4, Iss. 3, 2021, p. 410.

[6]- Article 3 of Law 3-10 dated 19 July 2003 regarding environmental protection within the framework of sustainable development (Official Journal No. 43 dated 20 July 2003).

This necessitates their protection, as well as monitoring of all political entities to ensure they take the required measures and actions[7].

Protected areas are also defined as environments that receive special attention due to the animals and plants they contain, which require conservation and protection from degradation.

They are also described as specific areas of land or water where existing natural elements are protected due to their scientific, cultural or educational importance. This justifies the adoption of measures aimed at limiting developmental projects within these areas, especially those that could harm the natural elements. These measures ensure that these places are managed in an environmentally friendly manner, enhancing the protection of their natural elements and resources[8].

In Article 2 of Law 11-02 concerning protected areas within the framework of sustainable development, the Algerian legislator defined protected areas as 'any territory or part of a municipality or municipalities, as well as areas belonging to public maritime properties, subject to special regulations defined by this law for the protection of animals, plants, and terrestrial, marine, and coastal ecosystems'[9].

3. The Concept of Aquatic Environments

There is no doubt about the importance of water and its necessity for human life. Life cannot exist without it. The concept of aquatic environments encompasses rivers, seas, inland waters and lakes, as well as groundwater[10].

Despite this vital resource being essential for all living organisms, it suffers from numerous violations and pollution caused by natural and legal persons[11], which significantly impacts its

---

7- Manal Bokoro, 'Legal Protection of Biodiversity in Nature Reserves in Light of Algerian Legislation', Human Sciences Journal, University of Constantine 1, Algeria, Vol. 27, Iss. 3, 2016, p. 460.

8- Hadjer Ayad and Radouia Houria, 'The Crime of Polluting Protected Areas: Between Hazard and Harm', Journal of Comparative Studies, Faculty of Law and Political Science, Hasiba Ben Bouali University, Chlef, Algeria, Vol. 6, No. 1, 2020, p. 378.

9- Article 2 of Law 11-02 dated 17 February 2011 regarding protected areas within the framework of sustainable development (Official Journal No. 13 dated 28 February 2011).

10- Achraf Tawfiq Shams Al-Din, Criminal Protection of the Environment, 2nd edition, Dar Al-Nahda Al-Arabiya, Egypt, 2012, p. 21.

11- Water pollution is defined as: 'The discharge of materials or energy into a watercourse that poses a risk to human health or welfare, causes damage to the aquatic environment or public facilities, or affects the legitimate use of water.'

Nawar Daham Matar Al-Zubaidi, Criminal Protection of the Environment: A Comparative Study, 1st edition, Al-Halabi Human Rights Publications, Beirut, Lebanon, 2014, p. 265.

Water pollution is also defined as: 'The degradation of water quality due to the addition of harmful substances at increasing concentrations, or due to the introduction of effects such as increased temperature or the loss of essential natural components, rendering this water unsuitable for life and industrial uses.'

Sankar Dawood Mohammad, International Legal Organisation for Environmental Protection from Pollution: A Comparative Analytical Study, 1st edition, Zain Human Rights Publications, Beirut, Lebanon, 2017, p. 36.

natural elements. This invariably leads to its inability to fulfil its intended purpose due to direct and indirect pollution resulting from an increasing variety of human activities and uses[12].

Aquatic environments are categorised by salinity as either freshwater, which originates from rivers and is the primary source of freshwater, or saltwater. These rivers may be international, such as the Nile, which flows through several countries, or internal, within the territory of a single state. Other examples include lakes and groundwater.

The concept of water also includes saline water, referring to all bodies of salty water, such as seas, oceans, marshes and lakes[13].

Every cubic metre of water contains millions of phytoplankton, which are aquatic organisms. These organisms absorb carbon dioxide and utilise solar energy in the process of photosynthesis to produce plant nutrients and release oxygen, which is essential for life. Any harm to these organisms inevitably disrupts the food chain and reduces carbon dioxide consumption, resulting in a corresponding decrease in oxygen levels.

Statistics indicate that over 1.9 billion people worldwide drink and bathe in water contaminated by deadly parasites. Many European rivers are significantly polluted; the Rhine, for example, is so polluted that it has been labelled Europe's sewer. In Egypt, the toxic concentrations in Lake Manzala have led to fish poisoning and turned the lake into a breeding ground for diseases transmissible to humans. This has allowed endemic diseases to emerge among the populations living on its shores. For a long time, people believed that the seas and oceans could absorb all waste materials thrown into them due to their vast size. However, studies have shown this to be false, revealing the continuous pollution of aquatic environments and posing a serious threat to living organisms, including humans. This has prompted countries around the world to take action to combat aquatic pollution, either through legislative intervention or by entering into numerous international agreements and treaties aimed at achieving environmental protection[14].

Secondly: An analytical study of the procedures for classifying protected areas and their ability to protect biodiversity in aquatic environments

Starting from the premise that aquatic environments contain many living organisms that play a significant role in maintaining ecological balance and biodiversity, legislators have intervened by classifying protected areas. Once initiated, these classification procedures work to protect these environments from any violations that could contribute to the deterioration of biodiversity in aquatic settings. This study will present the procedures for classifying protected areas in

[12]- Hossam Muhammad Sami Jaber, Environmental Crime, Dar Al-Kutub Al-Qanuniyya and Dar Shatat for Publishing and Software, Egypt, 2011, p. 31.
[13]- Ismail Muhammad Abd Al-Hafiz, The Idea of Harm in Environmental Law, Dar Al-Jami'a Al-Jadeeda, Alexandria, Egypt, 2018, p. 66.
[14]- Abdel-Sattar Younis Al-Hamdouni, Criminal Protection of the Environment: A Comparative Study of Subjective Provisions, Dar Al-Kutub Al-Qanuniyya and Dar Shatat for Publishing and Software, Egypt, 2013, p. 66.

aquatic environments and clarify their contribution to protecting biodiversity within these environments[15].

According to Article 14 of Law 11/02, wetlands (aquatic environments) are classified under one of the categories mentioned in Article 4 concerning the classification of protected areas within the framework of sustainable development. These categories include national parks, natural parks, fully protected areas, natural reserves, managed resource reserves, species reserves, natural sites and biological corridors, depending on the nature and importance of each aquatic environment.

The classification of protected areas is subject to several procedures, including the following:

Public administrations or regional communities initiate the classification of a territory as a protected area by submitting a request for an investigation to the committee[16]. If the classification concerns fully protected areas or other specified reserves, the request is sent to the National Committee for Protected Areas. If the classification request arises from a decision made by the provincial governor or the head of the municipal council, however, it is sent to the provincial committee[17].

Furthermore, private legal entities can initiate the classification of protected areas under their management, in accordance with the principles and procedures set out in Law 11/02[18].

This procedure demonstrates the wisdom of the legislature in providing local communities and public administrations with the opportunity to initiate the classification of protected areas, given that they have a closer and more intimate knowledge of the areas deemed environmentally and ecologically significant than the relevant ministry or national committees, which may be geographically distant from these regions, resulting in a lack of understanding of their ecological importance and making it impossible to encompass all these sites.

The classification request includes:

- a detailed report specifying the objectives of the proposed classification and the expected benefits;

15- Numerous aquatic environments have been classified as protected areas in Algeria, including at least 1,700 wetlands, 69 of which are located along the coast. There are 50 designated and protected areas of international importance registered on the Ramsar List, ten of which have management plans to ensure their rational and sustainable use. Notable coastal wetlands in Algeria include Lake Tonqa, Oubira and Mella in El Kala National Park and the Barqaz Plain in Skikda, which is home to over 350 plant species. There are also wetland areas along the western coast and at Lake Raghaya in Boumerdes.

Hosaina Ghawas, 'Protected Areas under Algerian Legislation', Journal of Prince Abdul Qadir for Islamic Sciences, University of Prince Abdul Qadir for Islamic Sciences, Constantine, Algeria, Vol. 30, No. 3, 2016, p. 500.

16- Article 19 of Law 11/02 concerning protected areas within the framework of sustainable development.

17- Articles 2 and 12 of Executive Decree 16-259, dated 10 October 2016, which define the composition of the National Committee and provincial committees for protected areas, as well as the methods for organising and operating them.

18- Article 20 of Law 11/02 regarding the protection of protected areas within the framework of sustainable development.

- a status plan of the territory. One of these objectives is to protect the plant and animal species that contribute to biodiversity in aquatic environments[19]. The committee will consider the feasibility of classifying the protected area[20].

The classification study specifically describes and inventories the plant and animal wealth and landscape, identifies the factors that threaten the area in question, assesses the wealth and clarifies the main issues involved[21]. This procedure is important for understanding the extent of biodiversity within the intended classified aquatic environment, as well as the risks to its existence. This enables appropriate measures to be taken to protect and enhance this biodiversity.

The classification document defines the boundaries and area of the protected zone, its category and how the protected area is partitioned into zones. It also outlines the provisions for conserving, protecting and managing the protected area. It also includes a list of the plant and animal species present in the area intended for classification[22]. This inventory enables the protected area's management body to understand the types and extent of the area's flora and fauna, thus preventing the introduction or removal of any species that could disrupt or contribute to the deterioration of biodiversity and its cohesion. It is well known that the extinction of a single animal species can lead to the collapse of the food chain, subsequently threatening many other species or causing them to migrate to other regions.

Section Two: The Legal Protection of Protected Areas as a Means of Safeguarding Biodiversity in Aquatic Environments

The administrative measures employed by authorities responsible for managing protected areas, particularly in the form of licensing and prohibitions, are among the most effective means of ensuring these areas are adequately protected, with penal protection also contributing to this effort.

First: Administrative Procedures for Protecting Protected Areas

The licensing and prohibition system is considered one of the most effective measures that administrative authorities can implement to protect biodiversity in environmental settings.

1. The licensing system as a tool for protecting biodiversity within aquatic protected areas

The licensing system serves as a preventive and protective measure aimed at safeguarding against dangers and harms potentially posed by human activities. It provides prior protection for various animal and plant species, as well as all components of the ecosystem, including

---

[19]- Article 21 of Law 11/02 regarding the protection of protected areas within the framework of sustainable development.
[20]- Article 22 of Law 11/02 regarding the protection of protected areas within the framework of sustainable development.
[21]- Article 26 of Law 11/02 regarding the protection of protected areas within the framework of sustainable development.
[22]- Article 29 of Law 11/02 regarding the protection of protected areas within the framework of sustainable development.

habitats, ecological systems and microorganisms. Adopting this approach enables the administration to exercise prior control, focusing on understanding the nature of the proposed activity, including assessing its risk level or suitability for the area[23].

Licensing refers to the decision issued by the administration that permits an individual to undertake an activity that cannot be initiated without prior authorisation from the administration, in accordance with regulatory measures that clarify the conditions under which the activity can be performed, both personally and objectively[24].

In Law 11/02 concerning protected areas, the Algerian legislator stipulated a licensing system for the voluntary introduction of any animal or plant species, which requires a licence from the managing authority after the committee has given its opinion. This is because the random introduction of these species could affect or contribute to the deterioration of biodiversity within aquatic environments[25].

Furthermore, the disposal of animals and plants to ensure the sustainability of the ecosystem is permitted only with a licence from the entity responsible for managing the protected area, following the committee's recommendation[26].

In order to protect areas of natural beauty, including those associated with aquatic environments that possess unique biological diversity, the legislator has prohibited any activity that may cause harm or contribute to degradation. However, a licensing system has been introduced to permit certain necessary activities within these areas, provided they do not exceed the legislative limits. Several conditions have been stipulated for granting this type of licence. One of the most important is that the activity must not conflict with the objectives for which those reserves were established, including the protection of plant and animal species. The licence applicant must also submit a file detailing the nature of the intended activity and its impact on the protected environment to the relevant governor. Furthermore, these activities must serve beneficial purposes, such as scientific research or public utility.

The licence is issued by the central authorities for projects that have a significant environmental impact on national parks, or by local authorities such as the governor. Consequently, the Minister for the Environment is legally responsible for granting licences for specific activities within defined protected areas[27].

2. The Prohibition System and Its Role in Protecting Biodiversity within Aquatic Protected Areas

---

[23]- Maimouna Souad and Abou Sidi Muhammad Al-Mazouni, 'Preventive mechanisms for protected areas in Algerian legislation', Scientific Research Journal in Environmental Legislation, Vol. 13, No. 1, Ibn Khaldun University, Tiaret, Algeria, 2023, p. 475.

[24]- Yassine Ghraf, 'The Role of Local Communities in Environmental Protection', Thesis for a Master's Degree in Law, Faculty of Law and Political Science, University of Jilali Liabes, Sidi Bel Abbes, Algeria, 2013, p. 102.

[25]- Article 32 of Law 11/02 regarding protected areas within the framework of sustainable development.

[26]- Article 32 of Law 11/02 regarding protected areas within the framework of sustainable development.

[27]- Maimouna Souad and Abou Sidi Muhammad Al-Mazouni (Previous reference).
p. 479.

To protect the natural, cultural and tourism characteristics of these areas, and to ensure the sustainable use of environmental elements while conserving and enhancing biodiversity, many activities have been prohibited within or adjacent to natural reserves in accordance with Law 03/10. This law enshrines the principle of biodiversity conservation and requires that all activities avoid causing significant harm to biodiversity. This principle is reinforced by the principle of non-degradation of natural resources[28].

Prohibition is a preventive mechanism employed by administrative authorities to exercise regulatory powers. It takes the form of an administrative decision aimed at preventing certain hazardous actions from being carried out[29].

Examples of prohibitions set out by the Algerian legislature to protect biodiversity in aquatic protected areas can be found in Law 05/12 on water. This law prohibits new constructions, buildings or actions that could harm the maintenance of valleys, lakes, ponds and wetlands, as well as activities that might obstruct the free flow of surface water in valley channels[30]. The law also prohibits the disposal or burial of animal carcasses in valleys, lakes, ponds and other locations[31].

Additionally, Law 11/02 concerning protected areas stipulates a system of prohibitions, which specifies that no person may degrade protected areas by discharging, dumping or releasing materials that alter their physical, chemical, biological or bacteriological properties[32].

The legislator has also implemented prohibitions on certain activities, such as the loading and transport of materials and waste intended for dumping at sea without prior authorisation[33].

It can be concluded from the aforementioned administrative measures established by the legislator for administrative authorities that, while generally applicable, the stipulation of administrative licensing and prohibitions regarding certain activities that may target aquatic environments necessitates greater caution from the administrative bodies with the authority to impose prohibitions and grant licences. This is particularly important in the case of protected aquatic areas, which are characterised by unique and rich biodiversity.

Second: penal protection of protected areas

To protect biodiversity within aquatic protected areas, the legislator did not rely solely on administrative protection for these environments, but also resorted to penal protection. This is evident through the various penalties included in Law 11/02 concerning protected areas and other environmental legislation, ranging from the death penalty and imprisonment to fines.

---

[28]- Hosaina Ghawas, 'Protected Areas under Algerian Legislation', Journal of Prince Abdul Qadir for Islamic Sciences, University of Prince Abdul Qadir for Islamic Sciences, Constantine, Algeria, Vol. 30, Issue 3, 2016, p. 511.
[29]- Siham Ben Safia, 'The Administrative Bodies Responsible for Environmental Protection', Master's thesis in Administration and Finance, Faculty of Law, University of Algiers 1, 2011, p. 154.
[30]- Article 15 of Law 05/12 dated 4 August 2005 concerning water, Official Journal No. 60, 2005.
[31]- Article 46 of Law 05/12 concerning water.
[32]- Article 44 of Law 11/02 concerning protected areas within the framework of sustainable development.
[33]- Article 55 of Law 03/10 regarding environmental protection within the framework of sustainable development.

1. The death penalty is one of the oldest and harshest forms of punishment. It was heavily relied upon in ancient legal systems and was often carried out using brutal methods of torture[34].

The Algerian legislature has included the death penalty for crimes impacting aquatic environments, some of which may be classified as protected areas containing numerous plant and animal species. Such crimes could contribute to the extinction of this biodiversity. Article 500 of maritime law stipulates the death penalty for any captain of an Algerian or foreign vessel who intentionally discharges radioactive waste into Algerian waters[35].

2. Imprisonment

Imprisonment refers to the deprivation of a person's freedom by placing them in a controlled environment. It is a penalty that restricts freedom. There are two types: life imprisonment and temporary imprisonment[36].

Compared to the imprisonment penalty, the Algerian legislator has not relied heavily on imprisonment for crimes against the natural environment in general, except as stipulated in maritime law. For example, the law imposes a prison sentence of 10 to 20 years on any ship captain who transports radioactive materials through Algerian territorial waters without notifying the relevant authorities. If a maritime accident involving that ship occurs, the captain's penalty is increased to life imprisonment[37].

It is worth noting that the consequences of criminal acts committed by ships passing through waters far from protected aquatic areas may extend to these areas, especially in the event of a maritime accident. This is because environmental damage does not recognise the political and administrative borders set by countries and authorities.

3. Custodial sentences

Custodial sentences are among the penalties that the Algerian legislator has relied on significantly for environmental pollution crimes[38]. The same applies to crimes affecting aquatic environments classified as protected areas. Notable examples include:

Anyone who hunts (terrestrially or maritimely), kills or slaughters an animal, captures an animal, destroys or gathers plants, alters the landscape or buildings, or engages in any act that harms animals or plants, or introduces or smuggles plant or animal species within protected areas, is punishable by imprisonment for six months to three years[39].

---

[34]- Ali Abdel-Qader Al-Qahwaji, Explanation of the Penal Code: General Section, Criminal Responsibility and Criminal Sanction, 1st edition, Al-Halabi Human Rights Publications, Beirut, Lebanon, 2009, p. 175.
[35]- Ordinance No. 76-80, dated 23 October 1976, concerning maritime law. Amended and supplemented by Law No. 98-05, dated 25 June 1998. Published in Official Journal No. 47, 1998.
[36]- Bakouch, M. A., 'Environmental Protection in Algerian Criminal Law', Scientific Research Journal in Environmental Legislation, Faculty of Law and Political Science, Ibn Khaldun University, Tiaret, Algeria, Issue 9, June 2017, p. 476.
[37]- Article 499 of Ordinance 76-80 concerning maritime law.
[38]- Sabrina Tunsi, Environmental Crime in Algerian Law, 1st edition, Al-Wafa Law Library, Alexandria, Egypt, 2016, p. 117.
[39]- Article 39 of Law 11/02 concerns protected areas within the context of sustainable development.

Anyone who violates the purpose of establishing a natural reserve, as defined by the legislator in Article 10 of Law 11-02 concerning protected areas — namely, to preserve and protect animal and plant species, ecosystems and habitats, or to restore them — is subject to imprisonment for a period of two to eighteen months[40].

Anyone who voluntarily introduces any animal or plant species into a protected area without a licence from the relevant authority is punishable by imprisonment for a period ranging from two to eighteen months[41].

Anyone who disposes of animals or plants in a protected area without a licence from the relevant authority is punishable by imprisonment for a period of six months to two years[42].

Anyone who causes the degradation of protected areas by discharging, dumping or releasing materials that alter their physical, chemical, biological or bacteriological properties is punishable by imprisonment for one to three years[43].

In addition to the penalties for environmental offences established by Algerian legislation, other environmental legislation also stipulates penalties for offences relating to the protection of biodiversity in classified protected aquatic environments. These include:

- The crime of extracting marine materials without a licence, punishable by imprisonment for six months to two years[44].

The crime of using prohibited equipment for marine fishing is punishable by imprisonment for three to six months[45].

The crime of depositing, dumping, burying or neglecting hazardous waste at unauthorised sites is punishable by imprisonment for two to five years. It is noteworthy that this penalty was increased after the waste law was amended in 2025; previously, the penalty ranged from one to three years[46].

- The crime of leaving or discarding toxic chemical materials is punishable by imprisonment for six months to three years[47].

The various custodial sentences included by the legislator for crimes committed against protected areas show that the Algerian legislator relies heavily on prison sentences rather than

---

[40]- Article 40 of Law 11/02 regarding protected areas within the framework of sustainable development.
[41]- Article 42 of Law 11/02 regarding protected areas within the framework of sustainable development.
[42]- Article 43 of Law 11/02 regarding protected areas within the framework of sustainable development.
[43]- Article 44 of Law 11/02 regarding protected areas within the framework of sustainable development.
[44]- Article 40 of Law 02-02 concerning coastal protection, dated 17 February 2002 (Official Journal No. 10, 2002).
[45]- Article 78 of Law No. 01-10 regarding marine fishing and aquaculture, dated 3 July 2001 (Official Journal, No. 36, 2001).
[46]- Article 64 of Law No. 01-19 regarding the management, monitoring and disposal of waste dated 12 December 2001 (Official Journal No. 77, 2001), amended by Law No. 25-02 dated 20 February 2025 (Official Journal No. 16, 23 February 2025).
[47]- Article 14 of Law No. 03-09 regarding the suppression of crimes that violate the provisions of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, dated 19 June 2003 (Official Journal No. 43, 2003).

the death penalty or long-term imprisonment. However, in many cases, the imposed penalties are insufficient and too short compared to the severity of the crime committed, which may fail to achieve general deterrence.

4. Financial penalties

Financial penalties do not harm a person physically or affect their life directly, but they are linked to financial liability, which almost always returns to the state treasury. This penalty is imposed as a primary punishment for the criminal act[48].

Legislators have relied heavily on financial penalties, particularly for crimes impacting aquatic environments. According to Article 10 of Law 11-02 concerning protected areas, anyone who violates the purpose of establishing a natural reserve, which aims to preserve and protect animal and plant species and ecosystems[49], is punishable by a fine ranging from two hundred thousand to two million dinars. Furthermore, anyone who introduces any animal or plant species without a licence from the relevant authority is liable to a fine ranging from two hundred thousand to one million dinars[50], in addition to other financial penalties as set out in Law 11-02 concerning the protection of protected areas within the framework of sustainable development.

Conclusion

The mechanism for classifying protected areas is an effective and efficient tool that can contribute significantly to the conservation of biodiversity in aquatic environments. This is evident from the legal protections afforded to these areas by the legislator through various proactive administrative measures, such as licensing and prohibitions, as well as punitive penalties for crimes against aquatic environments and their biodiversity.

However, it is also apparent that, despite these measures, these environments still experience significant pollution and degradation of their natural and environmental resources. This prompts us to make the following recommendations:

It is crucial to conduct regular, sustainable assessments to determine the extent of ecological loss and degradation currently affecting aquatic environments so that appropriate steps can be taken to mitigate this decline, particularly in regions containing plant and animal species that are threatened with extinction.

Efforts should be made to strengthen monitoring procedures for individuals who commit acts contrary to protected area classification provisions, particularly since these acts are often perpetrated by individuals merely passing through these areas.

It is also important to review and tighten the penalties imposed, given that many of these are custodial sentences. These do not align with the scale of the ecological and economic losses that

[48]- Wakor Fares, Protecting the Right to a Clean Environment: Between Legislation and Implementation, 1st edition, Baghdadi Publications, Algeria, 2015, p. 244.
[49]- Article 40 of Law 11/02 regarding protected areas within the framework of sustainable development.
[50]- Article 42 of Law 11/02 regarding protected areas within the framework of sustainable development.

such crimes can cause, particularly since they may impact threatened resources that cannot be restored or compensated for.

References:

I. Books:

1. Ibtisam Saeed Al-Malkawi, The Crime of Environmental Pollution: A Comparative Study, 1st edition, Dar Al-Thaqafa for Publishing and Distribution, Amman, Jordan, 2018.
2. Ismail Ammar Muhammad Abd al-Hafiz, The Idea of Harm in Environmental Law, Dar al-Jami'a al-Jadeeda, Alexandria, Egypt, 2018.
3. Ashraf Tawfiq Shams al-Din, Criminal Protection of the Environment, 2nd edition, Dar al-Nahda al-Arabiya, Egypt, 2012.
4. Hossam Muhammad Sami Jaber, The Environmental Crime, Dar Al-Kutub Al-Qanuniyya and Dar Shatat for Publishing and Software, Egypt, 2011.
5. Hamida Djamila, The Legal System of Environmental Damage and Mechanisms of Compensation, Dar Al-Khaldounia for Publishing and Distribution, Algiers, Algeria, 2011.
6. Sabrina Tunsi, The Environmental Crime in Algerian Law, 1st edition, Al-Wafa Law Library, Alexandria, Egypt, 2016.
7. Ali Abdelkader Al-Qahwaji, Explanation of the Penal Code: General Section, Criminal Responsibility and Criminal Sanction, 1st edition, Al-Halabi Human Rights Publications, Beirut, Lebanon, 2009.
8. Nawar Daham Matar Al-Zubaidi, Criminal Protection of the Environment: A Comparative Study, 1st edition, Al-Halabi Human Rights Publications, Beirut, Lebanon, 2014.
9. Wakar Fares, Protecting the Right to a Clean Environment: Between Legislation and Implementation, 1st edition, Baghdadi Publications, Algeria, 2015.
10. Sankar Dawood Muhammad, The International Legal Organisation to Protect the Environment from Pollution: A Comparative Analytical Study, 1st edition, Zain Human Rights Publications, Beirut, Lebanon, 2017.
11. Sabah el Achawi, International Responsibility for Environmental Protection, 1st edition, Dar Al-Khaldounia, Algeria, 2010.
12. Abdel-Sattar Younis Al-Hamdouni, Criminal Protection of the Environment: A Comparative Study of Substantive Provisions, Dar Al-Kutub Al-Qanuniyya and Dar Shatat for Publishing and Software, Egypt, 2013.

13. Abdel-Aal Al-Dirbi, International Protection of the Environment and Mechanisms for Resolving its Disputes: A Theoretical and Applied Study with Special Reference to the Role of the International Tribunal for the Law of the Sea, 1st edition, The National Centre for Legal Publications, Cairo, Egypt, 2016.

II. Theses and dissertations:

1. Yachba Mokhtaria, 'The Principle of Sovereignty and its Impact on the Development and Implementation of International Rules for Environmental Protection', a thesis submitted for the award of a Doctorate in Science, Faculty of Law and Political Science, University of Jilali Liabes, Sidi Bel Abbes, Algeria, 2025.

2. Ben Safia Siham, 'The Administrative Bodies in Charge of Environmental Protection', a graduation thesis submitted for a Master's degree in Administration and Finance, Faculty of Law, University of Algiers 1, 2011.

3. Yassine Ghraf, 'The Role of Local Communities in Environmental Protection', a thesis submitted for a Master's degree in Law, Faculty of Law and Political Science, University of Jilali Liabes, Sidi Bel Abbes, Algeria, 2013.

III. Articles:

1. Bokoro, M. (2016). 'The legal protection of biodiversity in nature reserves in light of Algerian legislation'. Human Sciences Journal, 27(3), University of Constantine 1, Algeria.

2. Hosaina Ghawas, 'Protected Areas under Algerian Legislation', Journal of Prince Abdelkader for Islamic Sciences, University of Prince Abdul Qadir for Islamic Sciences, Constantine, Algeria, Vol. 30, No. 3, 2016.

3. Kharoubi, S., 'The Role of Ecotourism in Enhancing Biodiversity in Algerian Legislation', Research Journal of Law and Political Science, Faculty of Law and Political Science, Ibn Khaldun University, Tiaret, Algeria, Vol. 7, No. 1, 2021.

4. Chahrzad Fekiri, 'Biodiversity Loss and its Impact on Global Food Security', Al-Mayar Journal, University of Tissemsilt, Algeria, Vol. 14, No. 2, December 2023.

5. Kahina Belkassimi, 'Conserving biodiversity and its role in achieving sustainable development', Tabna Academic Scientific Studies Journal, Sihasas University Centre, Berria, Algeria, Vol. 4, No. 3, 2021.

6. Maimouna Souad and Abou Sidi Muhammad Al-Mazouni, 'Preventive Mechanisms for Protected Areas in Algerian Legislation', Scientific Research Journal in Environmental Legislation, Vol. 13, No. 1, Ibn Khaldun University, Tiaret, Algeria, 2023.

7. Hadjer Ayad and Radowia Houria, 'The Crime of Polluting Protected Areas: Between Hazard and Harm', Journal of Comparative Studies, Faculty of Law and Political Science, Hasiba Ben Bouali University, Chlef, Algeria, Vol. 6, No. 1, 2020.

IV. Legislation:

1. Ordinance No. 76-80, dated 23 October 1976, concerning maritime law, as amended and supplemented by Law No. 98-05, dated 25 June 1998 (Official Journal No. 47, 1998).
2. Law No. 01-10 concerning marine fishing and aquaculture, dated 3 July 2001 (Official Journal No. 36, 2001).
3. Law No. 01-19 concerning the management, monitoring and disposal of waste dated 12 December 2001 (Official Journal No. 77, 2001) and amended by Law No. 25-01 dated 20 February 2025 (Official Journal No. 16, 2025).
4. Law No. 02-02 concerning the protection of the coast, dated 17 February 2002, Official Journal No. 10, 2002.
5. Law No. 03-09 concerning the suppression of crimes that violate the provisions of the Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons, and on their Destruction, dated 19 June 2003 (Official Journal No. 43, 2003).
6. Law No. 03-10 concerning environmental protection within the framework of sustainable development, dated 19 July 2003 and published in the Official Journal on 20 July 2003.
7. Law No. 11-02 dated 17 February 2011 concerning protected areas within the framework of sustainable development (Official Journal No. 13 dated 28 February 2011).
8. Law No. 05/12 dated 4 August 2005 concerning water, Official Journal No. 60, 2005.
9. Executive Decree No. 16-259, dated 10 October 2016, defining the composition of the National Committee and provincial committees for protected areas, and the methods for organising and operating them.