Legal Protection of Coastal Wetlands: A Case Study of Mediterranean Sea

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Abstract

The article discusses the legal protections of coastal wetlands by examining a case study of Mediterranean wetlands. It highlights the importance of coastal wetlands within international law and examines the challenges and values of coastal wetlands in the region. Also considered are national policies to protect wetlands through laws and legal strategies. This is part of a larger effort to assess the legal protection of coastal wetlands around the Mediterranean Sea and to assess the Mediterranean environmental legal system. The article concludes that international law protects wetland areas by several conventions at the regional level.

Keywords: Coastal Wetlands, Legal Protection, International Law, Ramsar Convention.

Introduction

In international law, a coastal wetland is often defined as a transitional area between land and marine habitats impacted by tides and seawater such as salt marshes, mangroves, and estuaries. These habitats are protected by international legal frameworks such as the Ramsar Convention and the Convention on Biological Diversity (CBD), which recognize their ecological importance in supporting biodiversity and mitigating climate change. The characteristics of the Mediterranean Sea are very different from those of other seas. International environmental law plays a key role in protecting coastal wetlands, particularly vulnerable ecosystems that are essential to global biodiversity. International conventions, such as the Ramsar Convention (1971), specifically aim to conserve and sustainably use these areas. This convention, signed by more than 170 countries, recognizes the ecological importance of wetlands and establishes obligations for member states, including the designation of wetland sites of international importance and the promotion of their sustainable management. The international legal framework also promotes cooperation between states to protect these shared ecosystems and to mitigate the effects of climate change and pollution. (Xu et al, 2019). However, despite these efforts, coastal wetlands continue to face significant threats, such as urbanization, resource exploitation and rising sea levels. International law, particularly through the 2030 Agenda for Sustainable Development and the United Nations Framework Convention on Climate Change (UNFCCC), seeks to strengthen protection measures by integrating environmental concerns into coastal planning and management. There is also a growing need to strengthen enforcement of these laws and mobilize resources to ensure that coastal wetlands continue to play their vital role in preserving the global environment (Coban, 2017). These characteristics are what uniquely define the environmental processes that take place in the Mediterranean region.

Wetland ecosystems are among the most important ecosystems in the world, as they are an important source of biodiversity. They also provide a habitat for many living organisms that depend on them for their livelihood. The importance of the latter is particularly evident in their combination of the terrestrial ecosystem and the aquatic ecosystem (Qu, 2024).

In addition to the vital importance of wetlands for living organisms, they provide a range of economic, social, cultural, and economic benefits to humans, as they provide a source of livelihood for the majority of indigenous people who depend on them for their livelihood. (Alsamara et al, 2022).

As a result of the prominent importance of these ecosystems, international attention has turned to protecting the latter, which culminated in 1971 with the conclusion of an international agreement to protect

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wetlands of international importance, which was called the Convention on Wetlands of International Importance as Waterfowl Habitat. This agreement was held in the Iranian city of Ramsar (Stroud, 2022) Some African countries have paid attention to wetlands in general and wetlands in particular. Algerian legislators have devoted special protection to such areas through the Coastal Law of 2002, as well as through the Protected Areas Law of 2011, and other relevant laws. There is also legislation related to wetlands in Egypt (Abd-Alah, 1999) The South African experience is also useful in this area, despite its distance from the Mediterranean region, where there are national laws related to the subject (Dini and Everard, 2016).

Related Work

We should refer to Sinthumule's article titled "An analysis of policy and legal framework on wetland conservation and management in South Africa." The paper discovered a lack of policy and legislative alignment, insufficient intergovernmental cooperation, and no integrated monitoring across the government ministries involved. The study indicates that this disconnected and disorganized approach to wetlands conservation and management has undermined the legislative framework's effectiveness in conserving this vulnerable ecosystem. See also Agyare et al in their paper titled "Coastal wetlands and climate change in Ghana: Analysis of the regulatory framework." Their article assesses the effectiveness of environmental laws and policies to conserve coastal wetlands in the face of climate change. The study investigates environmental laws and regulations that protect coastal wetlands from natural and anthropogenic deterioration. It also considers the negative impact of climate change on coastal wetlands in Ghana. The authors conclude that insufficient enforcement hinders the efficiency of environmental laws and initiatives. Fletcher et al conclude that coastal wetlands pose unique challenges for coastal governance and Ramsar Convention implementation, not least because they are hubs of human activity and governmental ambiguity. The relationship between Ramsar implementation and coastal governance was investigated by evaluating Ramsar delivery at the national and local levels in Japan and England. In England, Ramsar status is generally recognized as a nature protection designation, limiting the designation's broader opportunities. In contrast, in Japan, the Ramsar Convention is used as a policy driver at the national level as well as a tool to promote citizen engagement, economic gain, and wetland conservation at the local level (Fletcher et al, 2011).

Method

To address this topic, we relied on both the comparative approach in order to compare the laws and international agreements related to the topic, as well as the analytical and descriptive approaches in order to analyze the legal texts and attempt to explore the challenges facing the protection of wetlands on the coasts of Mediterranean Sea.

Results and Discussion

International Protection of Coastal Wetlands

There are many international instruments related to wetlands, but in this regard we will focus on two agreements, which are as follows:

The Ramsar Convention of 1971

The Ramsar Convention on the degradation and loss of wetlands was adopted in 1971 in Iran (Ramsar). The number of countries party to the Ramsar Convention has reached 171 European, African, Asian and other countries (Lewis, 2016). The Ramsar Convention is characterized by a small body of technical provisions, most of which focus on the protection of wetlands as habitats for waterfowl. The Ramsar Convention defines wetlands under its care under Article 1(1) as: "areas of marsh, swamp or water, whether natural or artificial, permanent or temporary, and whether of stagnant or flowing, fresh, brackish or salty water, including areas of marine waters where the depth of the water at low tide does not exceed six metres" (Rattan, 2021) Article 2, paragraph 1, of the Convention also added that the Ramsar List of Wetlands of International Importance should also include: "the riparian and coastal areas adjacent to wetlands, and islands or marine bodies of water with depths exceeding six metres, and at low tide, which are located within

wetlands" Wetlands are of various types, including coastal or marine wetlands, inland wetlands, and artificial wetlands. Coastal wetlands are characterized by their proximity to the ocean or estuaries, where fresh and salt water mix to form an environment of varying salinity. This type of wetland is characterized by fluctuating water levels and changing tides, and includes many features such as marine aquatic basins below the intertidal zone, including seagrasses and tropical sea meadows. Coral reefs, rocky marine beaches, including rocky marine islands and sea cliffs, and many other types are also characteristic of wetland areas (Mallaoui, 2022, Alsamara et al, 2022) . The further inland we go, the more inland wetlands vary in type, and include such features as ponds, rivers, and inland lakes. As for artificial wetlands such as dams, reservoirs, drainage canals and others, they are man-made(Jung, 2020).

Legal Regime Related to The Protection of Coastal Wetlands in The Mediterranean

The Barcelona Convention and its seven protocols are the most important international instruments related to the protection of coastal wetlands.

The Barcelona Convention 1976

The Convention, adopted in 1978, came into effect two years later with a primary focus on combating pollution. In 1995, it was significantly amended and renamed to reflect a more specialized scope, becoming the Convention for the Protection of the Environment and Coastal Zones. These amendments took effect in 2004. The Contracting Parties to the Barcelona Convention pledge to implement all appropriate actions, in line with the Convention and its active Protocols, to prevent, reduce, combat, and eliminate pollution in the Mediterranean Sea. Additionally, they are dedicated to safeguarding and preserving the marine environment of the Mediterranean to promote sustainable development. (Vezzani 2022).

Challenges to the Barcelona Convention 1976

There are several challenges facing the Barcelona convention. For this reason more texts (protocols) have been added to the convention.

Pollution by Oil and Other Harmful Substances and Land-Based Sources

The Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources was initially approved in 1980. Its primary aim was to address the pressing issue of pollution entering the Mediterranean Sea from land-based sources, such as industrial discharges, sewage, agricultural runoff, and other activities that pose a threat to the marine environment. Recognizing the evolving nature of environmental challenges, the Protocol underwent a significant revision in 1996 and was renamed the Protocol for the Protection of the Mediterranean Sea from Pollution from Land-Based Sources and Activities. This revision expanded its scope to include not only traditional land-based sources of pollution but also a broader range of activities that contribute to the degradation of marine ecosystems. The revised Protocol emphasizes the importance of taking all necessary measures to prevent, reduce, combat, and, where possible, eliminate pollution of the Mediterranean Sea caused by land-based sources and activities. It places a strong focus on reducing and ultimately phasing out the release of toxic, persistent, and bioaccumulative substances that threaten the health of marine ecosystems. This includes hazardous chemicals, heavy metals, and other pollutants that can accumulate over time and cause long-term damage to the environment and human health. To achieve these goals, the Protocol encourages Contracting Parties to adopt integrated approaches to pollution management, promote sustainable practices, and enhance cooperation at the regional and international levels. It also calls for the development and implementation of national action plans, monitoring systems, and regular assessments to track progress in reducing pollution and improving the overall health of the Mediterranean marine environment. By addressing both the sources and impacts of land-based pollution, the Protocol plays a crucial role in safeguarding the Mediterranean Sea, ensuring its preservation for future generations, and contributing to the region's sustainable development. Under this Protocol, point discharges and emissions of pollutants are subject to a system of authorization or regulation by countries, taking into account, inter alia, the characteristics and composition of the discharged materials as well as the potential for damage to marine ecosystems and seawater uses.

Parties to the Protocol are obliged to develop regional action plans and national action plans, including specific measures and timetables, for the implementation of the this Protocol. (Sersic, 1989; Kütting, 1994).

Pollution from Exploration and Exploitation of the Continental Shelf, the Seabed and its Subsoil

This Protocol extensively addresses the environmental consequences of offshore oil and gas activities in the Mediterranean Sea. It outlines strategies to reduce pollution at every stage of exploration and exploitation, from initial operations to decommissioning. The Protocol also focuses on preventing pollution incidents at sea and sets accountability and compensation mechanisms to ensure that any environmental damage is properly addressed and corrected. (Salamoura, 2021; Plan, 2002).

Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal

The Protocol for the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Waste and Their Disposal aims to protect human health and the marine environment from the impacts of hazardous waste. The Protocol seeks to reduce the generation of hazardous waste, eliminate it where possible, and limit the quantities subject to transboundary movements. Additionally, it establishes a legal framework to regulate and manage cross-border waste transfers, ensuring that any such movements are controlled and minimize environmental harm. (Scovazzi, 2000; Cubel, 1997; Scovazzi, 1997).

Integrated Coastal Zone Management in the Mediterranean

Portions of the Protocol pertaining to this subject require States Parties to enhance regional cooperation to achieve effective integrated coastal zone management. They include measures to protect key coastal ecosystems (such as wetlands, estuaries, marine habitats, coastal forests, woodlands, and sand dunes); ensure sustainable use of coastal zones, and adapt the coastal and marine economy to the delicate condition of these areas. The ICZM Protocol Implementation Action Plan was accepted by the Contracting Parties in 2012. They also accepted the Common Regional Framework for ICZM in 2019. Despite the significance of the Barcelona Convention and its seven successor Protocols, the Protocol on ICZM in the Mediterranean is the most relevant to the protection of coastal wetlands in the Mediterranean (Ramieri and Markovic, 2019; Maccarrone et al, 2014; Albakjaji, 2022).

In fact, the international legal framework for the protection of wetlands in general, and coastal wetlands in particular, is not limited to the two previously mentioned agreements, namely the Ramsar Convention and the Barcelona Convention and its protocols, but rather includes all international legal instruments related to the environment. This environmental legal framework even extends to include some regional legal instruments (Bell-James and Lovelock, 2023; Li et al, 20218).

Role of National Laws

Coastal wetlands in France for example benefit from a strict legislative framework to ensure their protection. The 1986 Coastal Law is one of the main laws in this area, limiting urbanization and construction near the coast to preserve fragile ecosystems. This law imposes strict land use planning rules in order to protect natural areas, including wetlands, while allowing controlled economic development. In addition, the 2006 Law on Water and Aquatic Environments (LEMA) strengthens the sustainable management of water resources and imposes restrictions on human activities likely to harm these environments (Yang et al, 2013: Vigier et al 2019). In addition, the Environmental Code includes many articles aimed at preserving wetlands, by requiring communities and businesses to comply with ecological standards. The European Habitat Directive, transposed into French law, also plays a crucial role in the protection of these ecosystems through the Natura 2000 network, which sets up special protection areas. Through these laws, France is striving to reconcile economic development and protection of the coastal environment, in particular to preserve biodiversity and the varied ecosystems of the wetlands (Alphandéry and Fortier, 2010).

In Italy, coastal wetlands, which include lagoons, salt marshes and estuaries, are protected by several national and European environmental laws. Law No. 183 of 1989 on the defense of the soil and the

protection of hydrographic basins aims to regulate the use of water resources and prevent the degradation of wetlands. This legislation provides for the sustainable management of these environments, particularly along the coasts, by regulating urbanization and industrial activities. In addition, regional laws, in collaboration with local authorities, establish specific plans for the protection and restoration of coastal wetlands, particularly in Veneto with the Venice Lagoon. At the European level, the Habitats Directive and the Water Framework Directive are also transposed into Italian law, guaranteeing strict protection of coastal wetlands through networks. Italy is committed to protecting these areas because of their ecological and economic importance. The management of fisheries, sustainable tourism, and the regulation of coastal wetlands are facing pressures such as rising sea levels, erosion and pollution, requiring enhanced conservation measures (Alberton, 2012).

The coastal wetlands in Algeria are of great ecological importance, as they provide many advantages, including protecting the beaches from erosion due to tides, climate change, etc. It seems that the Coastal Law was not known in Algeria until 2002, when a set of legal rules based on several legal texts such as the Environmental Law, the Urban Planning Law, etc. were applied to the coast. Article 7, paragraph 5 of the Law on the Protection and Enhancement of the Coast states that: "The coast includes, within the meaning of this law, all islands and islets, the continental shelf, as well as a strip of land with a width of at least 800 meters along the sea, and includes: all wetlands and their beaches, part of which is located on the coast starting from the highest point reached by sea waters as defined above." (Hanouni, 2011; Ghouas, 2016).

The wetlands adjacent to the coast are considered part of the Algerian coast, and are subject to the jurisdiction of this law. It is clear that the Algerian legislators did not set a specific definition for the coast, but rather were satisfied with enumerating its components. It is also clear from the above that the coast consists of two parts: a land part and a marine part, where the marine part extends to the borders of the continental shelf. It is clear that defining both parts is not always precise due to the terrain factor. Although the Algerian legislator defined the width of the coast as 800 meters from the point where sea waters and land meet along the coast, the variation in terrain from one area to another poses some difficulties in determining the width of the coast accurately. The Coastal Protection and Valorization Law guaranteed the protection of wetlands, as it indicated that coastal lands must be occupied and used in a way that ensures the protection of unique or necessary land and marine spaces and to maintain natural balances. For the purposes of protecting fragile areas and areas of ecological importance, the Coastal Protection and Valorization Law prohibited some activities such as marine and bathing sports, and camping in protected areas and sensitive ecological sites, including wetlands. The Coastal Protection and Valorization Act, also in the context of protecting wetlands, indicated that wetlands may not be subject to a change in their allocation, unless this serves the environment. They must be classified as a protected area if these spaces have environmental importance. The Coastal Protection and Valorization Act has been reinforced by some regulatory texts such as the Executive Decree 07-206 dated June 30, 2007. This decree determines the conditions and methods of construction and occupation of lands on the coastal strip and occupation of natural parts adjacent to beaches and expansion of the area subject to the prohibition of construction. It also requires that the coastal development study take into account the environmental situation and the ecosystems in which they have developed, which require special protection. Law No. 02-02 consideres coastal wetlands as spaces belonging to the coast, and requires them to be protected in a manner commensurate with the fragile nature of these ecosystems and their ecological importance. (Hanouni, 2011; Ghouas, 2016). The Protected Areas Law was issued in Algeria on February 17, 2011. It is worth noting that this law did not focus on specific ecosystems, but instead provided a general definition of wetland ecosystems without referring to their types and divisions. The second paragraph of Article 3 indicated that a wetland is any area characterized by the presence of fresh, salty or highly saline water, permanent or temporary on the surface or at a shallow depth in the soil, stagnant or flowing, natural or artificial, in a separating and/or transitional position, between terrestrial and aquatic environments. These systems provide habitats for plant and/or animal species on a continuous or temporary basis. In terms of protection, this law was satisfied with classifying ecosystems within protected areas and specifying measures to protect protected areas more than focusing on defining an ecosystem in itself.

Tunisian law established the Coastal Protection and Rehabilitation Agency, which includes environmental protection in particular: (1) Sea banks, beaches, salt marshes, sand dunes, islands, cliffs and various components of the public maritime domain; and (2) Inland areas within variable boundaries depending on the degree of climatic, natural and human interaction between them and the sea, such as coastal forests, valley estuaries, sea capes and coastal wetlands. The coastal area is determined by decree upon the proposal of the Minister in charge of the Environment. The Agency is responsible for implementing the State's policy in the field of preserving the coastal strip in general and the public maritime domain in particular. For this purpose, it is entrusted in particular with the following tasks: First, managing the coastal strip spaces, monitoring development work and ensuring that they comply with the rules and specifications set by the laws and regulations in force relating to the development of those spaces and their use and occupation. Secondly, to settle and liquidate the real estate situations existing on the date of issuance of this law and which are in violation of the laws and regulations related to the coastal strip, especially the public maritime domain, in accordance with the legislation in force, while at the same time respecting the principle of the non-attachment, mortgage, transfer and acquisition of the public maritime domain by prescription. Thirdly, the Agency prepares studies related to the protection of the coastal strip and the revitalization of natural areas and to conduct all research and tests necessary for this purpose. Fourthly, the Agency monitors the development of coastal ecosystems by developing and exploiting specialized information systems (Dhaher and Hagui, 2022).

Algerian law launched its National Strategy for Wetland Ecosystem Management (2015-2030) on April 19, 2017. The national strategy was developed in response to Algeria's international commitments under the Ramsar Convention, which Algeria confirmed at the 12th Conference of the Parties in 2015, after which workshops were launched to formulate this strategy. This strategy, based on the wetland ecosystem, was designed and implemented in close collaboration with all relevant national institutions, international organizations, and civil society. This strategy works to help guide economic, social and cultural development measures, contribute to combating desertification, mitigate the effects of climate change or adapt to it, and protect Algeria's water resources. The strategy relies on international cooperation, whether with the Ramsar Convention Secretariat or with the Ramsar Regional Initiative known as "MedWet". The different axes of the strategy are linked to the objectives of the MedWet Framework for Action (2016-2030), particularly with regard to the inclusion of new sites on the Ramsar List, the development and implementation of restoration projects for degraded sites, as well as the integration of good practices for water resources management and the conservation of wetlands into national policies and plans in order to avoid damage to their functions and values (BENZINA et al, 2024; Directorate of Forest, 2012).

Conclusion

Based on our study, we conclude that the Mediterranean Basin is considered one of the most important sources of biodiversity, as it includes multiple ecosystems such as coastal wetlands, which various Mediterranean countries have sought to protect, whether by ratifying international agreements or by enacting internal legislation. Mediterranean countries, like other countries, have sought to strengthen their legislative systems in this field, but there are some shortcomings in this system that can be avoided through the following recommendations: (1) The diversification of legislative texts related to the protection of the marine environment in Mediterranean countries; (2) Amending old laws to be consistent with modern developments and strategies that Mediterranean countries have formulated in recent years, including the Coastal Law; (3) Focusing on coastal wetlands classified on the Ramsar List of Wetlands of International Importance and unclassified by including them in national reserves; and (4) Valuing coastal wetlands through local development plans to ensure the benefit of this natural heritage.

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