Articles

Restoring Europe's Seas: Legal Duties and Institutional Gaps in the EU Climate Framework

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Abstract

This paper examines the legal and institutional framework governing the European Union's marine environment, focusing on the Marine Strategy Framework Directive (2008/56/EC) and the Nature Restoration Regulation (EU) 2024/1991. It analyses how these instruments interact within the EU climate framework, revealing structural gaps between planning obligations and enforceable restoration duties. The study highlights the persistent fragmentation of national implementation and the Union's limited capacity to translate environmental commitments into measurable results. Anchored in recent advisory opinions of ITLOS (2024) and ICJ (2025), it argues that the EU must strengthen due diligence, prevention, and transboundary cooperation to transform its marine governance into a coherent, result-oriented system.

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A. Introduction

The European marine environment is among the world's most rich and diverse, sustaining over 40 % of the EU's population and forming the backbone of its blue economy.[1] However, the continuing degradation of the marine environment triggered by climate change and other issues is severely affecting Europe's coastal and maritime regions. What was once a question of environmental stewardship has become a matter of economic survival and collective resilience, as the accelerating degradation of marine and coastal environments directly threatens the stability of Europe's coastal communities.[2]

The marine environment has therefore become a decisive test of the EU's capacity to translate its environmental commitments into tangible action, demanding immediate and coordinated efforts before further degradation becomes irreversible. In this research, we analyse the current extent of marine environmental degradation in Europe, assess the effectiveness of the existing EU's legal and institutional frameworks, and propose measures to strengthen their implementation and resilience.

B. The Core of EU Marine Governance

Two legislative acts constitute the central legal structure for the EU's marine environmental policy: Directive 2008/56/EC (Marine Strategy Framework Directive) and Regulation (EU) 2024/1991 on Nature Restoration.

[1] European Environment Agency, *European Climate Risk Assessment* (EEA Report 01/2024, Publications Office of the European Union 2024) 104.
[2] ibid 21.

The Marine Strategy Framework Directive (MSFD)[3] establishes a framework for Member States to achieve or maintain Good Environmental Status (GES) in all EU marine waters by 2020.[4] It applies an ecosystem-based approach to ensure that human activities remain within ecologically sustainable limits.[5] The Directive obliges Member States to develop and implement Marine Strategies consisting of an initial assessment, GES determination, environmental targets, monitoring programmes, and programmes of measures.[6] These must be regionally coordinated under Regional Sea Conventions[7] such as HELCOM,[8] OSPAR,[9] and Barcelona.[10] The MSFD thus functions as a procedural and cooperative framework, integrating national strategies while maintaining flexibility in implementation. It prioritizes coordination and adaptive management,[11] but does not impose uniform or binding restoration targets, which limits its direct enforceability.

By contrast, the Nature Restoration Regulation (EU) 2024/1991[12] introduces binding quantitative obligations. It requires Member States to restore degraded terrestrial and marine ecosystems, aiming to recover at least 20 % of EU land and sea areas by 2030 and all ecosystems in need of restoration by 2050.[13] The Regulation explicitly ties marine restoration to achieving or maintaining GES as defined in the MSFD.[14] It obliges Member States to adopt national restoration plans[15] reviewed by the Commission for compliance[16] and subject to regular monitoring and reporting.[17] This framework strengthens accountability through enforceable targets, uniform indicators, and oversight mechanisms, ensuring measurable ecological improvement.

Formally, the MSFD and the Nature Restoration Regulation should operate on parallel tracks, exposing a gap between planning instruments and enforceable restoration obligations. The MSFD attempted to provide the structural framework, while the

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[3] Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) [2008] OJ L164/19.

[4] ibid art 1(1).

[5] ibid art 1(3).

[6] ibid art 5(2).

[7] ibid art 6.

[8] Convention on the Protection of the Marine Environment of the Baltic Sea Area (adopted 9 April 1992, entered into force 17 January 2000) 1507 UNTS 167 (HELCOM).

[9] Convention for the Protection of the Marine Environment of the North-East Atlantic (adopted 22 September 1992, entered into force 25 March 1998) 2354 UNTS 67 (OSPAR)

[10] Convention for the Protection of the Mediterranean Sea against Pollution (adopted 16 February 1976, entered into force 12 February 1978) 1102 UNTS 27 (Barcelona Convention).

[11] ibid art 17

[12] Regulation (EU) 2024/1991 of the European Parliament and of the Council of 24 June 2024 on nature restoration and amending Regulation (EU) 2022/869 [2024] OJ L199/1.

[13] ibid art 1(1).

[14] ibid art 5(1)(d).

[15] ibid arts 14-15.

[16] ibid art 17.

[17] ibid arts 20-21.

Regulation attempted to operationalize it through measurable duties and timelines. But practically, effectiveness of both instruments ultimately depends on how Member States transpose and implement them domestically. The MSFD leaves broad discretion to national authorities, resulting in divergent interpretations of what constitutes Good Environmental Status and uneven enforcement across regions. The Nature Restoration Regulation attempts to narrow this gap through binding restoration targets, yet national implementation remains fragmented and largely dependent on voluntary coordination under regional sea conventions. In light of this, the following examines the national level, assessing how Member States have implemented these obligations.

C. Regional Implementation

I. Baltic Sea Basin

The environmental situation in the Baltic Sea Basin remains critical. Pollution pressures persist at high levels, with hazardous substances being widespread across most subregions. Biodiversity continues to decline, many species and habitats remain in poor condition, and several key fish stocks keep decreasing. Climate change exacerbates these pressures, and urgent, coordinated measures are now vital to strengthen ecosystem resilience.[18]

Across the Baltic Sea Basin,[19] several Member States have made progress in improving the structure and coordination of their marine programmes. Encouragingly, the region has accelerated its biodiversity commitments, advancing toward the objective of securing 30% of its marine environment under protection by 2030.[20] The following illustrates the advances made by several Member States:

- *Germany and Sweden*: updated measures under the HELCOM Baltic Sea Action Plan 2021-2030, improving coherence between regional and national governance.[21]
- *Finland and Sweden*: enhanced technical precision of marine actions with clearer timelines, spatial scope, and operational objectives.[22]

[18] European Commission, 'Report from the Commission to the Council and the European Parliament on the Commission's Assessment of the Member States' Programmes of Measures as Updated under Article 17 of the Marine Strategy Framework Directive (2008/56/EC)' COM (2023) 5 final, 5.

[19] Concerning the Member States of Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, and Sweden.

[20] European Commission (n 18).

[21] European Commission, Commission Staff Working Document Accompanying the Document 'Report from the Commission to the Council and the European Parliament on the Commission's Assessment of the Member States' Programmes of Measures as Updated under Article 17 of the Marine Strategy Framework Directive (2008/56/EC)' SWD (2025) 3 final, 126–135, 234–241.

[22] ibid 126–135.

- *Estonia*: introduction of a comprehensive cost-environmental analysis and transparent funding identification for each measure, linking design and implementation.[23]

Despite policy progress, implementation across the region remains inconsistent and, in many areas, insufficient:

- *Germany*: for contaminants, many actions are unimplemented and their impact unquantified; marine-litter targets are only partly operational, with unsecured funding and missing timelines.[24]
- *Sweden*: national measures lack operational clarity; biodiversity goals are set but rarely translated into enforceable actions.[25]
- *Finland*: several actions under the Baltic Sea Action Plan remain unimplemented; there is no quantified definition of Good Environmental Status (GES) for marine litter.[26]
- *Estonia*: strong planning is noted, but measures lack quantified benefits and climate impact analysis; contaminants remain insufficiently addressed.[27]
- *Latvia*: no new measures for underwater noise, fish stocks, or marine litter; biodiversity protection remains underdeveloped.[28]
- *Lithuania*: fails to reach GES for marine litter; unclear spatial scope and weak coordination between objectives and measures.[29]
- *Poland*: fragmented approach with unjustified withdrawal of measures; no quantified contribution to GES and limited focus on biodiversity.[30]

In summary, while regional cooperation has strengthened, most Baltic programmes still fail to deliver policy ambition into concrete, measurable environmental outcomes.

II. Mediterranean Sea Basin

Marine litter remains a major concern in the Mediterranean, as only a small share of monitored beaches has reached GES. In addition, oil spills and other acute pollution incidents persist in zones of intense maritime activity, which reflects the region's heavy

[23] ibid 136-144.
[24] European Commission (n 21) 126-135.
[25] ibid 234-241.
[26] European Commission (n 21) 154-162.
[27] European Commission (n 21) 136-144.
[28] ibid 185-193.
[29] ibid 193-200.
[30] ibid 208-218.

shipping pressure. At the same time, fishing pressure has declined consistently over the past decade and has reached its lowest point in twenty years. However, habitat degradation still undermines the resilience of coastal ecosystems. Furthermore, rising sea temperatures and frequent marine heatwaves have caused large-scale mortality among marine species and have increased the spread of non-indigenous species, which adds further pressure on the Mediterranean environment.[31]

Member States in the Mediterranean Sea Basin[32] in recent years have made some progress in improving their marine governance frameworks, though the scale and depth of these improvements vary:

- *Italy*: established a partial linkage between new measures and operational targets for non-indigenous species, providing clearer spatial information on their application.[33]
- *Cyprus*: maintained measures addressing major contamination sources, particularly from industrial and agricultural discharges.[34]
- *Slovenia*: strengthened biodiversity protection, introducing 18 new measures in the biodiversity area, which is a notable step given its short coastline.[35]

Notwithstanding moderate policy alignment, the Mediterranean countries continue to face major deficiencies in the implementation of marine measure:

- *Italy*: existing measures have not been updated, and new ones are insufficiently detailed and not linked to operational targets, creating uncertainty about practical results. [36]
- *Slovenia*: measures on biodiversity and contaminants are only partially connected to concrete objectives; the framework fails to show how current actions can reduce pressures or address emerging socio-economic challenges.[37]
- *Cyprus*: faces similar weaknesses: most environmental targets are undefined, no new measures have been adopted for micro-litter or species protection, and earlier programs remain largely unchanged.[38]

Although Mediterranean countries show more tangible practical progress than those in the Baltic, their marine governance still has a long way to go before matching the Union's

[31] European Commission (n 18) 6.
[32] Meaning Spain, France, Italy, Slovenia, Croatia, Greece, and Cyprus.
[33] European Commission (n 21) 178-185.
[34] ibid 120-126.
[35] ibid 242-250.
[36] European Commission (n 21) 178-185.
[37] ibid 242-250.
[38] ibid 120-126.

environmental ambitions.

III. North-East Atlantic Basin

The North-East Atlantic Basin, encompassing nine Member States,[39] continues to face widespread environmental degradation despite notable progress achieved over the past decade. Most subregions remain in poor condition regarding hazardous substances in marine species. Inputs of pollutants from agriculture, wastewater and industry have fallen considerably, yet contamination persists along several coastal areas. Marine litter levels remain high, and although beaches show slight improvement, the seafloor remains heavily polluted. Although overfishing has decreased markedly since 2003, the combined effects of fisheries and other human pressures continue to threaten biodiversity. Although targeted measures exist, climate change and ocean acidification persist as major drivers of reduced ecosystem resilience.[40]

However, some progress has been achieved across the North-East Atlantic Basin through closer alignment of national programmes with OSPAR objectives and EU environmental law:

- *France and Spain*: introduced additional actions to improve fisheries management and reduce pressure on commercial stocks; both countries revised environmental targets to align with GES requirements.[41]
- *The Netherlands*: adopted nine modified and five new measures, alongside eleven existing ones, focused on marine litter reduction and waste management in coastal and offshore zones.[42]
- *Belgium*: advanced in contaminant control, introducing restrictions and bans on hazardous substances.[43]
- *Portugal*: strengthened biodiversity reporting, specifying where and when new marine protected area measures will apply, and linking them to operational environmental targets.[44]
- *Ireland*: shows potential to reach GES across pollution, non-indigenous species, and hydrographical conditions, underpinned by regional cooperation frameworks.[45]

[39] Belgium, Denmark, France, Germany, Ireland, the Netherlands, Portugal, Spain, and Sweden.
[40] European Commission (n 18) 7.
[41] European Commission (n 21) 162-169, 144-154.
[42] ibid 204.
[43] ibid 114.
[44] ibid 222.
[45] ibid 170-177.

Still, these developments have not been sufficient to address structural weaknesses in national implementation, particularly in relation to monitoring, pollution control and biodiversity protection:

- *Belgium*: lacks effective coordination between environmental and fisheries authorities; MSFD-specific measures are only partly linked to operational targets, showing limited implementation progress.[46]
- *France*: adjusted its targets but shows no clear progress toward GES; focuses on preventing new marine litter while neglecting legacy litter, and fails to link contaminant measures to GES outcomes.[47]
- *The Netherlands*: has not updated key pollution control measures and leaves major gaps in assessing seabird and pelagic habitats.[48]
- *Ireland*: introduced generic measures lacking baseline data, timelines, and focus on fisheries or marine litter reduction.[49]
- *Spain*: provides detailed reporting yet relies too heavily on monitoring and knowledge-gathering instead of actions that directly reduce pressures.[50]
- *Portugal*: continues to face serious implementation challenges; measures are only partially adequate to achieve GES objectives.[51]

Overall, national programmes remain too fragmented to ensure real progress toward GES.

IV. Black Sea Basin

The Black Sea Basin continues to face some of the most severe ecological pressures in Europe. Data collected under recent EU-supported assessments reveal that its coastlines record the continent's highest levels of marine litter.[52] Chemical contamination remains critical, as concentrations of hazardous substances exceed those measured in the Mediterranean and the North-East Atlantic by severalfold.[53] Moreover, the ongoing Russian aggression against Ukraine has added major transboundary pollution from oil, heavy metals, and war-related debris, worsening the condition of marine life and

[46] ibid 111-119.
[47] ibid 162-169.
[48] ibid 205.
[49] ibid 175.
[50] ibid 144-154.
[51] ibid 218-226.
[52] J Slobodnik, M Arabidze, M Mgeladze, A Korshenko, A Mikaelyan, V Komorin and G Minicheva, *EMBLAS Final Scientific Report – Joint Black Sea Surveys 2016–2019* (2020) 309-333.
[53] European Commission Joint Research Centre, *2021 Scientific Survey of the North-East Atlantic, Mediterranean and Black Seas: The Cruise of Three European Seas Carried Out in the Framework of the EU4EMBLAS Project with JRC Support* (2021).

habitats.[54]

The EU Black Sea Basin includes two Member States: Romania and Bulgaria. However, Bulgaria failed to submit its updated report within the required timeframe and was found in infringement of EU law by the Court of Justice for not reviewing or updating its marine strategy.[55] As a result, Romania remains the only country in the basin with an assessed programme under the Directive. It introduced a few new measures that help close some existing gaps, especially in the area of marine litter. However, most measures from the first cycle are still pending, and updates on contaminants, biodiversity, and non-indigenous species lack clarity and operational depth.[56] The programme does not fully specify pressures, funding, or coordination mechanisms, which creates significant uncertainty about how effectively it will be implemented and how much progress will be made toward GES.

Across the EU, progress under the MSFD and other Directives remains slow, fragmented, and largely insufficient to achieve GES. Member States have largely treated the Directive as a policy coordination platform, focusing on drafting strategies and aligning documents rather than implementing concrete, result-oriented actions. Most national measures remain descriptive or procedural, lacking quantifiable targets, defined budgets, or enforcement mechanisms. This policy-heavy, action-light approach has turned the MSFD into a reporting exercise, where progress is measured by compliance with administrative deadlines rather than by actual improvements in marine ecosystems.

This pattern of weak implementation is also evident in enforcement practice. Between 2012 and 2022, this pattern of weak implementation was reflected in enforcement trends: the Commission launched 39 infringement proceedings for late or missing reporting under the MSFD, which led to nine reasoned opinions and one referral to the Court against Bulgaria.[57] As noted earlier, the Court found Bulgaria in breach for failing to review and update its marine strategy. Although the country has since adopted a new strategy for 2022-2027,[58] this delay reflects a wider pattern of slow and reactive implementation across the EU.

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[54] Dimitar Bechev, 'Tackling the Russia-Ukraine War's Environmental Damage in the Black Sea' (Carnegie Europe, 24 February 2025) <https://carnegieendowment.org/posts/2025/02/tackling-the-russia-ukraine-wars-environmental-damage-in-the-black-sea?lang=en> accessed 1 November 2025.

[55] Case C-510/20 *Commission v Bulgaria* (ECJ, 28 April 2022) para 49

[56] European Commission (n 21) 226-233.

[57] European Commission, 'Commission Staff Working Document Evaluation of Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 Establishing a Framework for Community Action in the Field of Marine Environmental Policy (Marine Strategy Framework Directive)' SWD (2025) 51 final, 24.

[58] Ministry of Environment and Water (Bulgaria), 'Today the Council of Ministers adopted the updated river basin management plans for the Danube, Black Sea, East Aegean, and West Aegean Basin Management Regions, and the Marine Strategy of Bulgaria for the period 2022–2027' (Press Release, 30 December 2024) <https://www.moew.government.bg/en/> accessed 28 October 2025.

These shortcomings expose a fundamental gap in the EU's marine governance. The MSFD still lacks a clear identity: it is uncertain whether it operates as a binding legal instrument or remains only a policy-planning tool.[59] This confusion weakens enforcement and allows degradation to continue across European seas. In practice, as shown earlier, the Directive is so broad and procedural that it fails to give Member States a clear understanding of how to act. At a deeper level, the ambiguous nature of the MSFD illustrates a deeper issue in the lack of unity among EU Member States regarding marine protection overall.

D. Recommendations and Conclusion

The solution is clear: the EU must bring coherence and strength to its marine governance. It has built an impressive framework for biodiversity and environmental protection, yet unity and real action remain missing. To close this gap, the Union should consider the available means on an international level, including the most recent jurisprudence of the International Court of Justice (ICJ) and International Tribunal for the Law of the Sea (ITLOS).

In its 2024 Advisory Opinion,[60] ITLOS was asked to clarify the specific obligations of States Parties to prevent, reduce, and control marine pollution resulting from climate change impacts, and to protect and preserve the marine environment from ocean warming, sea-level rise, and acidification under the framework of the United Nations Convention on the Law of the Sea (UNCLOS).[61] The Tribunal has taken the relevant UNCLOS provisions to mean that states must take all necessary measures, individually or jointly, to address such pollution by employing the best practicable means available to them, thereby affirming the obligation of due diligence.[62] The bottom line of the said Advisory Opinion shall be treated as UNCLOS requiring States to safeguard fragile ecosystems and the habitats of threatened species from the effects of ocean warming and acidification. [63]

The 2025 Advisory Opinion of ICJ[64] reinforced this interpretation and drew directly on the reasoning developed by ITLOS.[65] The Court clarified that due diligence in the climate context means more than adopting legislation, demanding effective enforcement and

[59] See this dichotomy in Case C-461/13 *Bund für Umwelt und Naturschutz Deutschland eV v Bundesrepublik Deutschland* (ECJ, 1 July 2015), Opinion of AG Jääskinen, para 4.
[60] ITLOS, Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law (Advisory Opinion, 21 May 2024).
[61] ibid para 139.
[62] ibid para 243.
[63] ibid para 406.
[64] ICJ, Obligations of States in respect of Climate Change (Advisory Opinion, 23 July 2025).
[65] ibid para 338.

administrative oversight.[66] The obligation extends to mitigation, through sustained emission reductions, and adaptation, through measures that reduce the risk of harm.[67]

In other words, due diligence now has content: measurable prevention, restoration, and adaptation. Together, the two advisory opinions offer a clear solution to the European Union: to transform its broad marine environmental commitments into enforceable restoration obligations rooted in due diligence, prevention, and transboundary cooperation. Therefore, taking into account the foregoing analysis, this paper sets out the following recommendations:

Firstly, the EU should amend the Marine Strategy Framework Directive to include enforceable restoration thresholds aligned with the Nature Restoration Regulation and the preventive logic of Article 192 UNCLOS. This amendment should transform the Directive from a procedural coordination tool into a substantive legal mechanism ensuring measurable restoration outcomes. The Commission should define uniform indicators and binding targets that compel Member States to deliver quantifiable ecological recovery rather than administrative compliance.

Secondly, the EU needs to codify transboundary responsibility for shared marine basins through joint enforcement and liability mechanisms. Pollution, acidification, and greenhouse gas emissions are inherently transboundary, therefore, Member States must be held collectively accountable where individual inaction causes regional harm. The EU should establish a legal framework for cross-border enforcement and introduce regional compliance reviews modelled on infringement procedures.

Finally, the EU should integrate greenhouse-gas mitigation and ocean adaptation directly into marine governance instruments. States are obliged to prevent atmospheric pollution affecting the marine environment, under law of the sea. The EU should therefore embed emission-reduction obligations into the MSFD and Nature Restoration Regulation implementation cycles, ensuring that climate action and marine restoration operate as a single, legally coherent system.

[66] ibid para 138.
[67] ibid paras 281-282.