



Deliverable 6.1 State of the art on key barriers and levers for policy coherence

State of the art on key barriers and levers for policy coherence



This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101060707. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



Grant Agreement number	101060707
Project title	MSP4BIO: IMPROVED SCIENCE-BASED MARITIME SPATIAL PLANNING TO SAFEGUARD AND RESTORE BIODIVERSITY IN A COHERENT EUROPEAN MPA NETWORK
Deliverable title	State of the art on key barriers and levers for policy coherence
Deliverable number	6.1
Deliverable version	1
Contractual date of de-livery	31.1.2024
Actual date of delivery	31.1.2024
Document status	Final
Document version	1
Online access	Yes
Diffusion	Public
Nature of deliverable	Report
Work Package	WP6
Partner responsible	Finnish Environment Institute (Syke)
Contributing Partners	UNANTES, VLIZ, UCA, UAc, UTARTU, PAP/RAC, HELCOM, CNR, s.PRO, GMU, CEREMA, CCMS
Author(s)	Päivi Haapasaari, Riku Varjopuro (Syke), Volcy Boilevin (UNANTES), Inne Withouck, Fien De Raedemaecker (VLIZ), Camila Pegorelli, Javier Garcia Sanabria (UCA), Helena Calado, Débora Gutierrez (UAc), Kemal Pinarbasi, Lotta Ruokanen (HELCOM), Jacek Zaucha (GMU), Liisi Lees, Robert Aps, Anneliis Kõivupuu (UTARTU), Marina Markovic (PAP/RAC), Olivier Laroussinie, Alexandre Cornet, Neil Alloncle (CEREMA), Andrea Barbanti (CNR-ISMAR), Margarita Stancheva, Hristo Stanchev (CCMS), Ivana Stojanovic (s.Pro)
Editor	Margarita Stancheva (CCMS) and Javier García Sanabria (UCA)



Approved by

Ivana Stojanovic, s.Pro

Project Officer

Victoria Beaz Hidalgo

Abstract

Task 6.1 of MSP4BIO aimed to 1) understand the status of biodiversity mainstreaming in marine environmental and economic sector policies in the EU region, and identify related barriers and levers, and 2) scrutinize the potential and challenges of the maritime spatial planning directive and its implementation in the EU member states for enhancing biodiversity mainstreaming. An empirical qualitative study focusing on EU, regional, and national policies was conducted. The results show that biodiversity conservation is an explicit objective in the environmental policies at all policy levels. The environmental policies also well acknowledge the need to integrate biodiversity objectives in all economic sector policies. However, at the national level, the actual integration varies between countries and between policy domains. Even if biodiversity objectives are integrated in sector policies, significant gaps in their implementation exist. The study identified several institutional, operational/organizational, technical, and resource-related barriers and levers that influence biodiversity mainstreaming. All the analyzed EU-policies, including the economic sector policies, acknowledge the potential of MSP in the conservation of marine environment and biodiversity. The national MSP legislation of all studied countries stresses the importance of ensuring the compatibility of marine activities with environmental objectives, often referring to biodiversity conservation. However, the level of ambition in practical planning and implementation remains lower. The study identified a variety of factors that constrain or enable the potential of MSP to enhance biodiversity mainstreaming. A need for mechanisms to connect MSP with actions focusing on biodiversity was identified. The Regional Sea Conventions could provide frameworks for supporting their contracting



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



Keywords

parties in biodiversity conservation and in MSP. The results of D6.1 will be further elaborated in Task 6.2 to convert the identified barriers and levers into opportunities for biodiversity mainstreaming.

Barriers and levers, Biodiversity Strategy, Biodiversity mainstreaming, Environmental policy integration, Policy coherence, Maritime Spatial Planning



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



Acknowledgements

We thank all the experts interviewed for their valuable input in this work.



Table of contents

Acknowledgements	4
Table of contents	5
List of Figures	7
List of Tables	8
Acronyms	9
Executive Summary.....	10
1. Introduction	15
2. Biodiversity Mainstreaming	17
2.1 Biodiversity mainstreaming: the concept.....	17
2.2. Biodiversity mainstreaming across policy levels and domains.....	18
3. Methodology	19
3.1. Analytical approach.....	19
3.2. Empirical approach	23
3.3. Data collection and analysis	23
4. Results	25
4.1. EU policies	26
4.1.1. Biodiversity policy (BS2030)	26
4.1.2. Environmental policy (MSFD)	30
4.1.3. The Common Fisheries Policy.....	34
4.1.4. Energy policy.....	38
4.1.5. Maritime transport policy.....	42
4.1.6. Maritime Spatial Planning Directive (MSPD).....	45
4.2. Regional and national policies.....	48
4.2.1 North East Atlantic - OSPAR	48
4.2.2 Belgium.....	51
4.2.3 Spain.....	58
4.2.4 Portugal	63
4.2.5 Baltic Sea - HELCOM	67
4.2.6 Poland	71
4.2.7 Estonia.....	75
4.2.8 Mediterranean Sea - Barcelona Convention	78
4.2.9 France.....	83



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



4.2.10 Italy	87
4.2.11 Black Sea - The Black Sea Convention	92
4.2.12 Bulgaria	95
5. Synthesis	99
5.1. Status of biodiversity mainstreaming.....	99
5.1.1. Biodiversity mainstreaming from the EU to regional and national levels.....	99
5.1.2. Biodiversity mainstreaming across policy domains	100
5.2. Barriers and levers of mainstreaming	103
5.3. MSP to enhance biodiversity mainstreaming.....	112
5.4. Conclusions	119
6. Next steps	120
Bibliography	122



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



List of Figures

Figure 1 Mainstreaming biodiversity in the different phases of marine/MSP-relevant policies at the EU-, regional and national levels.	20
Figure 2 Analysis tool for biodiversity mainstreaming.	22
Figure 3 The results section follows a multi-level governance setting covering the EU, the RSCs, and eight countries.	26



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



List of Tables

Table 1 Barriers of biodiversity mainstreaming	107
Table 2 Levers of biodiversity mainstreaming	109
Table 3 MSP as a tool for biodiversity mainstreaming: barriers	113
Table 4 MSP as a tool for biodiversity mainstreaming: levers	116



Acronyms

BBNJ	Biodiversity Beyond National Jurisdiction
BC	Barcelona Convention
BS2030	EU Biodiversity Strategy for 2030
CBD	Convention on Biological Diversity
CFP	Common Fisheries Policy
DG	Directorate-General
EBA (EA)	Ecosystem-based approach (Ecosystem approach)
EIA	Environmental Impact Assessment
EMFAF	European Maritime, Fisheries and Aquaculture Fund
EUBS	EU Biodiversity Strategy
GD	Green Deal
GBF	Kunming Montreal Global Biodiversity Framework
GES	Good Environmental Status
IMO	International Maritime Organization
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unreported, Unregulated (fishing)
MCH	Mitigation and Conservation Hierarchy
MS	Member State(s)
MSFD	Marine Strategy Framework Directive
MSPD	Marine Spatial Planning Directive
NBS	National Biodiversity Strategy
PoM	Programme of Measures
PSSA	Particularly Sensitive Sea Area
RSC	Regional Sea Convention
SEA	Strategic Environmental Assessment
WFD	Water Framework Directive



Executive Summary

Reversing biodiversity loss requires *mainstreaming* biodiversity concern and objectives into all relevant environmental and non-environmental policies, strategies, and practices across policy levels. The aim of Task 6.1 of MSP4BIO was to understand the status of biodiversity mainstreaming in marine policies and sectors in the EU region, and to identify related barriers and levers. A specific objective was to scrutinize the role, potential, and limitations of the maritime spatial planning directive (MSPD) and its implementation in the EU member states (MS) for enhancing biodiversity mainstreaming and policy coherence.

An empirical study covering environmental, economic, and MSP policies and their implementation at the EU, regional, and national levels was conducted. The analysis involved eight (France, Portugal, Spain, Italy, Poland, Estonia, Portugal, and Bulgaria) EU MS. Also, the policies of four Regional Sea Conventions (RSCs) were addressed.

Data collection included interviews, results from the workshops of MSP4BIO test sites, and policy document analyses. A policy cycle approach was used to examine how biodiversity is addressed in different phases of policy making, that is, agenda setting, policy formulation, and implementation. Two types of qualitative indicators were used to roughly assess the extent biodiversity is integrated in policies and practices. The first indicator related to the prioritization of biodiversity vs. other objectives. It was ranked from level 1 (biodiversity among the least prioritized topics) to 5 (biodiversity prioritized the highest). The other indicator described the ambition of biodiversity conservation which was assessed based on the range of conservation measures included in a policy: whether the intention is to avoid the current impacts of human activities on the ecosystem (level 1), to minimize and reduce current impacts (level 2), to address also past impacts through restoring and remediating biodiversity (level 3), or moreover, to proactively insight for future improvements through renewing biodiversity (level 4). The identified barriers and levers of biodiversity mainstreaming and those affecting the possibilities of MSP to enhance mainstreaming were categorized in tables (Section 5).

The updated EU Biodiversity Strategy (BS2030) aims to protect 30% of European seas, with one third strictly protected. It also includes legally binding nature restoration targets. Thus, BS2030 has upgraded the ambition of the EU in biodiversity conservation policies to level 3 (restoring and remediating impacts). The European Commission has revised relevant EU environmental and sector policies to match the ambition of BS2030 and to support biodiversity-related policy making in the MS. The potential of the Marine Strategy Framework Directive (MSFD) to achieve its goals has been lifted by a request for the MS to develop quantitative criteria for good environmental status (GES). In the Common Fisheries Policy (CFP), the Transition package (2023) raises the ambition of biodiversity conservation towards restoration and remediation targets (level 3). Adhering to the IMO rules, the EU legislation for maritime transport aims to avoid, reduce, or minimize impacts on biodiversity. Similarly, the EU offshore renewable energy strategies acknowledge the importance of minimizing and reducing the impacts of offshore energy on biodiversity, yet biodiversity conservation is not among the highest priorities.



For the RSCs OSPAR, HELCOM, and the Barcelona Convention biodiversity is a high priority. They have updated their strategies to align with BS2030 and global biodiversity policies. However, they have faced difficulties in putting the biodiversity objectives into action, specifically owing to low commitment of economic sectors. In the Black Sea Convention, progress in addressing biodiversity has been slower, and problems in national enforcement and poor compliance have been encountered.

In all studied countries, improving the conservation of habitats and species is an explicit objective in the environmental legal acts, policies, and strategies. The need to integrate biodiversity objectives in all economic policies is also well acknowledged. However, actual integration of the biodiversity objectives in marine economic policies varies between countries and between policy domains. Even if biodiversity objectives are integrated in sector policies, significant gaps in their implementation exist.

Most of the studied countries have adopted new laws, strategies, policies, or programmes to integrate biodiversity concerns in their fisheries policy. Although the fisheries policies rank biodiversity among their highest priorities, practices do not conform to the priority. In addition, monitoring requirements and related indicators concerning biodiversity, beyond single target species, are often missing. The programmes adopted in many MS under the European Maritime, Fisheries and Aquaculture Fund (EMFAF) support raising the ambition of biodiversity conservation to level 3. The study suggests that in marine aquaculture biodiversity integration is even more difficult than in fisheries. In the analyzed case the approach was to retain biodiversity by avoiding impacts (ambition level 1) and biodiversity was prioritized less than most topics.

Different types of national policies and strategies aim to minimize and reduce the impacts of shipping on the marine ecosystem. In some countries, these policies and strategies are sector-specific transposing the EU and IMO objectives to the national level whereas in some countries biodiversity issues in the maritime transport are governed under generic maritime strategies that adhere to national environmental strategies. Maritime transport policies, as a rule, do not prioritize biodiversity over other topics. The procedures of environmental impact assessment (EIA) and strategic environmental assessment (SEA) are important for avoiding negative impacts on biodiversity. Actions have been taken in different countries to support the conservation of biodiversity at sea and in ports. Still, needs for improvements both in policy formulation and implementation were identified.

Similarly, biodiversity issues in the offshore energy sector are governed by national environmental or marine/maritime strategies. In addition, using EIA/SEA to avoid, reduce or minimize negative impacts on biodiversity is required. The study suggests that in national offshore energy policies biodiversity is prioritized less than other objectives. For example, the HELCOM recognizes the difficulties of offshore energy and other marine economic sectors to integrate biodiversity objectives into their decision making and operations and calls for a comprehensive planning framework using a shared conceptual approach across sectors to address the challenges. The study indicates that biodiversity considerations in economic sectors, overall, need clear, easy-to-understand tools, stronger mechanisms, and instructions.



The study identified institutional, operational/organizational, technical, and resource barriers and levers for biodiversity mainstreaming. Conflicting objectives between policies is a usual barrier for addressing biodiversity. In some cases, inflexibility of the policy framework is a barrier for more ambitious biodiversity policies or actions. Ambiguous, generic, unambitious, inappropriate, or inadequate policy formulations complicate or poorly guide decision making, which can lead to low priority for biodiversity. Lack of requirements for monitoring and reporting hampers biodiversity conservation as it leads to missing data trends, missing or poor evaluation of policies, and inadequate adjustment of measures. Also, monitoring programs are often incomplete with variations between MS for the descriptors. Missing, unclear, or inappropriate division of mandates or responsibilities may hamper biodiversity integration or the implementation of coherent management measures.

The analysis also suggests that siloed policy making is a common barrier for biodiversity conservation. Furthermore, coordination across governance levels, organizations, sectors, policies, regions, and actor groups is often weak. This hampers the formulation of policies and the implementation of biodiversity conservation. Stakeholder participants in policy formulation and implementation may be missing.

Poor adjustment of the environmental policies to the specificities, needs, and possibilities of economic sectors may complicate biodiversity relevant policy formulation and the identification of appropriate conservation measures. Missing data owing to lack of monitoring and reporting of biodiversity makes evaluation of policy and adjustments of policies and measures difficult. Evaluation of policies is also considered difficult in the face of complex and uncertain problems and missing knowledge. The requirement to designate strictly protected areas is considered to further increase knowledge challenges. Mismatch of assessment methodologies or e.g. the scope or timing of reporting between policies can also be a problem for coherence. Lack of training can be a barrier for biodiversity integration in economic policies at the national/local level. In addition, financial constraints and lack of human resources are typical barriers for the implementation of biodiversity objectives in national (economic) policies. Lack of national funding is often a barrier for the full implementation of marine monitoring programs.

The study indicates that increased scientific understanding, public opinion, global processes and agreements, and the EU-policies are important levers for biodiversity mainstreaming. At the EU-level, policies explicitly addressing biodiversity support each other in mainstreaming. At the national level, binding EU-legislation is considered the most effective, but also EU-strategies and programmes advance biodiversity integration and implementation. Similarly, national strategies are important for the successful implementation of biodiversity objectives. Appropriate division of responsibilities between authorities is essential for biodiversity mainstreaming. In addition, efficient collaboration and coordination between actors is needed. The study also highlights the importance of specific guidance or requirements for successful implementation of biodiversity objectives. Also, the requirements for biodiversity monitoring, data sharing, and analysis would be important levers for biodiversity mainstreaming. Funding, in general, is important.



All the analyzed EU-policies (BS2030, MSFD, The CFP Transition package, Offshore Renewable Energy Strategy, maritime transport policy) acknowledge the potential of MSP in the conservation of marine environment and biodiversity. The requirement of MSP for cross-border collaboration and stakeholder involvement, and its interdisciplinary character are considered to enhance the effectiveness of MSP in biodiversity conservation. Furthermore, the study suggests that MSP can serve as a useful tool for communicating the requirements of biodiversity legislation to the users of the sea. Thus, it can enhance the social acceptance of environmental legislation.

In all the studied countries, the MSP legislation stresses the importance of ensuring the compatibility of marine activities with the conservation of the environment. In most of them, the MSP legislation also explicitly refers to biodiversity conservation and prioritizes it highly. The results suggest that the ambition level of MSP in biodiversity conservation in different countries varies between level 4 aiming towards renewing biodiversity and level 1 aiming to retain biodiversity by avoiding impacts. In most countries, the aim is to minimize and reduce the negative impacts of human activities on biodiversity (level 2). An ecosystem-based approach (EBA) and EIA/SEA are important tools for MSP to control the environmental impacts of a plan.

Despite high prioritization of biodiversity in MSP legislation, the level of ambition in practical planning remains lower. Thus, MSP may have limited effects on achieving biodiversity goals. The implementation of the MSPD varies between countries, which is a challenge for its effectiveness in environmental conservation and complicates transboundary coordination. The study also suggests that MSP poorly supports balanced decisions between the marine environment and the economic activities, and that stakeholder pressure may lead to prioritizing economic issues above biodiversity. The ambiguity of the concept of EBA and missing threshold values for GES reduce the usefulness of MSP as a tool for biodiversity conservation and mainstreaming. Moreover, siloed policy making, poor coordination between issues, lack of public participation, and centralized planning limit the potential of MSP for biodiversity conservation. Missing possibilities of MSP to influence sectoral decision-making further limits its capacity as a coordinating mechanism for biodiversity mainstreaming. In some cases, MSP is poorly known among the environmental stakeholders and even disregarded as an integrated tool for pursuing GES and the objectives of BS2030.

The MSP arrangements of different countries also differ in their approach to MPA, that is, the role of MSP in defining, identifying, or suggesting MPAs. Missing mechanisms to connect MSP with actions focusing on biodiversity (e.g. establishment of new protected areas, Other Effective Management Measures (OECM) and effective management of protected areas) is considered a problem.

The RSCs provide forums to facilitate the implementation of MSP, and as part of that, to enhance biodiversity mainstreaming. However, the RSCs are not similar in the way they include MSP in their work.

The work on biodiversity mainstreaming will continue in the next tasks of MSP4BIO/WP6. Task 6.2 will develop recommendations for strengthening biodiversity mainstreaming



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



through MSP and economic sector policies, based on the findings of D6.1. Task 6.3 will arrange a science-policy dialogue to communicate the outputs to policy makers.



1. Introduction

Biodiversity loss is a pressing global problem. Large scale historical losses in combination with rapid ongoing biodiversity decline are increasingly weakening the ability of marine and terrestrial ecosystems to function and to produce ecosystem services for humans (IPBES 2019; Whitehorn et al. 2019). The five main drivers of biodiversity loss, in order of impact, are: habitat destruction, overexploitation of natural resources, climate change, pollution, and invasion of alien species (IPBES 2019). Biodiversity decline implies changes in species distribution, phenology, population dynamics, community structure, and ecosystem function (EEA 2017).

In marine ecosystems, fishing and other direct exploitation of organisms has the largest relative impact on biodiversity (IPBES 2019). In addition, other maritime activities (e.g., shipping, aquaculture), pollution from land, rivers, and sea (e.g., nutrients and contaminants, marine litter including plastics and microplastics, underwater noise, oil spills, toxic dumping), and coastal infrastructure development affect marine biodiversity (IPBES 2019; [COM\(2023\) 103 final](#)).

Concern for biodiversity loss and the objective for reversing it are incorporated in the documents and work of high-level international institutions such as the Convention on Biological Diversity (hereafter [CBD](#)), the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services ([IPBES](#)), and the European Union ([EU biodiversity policies](#)). In the EU, biodiversity is also an integral part of the [Green Deal](#) (GD) contributing to the UN 2030 Agenda and the UN Sustainable Development Goals.

However, high-level agendas alone are not sufficient to reverse biodiversity loss. Biodiversity concerns and objectives must be comprehensively mainstreamed into all relevant environmental and non-environmental policies and practices across different policy levels ([SCBD 2005](#); Uittenbroek et al. 2012; Karlsson-Vinkhuyzen et al. 2017; IPBES 2019; Whitehorn et al. 2019). Integration of biodiversity considerations across all environmental, extractive, and productive sectors addresses relationships between sectors and helps to ensure coherence in the ways biodiversity is considered in policies and decisions (IPBES 2019). Integration is required also across policy levels to ensure coherence between them. This implies that policies adopted in the EU must be verified and implemented regionally, nationally, and locally.

The CBD (2010), the IPBES (2019), and the EU ([SWD\(2019\) 305 final](#); [COM\(2020\) 380 final](#)) highlight the importance of mainstreaming biodiversity across economic sectors. Mainstreaming focuses on addressing the driving forces of environmental degradation, rather than merely responding to its symptoms (Runhaar et al. 2014; Karlsson-Vinkhuyzen et al. 2018; Persson et al. 2018). It can take place by adopting new or amending the existing legislation or augmenting the implementation of the existing regulations. Integrating explicit biodiversity considerations into policies is expected to both have direct impacts on biodiversity and to raise awareness of the importance and value of biodiversity, thus supporting political will to implement the biodiversity goals (CBD 2010). At best, mainstreaming can lead to positive biodiversity and development outcomes and to changes in human behavior (Huntley and Redford 2014). However,



biodiversity mainstreaming is challenging and has proceeded slowly (Huntley and Redford 2014; Leadley et al. 2014; [COM\(2020\) 380 final](#)). Biodiversity objectives are still poorly prioritized above other objectives (Karlsson-Vinkhuyzen et al. 2018).

The EU wants to be a forerunner in biodiversity protection. It aims to raise the level of ambition and commitment to biodiversity conservation, restoration, and sustainable use in its region and worldwide. The latest articulation of the EU ambitions is the [EU Biodiversity Strategy 2030](#) (BS2030) (COM(2020) 380 final) that has the goal to protect 30% of its seas and land, of which one third should be strictly protected. BS2030 also includes objectives for ecosystem restoration. The EU contributed to the negotiations of the [Kunming-Montreal Global Biodiversity Framework](#) (GBF) and is committed to the agreement reached in 2022. BS2030 is aligned with the GBF which required no significant changes in the EU biodiversity policies. The EU also played a key role in the negotiations for the agreement on [Biodiversity Beyond National Jurisdiction](#) (BBNJ), for example by initiating the [High Ambition Coalition](#) on BBNJ, seeking to raise the international standards to match those of the EU. The High Ambition Coalition involving 116 countries was active also in the parallel negotiations about the GBF. The BBNJ agreement was adopted in June 2023 to ensure the conservation and sustainable use of marine biodiversity in the high seas. In 2022, the EU Commission proposed a new [Nature Restoration Law](#), which combines an overarching restoration objective for the long-term recovery of nature in the EU's land and sea areas with binding restoration targets for specific habitats. The Restoration Law was agreed in triilogue negotiations between the EU Parliament, the Council, and the Commission in November 2023. The European Parliament's Environmental Committee voted in favor of the final text agreed in the negotiations. Voting at the plenary of the European Parliament scheduled for early 2024 will be the ultimate step in the adoption of the Nature Restoration Law.

Task 6.1 of MSP4BIO aims to understand the status of biodiversity mainstreaming in marine environmental and economic sector policies in the EU region, and to identify related barriers and levers. A specific objective is to scrutinize the role, potential, and limitations of the existing integrative framework of maritime spatial planning (MSP) for enhancing biodiversity mainstreaming and coherence across policy domains. MSP gives a valuable insight into mainstreaming as it covers all maritime sectors, activities, and area-based conservation measures, and is practiced by all EU member states (MS). The comprehensive planning framework of MSP could have potential for biodiversity mainstreaming by e.g. integrating biodiversity objectives in marine spatial plans or by including the designation of marine protected areas (MPA) in the planning processes (Trouillet and Jay 2021, Reimer et al. 2023). However, MSP is a process for spatial planning at sea, while management decisions in maritime sectors are taken through respective sector processes. This sets limitations for how much MSP can influence biodiversity mainstreaming.

The main research questions of this study are: 1) how / to what extent biodiversity concern and objectives are integrated in environmental and sectoral marine policies, strategies, and practices at the EU-, regional and national levels, 2) how governance deals with biodiversity, what actors are involved, and what are the roles, responsibilities, and requirements, 3) what levers facilitate and what barriers hinder the integration of



biodiversity concerns and objectives in the policies and the implementation of the objectives, and 4) what is or could be the role of the MSP Directive (MSPD) and its implementation in the EU member states (MS), in biodiversity mainstreaming. The empirical study focuses on EU marine policies, the policies of the Regional Sea Conventions (RSC) of the North Sea, the Baltic Sea, the Mediterranean Sea and the Black Sea, and national policies in eight European countries. The study is based on policy document analyses, interviews conducted at the EU-, regional, and national levels, and results from the first interactions with the Communities of Practice (CoPs) in each test site of the MSP4BIO (WP5, Task 5.1).

The study results will be used in MSP4BIO in developing an ESE framework (Task 4.4.) and in outlining policy-level solutions for addressing biodiversity (Task 6.2). The results and conclusions of this study will also be discussed in the science-policy dialogue of Task 6.3 building on and elaborating the policy solutions identified in D6.2. This will directly contribute to the achievement of the MSP4BIO objective to support the effective implementation of BS2030 and the GBF.

2. Biodiversity Mainstreaming

2.1 Biodiversity mainstreaming: the concept

The concept of biodiversity mainstreaming is widely used in biodiversity policies in the EU and globally. The CBD defines biodiversity mainstreaming as “*ensuring that biodiversity, and the services it provides, are appropriately and adequately factored into policies and practices that rely and have an impact on it*” and calls upon its parties to “*integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies*” ([Secretariat on the Convention on Biological Diversity](#)). Similarly, BS2030 requires the integration of biodiversity considerations into public and business decision making at all levels and aims to mainstream biodiversity globally through bi- and multilateral engagements, the GD diplomacy, and green alliances. Mainstreaming biodiversity into EU programmes is also required, to allocate at least 7,5% of annual spending to biodiversity objectives in 2024, and 10% in 2026 and 2027 ([EC 2023](#)).

In science, biodiversity mainstreaming is part of a wider research endeavor focusing on environmental policy integration, applied to issues such as green budgeting and taxes, environmental impact assessment, sustainable development strategies, and climate change (Runhaar et al. 2014; Russel et al. 2018; Persson et al. 2018; Karlsson-Vinkhuyzen et al. 2017; 2018). Huntley and Redford (2014) define biodiversity mainstreaming as “*the process of embedding biodiversity considerations into policies, strategies and practices of key public and private actors that impact or rely on biodiversity, so that biodiversity is conserved and sustainably used both locally and globally*”.

Researchers have developed methods for assessing the depth and extent of mainstreaming. For example, Kivimaa and Mickwitz (2006) proposed indicators for environmental policy integration in terms of inclusion, consistency, weighting, and reporting. Milner-Gulland et al. (2021) presented a mitigation and conservation hierarchy



(MCH) to support choices of actions to conserve and restore nature and the evaluations of the effectiveness of the actions. The hierarchy includes four sequential steps of biodiversity conservation: 1) retain biodiversity by avoiding impacts (by e.g. establishing no-take zones or safeguarding critical habitats), 2) reduce and minimize impacts (sustainable use, shift from passive non-selective gear to targeted gear, control of the impacts of invasive alien species), 3) restore and remediate impacted nature (species conservation translocations, degraded ecosystem restoration, invasive alien species eradication, better bycatch handling and release practices, fish stock replenishment), and 4) renew biodiversity through offsets and proactive actions (species introductions, rewilding, ecosystem creation such as artificial reefs).

Research has also identified barriers and levers for the mainstreaming of climate adaptation (Uittenbroek et al. 2013) and biodiversity (Karlsson-Vinkhuyzen et al. 2017; 2018). Moreover, science has elaborated the importance of both horizontal (across policy domains/policies) and vertical (across policy levels) integration, as well as stakeholder involvement to facilitate mainstreaming (Schleyer et al. 2015).

2.2. Biodiversity mainstreaming across policy levels and domains

BS2030 is the EU's latest long-term plan for biodiversity mainstreaming. It is an ambitious strategy to strengthen the implementation of the EU's existing legislation on marine conservation in line with the global agreements, including the CBD's GBF from 2022. EU strategies, in general, play a crucial role in shaping the EU's long-term policy directions and priorities across various domains. However, while legally binding acts, such as regulations and directives, have immediate legal implications and are enforceable, strategies primarily serve as guiding documents to align the actions of EU institutions and MS towards common objectives. Thus, an important function of BS2030 is to ensure that biodiversity concern and objectives will be integrated in all relevant directives as well as other EU agreements and initiatives, and that they are further mainstreamed in all national policies that can have positive or negative impacts on biodiversity.

The MS have the responsibility to implement the EU's marine policies. Thus, the MS have a decisive role in integrating biodiversity objectives in the national environmental policies and in the policies governing economic sectors as well as in the practices of all relevant policy domains at the national level. Strategies like BS2030 require the MS to compile or revise their national strategies to reflect how they intend to fulfill the EU strategy objectives. While the strategies, as such, are not legally binding for MS, they are based on legally binding legislation. BS2030, for example, requires the full implementation of the EU's Common Fisheries Policy (CFP), the Marine Strategy Framework Directive (MSFD) and the Birds and Habitats Directives.

At the level of the regional seas, the Regional Sea Conventions (RSC) and their action plans, protocols and recommendations are the main coordinating forums for biodiversity mainstreaming. Globally, 18 RSCs exist with quite similar mandates. The range of their activities cover the protection and management of the regional marine environment with objectives to prevent and eliminate pollution and to enhance the conservation of marine biodiversity (Varjopuro and Hildén 2022). Some of the RSCs operate under the UN



Regional Seas Programme whereas some of them are contractually independent from it ([UNEP 2016](#)). The European RSCs are not subordinate to the EU but their policies, protocols, and guidelines are in line with the EU policies and with the global environmental agreements. The alignment with the EU policies follows from the commitment of the EU MS to the EU policies; they cannot derogate from the EU law in the framework of an international convention. The contracting parties of the RSCs are also signatories to the global and international environmental agreements. The RSCs assist their contracting parties in the implementation of the global, international, and EU policies within their respective sea basins, which emphasizes the importance of their role for biodiversity mainstreaming.

3. Methodology

3.1. Analytical approach

We consider biodiversity mainstreaming as the result of successful horizontal and vertical integration of biodiversity into different policy domains, and levels of governance (Figure 1). Thus, analyzing the status of mainstreaming in the marine policies of the EU region implies addressing integration through three dimensions: 1) how biodiversity concern and objectives are included in different EU and national policies, and in the policies of the RSCs; 2) how integration extends from the EU and national biodiversity strategies to other environmental policies and further to the economic maritime policies, and 3) how biodiversity concern and objectives defined in the EU are transferred to and enforced at the regional and national levels. Special attention in the analysis is given to the role of the MSPD and its implementation in mainstreaming biodiversity in the marine policy landscape.

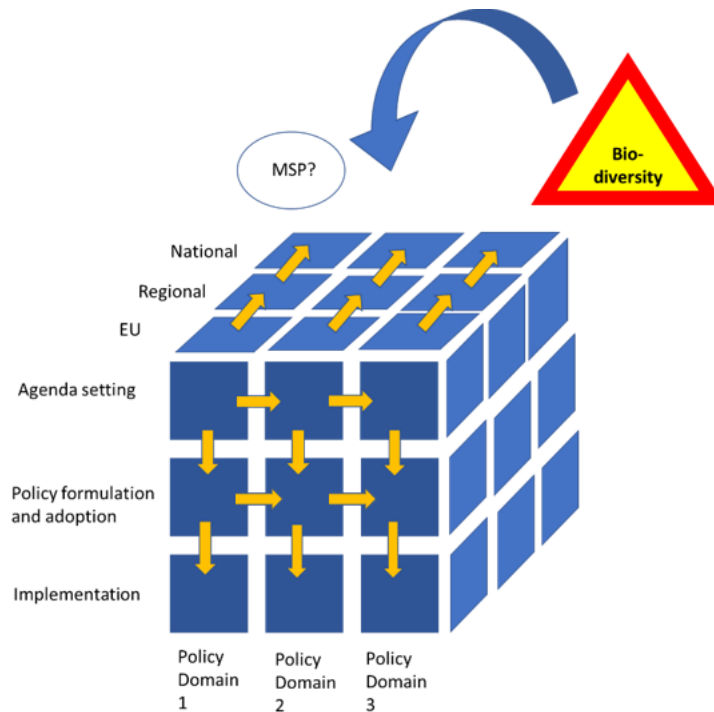


Figure 1 Mainstreaming biodiversity in the different phases of marine/MSP-relevant policies at the EU-, regional and national levels.

We analyze biodiversity integration in individual policies in the theoretical framework of a policy process/cycle (Jann and Wegrich 2007; Knill and Tosun 2008) (Figure 2). This implies examining if and how biodiversity is taken up in the agenda of a policy domain, how it is formulated into a policy and adopted, and further, how biodiversity objectives can or will be implemented. In other words, we follow how biodiversity appears or fails to appear as a topic in different stages of the policy process.

The approach also facilitates identifying barriers and levers that in the different phases of the policy process influence the integration of biodiversity objectives into the policy or their implementation. We define barriers as surmountable and mutable governance-related factors that hinder biodiversity mainstreaming but can, at least in principle, be overcome or reduced by governance actions (Eisenack et al. 2014). This definition distinguishes barriers and levers from negative or positive environmental or societal conditions that are independent of, or cannot be affected by, marine governance. Barriers can be embedded in the existing laws or policies, or the established responsibilities/mandates that poorly fit to the requirements of biodiversity integration (institutional barriers). The coordination of issues between organizations or actor groups may not be adequate for biodiversity considerations (operational/organizational barriers). Appropriate procedures, practices, or tools for the formulation, evaluation, implementation, or assessment of biodiversity policies may be missing (technical barriers). Lack of economic or human resources may also hinder efficient dealing with biodiversity issues. Similarly, levers are defined as governance factors or actions that



advance biodiversity mainstreaming. The analysis focuses on three phases of a policy process:

In agenda setting, the need to formulate a political agenda for biodiversity is acknowledged as a topic that requires attention from the policy makers, and the conservation of biodiversity is incorporated in legal or political documents as an issue belonging to the scope of the policy. The analysis addresses the policy context, the levers supporting the opening of a policy window for biodiversity, barriers complicating it, and the relevant actors.

Policy formulation and adoption implies the definition of policy objectives for biodiversity conservation and the identification of measures to achieve them. Including requirements for the monitoring, evaluation, and reporting of the achievement of the objectives in the policy indicates a political will to understand how the policy works, to identify problems, and to improve the process through a continuous policy cycle. The analysis addresses the contents of the policies, the related negotiation processes, the actors involved, and the resources used or needed. Different factors that promote or hinder biodiversity integration and the status given for biodiversity in the policy are identified.

Implementation implies the conversion of the biodiversity objectives into practice. In the analysis of mainstreaming, the focus is on the societal/political (e.g. values) and institutional (e.g. rules, resources, procedures, tools) capacity required for the actual implementation of the biodiversity objectives. Implementation may, for example, require rules for the prioritization of competing objectives. The analysis of implementation in this study does not extend to the actual execution of measures and the assessment of their ecological effectiveness and social or economic impacts. However, we acknowledge that the implementation of some specific biodiversity measures (e.g., MPA designation) can further promote mainstreaming.

We apply two types of *qualitative indicators* to assess the extent that biodiversity is mainstreamed in the policies and to different policy levels. One of the indicators describes the level of prioritization of biodiversity objectives in relation to other objectives, that is, whether biodiversity is 1) among the least prioritized topics, 2) prioritized less than most topics 3) not prioritized more than other topics 4) relatively high, or 5) among the highest priorities.

The other indicator describes the *level of ambition in biodiversity* conservation in the current situation in which different types of measures are needed for reversing biodiversity loss. Ambition denotes a) the range of (more or less ambitious) conservation measures included in a policy, b) the intention to implement measures to avoid or also to reduce the current human impacts on the ecosystem, or in addition to that, to address past impacts through restoring and remediating biodiversity or moreover, to proactively insight for future improvements through renewing biodiversity, and c) the intention to integrate biodiversity concern and objectives into different economic sector policies. To operationalize this indicator, we apply the mitigation and conservation hierarchy (MCH) developed by Milner-Gulland et al. (2021) (see: Section 2.1). Following the MCH, the ambition of an individual policy, country, or institution in biodiversity conservation is at level 1 if the aim is to retain biodiversity by avoiding the impacts of current activities.



Ambition level 2 indicates an intention to reduce and minimize impacts by shifting to more sustainable practices and enlarging the scope of measures to different sectors. At ambition level 3 also the past impacts and losses, and possibilities to restore and remediate them are considered. Ambition level 4 implies aims to take proactive actions for the future through e.g. species introductions or ecosystem creation. Thus, in this study, 'ambition in biodiversity conservation' is applied to biodiversity mainstreaming instead of using it to indicate the pursued ecological effectiveness of conservation (Kapos et al. 2008; Geldmann et al. 2021).

The policy process/cycle approach covering different policy domains at different governance levels facilitates a holistic analysis of biodiversity mainstreaming, including the identification of levers and weak links. It helps to consider which policy domains are and which are not coherent with the biodiversity goals. It also lets us pinpoint deficiencies at different governance levels and sea areas where improvements are needed. Moreover, the approach helps identify failures and levers in the different phases of the policy process. Thus, using this approach, we can draw conclusions whether mainstreaming takes place in a consistent way or if there are disconnections in different phases of the policy processes or between governance levels or sectors. Finally, the analysis enables to identify factors that hinder or promote biodiversity mainstreaming. The holistic approach addressing the different phases of a policy process also facilitates the appraisal of the role, potential, and limitations of MSP in enhancing biodiversity mainstreaming and policy coherence, to overcome the barriers of sectoral policies while benefitting of the levers (Figure 2).

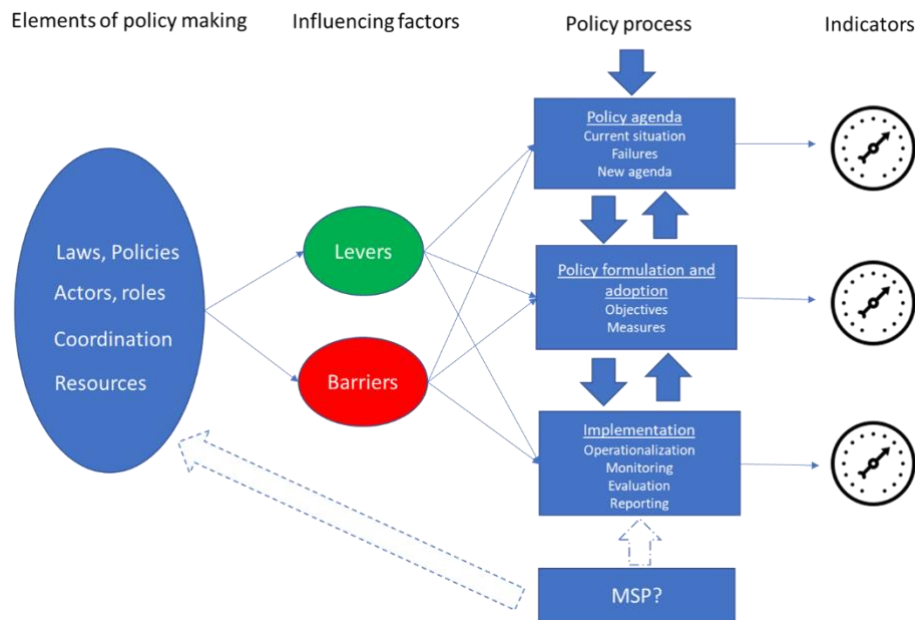


Figure 2 Analysis tool for biodiversity mainstreaming.



3.2. Empirical approach

This study analyzes biodiversity mainstreaming by focusing on three policy levels: the EU, the regional, and the national level. The starting point of the study is the BS2030 (COM(2020) 380 final) which is the latest articulation of the EU on biodiversity. It incorporates the key EU legislation on biodiversity, including the Birds and Habitats Directives. The MSFD is analyzed as an integral element of the EU's marine biodiversity policies. For studying the potential of biodiversity mainstreaming within EU policies we cover fisheries and energy policies as examples of human activities at seas with high impact on biodiversity. We also analyze shipping policies, because shipping was included as a topic in one of the national cases. Finally, the MSPD and its implementation in the MS is scrutinized to understand the potentials and challenges of MSP in biodiversity mainstreaming.

Four RSCs are relevant for this study: the Barcelona Convention (UNEP/MAP) for the Mediterranean, the Black Sea Convention, OSPAR for the North-East Atlantic, and HELCOM for the Baltic Sea. The policies/strategies of these RSCs are analyzed to understand their approaches to biodiversity mainstreaming. Including sector-specific regional policies in the analysis could have provided more depth in the analysis in terms of e.g. the role of these policies in the integration of biodiversity issues in the national sectoral policies. However, including several regional policies was not considered feasible given the already broad scope of the study.

As for individual MS, the status of biodiversity mainstreaming, the related barriers and levers, and possibilities of MSP to enhance policy coherence were analyzed in Belgium, France, Portugal, Spain, Italy, Poland, Estonia, and Bulgaria. The selection of countries was based on the countries involved in the MSP4BIO consortium and the location of the project's test sites. In each country, also one or more sector policies was analyzed. The sector policies analyzed in each case were selected based on the importance of the sectors to the national economy and/or the pressure they cause to the environment.

3.3. Data collection and analysis

The study followed a protocol including 5 main phases:

- 1) A set of questions was prepared by the leader of Task 6.1 (Syke) for data collection to be conducted by MSP4BIO consortium partners in the EC, the regional seas, and eight European countries. The questions related to 1) the integration and implementation of biodiversity objectives in marine environmental and sector policies/strategies/laws (policy formulations, measures to achieve the objectives, prioritization of biodiversity in relation to other objectives, weighting methods, biodiversity monitoring and reporting requirements, role of the ecosystem-based approach, level of ambition in biodiversity conservation) and factors that enable (levers) or constrain (barriers) this; 2) coordination of biodiversity issues (responsibilities, roles, interaction, collaboration) and related levers and barriers; 3) changes induced by BS2030 and other new international biodiversity agreements in policies relevant to biodiversity conservation, and; 4) role of MSP in biodiversity conservation/mainstreaming and the related levers and barriers.



2) The data collection included interviews, results from the workshops of MSP4BIO Task 5.1 regarding each test site, and policy document analyses. Interviews were undertaken to understand the policy making context and processes relevant to biodiversity mainstreaming, and the related barriers and levers. For this, an appropriate number of information-rich interviewees from particular groups of interest (policy makers/other experts) were identified using a purposeful sampling technique (Patton 2002). The EU-level interviewees were policy makers on biodiversity/environment (2 persons), CFP (1), energy (1), and MSPD (2). At the regional level, the interviewed experts represented three RSCs: OSPAR (1 person), HELCOM (2), and the Barcelona Convention (7). The Black Sea Convention was not interviewed as it does not have a role in the implementation of BD2030 or other biodiversity strategies and MSPD in Bulgaria (the Black Sea country included in this study). National policy makers, or experts supporting biodiversity related policy making or implementation were interviewed in Belgium (8), Spain (2), Italy (1), Poland (2), Estonia (2), Bulgaria (8), Portugal (6), and France (8). Task 5.1 included workshops with national MSP and MPA authorities, which also contributed to the data collection of D6.1.

The document analyses aimed at learning how biodiversity concerns and objectives are incorporated in different policies at the EU, regional, and national levels. The analyzed EU policies included BS2030 (COM(2020) 380 final), the MSFD (2008/56/EC), the CFP (REGULATION (EU) No 1380/2013) and the [Transition package](#) adopted in 2023, the Offshore renewable energy strategy (COM(2020) 741 final), the RePower EU (COM(2022) 230 final), maritime transport policies (EMTER 2021; IMO), and the MSPD (2014/89/EU). The regional level document analyses focused on the biodiversity-related strategies of the above-mentioned RSCs. The analyzed national policies covered biodiversity, environmental, and selected sector-specific policy documents.

3) Based on the interviews, policy documents, and the test site analyses (Task 5.1), the partners answered the set of questions formulated in phase 1. The partners were also requested to assess the level of prioritization of biodiversity objectives in relation to other objectives (indicator 1), and the level of ambition in biodiversity conservation (indicator 2) in the case study, based on the collected material. In some cases, the assessment was more strongly based on the interviewees' perception whereas in the other cases it was the analyst's assessment based on all collected material. The reports were uploaded to the MSP4BIO Teams-platform.

4) A first draft of D6.1 was produced based on the reports. The analysis applied the policy cycle framework explained in Section 3.1. The status of mainstreaming in each policy/RSC/country was assessed by using the qualitative indicators, and barriers and levers for biodiversity mainstreaming were identified. The theoretical approach was adjusted to match the different positions/roles of the EU, the RSCs, and the individual countries in biodiversity policy making. In the analysis of the EU policies and the RSCs, the analysis focused on how biodiversity concern was adopted into the policy agendas (agenda setting), how it is addressed in the policies (policy formulation and adoption), and what kind of roles, responsibilities, and activities biodiversity implementation implies (implementation). In the analysis of biodiversity integration in the countries, the focus was on how the EU biodiversity objectives were transposed and integrated into the national



environmental policies and what are the related roles and responsibilities (agenda setting), how biodiversity concern and objectives are transferred from the environmental policies to economic maritime policies (policy formulation and adoption), and what is the political and institutional capacity to operationalize the biodiversity objectives in the environmental and/or sector policies (implementation). The MSPD was given special attention in the study, to understand the potential of MSP as an integrative policy framework in biodiversity conservation and in limiting the anthropogenic pressure on the marine ecosystem.

5) The draft of D6.1 was reviewed by all partners who had contributed to the data collection. Based on the reviews, the report was revised. The revised version proceeded to an official internal review conducted by two MSP4BIO partners, after which it was finalized.

4. Results

Figure 3 provides a roadmap for the results section. The results are structured following the empirical approach described in Section 3.2. First, we present the findings on how biodiversity is addressed in the selected EU-policies, and the related barriers and levers. Next, the findings regarding the RSCs are presented followed by the results of their contracting parties, that is, the countries located in the respective sea basins.

For each studied unit (EU policy/RSC/country), the results are presented applying the policy cycle approach introduced in Section 3.1. Then, the approach of the MSP legislation and MSP planning to biodiversity in each studied unit is analyzed. Each studied unit ends with a summary of the key findings.

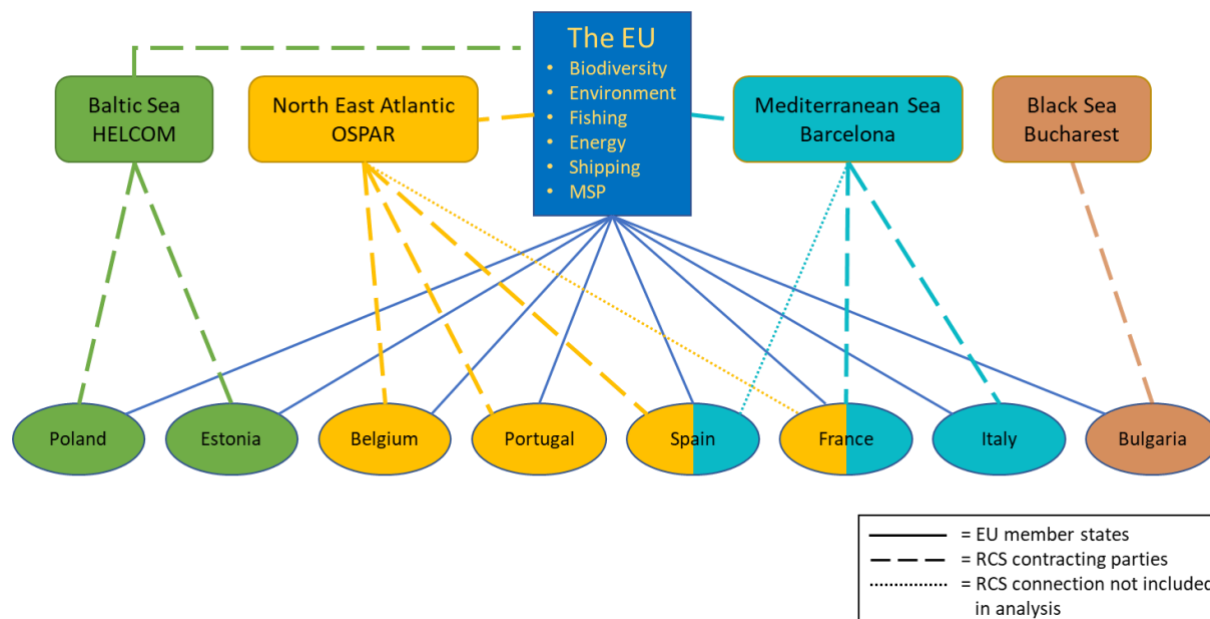


Figure 3 The results section follows a multi-level governance setting covering the EU, the RSCs, and eight countries. All the countries included in the study are EU MS (solid lines) and contracting parties to RSCs (dashed and dotted lines). France and Spain are contracting parties to two RSCs (OSPAR and Barcelona Convention), but the study links each of them to only one RSC as determined by their test site locations in MSP4BIO (the dotted lines indicate the connections not addressed in this study). The EU is a contracting party to three RSCs. The analyzed EU policies are listed in the EU rectangle.

4.1. EU policies

4.1.1. Biodiversity policy (BS2030)

Agenda setting

The oldest pieces of biodiversity legislation in the EU are the Birds Directive (adopted in 1979) [2009/147/EC](#) that protects vulnerable birds, and the Habitats Directive (1992) [COUNCIL DIRECTIVE 92 /43 /EEC](#) focusing on marine habitats and the habitats of specific species, such as cetaceans and sea turtles. In 2008, the MSFD ([2008/56/EC](#)) established a framework for an ecosystem-based approach¹ (EBA) to the protection of

¹ The EBA (or ecosystem approach, EA) has been defined in multiple ways (Long et al. 2015). The MSFD does not provide a clear definition of the EBA, but it requires that “Marine strategies shall apply an ecosystem-based approach to the management of human activities, ensuring that the collective pressure of human activities is kept within levels compatible with the achievement of good environmental status and that the capacity of marine ecosystems to respond to human-induced changes is not compromised, while enabling the sustainable use of marine goods and services by present and future generations”. The EC (2021) in its [guidelines to applying an EBA in MSP](#) emphasizes the need to understand marine ecosystem dynamics, integrate human activities and socio-economic factors with ecological considerations, and effectively manage the MSP process through inclusive governance.



marine environment, including food webs and pressures. In 2017, the MSFD was complemented by laying down criteria, criteria elements, and threshold values for GES together with specifications and methods for monitoring and assessment ([Commission decision \(EU\) 2017/848](#)). In 2011, the EU adopted the *Biodiversity strategy to 2020* to halt biodiversity loss and to improve the state of Europe's species, habitats, ecosystems, and ecosystem services. The strategy ([COM\(2011\) 244 final](#)) included six main targets: 1) Conserving and restoring nature; 2) Maintaining and enhancing ecosystems and their services, 3) Ensuring the sustainability of agriculture, forestry, and fisheries; 4) Combating invasive alien species; 5) Addressing the global biodiversity crisis; and 6) Contributions from other environmental policies and initiatives. Despite the legal frameworks and related strategies and action plans, biodiversity loss has not halted: "the protection has been incomplete, restoration has been small-scale, and the implementation and enforcement has been insufficient" ([COM\(2020\) 380 final](#)).

In order to strengthen the implementation of the existing EU nature conservation policies, the EU adopted the BS2030 ([COM\(2020\) 380 final](#)) in 2020, as a core part of the GD. Developing a more ambitious strategy was driven by the global processes towards the GBF as well as the reports of the IPBES (2019) and the European Environment Agency (EAA 2020) and the public opinion, all highlighting the urgency to speed up the recovery of biodiversity. The BS2030 further streamlines the coordination, implementation, and enforcement of the existing environmental legislation. It also channels funding to biodiversity conservation via mechanisms such as biodiversity proofing of the EU budget, natural capital financing facility, and sustainable financing and taxonomy (see [more](#)).

Policy formulation and adoption

BS2030 relies on two main pathways. One of them relates to improving and enlarging the network of protected areas. At least 30% of the seas should be protected in the EU, including 10% strictly protected areas. BS2030 states that the protected areas should be effectively managed with clear conservation objectives and measures, and the areas should be monitored appropriately. Building a coherent Trans-European Nature Network also requires setting up ecological corridors, to prevent genetic isolation, to allow for species migration, and to maintain and enhance healthy ecosystems. The other pathway relates to the aim to develop an ambitious EU Nature Restoration Plan to reduce pressures on species and habitats, ensure sustainable use of ecosystems, and support the recovery of nature. The Nature Restoration Plan suggests legally binding restoration targets and related impact assessment to fill the implementation and regulatory gaps of the existing EU legislation. It supports the development of renewable energy when it can be combined with biodiversity objectives, the reduction of pollution, and the full implementation of CFP, MSFD and the Birds and Habitats Directives. The pursuit of the Nature Restoration Plan implies that the level of ambition in biodiversity protection in the EU has been raised from minimizing and reducing impacts (level 2) to restoring and remediating (level 3).

The MS are also suggested to apply the so-called [other effective area-based conservation measures \(OECMs\)](#), in which conservation is achieved mainly as a by-product of other management. The approach was defined in 2018 by the CBD: "A geographically defined



area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values." OECMs are based on existing management systems that already provide effective biodiversity conservation, and thus, rather than designated they must be recognized.

Implementation

The implementation of BS2030 implies mainstreaming the biodiversity concerns and objectives both in all relevant sector policies and in regional and national policies. For this, BS2030 requires the MS to revise their National Biodiversity Strategies (NBS) and Action Plans by the end of 2021, or at least submit national commitments ('pledges') for the most important targets. Making the EU legislation coherent in relation to biodiversity is considered important for reducing the need for MS to balance between equally important yet contradicting legislations, that is, between biodiversity policy and other policies.

Biodiversity integration in the other EU policies is negotiated within the EC between relevant departments (Directorates General, DG). The negotiations are facilitated by a formal interservice mechanism between DGs ([P\(2019\) 2](#); Candel et al. 2023). Coordination within the Commission can, however, be challenging due to e.g. historical and political reasons, as highlighted by an interviewee representing the EC. [An EU biodiversity platform](#) was set up in 2022 to assist in the transfer and implementation of the BS2030 goals in regional and national policies. Bringing together international and European organizations and national authorities, and observers, the platform succeeds the work of the Coordination Group for Biodiversity and Nature established in 2011, with a broader scope, stronger representation of stakeholder interests, updated subgroups, and a systematic approach to engaging with expert groups across policy areas. The biodiversity platform will develop an implementation roadmap for biodiversity objectives, and a related monitoring and review mechanism, including indicators. In 2022, criteria and guidance for protected area designations were put forward ([SWD\(2022\) 23 final](#)). An example of biodiversity mainstreaming is the 'Action Plan to protect and restore marine ecosystems for sustainable and resilient fisheries' adopted in 2023 ([COM\(2023\) 102 final](#)) (see Section 4.1.3). It aims to strengthen the biodiversity conservation measures in the EU fisheries policy.

For the MS, the implementation of BS2030 implies the expectation to (voluntarily) designate additional protected areas and strictly protected areas, either to complete the Natura 2000 network or under national protection schemes, and by 2023 to demonstrate their progress. Furthermore, effective management of the protected areas is called for. For this, the MS have been requested (by Feb 2023) to submit pledges indicating the spatial boundaries or the size of their planned MPAs for the EC. However, for the MS, the implementation of BS2030 implies tradeoffs between conflicting objectives, which together with lack of capacity, lack of funding, or political reasons may hinder the MS from fully implementing the environmental legislation. Most cases of infringement of the EU law are on the environment (air, climate, nature) ([COM\(2023\) 453 final](#)).



The EC will assess by 2024 whether the progress is sufficient to meet the 2030 targets or whether stronger actions, e.g. EU legislation, are needed. Later it will be assessed whether the areas cover all biodiversity and whether the protected areas are effectively managed.

Role of MSP in biodiversity mainstreaming

BS2030 (COM(2020) 380 final) refers to MSP applying an EBA as an important tool in reducing the adverse impacts of human activities on sensitive species and seabed habitats and urges the MS to cover all maritime sectors and activities, as well as area-based conservation-management measures in their MSP plans. The MSPD is committed to applying the EBA, which is considered to link the MSPD to MSFD. An interviewee representing the EC considered that this link, however, tends to suffer from the vagueness of the concept of EBA: “...*the link between the Maritime Spatial Planning Directive and the MSFD is in this concept that sometimes people find vague: the ecosystem based...*”. The interviewee considered that also the MSPD, as such, has shortcomings that decrease its effectiveness from the biodiversity perspective. The MSPD is only partially instructive, which follows from its legal nature as a Directive that leaves freedom for the MS in its implementation resulting in different types of arrangements and approaches. This implies that both the MSPD and its main environmental tool, the EBA, are implemented in different ways and that the prominence given for MSP as a coordinating mechanism and its relation to sector policies varies between MS. The interviewee also considered that the fisheries aspect in MSP is inadequate.

Collaboration between the biodiversity authorities (DG ENV) and the MSP authorities (DG MARE) taking place for example in the EC interservice groups is important for linking BS2030, the nature restoration law and MSFD with MSPD. This is needed also for consolidating the use of EBA in MSP which could help realize the elevated ambition in biodiversity conservation (from level 2 to level 3). Yet, this is considered challenging in practice: “*I think what our colleagues are mainly...that's their challenge of how to...explain what the ecosystem-based approach is and what it means without having a very strong footing in the directive itself*” (Interviewee, EC).

Summary: EU biodiversity policy (BS 2030)

Ambition level, status, indicators

BS2030 raises the ambition of the EU in biodiversity conservation from level 2 (minimizing and reducing impacts) to level 3 (restore and remediate impacts). Two main pathways are envisaged: the extension of MPAs and a nature restoration plan. The sufficiency of progress in biodiversity protection, the need for stronger actions, and the coverage and management of protected areas will be formally assessed.

Barriers and levers

Global and EU processes and reports, and the public opinion have driven the EU to speed up the recovery of biodiversity. The integration of biodiversity concern and objectives into different EU policies takes place through the existing legislation, the implementation of which is boosted through BS2030. The EC's interservice collaboration is an administrative practice to foster integration. Effectiveness of integration may be hampered by historical and political issues. Difficulties are anticipated in the



implementation of BS2030 in the MS, in terms of tradeoffs between conflicting objectives, lack of capacity, lack of funding, or political reasons. The EU Biodiversity Platform and the tools it has developed (roadmap, monitoring and review mechanism incl. indicators, criteria and guidance for MPA designations) and the biogeographical process are expected to facilitate the MS in the implementation of the BS 2030.

MSP as a framework for biodiversity conservation

BS2030 acknowledges the usefulness of MSP for achieving the biodiversity goals. Barriers in the effectiveness of MSP for biodiversity protection relate to the deficiencies of the MSPD as a guiding document, which have led to various ways in how MSP and the EBA are implemented, and different prominence given to MSP in different MS. The EBA, as such, is vague, and difficult to be consolidated in MSP. Also, the fisheries aspect of MSP is considered inadequate.

4.1.2. Environmental policy (MSFD)

Agenda setting

The MSFD ([2008/56/EC](#)) adopted in 2008 is a holistic policy that applies the EBA “to protect the marine environment while enabling the sustainable use of marine resources and services”. Focusing on pressures on the marine ecosystem and maintaining biodiversity, it requests MS to set up national marine strategies to achieve or maintain ‘good environmental status’ (GES) by 2020. For determining the characteristics of GES in a marine region or subregion, the MS should consider 11 qualitative descriptors as listed in Annex 1 of the Directive and that were further given specification in the so-called “GES Decision” in 2017 ([COMMISSION DECISION \(EU\) 2017/848](#)).

Maintaining biological diversity is a cornerstone for achieving GES, and important parts of biodiversity assessments are under the MSFD. The MSFD evaluates the status of marine species groups (birds, mammals, fish) and pelagic and seabed habitat types. Thus, it provides a legal framework to contribute to the GBF and BS2030 and to the objectives of the Green Deal ([COM \(2020\) 259 final](#)). The MSFD requires establishing MPAs and other spatial protection measures that form coherent and representative networks, in line with the international commitments (2008/56/EC; COM(2020) 259 final). The MSFD covers the whole of EU marine waters instead of “pockets”. However, it accepts the use of marine resources for food, energy, or biomaterial. Thus, an interviewee from the EC placed the MSFD at level 2 or 3 in the MCH: it guides in maintaining biodiversity through minimizing impacts and ‘where possible’ in restoring biodiversity. The interviewee pointed out, that the strong element of sustainable use included in the MSFD implies mainstreaming the conservation responsibilities to sectoral policies.

The recent Commission report on the implementation of the MSFD (COM(2020) 259 final) concludes that while the Directive has worked well in the coordination and cooperation between MS and in enrolling the RSCs, it has failed to achieve GES by 2020. Thus, “marine life is still under threat across Europe’s seas with multiple pressures affecting individual species and habitats” (COM(2020) 259 final). Unclear goals for GES are seen as the main reason for the failure to achieve GES. Some MS may also have considered the goals unrealistic, as assumed by an interviewee representing the EC. A more



thorough review of the MSFD is in process (initially foreseen by 15 July 2023 in Article 23 of the Directive).

Policy formulation and adoption

As a response to the failure of the MSFD in achieving its goals, Commission decision 2017/848 laid down quantitative criteria and methodological standards and specifications for determining GES of marine waters for each qualitative MSFD descriptor, and standardized methods for monitoring and assessment. Criteria and, where appropriate, threshold values were to be defined for each of the 11 qualitative descriptors listed in Annex I of the Directive (2008/56/EC), to assist MS in the assessment of GES. The criteria should be aligned with the standards for favorable conservation status included in the Birds and Habitats directive, whereas lack of coherence between the classification of habitat types of the MSFD and the Habitat Directive is a methodological problem to be solved by a technical group, in collaboration with the Nature Conservation Unit. Yet, GES and favorable conservation status cannot be equivalent, because GES includes the element of sustainable use in a way that is not compatible with the concept of favorable conservation status. The quantitative criteria provide a possibility to create a stronger link between the targets of the MSFD and the BD targets of MPA (the 30% and 10% targets).

For the descriptors on marine litter, underwater noise, and seabed integrity, threshold values were established through [cooperation](#) at the EU level. Recommendations for threshold values for seabed integrity were communicated in 2023 by the Technical Group on Seabed Habitats and Seafloor Integrity ([TGSeabed 2023](#)). The threshold values relate to the maximum adverse effect on seabed habitats, including physical disturbance (e.g. bottom fishing) and contaminants. They apply to each of the 22 benthic habitat types, whereas the Habitats Directive prioritizes certain vulnerable or rich habitats. According to the recommendation, max. 2% seabed loss and 25% adverse effect is allowed. The setting of the new threshold values requires also quantifying the adverse effects, which will be done by the technical group.

In February 2023, *An [Action Plan](#) to protect and restore marine ecosystems for sustainable and resilient fisheries* (COM(2023) 102 final) to support the implementation of the biodiversity strategy was published, as a result of collaboration between DGs (Env + Mare) (see Section 4.1.3). The Action Plan is important for the MSFD as it supports the achievement of GES by addressing the bycatch of sensitive species and interactions with the seabed by requesting the MS to set up threshold values for bycatch and seabed integrity. It also encourages the creation of MPAs to protect important fish spawning sites and nursery areas, including through strictly protected areas, as the increased fish stocks spill over into adjacent areas, and to restrict bycatch. The MSFD and the associated descriptor, data, and assessments on seafloor integrity are considered to provide legitimacy to the arguments of the Action Plan regarding the adverse impacts on seafloor: *“To say that there is a problem between the interactions of mobile bottom fishing and sea floor ecology, integrity, and the preservation of seabed habitats, I mean obviously we knew that for a long time. People who've been working on the habitats have known that for a long time, but they were sometimes a little bit restricted by the...Habitats Directive ...”* (Interviewee, the EC).



Implementation

In the EC, the implementation of the MSFD is coordinated by the Marine Strategy Coordination Group that consults stakeholders, organizes workshops, and updates the MS on the evaluation and revision of the MSFD. The MSFD deals with complex ecosystem functioning and human pressures under uncertainty, which implies the need for collaboration to bring together expertise and to ensure coherence across policy areas. Thus, working groups/technical groups focusing on e.g. GES, litter, noise, seabed, and MSP have contributed to the work of the Marine Strategy Coordination Group. However, while the expert groups have earlier poorly attracted participants from the economic sectors and NGOs, the clarification of the GES descriptors through their quantification has raised more interest in the MSFD, especially in the economic sectors. New participant or observer positions in the Marine Strategic Coordination Group and different technical groups have been applied for. This means, that as MSFD has been previously considered as a relatively ineffective legislation, the perception may be changing owing to the quantified GES descriptors.

Collaboration with the working groups has taken place on an ad hoc basis, and more formalized terms of reference are needed to ensure systematic regular collaboration between expert groups. For example, no formal coordination process exists for bringing together biodiversity experts under the MSFD and biodiversity experts of the Birds and Habitats directive. That can be an issue as there is a mismatch between the assessment methodologies of the Birds and Habitats Directive and that of the MSFD: a problem of coherence, scope, methodology and timing of assessment/reporting cycle has been identified. These problems should be resolved still avoiding double work, as stated in the Commission decision. Especially two different types of habitat assessments with conflicting results should be avoided, as highlighted by an interviewee (EC).

The Joint Research Centre of the EC has an expert network and a Knowledge Centre on biodiversity involving national experts working on different elements of biodiversity related to the implementation of the MSFD. Currently they work on threshold values for bycatch. In some countries, the networks of people working on habitats, MSFD, WFD, and even biodiversity overlap, that is, the same people participate in all meetings.

The determination of GES through threshold values is supposed to help the MS in the implementation of MSFD. However, despite the Commission decision 2017/848, less than 50% of MS have set quantitative threshold values for GES and less than 25% of MS have established adequate means to determine GES for descriptors on biological diversity, non-indigenous species, contaminants, and marine litter ([C\(2023\) 2203 final](#)). In general, monitoring programs of GES are often incomplete with variations between MS for the descriptors. Monitoring programs are more complete when the MSFD criteria coincide with the requirements of other EU legislation (e.g. CFP, WFD), which confirms the lack of concrete GES determination (C(2023) 2203 final). Missing monitoring leads to missing data trends to evaluate the status of the ecosystems and GES and to missing knowledge to be used as the basis to revise measures. Funds (national allocations) are often a barrier for the full implementation of marine monitoring programs in line with the MSFD. Aligning



monitoring with the requirements of other EU legislation and the RSCs would both avoid duplicate work and save resources.

Role of MSP in the implementation of MSFD

While the national Programme of Measures (PoM) adopted in each MS is the main instrument to implement the MSFD, MSP provides an additional framework for the operationalization of the MSFD and is considered a key for biodiversity protection. The MSPD stipulates that planning must apply an EBA which in the MSFD is defined as the management of human activities at sea in a way that ensures the achievement of GES and does not compromise the capacity of marine ecosystems to respond to human-induced changes. However, the link between the MSPD and the MSFD has suffered from missing MSFD threshold values. The threshold values set the ecological boundaries within which MSP should take place while making the best use of the marine space. In an interview at the EU Commission, it was stated that “*MSP is what operationalizes the MSFD threshold values [for seabed integrity]*”. MSP planners can, for example, safeguard seabed integrity by using maps of the core fishing areas and vulnerable habitats or plan new renewable offshore energy areas while not exceeding 2% loss of the broad benthic habitat types. Guidelines for MSP planners and blue economy operators are needed. For this, pressure must be put on MS to set the national threshold values.

Summary: environmental policy (MSFD)

Ambition level, status, indicators

Maintaining biological diversity is a cornerstone for achieving GES and important parts of the BD assessments are under the MSFD. It guides in reducing impacts on biodiversity (level 2) and where possible restoring biodiversity (level 3), but it also accepts the use of marine resources.

Barriers and levers

Unrealistic and/or unclear goals for GES are seen as barriers for achieving GES. However, the recent requirement to develop quantitative criteria and methodological standards for determining GES and methods for monitoring and assessment will support the pursuit of GES. Still, few MS have set quantitative threshold values for GES, and monitoring programs of GES are often incomplete with variations between MS. Aligning the criteria of MSFD with the Birds and Habitats Directives would be important, yet differences between the approaches of the directives (GES vs. favorable conservation status) complicate this. The recently adopted Marine Action Plan to protect and restore marine ecosystems for sustainable and resilient fisheries and the recommendations for threshold values for seabed integrity are important levers for biodiversity mainstreaming. Poor participation of economic actors and eNGOs in the MSFD expert groups may have hindered biodiversity protection, but the clarification of the GES descriptors has raised more interest in MSFD. However, collaboration between the biodiversity experts under the MSFD and biodiversity experts under the Birds and Habitats directives is still on an ad hoc basis, which hampers coherence between the assessments and methodologies related to the Birds and Habitats Directive and those related to the MSFD.

MSP as a framework for biodiversity conservation

MSP integrates and operationalizes the MSFD and is considered as a key for biodiversity protection. However, also the link between the MSPD and the MSFD has suffered from missing MSFD threshold values and lack of coherence between two directives.



4.1.3. The Common Fisheries Policy

Agenda setting

The CFP, revised in 2013, aims to ensure that fishing and aquaculture activities contribute to environmental, economic, and social sustainability. The CFP is expected to contribute to the protection of the marine environment, the sustainable management of all commercially exploited species, and the achievement of GES by 2020 as set in the MSFD (Directive 2008/56/EC), Bird (2009/147/EC) and Habitat (92/43/EEC) Directives. The CFP acknowledges that the fishing sector depends on biodiverse marine environment. Thus, it requires the fisheries policies to be coherent with the fisheries targets of the [CBD \(2010\)](#) and the biodiversity targets adopted by the EC in March 2010. The CFP (2013) has implied progress towards more sustainable fishing.

However, influence from society (scientific community, NGOs, media, social media) and the fact that many of the fish stocks are still overexploited has pushed the EC towards raising the ambition of CFP in biodiversity protection, to meet the CFPs environmental sustainability objectives in full and for fisheries to contribute to the protection and restoration of marine ecosystems more effectively ([COM\(2023\) 102 final](#); [COM\(2023\) 103 final](#)): “*There is an urgent need to step-up action at EU level to reverse the decline of marine ecosystems by tackling all pressures.*” (COM(2023) 102 final). For example, mobile bottom fishing is still common in the EU waters including in Natura 2000 areas and other MPAs.

Policy formulation and adoption

In 2023, the Commission adopted [a transition package to clean energy and ecosystem protection](#) to improve the sustainability and resilience of EU’s fisheries and aquaculture sector. The transition package implies a shift of focus from what the ecosystem provides for fisheries to the impact of fishing on the ecosystem. The package was a result of collaboration between the DGs (ENV, MARE, ENERGY, MOVE) and it includes four elements.

1. ‘*Communication on the Common Fisheries Policy today and tomorrow*’ sets out a vision and a path toward sustainable and resilient fisheries for the future. It is accompanied by a Commission Staff Working Document that reports the functioning of the CFP and addresses the challenges and opportunities since the 2013 reform of the CFP, and the political orientations set out in the EU Green Deal and the related Biodiversity and Farm to Fork strategies. Exceptionally the staff working document is translated to all languages, which indicates its relevance.
2. ‘*Action Plan to protect and restore marine ecosystems for sustainable and resilient fisheries*’ focuses on the implementation of the Biodiversity strategy.
3. ‘*Communication on the Energy Transition of the EU Fisheries and Aquaculture sector*’ calls for modern, energy efficient and selective fishing techniques and gear that have no – or insignificant - negative impacts on the health and biodiversity of the broader ecosystem.



4. *'Report on the Common Market Organization for fishery and aquaculture products'* reports the implementation, results, challenges, and shortcomings of the CMO regulation, and areas of improvements.

The Transition package builds on and complements the existing environmental legislation (MSFD, Bird and Habitat directives, WFD) and BS2030, and links to the GD. For example, the MSFD gives GES standards, and the Birds and Habitats Directives list certain habitats, species, and levels of protection for the implementation of CFP. The Transition package relies on the EBA and the precautionary principle providing a forward-looking strategy for their better application. It calls for an integrated approach with other policy domains (environmental, agricultural and energy policies) to address all pressures on the marine environment in a holistic way. The need for holistic knowledge and evidence base are highlighted.

The CFP (2013) aimed at maintaining biodiversity through minimizing, reducing, and avoiding negative impacts of fishing activities on marine biodiversity and marine ecosystems (level 2). The main fisheries management tool was – and still is - the maximum sustainable yield (MSY). Rebuilding stocks to MSY level and above MSY is considered an operational, measurable and science-based target, which can also reduce negative impacts on marine ecosystems. The Transition package 2023 implies a shift in the biodiversity approach towards protection and restoration (level 3): “Making the EU’s fisheries more resilient also means ensuring that they contribute to the protection and restoration of marine ecosystems on which they depend “(COM(2023) 102 final).

The CFP (2013) authorized the MS to establish special protection areas, special areas of conservation and marine protected areas (MPA) in their waters (including Natura 2000 sites), as obliged by the environmental Directives (2009/147/EC; 92/43/EEC; 2008/56/EC). The technical measures regulation in 2019 included measures for the MS to contribute to the environmental legislation in terms of addressing selective gear or prohibiting fishing in certain areas. The Transition package takes a step further by calling on MS to create new MPAs and to effectively manage the existing ones. Effectively managed protected areas can minimize incidental catches of sensitive species, protect fish spawning and nursery areas and juveniles, and reduce impacts on sensitive habitats, particularly the seabed. In addition, the Transition package requires making fishing more sustainable by using low-impact fishing gear. Low-impact fishing gear improves selectivity and reduces the impact of fisheries on sensitive species and the seabed. The package includes OECMs which already have been implemented, especially in the Mediterranean. The actions can also include habitat / seabed restoration, improving connectivity, and addressing barriers to migration. The adoption of the nature restoration law would imply the setting of binding targets to restore degraded ecosystems.

In particular, the EC calls on the MS to phase out mobile bottom fishing in all MPAs by 2030 at the latest, to support the MSFD targets in protecting the seabed. To start with, the MS should, by the end of March 2024, adopt national measures or, where appropriate, propose joint recommendations to the regional groups to prohibit mobile bottom fishing in the MPAs that are Natura 2000 sites designated under the Habitats Directive. Also,



mobile bottom fishing should not be allowed in any newly established MPAs. In line with the objectives of the MSFD and the proposed Nature Restoration Law, the seabed must be protected and restored also outside the MPAs. To this end, MS should agree on and implement the threshold values for seabed integrity, which are currently being developed under the MSFD (COM(2023) 102 final).

The EU has ambitious targets in fisheries, but it is confronted with competition of fleets with lower standards, less constraints, and less protection, as was expressed by an interviewee who saw this as a barrier for biodiversity protection globally. The interviewee considered the WTO agreement on illegal fishing and the BBNJ agreement very important for driving the international standards to a higher level. This will help reach a level playing field between the EU and non-EU countries. With its robust fisheries management framework and rules for fish product imports, the EU is driving fisheries towards improved sustainability worldwide. For example, it leads efforts to designate new large-scale MPAs in the Southern Ocean and helps to ensure progress in fighting IUU fishing.

Implementation

The EU provides guidance on the roles and responsibilities in the protection of marine environment (Article 11 of the CFP 2013; COM(2023) 102 final). The MS are expected to take action to implement, monitor, and enforce the rules. For this, they must allocate resources, increase stakeholder involvement, and strengthen the scientific base. The MS are also expected to prepare and publish roadmaps (in 2024) to accelerate action and improve transparency. The Transition Package is aimed to give the MS a sense of prioritization and to increase their ambition and political commitment to the implementation of the existing legislation. The Action Plan (COM(2023) 102 final) can help the MS in facing difficult discussions, because it is also about balancing acts. However, the implementation of the non-binding Transition documents, regardless that they build on existing legislation, depends on the political priorities of the MS. In particular, banning bottom trawling (as well as other decisions) is not an evidence-based decision in all MPAs, but based on political ambition, which varies in different MS. Debate still exists as to how bottom trawling infringes the specific management and conservation objectives in some MPAs, calling for further research, and highlighting the role of politics in applying the precautionary principle. Although the CFP now takes a more focused approach to biodiversity, it must also care about the continuation and development of the fishing sector, the coastal communities and food supply. Thus, the need to consider the socio-economic impacts of fishing regulations is acknowledged.

The EC deals with the MS and stakeholders in all regional units, as well as with partners like UK and Norway. To support the MS in the implementation of the Action Plan and to ensure coherence and effectiveness, the Commission has created a new joint special group in 2023. The group involves both fisheries and environmental administrators from the MS, and the DG Environment leads the process. Stakeholders can participate as observers. The group follows the progress and implementation of the Action Plan, and brings the two communities, expert groups, issues, frameworks, and legislations closer together. In October 2023, the Commission arranged the first meeting of the new joint



special group to support MS in preparing their national roadmaps and start the tracking process.

The Commission will assess progress in the implementation of the Marine Action Plan (COM(2023) 102 final) in its mid-term review of BS2030 in the first half of 2024 and, depending on its assessment of progress made, and in line with its right of initiative, will consider whether further action is needed. It will also provide funding opportunities for the transition for fishers, research, and innovations, and calls the MS to support fishing communities. Also, consumers and markets are expected to take an active role in reducing the impact of fishing on the marine environment.

The Commission also intends to strengthen cooperation with the European Environment Agency (EEA). The EEA provides support to the Commission in mapping and assessing the coherence of the MPA network in EU waters, in assessing the state of marine species, habitats, ecosystems, and the pressures on them, and in tracking the fisheries management measures in MPAs. By the end of 2024, the Commission will adopt a guidance document on Natura 2000 and fisheries.

The EC acknowledges that complexities in governance may hinder the conservation of marine biological resources. Separate, uncoordinated decision-making processes have developed at different levels owing to differing treaty competences between CFP and environmental legislation. Under the EU treaties, the conservation of marine biological resources is the EU's exclusive competence whereas environmental policy is a shared competence with MS. This prevents the adoption and implementation of coherent management measures. For example, the MS cannot take measures to protect harbor porpoise on their own as it requires fisheries measures that fall under the CFP. It is crucial to improve the links between the two policy areas and significantly enhance transparency and coordination between authorities and stakeholders. This would enable the EU to design and develop win-win solutions that benefit both the fishers and the environment (COM(2023) 102 final). However, it is acknowledged that potential changes in the political climate of the EU after the parliament election in 2024 may induce changes in the implementation of the Transition package.

Role of MSP in CFP

The CFP 2013 recognized that aquaculture activities must be integrated into maritime, coastal, and inland spatial planning. The Transition package acknowledges that fisheries and aquaculture compete for the use of maritime space among other economic sectors and that the MSPD establishes a framework to reduce conflicts and to foster synergies between different maritime activities, mentioning explicitly fishing and aquaculture areas as examples of interest that could be taken into account in MSP. The MSPD further encourages investment by increasing predictability. Thus, the MS are encouraged to build on the MSPD to improve the coordination between fisheries management and MSP processes. Furthermore, the increased use of the seas for other purposes than fisheries, such as MPAs or renewable energy, requires regional alignment in MSP beyond MS level: *“So in that sense, spatial planning is important, and for Member States to look at it holistically, because you can't look at it just from one angle. Actively, actively producing and so contributing concretely to biodiversity. I think yes, because spatial planning looks*



at in the overall what are our obligations and ambitions on their environmental legislation, what is what are the sectors we have, what is the space we have and how do we combine all of that. CFP and MSP reinforce each other, go hand in hand” (Interviewee, the EC).

Summary: The Common Fisheries Policy

Ambition level, status, indicators

The ambition of the CFP in biodiversity protection has risen from level 2 (minimize and reduce impacts) towards level 3 (restore and remediate). A Transition Package including a Marine Action Plan aims to increase the commitment of MS to biodiversity conservation. The progress of the implementation of the Marine Action Plan and the need for further actions will be assessed as part of the review of the BS 2030.

Barriers and levers

Uncoordinated decision-making between the CFP and the environmental legislation complicates the adoption and implementation of coherent management measures in the MS. A barrier to biodiversity protection inherent to the CFP is also that it must ensure the development of the fishing sector. Thus, the implementation of the non-binding transition policies in MS depends on political priorities. A joint special group has been established to support the MS in the implementation of the Marine Action Plan. Potential changes in the political climate of the EU after the parliament election in 2024 may induce changes in the implementation of the Transition package. Cooperation with the European Environment Agency (EEA) will support the Commission in mapping and assessing the coherence of the MPA network and the state of marine species, habitats and ecosystems and the pressures on them, and in tracking the fisheries management measures in MPAs. A guidance document on Natura 2000 and fisheries will be produced. A barrier for biodiversity protection in the EU is also that the rest of the world does not have the same standards and restrictions. However, the BBNJ, the WTO agreement on IUU as well as the example of the EU are important in driving the international standards up to the same level with the EU.

MSP as a framework for biodiversity conservation

The Transition package acknowledges the MSPD as a framework to reduce conflicts between fisheries, other economic sectors, and MPAs and encourages the MS to build on MSP in improving the coordination between different uses of the seas, including fisheries.

4.1.4. Energy policy

Agenda setting

The EU aims to reduce greenhouse-gas emissions by at least 55% by 2030 compared to 1990. As part of this, it has adopted a strategy ([COM\(2020\) 741 final](#)) to harness the potential of offshore renewable energy. The Green Deal recognizes the potential of offshore wind energy in contributing to a modern, resource efficient and competitive economy. Offshore wind energy also provides an opportunity to reduce the EU's dependence on Russian fossil fuels. For this, the REPower EU plan ([COM\(2022\) 230 final](#)) was adopted in 2022.

The offshore renewable energy strategy (COM(2020) 741 final)) outlines the desired development of offshore energy in the EU region. According to the strategy, scaling up the offshore wind industry is estimated to require less than 3% of the European maritime



space and could thus be compatible with the goals of BS2030. Compatibility, however, depends on the locations of the wind energy installations.

The agenda on renewable energy is developing rapidly. In October 2023, the EC presented a Wind Power Package, accompanied by a Communication on the EU's offshore energy ambition ([COM\(2023\) 668 final](#)). The latter acknowledges that the ambition of the MS on the deployment of offshore wind has already surpassed the EU targets given in the EU Offshore Renewable Energy Strategy from 2020.

Policy formulation and adoption

The offshore renewable energy strategy acknowledges the BS2030 calls for extending the EU's MPA network from 11% to 30%, to strictly protect one third of it, and the effective management of the MPAs. It highlights the importance for business and investors to promote sound coexistence between offshore installations and other uses of the sea, to contribute to the protection of the environment and biodiversity, and to allow for thriving fishing communities. The sea spaces designated for offshore energy should be compatible with biodiversity protection and healthy marine ecosystems (COM(2020) 741 final).

The strategy (COM(2020) 741 final) requires the development of offshore renewable energy to comply with the EU environmental legislation and the integrated maritime policy ([COM\(2007\) 575 final](#)). It refers to the Habitats and Birds Directives, MSFD, MSPD, CFP, strategic environmental assessment (SEA), environmental impact assessment (EIA), Environmental Liability Directive (2004/35/CE), [Aarhus Convention](#), BS2030 and the Circular Economy Action Plan as the most relevant policy instruments.

The strategy (COM(2020) 741 final) strives to minimize or reduce the impacts (level 2) of offshore energy on biodiversity and the environment as a whole. It acknowledges the potential of new technologies to minimize the impacts on habitats and protected species and calls for research and experimentation to advance the multi-use of seas. An interviewed EC officer assessed that the ambition of offshore renewable energy policy could be even at level 3 (restore and remediate impacts) owing to the potential reserve effect of offshore wind energy areas in the protection of habitats. This would, however, require comprehensive assessments of the environmental impacts in line with nature-inclusive design. It was pointed out, though, that there are many uncertainties related to the cumulative impacts of offshore energy on the environment.

The REPower EU plan (COM(2022) 230 final) “operationalizes the principle of renewable energy as an overriding public interest, introduces the designation of ‘go-to’ areas and other ways to shorten and simplify permitting while also minimizing potential risks and negative impacts on the environment”. Thus, while prioritizing energy production, the REPower EU aims to ensure “a high level of environmental protection”: “*It doesn't change what you need to do under environmental legislation, it just specifies that this is of overriding public interest*” (Interview, the EC). The existing legislation, for example the Habitats Directive, has provisions that allow to derogate from its rules under certain conditions for overriding public interest. However, this implies the requirement to prove that no alternatives exist and to compensate for the impacts.



The offshore energy strategy (COM(2020) 741 final) requires monitoring the potential (cumulative) impacts of offshore energy on the environment and other maritime activities and updating scientific knowledge accordingly. Competent authorities are expected to provide operators with binding provisions to monitor possible impacts on the marine environment, and to make this data public and easily available. This requires data sharing and systematic analysis to support decision making. The usefulness of the open data platforms such as the Copernicus Marine Environment Monitoring Service and the European Marine Observation and Data Network (EMODnet) for offshore renewable energy developers, is highlighted and developers and stakeholders are called to improve their quality and use. The Commission will analyze the interactions between offshore renewable energy and other activities. It will also analyze the costs and the environmental, safety, and economic impacts of the decommissioning of offshore installations.

Implementation

The implementation of the offshore energy strategy requires identifying a large number of sites for offshore energy production and their connection to the power transmission grid. For this, long-term planning, sustainability assessments, and ensuring coexistence with other activities are needed. In addition, making sure that the public will accept the planned deployments is important. The interviewee representing the EC pointed out that it will not be easy to find space for all new activities at sea while at the same time achieving the objectives of BS2030. The interviewee also reminded that the MS have a lot of room in deciding how to coordinate between policies. Some countries have kept offshore wind projects outside Natura 2000 areas, while some MS allow the establishment of wind parks in them.

The Commission “is ready” to facilitate and promote a ‘community of practice’ where all relevant actors can exchange views and share experience on the environmental, economic, and social sustainability of offshore renewable energy, and work on joint projects (COM(2020) 741 final). According to the EC interviewee, the recently established Blue Forum will “*do exactly this, bring different stakeholders to talk about common objectives, particularly the 2030 objective. How do we get there? How will it affect different practices?*”.

Role of MSP in the (integration of biodiversity in) offshore energy policy

MSP is seen as an essential tool for the implementation of the renewable energy strategy. Actually, the offshore renewable energy strategy has created a sense of urgency for the MSP practice: it nudges MS towards updating their MSP plans with a renewable energy edition. MSP enables identifying locations for energy production considering interactions with other sea uses, the environmental perspective, and cross-border issues. MS are expected to integrate the offshore renewable energy development objectives in their national MSP plans based on their national energy and climate plans (COM(2020) 741 final). MSP is also considered instrumental in the protection of vulnerable marine ecosystems, in line with the obligations to reach GES (COM(2020) 741 final). The



requirement for cross-border collaboration is a shared element between renewable energy planning, MSPD, and MSFD.

The interviewee (EC) highlighted the importance of MSP as a tool for the MS to coordinate the use of the seas between different interests and to help in coherent implementation of different policies: “So, for us MSP is about policy coherence”. The interviewee emphasized that there is no hierarchy between different EU legislations and that the ambition to increase offshore wind energy does not change the existing environmental laws and their implementation: “The policy framework [for MSP] is certainly this EU offshore strategy and the EU [energy] package, but ... there’s certainly importance of the biodiversity strategy and the EU restoration law”.

The Commission aims to work closely with the MS to support the preparation and implementation of national MSPs and marine strategies (COM(2020) 741 final). RSCs and sea basin strategies and plans are considered important for harmonizing and coordinating the development of offshore renewable energy between MS. RSCs can be a forum to share knowledge and to take legally binding decisions (COM(2020) 741 final).

The offshore energy strategy recognizes the significance of public consultation in environmental and socio-economic assessments and in MSP. Regional or national authorities should proactively inform and interact with all relevant groups about projects, rules, and the development of multi-uses of maritime space. Communication between all actors at national, regional, and local levels is needed for reaching the goals.

MSPs are subject to a strategic environmental assessment under [Directive 2001/42/EC](#) (‘SEA Directive’) and to additional assessments as required by the Habitats and Birds Directives to ensure the protection of Natura 2000 sites and protected species. These procedures should ensure that negative impacts on the marine environment are avoided and reduced at a very early stage in the planning process.

Summary – EU energy policy

Ambition level, status, indicators

The EU strategy to harness the potential of offshore renewable energy acknowledges the objectives of BS2030. It strives to minimize or reduce impacts (level 2) of offshore energy on biodiversity and has even potential to restore and remediate impacts (level 3) owing to the potential reserve effect of offshore wind energy areas in the protection of habitats.

Barriers and levers

Decisions on the establishment of offshore energy areas entail balancing between environmental values and the need to repower the EU in combination with economic interests and take place under high uncertainty about the cumulative environmental impacts of the installations. The MS have much room to coordinate between environmental and energy policies, which may induce risks from the perspective of biodiversity. However, the strategy requires monitoring the impacts of offshore energy, sharing data and analyses, and updating scientific knowledge. The EC is also willing to promote a ‘community of practice’ for sharing views and experience on the sustainability of offshore renewable energy, and to work on joint projects.

MSP as a framework for biodiversity conservation



The strategy considers MSP as an important tool to enhance policy coherence. MSP is subject to SEA and assessments required by the Birds and Habitats Directives which should ensure that negative impacts on the marine environment are avoided and reduced at an early stage of a planning process. Thus, MSP supports the protection of vulnerable marine ecosystems. The requirement for cross-border collaboration is a shared element between renewable energy planning, MSPD, and MSFD. RSCs and sea basin strategies and plans are important for harmonizing and coordinating the development of offshore renewable energy between MS. RSCs can also be a forum to share knowledge and to take legally binding decisions.

4.1.5. Maritime transport policy

Agenda setting

The international shipping industry is responsible for transporting approximately 90% of the world's goods. At the EU level, 75% of external trade is seaborne. Pressures from maritime transport on the marine environment include, but are not limited to, underwater noise, dispersion of aquatic non-indigenous species, aquatic pathogens, greenhouse gas emissions (GHG), oil spills, and garbage pollution, which can pose threats to biodiversity. These pressures are expected to be further exacerbated by the increasing volume of maritime traffic and the growing size of vessels (EMTER 2021; UNCTAD 2023).

The International Maritime Organization (IMO) involving 175 member states is responsible for measures to improve the safety and security of international shipping and prevent ship pollution. The IMO regulations have global implications to be implemented into national laws. Thus, they shape shipping practices worldwide. The international rules ensure the freedom of navigation, guarantee uniform safety standards for all waters, and provide a coherent operational environment for shipping (Haapasaari et al. 2015). However, the regime has been criticized e.g., for being incapable of satisfying the needs of the most vulnerable sea areas (Roe 2008; Kuronen and Tapaninen 2010; Haapasaari et al. 2015).

In the EU, the IMO regulations are transformed into binding laws by the EC, assisted by the European Maritime Safety Agency (EMSA), and with contributions from MS and the shipping and port actors. The environmental NGOs and scientific experts also play an important role, providing insights to ensure policies are research-based. The process ensures that the international framework established by the IMO is both complemented and implemented within the EU. In many cases, the RSCs contribute to the adaptation of the international rules to the regional conditions, enhance cooperation to increase the efficiency and effectiveness of national responses, and improve regional coherence in the implementation of the international regulations (Haapasaari et al. 2015; EMTER 2021).

Concerns regarding environmental pollution began to heighten particularly after the Torrey Canyon disaster in 1967 (IMO 2019). In response, the IMO introduced the International Convention for the Prevention of Pollution from Ships (MARPOL 1973), later absorbed by the 1978 MARPOL Protocol, and which addresses various pollution types, including oil, chemicals, sewage, and air emissions. Increasing scientific understanding of marine ecosystems and the impact of shipping activities on them have promoted the



considerations of biodiversity in maritime policies. In the 2000s, the IMO adopted new conventions addressing anti-fouling systems (AFS 2001), ballast water management (BWM 2004), and ship recycling (Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships 2009). These policies resulted from negotiation processes involving contracting parties, shipping companies, environmental NGOs, and scientific experts.

The EU has a range of directives and regulations, such as Directive 2016/802, which aim to limit sulfur emissions from ships, and the EU Strategy on Invasive Alien Species, targeting the spread of non-native species via ballast water. Additionally, the EU's Fit for 55 package, part of the GD, includes measures to increase the use of sustainable fuels in maritime transport and improve energy efficiency in the sector. Decarbonizing maritime transport is an important current goal, with a target of reaching net-zero GHG emissions by or around 2050 (as per the revised IMO GHG Strategy and the Fit for 55 package).

The maritime transport policies' objective at the IMO and EU level is to ensure sustainable shipping practices by reducing both the impacts on the marine environment and emissions of GHG. Thus, the ambition of maritime transport policies in biodiversity conservation could be assessed to be at level 2 (minimize and reduce impacts). Measures to tackle invasive species (ballast water, biofouling, and anti-fouling systems), to limit the dumping of waste at sea, and to grant additional protection through PSSAs indicate, that biodiversity is prioritized relatively high ([IMO 2020](#); EMTER 2021).

Policy formulation and adoption

Invasive species can pose significant threats to the marine ecosystems (the fifth cause of biodiversity erosion, [IPBES 2019](#); EMTER 2021). The Ballast Water Management Convention adopted by the IMO provides measures to manage and treat ballast water, thereby limiting the spread of non-native species. Recognizing the potential for ships to translocate invasive species through biofouling (the accumulation of microorganisms, plants, and animals on submerged surfaces), the IMO has implemented international measures to manage this concern. Parallel to the IMO's efforts, the EU has adopted the Regulation on the Prevention and Management of the Introduction and Spread of Invasive Alien Species (1143/2014). This regulation establishes a framework for identifying and managing invasive alien species that may be introduced via maritime activities, such as through ballast water or hull fouling. The EU also supports research and innovation in developing ballast water treatment technologies and hull cleaning techniques to prevent the spread of these species.

One of the major roles of the IMO in biodiversity protection has been through the designation of [Particularly Sensitive Sea Areas](#) (PSSAs). According to Resolution A.982(24), a "PSSA is an area that needs special protection through action by IMO because of its significance for recognized ecological, socio-economic, or scientific attributes where such attributes may be vulnerable to damage by international shipping activities." Protective measures in PSSAs can include areas to be avoided, no anchoring areas, routing and reporting measures, discharge regulations (enforcement of MARPOL) or specific equipment requirements for certain ships, such as oil tankers (Hillmer-Pegram



& Robards, 2015; Resolution A.720(17); Resolution A.927(22)). However, the PSSA framework has its limitations. Lefebvre-Chalain (2007) pointed out that “the main shortcoming of the concept of PSSA is that it is not legally binding and, therefore, does not allow nation states to take advantage of all the opportunities developed in Resolution 982(24).” Therefore, the primary aim is to protect sensitive areas without unduly hindering maritime traffic (Puspitawati & Wardana, 2022).

The MARPOL provides a framework for the riparian states to establish emission control areas (ECAs). ECAs enable the setting of limits to sulphur and/or nitrogen oxide emissions that can have harmful effects on biodiversity (EMTER 2021).

Implementation

The IMO recognizes the delicate balance required between protecting fragile marine ecosystems and upholding the principle of freedom of navigation. At the IMO level, varying capabilities and priorities of contracting parties challenge uniform enforcement of maritime transport policies, which can lead to uneven enforcement of conventions like MARPOL, the Ballast Water Management Convention, and measures for PSSAs. The non-binding nature of some resolutions, as in the case of PSSAs, limits the ability of nations to fully exploit protective measures. For the EU, the main challenge is to ensure uniform application across all MS. The effective implementation of these policies requires not only legal adaptation but also significant resource allocation for monitoring, research, and innovation.

The complexities of international coordination, differing national interests, and the evolving nature of maritime threats pose continuous challenges to achieving effective biodiversity conservation in the maritime transport sector.

To date, 16 PSSAs have been designated worldwide ([IMO, 2019](#)). The first was the Great Barrier Reef in 1990, and the most recent additions, made in 2023, are two regions in the North-Western Mediterranean Sea. The Strait of Bonifacio is an example of a PSSA, where the IMO has mandated ship reporting for vessels over 300 gross tonnage and required pilotage for ships with hazardous materials. Also, the Baltic Sea (except for its Russian waters) has a PSSA status. There, the IMO has established areas to be avoided, deep-water routes, and traffic separation schemes (IMO, 2023).

In the EU region, two ECAs exist: the Baltic Sea and the North Sea (EMTER 2021). The ECAs have considerably reduced the sulfur and nitrogen emissions in both areas. The Baltic Sea is also the world’s first special area with regulations to prohibit sewage discharges from passenger ships (EMTER 2021). The Barcelona Convention has agreed a roadmap for the designation of the Mediterranean Sea as an emission control area (EMTER 2021).

Role of the MSP in shipping policy

MSP could enhance the IMO and EU efforts in achieving a balance between maritime shipping and environmental protection. For instance, the European Maritime Transport Environmental Report published by the European Environment Agency (EAA) and the European Maritime Safety Agency (EMTER 2021) consider MSP as a relevant tool for



identifying potential conflicts between shipping and the environment as well as for defining zones for shipping to reduce potential impacts on sensitive areas or vulnerable species/habitats. Maritime spatial plans can include IMO traffic routing systems, inshore traffic zones, areas where shipping is restricted (e.g., to protect noise-sensitive animals), port areas, port waiting areas, areas of future port development, and dumping sites of dredged material (EMTER 2021). In addition, MSP in Europe could support the IMO in identifying and protecting PSSAs and help determine whether some shipping routes are compatible with the environmental goals. Additionally, MSP can play a key role in informing policy formulation at both the international and regional levels.

Summary – Maritime transport policy

Ambition level, status, indicators

The objectives for the maritime shipping sector both at the international (the IMO) and EU level is to ensure sustainable shipping practices by reducing both the impact on marine biodiversity and the emissions of GHG. Therefore, the ambition level of maritime transport policies in biodiversity conservation can be assessed to be at level 2 (minimize and reduce impacts), where biodiversity is prioritized relatively high (level 4).

Barriers and levers

Maritime transport policies imply balancing between protecting marine ecosystems and upholding the principle of freedom of navigation. At the IMO level, the main challenge lies in the varying capabilities and priorities of contracting parties, which can lead to uneven enforcement of conventions like MARPOL, the Ballast Water Management Convention, and measures for PSSAs. The non-binding nature of some resolutions, as in the case of PSSAs, limits the ability of nations to fully exploit protective measures. For the EU, the main challenge is to ensure uniform application across all MS. Effective implementation of policies requires not only legal adaptation but also significant resource allocation for monitoring, research, and innovation. The complexities of international coordination, differing national interests, and the evolving nature of maritime threats pose continuous challenges to achieving effective biodiversity conservation in the maritime transport sector.

MSP as a framework for biodiversity conservation

MSP is considered as a relevant tool for identifying potential conflicts between shipping and the environment as well as for defining zones for shipping to reduce impacts on sensitive areas or vulnerable species/habitats. MSP can also support the identification and application of protection measures in PSSAs.

4.1.6. Maritime Spatial Planning Directive (MSPD)

Agenda setting

To address the growing challenges and complexities in managing activities and resources in Europe's maritime areas, the EU formulated the Directive 2014/89/EU establishing a framework for MSP. This Directive aims to foster “the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources”. Although the protection of the marine environment is not the primary objective of the MSPD, it is considered a necessity for developing sustainable maritime



spatial plans. Thus, while promoting blue economies, the MSPD aims to minimize and reduce the impacts of maritime activities on biodiversity (level 2).

The MSPD emerged as a cornerstone in implementing the Integrated Maritime Policy (IMP) (COM (2007) 0575). Indeed, MSP is characterized in the IMP as a “fundamental tool for the sustainable development of marine areas and coastal regions, and for the restoration of Europe’s seas to environmental health”. Within the IMP's framework, there is a strong emphasis on weaving environmental considerations into maritime-related decisions. The MSPD reinforces this by referencing EU environmental benchmarks, aligning MSP with overarching environmental goals.

Policy formulation and adoption

In 2008, the EC adopted the Communication titled “[Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU](#)”. It proposed a set of principles for MSP, which encompass, but are not limited to, using an EBA, developing transparent MSP plans, involving stakeholders, incorporating monitoring and evaluation into the planning process, and ensuring coherence between terrestrial spatial planning and MSP.

To achieve objectives related to biodiversity conservation and to mitigate negative impacts on the marine environment, several measures are laid down in the MSPD. These include the application of an EBA to MSP (Preamble and Article 5). The preamble mentions that MSP will contribute to sustainable development by creating frameworks that are consistent, transparent, sustainable, and based on evidence-based decision-making. Furthermore, where feasible, the consideration of protected areas is encouraged.

The MSPD complements Directive 2008/56/EC in the pursuit of GES. In a recent interview in the EC, biodiversity prioritization within the MSPD was considered relatively high (level 4). This focus is supported by several arguments outlined in the policy document. Key among these is the implementation of an EBA in MSP, the promotion of sustainable use of marine resources, and the Directive's alignment with the principles of the MSFD. Together, the MSFD and the MSPD work towards a coherent and sustainable management of Europe's maritime areas. This aligns with both international and regional commitments pertaining to marine conservation and sustainable development, including the Sustainable Development Goal 14 and the United Nations Convention on the Law of the Sea (UNCLOS).

Implementation

Given its nature as a framework directive, the MSPD’s application varies across MS, reflecting differences in priorities, goals, and administrative bodies. For instance, while one country might task the Ministry of Environment with MSP implementation, another might delegate this to the Ministry of the Sea, the Ministry of Infrastructure, or the Ministry of Regional Development. Each MS thus tailors its MSP legislation and other governance arrangements, and the MSP plans, as per its priorities. This has produced a wide variety of policy arrangements and procedures and resulted in diverse solutions to address the two main objectives of MSP, that is, to promote blue economies while not risking the



achievement of GES nor the capacity of marine ecosystems to respond to human-induced changes (Haapasaari and van Tatenhove 2022).

The MSPD mandated that MS transpose it into their national laws before 2016, with a subsequent deadline to establish their MSP plans by the 31st of March 2021. However, as of today, a few countries have yet to submit their plans to the EC. In response, the EC has initiated infringement procedures against those countries. Despite these setbacks, it is noteworthy that all countries have engaged in the MSP processes. The delay for most has been attributed to the prolonged nature of the process.

While MS are expected to monitor the implementation of the MSPD, there is no mention of assessing the effectiveness of MSP plans in terms of biodiversity objectives, activities' coexistence, stakeholders' participation, or MS' cooperation. Recently, the relevance of the MSPD in the context of the GD and the effects of MSP plans on the implementation of the GD has been analyzed ([van den Burg 2022](#); [MSP-GREEN 2023](#)). MS should review their MSP plans at least every ten years. To support MS in this endeavor, the EU can offer guidance and adaptable methodological guidelines tailored to individual state needs. Moreover, the European Marine Observation and Data Network (EMODnet) provides a global gateway for harmonized marine data that facilitates informed decision-making in MSP across Europe. Many MS have already shared their plans on the European Marine Observation and Data Network (EMODnet) portal.

Role of MSP in biodiversity mainstreaming

The MSPD integrates biodiversity conservation into its framework by asking MS to apply an EBA in their maritime spatial plans. However, the directive does not provide a definition of EBA nor references to guidelines on how to apply EBA in MSP, which could lead to inconsistency in implementation. Furthermore, the document suggests implementing “an” rather than “the” EBA, thereby allowing for varied interpretations. The MSPD requires MS to contribute to the “preservation, protection, and improvement of the environment, including resilience to climate change impacts” (Article 5). Article 8 mentions that MS may consider “nature and species conservation sites and protected areas”.

Summary: Biodiversity mainstreaming in MSPD

Ambition level, status, indicators

While promoting blue economies, the MSPD aims to minimize and reduce the impacts of maritime activities on biodiversity (level 2). Biodiversity conservation is assessed a relatively highly prioritized topic (level 4).

Barriers and levers

The MSPD provides a framework to operationalize the MSFD in the pursuit of GES and requires the MS to apply an EBA in their MSP plans. It also encourages to consider protected areas. However, MSP also implies the requirement and related challenges in balancing various interests including conservation efforts. The flexible framework leads to variations in implementation which can risk the achieving of the goal of MSP to sustainably manage blue growth. The lack of a clear definition for the EBA can result in varied interpretations and applications. Furthermore, the absence of environmental binding targets, along



with no requirement for MS to include all maritime activities in their plans, present challenges in effectively mainstreaming biodiversity conservation within MSP.

MSP as a framework for biodiversity conservation

MSP can provide a framework for biodiversity conservation by applying a well-defined and measurable EBA. This would help towards integrating environmental protection and sustainable resource management into maritime spatial plans.

4.2. Regional and national policies

This section presents results from regional sea and national level analysis. The results are presented for each regional sea and respective countries as follows:

- North East Atlantic area – OSPAR, including Belgium, Spain and Portugal
- Baltic Sea area – HELCOM, including Poland and Estonia
- Mediterranean Sea area – Barcelona Convention, including France and Italy
- Black Sea area – The Black Sea Convention, including Bulgaria

4.2.1 North East Atlantic - OSPAR

Agenda setting

OSPAR (Convention for the Protection of the Marine Environment of the North-East Atlantic, signed in 1992 by [16 contracting parties](#)) works for the protection of the marine environment. Biodiversity is one its four axes for achieving GES and among the highest priorities. OSPAR has worked for the establishment of an MPA Network and a management framework to halt biodiversity loss since 2010. Biodiversity issues in OSPAR are coordinated by the Biodiversity Committee (BDC), one of its five main Committees. The BDC coordinates biodiversity assessment and monitoring, the protection of species and habitats, and the development of a network of MPAs. It is assisted by working groups and two intersessional correspondence groups (ICG) (ICG on the Coordination of Biodiversity Assessment and Monitoring (ICG-COBAM), ICG on MPAs (ICG-MPA)). OSPAR meetings are open for observers from intergovernmental organizations and NGOs. OSPAR collaborates with several regional and international organizations in biodiversity conservation.

The biodiversity objectives of OSPAR are set out in its strategies (2003; 2010-2020), the North-East Atlantic Strategy 2030 (NEAES) as the latest one. The [review of NEAES 2010-2020](#) showed progress but also gaps in achieving the objectives of OSPAR, and highlighted lessons learned in the implementation of the strategy. OSPAR has progressed work related to the implementation of the ecosystem approach and five thematic strategies including biodiversity. Between 2010-2020, OSPAR adopted programs of action for 40 species and 16 habitats. It also worked on the consolidation of the OSPAR network of MPAs and OECMs, including in ABNJ ([OSPAR 2021](#)). OSPAR has advanced the development of common indicators for biodiversity and prominent pressures. However, the review noted that it has not yet been possible to fully evaluate if implementation of OSPAR measures has achieved the objective to halt further loss of



biodiversity. Assessments of the status of the environment indicated that species, such as marine birds, are not in good status and that there is evidence of extensive physical disturbance to the seabed, caused by bottom contacting fishing gear.

Informed by the review of the previous OSPAR strategy and scientific evidence around the world, a revised [North-East Atlantic Environment Strategy \(NEAES\) 2030](#) was adopted in October 2021. The strategy supports the global processes and agreements on biodiversity, such as the CBD including the GBF and the agreement on the conservation and sustainable use of BBNJ.

Policy formulation and adoption

The NEAES 2030 sets out two strategic objectives for biodiversity. Strategic objective 5 is to protect and conserve marine biodiversity, ecosystems, and their services to achieve good status of species and habitats, and thereby maintain and strengthen ecosystem resilience. To achieve this, six operational objectives are identified: 1) development of the network for MPAs and OECMs, 2) identifying barriers to the effective management of MPAs, 3) establishing a mechanism for environmental impact assessment (EIA) or strategic environmental assessments (SEA), 4) taking actions to prevent or reduce pressures to enable the recovery of marine species and habitats, 5) recovery of OSPAR listed threatened and/or declining species and habitats, and 6) improving regional coordination for the collection and sharing of data, information and knowledge. Strategic objective 6 is to restore degraded habitats in the North-East Atlantic when practicable to safeguard their ecosystem function and resilience to climate change and ocean acidification. For Strategic Objective 6, the Operational objectives relate to 1) identifying habitats for restoration, and 2) development of a regional approach for restoration.

NEAES 2030 commits to the EBA. It continues the work to monitor and assess the status of marine environment through OSPAR's Joint Assessment & Monitoring Programme which will also be used to assess progress to meeting the biodiversity objectives. A key deliverable is the Quality Status Report in 2023 to provide a picture of the overall state of the North East Atlantic and the state of the marine environment. The OSPAR common indicators will be further developed and progress towards the objectives of the Strategy will be assessed.

The NEAES Strategy supports the UN Sustainable Development Goals, the MSFD and other EU instruments, and builds on cooperation with intergovernmental and regional organizations and bodies to improve the protection of the North-East Atlantic.

Contracting Parties have agreed to enact the NEAES 2030 Strategy through an implementation plan that outlines specific tasks to achieve the strategy's objectives. This plan will be continually updated and used by OSPAR to document and evaluate the progress (Part I, section 6, NEAES). The plan is supported by OSPAR Agreement 21-02 and is complemented by OSPAR Measures and Actions Programme.

Implementation

The NEAES will be put into effect through an implementation plan that contains actions and tasks to achieve the objectives of the Strategy. The delivery of the strategy will be



reviewed by the OSPAR Commission, to identify needs for additional steps for fulfilling the strategy. In 2025, the need for adjustments will be decided. The implementation and effectiveness of the Strategy and all OSPAR programs and measures will be assessed under its Measures and Actions Programme (MAP).

OSPAR plays an important role in helping countries to define and reach targets for biodiversity conservation. Countries designating MPAs under the OSPAR Convention are required to report annually on the MPA designations and OECMs they are taking. They are also encouraged to put in place monitoring programmes. Based on the parameters submitted by the countries, OSPAR assesses the coherence of the network ([OSPAR 2021](#)). OSPAR bridges national and international environmental policies, brings together Contracting Parties, and enables discussions between non-Contracting Parties with contracting ones. BS2030 is a further impetus for the Contracting Parties that are also EU MS to put effort in specifying and achieving biodiversity targets. The cooperation platforms of OSPAR can be helpful in achieving the objectives.

In 2020, the OSPAR MPA network consisted of 552 MPAs, including seven designated collectively by OSPAR in ABNJ. The network covers 22.1% of coastal and territorial waters and only 6.5% of the OSPAR Maritime Area as a whole, indicating that the 10% CBD Aichi target 11 has not been fully met. Substantial gaps in the MPA network remain and it cannot yet be considered ecologically coherent. OSPAR has adopted recommendations that aim to protect 54 species and habitats it has identified as threatened and/or declining and in need of protection. A plan to implement the collective actions listed in the Recommendations has also been developed (OSPAR 2021).

The overall approach of OSPAR to biodiversity is considered sufficient, including several measures in place. However, regular assessments regarding the measures' effectiveness need to be conducted to consider whether OSPAR objectives to halt biodiversity loss are met in terms of biodiversity protection. Obstacles to fully meet the conservation objectives include problems in monitoring and assessment of the implemented policies and missing scientific information on ecosystems' components and environmental state. OSPAR is working on and improving these topics. In general, the effectiveness of OSPAR's measures to protect marine biodiversity and habitats is difficult to evaluate. For example, data collection on species or habitats in ABNJ is not frequent, because the expedition is very costly. Compared to terrestrial ecosystems, the degree of scientific certainty is smaller when assessing the environmental state of marine ecosystems. There is still work to implement all the measures agreed by OSPAR. Ways of improving MPA governance could include bringing MPA managers together to share best practices.

Role of MSP in OSPAR coordination

OSPAR does not work explicitly with MSP. Neither does the NEAES acknowledge MSP as a tool for pursuing its objectives. Still, an interviewee from OSPAR insights possibilities for working with MSP in the future, especially in the coordination of spatial use for e.g. the development of wind farms in relation to MPAs. However, the perspective of OSPAR to MSP depends on the Contracting Parties' interests, the approach of MSP, and the status of MSP in cross-border coordination. According to the interviewee, MSP going beyond



national legislation and making cross-border agreements would be more relevant for regional conventions such as OSPAR.

In November 2023, the Greater North Sea Basin Initiative ([GNSBI](#)) was established, to strengthen collaboration between the authorities and stakeholders of all relevant sectors from nine North Sea countries (Belgium, Denmark, France, Germany, Ireland, the Netherlands, Norway, Sweden and UK) in MSP. OSPAR will be a participant organization in the collaboration. The Initiative acknowledged two main challenges for the forthcoming work: a spatial challenge relating to ensuring space for all uses and transitions in the sea area, and an ecological challenge relating to the dire state of the North Sea significantly affected by human activities. The GNSBI will develop a common approach for cumulative impact assessments including all human pressures on the ecosystem, building upon the existing methods of *inter alia* OSPAR (GNSBI 2023).

Summary: OSPAR

Ambition level, status, indicators

Biodiversity is among the highest priorities of OSPAR (level 5). It works on MPAs and OECMs, also in the ABNJ. The biodiversity objectives of OSPAR are set out in the North-East Atlantic Strategy 2030 (NEAES) including an updatable implementation plan and a Measures and Actions Programme.

Barriers and levers

Poor monitoring and assessment of the implemented policies and missing scientific knowledge on the ecosystems are seen as obstacles for meeting the conservation objectives. OSPAR helps its contracting parties to define and reach targets for biodiversity conservation, requires them to report on MPA designations and OECMs, and encourages them to establish monitoring programmes. The effectiveness of OSPAR's measures is difficult to evaluate, data collection in ABNJ is expensive, and uncertainty is high. OSPAR develops indicators for biodiversity and pressures and works on assessing the status of marine environment and the progress towards biodiversity objectives. A Quality Status Report is a key deliverable in 2023.

MSP as a framework for biodiversity conservation

OSPAR does not work explicitly with MSP, and the NEAES does not acknowledge MSP as a tool for pursuing its objectives. Potentials for MSP are seen, yet this depends on the Contracting Parties' interests, the approach of MSP, and the status of MSP in cross-border coordination. However, OSPAR will participate in the GNSBI collaboration focusing on MSP.

4.2.2 Belgium

Agenda setting

The federal government of Belgium, the Flemish Region, the Walloon Region, and the Brussels Region each have their own nature conservation laws (all four dated 12/07/1973, with multiple amendments). 'Marine' nature conservation in Belgium is a competence of the federal government under the Marine Environment Act (law of 20/01/1999, repealed by the law of 11/12/2022). Biodiversity protection on both the federal and regional levels is guided by the National Biodiversity Strategy (NBS), which includes a vision, strategic



and operational objectives, and an action plan. The latest Strategy (2013-2020) is in line with the CBD and the former EU BS to 2020. Operational objectives indicate that MSP and MSFD serve as policy tools facilitating the implementation of protection at sea, while the CFP is recognized as instrumental in transitioning the fishing industry toward sustainability. The Strategy is currently under update and should be ready by the end of 2024. It will adapt to the objectives and challenges of the new decade and will follow the new EU and international biodiversity frameworks ([CBD Belgian National Focal Point](#)) The revised Strategy will come with an action plan designed for integration into the operations of all sectors reliant on or impacting biodiversity. To achieve this, the involvement of all relevant actors (local, regional, federal authorities, the Communities, the Provinces, the business sectors, scientific institutions, NGOs) in the NBS update is encouraged. Besides national biodiversity policymaking, Belgium has been actively involved in the international BBNJ negotiation process. Belgium takes part also in the regional sea collaboration through OSPAR. Two Belgian MPAs are listed in OSPAR's list of MPAs ([OSPAR MPA network](#)).

Despite that marine affairs (including nature protection) are a federal competence in Belgium, the law of 8 August 1980 states that waterways, the ports, pilotage and beaoning services, the rescue and towing services, as well as dredging and sea fisheries are covered by the Flemish region, within the policy domain 'Mobility and Public Works'. This dispersion of competences between the Flemish and federal levels is considered a barrier for the implementation of BD in sectoral marine policies. However, there is close collaboration between the federal and Flemish authorities for marine matters, and for actions to be taken to meet the objectives of the MSP (listed in Annex 3). For example, consultation among the authorities with jurisdiction over the sea is arranged within the Coastguard Structure. The most relevant environmental issues that are discussed within this framework include emergency planning with respect to shipping accidents, pollution control, interactions between offshore wind farms and other marine activities and environmental surveillance/control. Regarding environmental conservation on a supranational level, technical and political consultation between authorities occurs within the Coordination Committee for International Environmental Policy ([CCIEP](#)). This is the most important political body for coordinating international environmental policy and ensures the coherence of the international position of the Belgian State and its components during international negotiations. Apart from a transversal and governance approach, the CCIEP also adopts a thematic approach which includes having steering groups for issues concerning the 'North Sea and Oceans' (e.g., MSFD, WFD, OSPAR, BBNJ.), 'Nature' (e.g., Ramsar, CITES) and 'Biodiversity' (e.g., CBD).

Policy formulation and adoption: biodiversity integration in fisheries policy

Biodiversity considerations in the fisheries sector are analyzed as an example of biodiversity mainstreaming in Belgium, to illustrate how actions are taken at different levels (both federal and Flemish) to meet the requirements of the CFP and environmental and conservation legislation.

For the Flemish fisheries sector, biodiversity issues are incorporated in the "[Maatschappelijk Convenant 2021-2025](#)". This covenant was developed through



cooperation between various stakeholders such as the producer organization (*Rederscentrale*), *Natuurpunt* (conservation NGO), the Province of West Flanders, the Flemish Research Institute for Agriculture, Fisheries and Food (ILVO) and the Flemish Department of Agriculture and Fisheries. The first version of this Covenant was published in 2011 as an output of the collaborative project “VISTRAJECT, a trajectory towards sustainability in the Belgian fishery” (Kinds et al. 2016). It was first updated in 2015. The covenant endorses the importance of BS2030, the GD, the Farm to Fork strategy, and the CFP. The Covenant has seven goals: 1) fish stocks within safe limits, 2) low impact fishing fleet, 3) protection of sea areas, 4) profitable companies and sustainable fish consumption, 5) small-scale coastal fishery, 6) social responsibility and safety of fishing, and 7) the fisherman as a skilled entrepreneur and 'Guardian of the Sea'. The Covenant is supported by a Task Force which is chaired by the Flemish ministry and the secretariat is hosted by the fishing industry (*Rederscentrale*). The Task Force is set up to ensure the long-term commitment of the partners, to determine the strategy to achieve the objectives and to regularly evaluate and adjust the plan.

The Covenant also sets responsibilities for its implementation. For example, the authorities of the Province of West Flanders commit to increase knowledge about the marine environment, discuss the socio-economic impact of nature conservation and look for compensatory solutions, and discuss the role of MSP for the integration of nature conservation and fishing. Fishers commit to contribute to the implementation of the EU BS, to protect natural values in the Natura 2000 areas, to examine the pros and cons of passive fishing to be used (for example in wind farms outside Natura 2000 areas), and to avoid unwanted catches. ILVO will produce and share knowledge about the sea to provide advice for planning to make fishing more efficient with less negative impacts. It can be concluded, that by avoiding bycatch and sea-floor disturbance, fisheries policy in Belgium aims to minimize and reduce the negative impacts of fishing on the ecosystem. The Covenant can also be seen as a framework that provides guidance for the objectives of the Belgian Operational Programme, and this within the proposed frameworks of the European Maritime Fisheries and Aquaculture Fund (EMFAF).

In 2022 the Belgian Operational Programme (2021-2027) under EMFAF was adopted, to support the implementation of the objectives of the CFP, the GD, the Farm to Fork strategy and BS2030 ([Belgium EMFAF 2021a](#), [2021b](#), [EC 2022c](#)). The plan is also expected to reinforce the environmental actions undertaken in the Belgian Prioritized Action Framework for Natura 2000, that is, the monitoring of habitats and species and the promotion of scientific knowledge, in line with the Birds and Habitats Directives. The Belgian EMFAF plan aims to improve the protection of the environment, while also improving the resilience of the fishery sector (Belgium EMFAF 2021a). The plan sets priorities and specific objectives, and actions for achieving these objectives, and monitoring requirements and indicators to measure the achievement ([Belgium EMFAF 2021b](#)). The values of the indicators are reported by each EU country twice a year ([European Commission, 2021](#)).

The measures include investments to support compliance with the landing obligation and to avoid discards, and a decrease in bottom-disturbing fishing techniques. The programme supports operations to protect, restore, and improve management of sites



and species with a particular focus on MPAs, as well as the removal of lost fishing gear and marine litter, and the restoration of wild migration routes. Thus, the EMFAF provides a six-year programme which can raise the ambition of biodiversity protection towards restoration and remediation. In terms of links with overarching policy, the Covenant acknowledges the role of MSP in integrating the benefits of nature and fishing.

Implementation

The dispersion of competences between the EC, the federal, and the Flemish government has been considered as a barrier for the protection of habitats and species in MPAs as it complicates the establishment of conservation objectives and the implementation of fisheries measures (Cliquet and Declerck 2007; Cliquet et al. 2012). For example, the Flemish government lacks a legal framework for regulating fisheries in the Natura 2000 sites (Cliquet et al. 2012). Unlike for other activities, a permit or appropriate assessment is not needed for fisheries activities (cf. Marine Environmental Act – Art.16). However, spatial, temporary, or technical measures for the protection of the marine environment related to fisheries can be included in the Marine Spatial Plan (cf. Marine Environment Act – Art.16; [Royal Decree](#) for MSP 2020-2026 of 22 May 2019 – Art.6).

The international nature of fishing activities in the Belgian part of the North Sea may hinder the implementation of national conservation measures, due to de facto veto rights of individual MS fishing in the area (economically impacted MS) to reject proposed measures during the implementation procedure of CFP Article 11 (*Conservation measures necessary for compliance with obligations under Union environmental legislation*) (see: Kingma and Walker 2021, [European Court of Auditors, 2020](#)). For example, although restrictions on fishing gear are preferred in some environmental/ecological high valuable areas (such as in the Flemish Banks Natura 2000 area), the proposed national measures under Article 11 of the CFP have not entered into force because the original set of measures had to be toned down after negotiations with MS, and were eventually rejected by the EC (2018/2614(DEA)). The process to achieve a Joint Recommendation for a new set of national measures is currently ongoing, to be implemented in the most valuable areas within three search zones included in the MSP ([Pecceu & Paoloetti et al., 2021](#)). As well as the ongoing implementation of the fisheries measures, the new Marine Environmental Act in 2022 provides a legal framework that supports the prohibition of human activities in marine reserves for future designations.

Despite the commitments formulated in the Covenant with respect to biodiversity conservation and the related EU and national strategies, biodiversity protection through fisheries policy currently in place (the Covenant and the EMFAF programme) is considered difficult. In addition to challenges caused by the diversity in institutional competences, monitoring and reporting gaps may hinder environmental protection. The Belgian fisheries policy requires the monitoring and reporting of catches and economic issues whereas there is no need to report biodiversity issues. The EMFAF plan includes biodiversity objectives, actions, and indicators, yet it does not include clear requirements for reporting about biodiversity. One reporting indicator is a measure of the number of actions that contribute to GES, but the effectiveness of these actions is not part of the



reporting requirements. However, the importance of involving the private sector to ensure the actions are taken on board was specified.

In general, the European legal framework for Natura 2000 designations is considered static and inflexible. Changing environmental conditions induce a need to reconsider and potentially relocate the Natura 2000 sites as the current habitats of seabirds (in Belgian waters) are getting less relevant. Yet, there is little flexibility in changing the designation of Natura 2000 sites. The Regional Seas Conventions, such as OSPAR, are suggested as a useful framework to investigate the effects of climate change at the regional level and to provide a consistent approach across the Contracting Parties. Especially for mobile species, large scale analyses and transboundary cooperation will be needed to investigate the effects of climate change.

Concern of 'creative accounting' resulting from using OECMs to achieve the spatial targets of the BS has been raised. To address this, the importance of definitions for OECMs is highlighted. OSPAR proposes that initiatives to be recognized as OECMs should have biodiversity objectives and monitoring related to them. This is considered as a potentially burdensome task for marine users involved in the OECM, but also a promising way to engage marine users in initiatives seeking to improve biodiversity. No official OECMs have been recognized yet for the Belgian part of the North Sea, but fisheries measures for protecting shipwrecks are considered to potentially have positive biodiversity outcomes (MSP4BIO Task 2.3).

Role of MSP in biodiversity conservation

In accordance with the Marine Environment Act (2022), MSP in Belgium is a federal competence. The Royal Decree for the MSP for 2020-2026 (Belgian State, 2019) sets a long-term vision, spatial principles, and objectives for MSP in the Belgian North Sea. When appropriate or possible, using indicators and their monitoring is suggested. For each of the environmental objectives, Annex 3 of the MSP specifies actions and the institutions responsible for implementation. For the environmental objectives of MSP, there is a direct link with the PoM and monitoring programme set in place for the MSFD. The PoM set up in the framework of the MSFD aims to work towards a single overarching environmental policy for Belgian waters implementation of the Marine Environment Act, the MSP, Natura 2000 Directives, WFD, CFP and the BS 2030.

Environmental objectives are explicitly defined and among the highest priorities in the Royal Decree for MSP 2020-2026. The decree stipulates that MSP must contribute as much as possible to achieving GES, Good surface water status, favorable conservation status as defined in the Habitats and Birds directive, and the UN Sustainable development goals. The Decree defines *naturalness*, social wellbeing, and the multi-use of space as the core principles of MSP. Naturalness, defined as "the scale and intensity with which biotic and abiotic processes occur and are expressed in the ecosystem" is seen as the basic precondition for social wellbeing. It can be ensured by preservation and restoration of natural resources, avoiding and limiting negative impacts, and creating naturalness (e.g. implementing artificial reefs), and it requires determining thresholds. Informed by environmental impact assessments, naturalness ensures that activities planned through



the MSP do not hinder the reaching of GES. A “working with nature” principle is included in MSP to combine the socio-economic objectives with the creation of added value for ecological, physical, and societal systems.

Reimer et al. (2023) conclude that the Belgian MSP has a high conservation readiness as it presents commitments to biodiversity management and to reducing impacts on MPAs, emphasizes “working with nature”, and defines MPA boundaries. The Belgian interviewees of MSP4BIO see MSP as a useful tool for communicating the requirements of biodiversity legislation (Natura 2000, MSFD etc.) to the users of the sea, as the plan, in general, is more familiar to them than the environmental legislation. As spatial measures taken to implement Natura 2000 and the MSFD are included in MSP, it also helps to create social acceptance for the environmental directives. The conservation requirements, especially those of the Habitat Directive are relatively stable in time, which provides a long-term perspective to the current MSP only valid for six years (the next MSP will be in place for eight years).

The Belgian MSP aims to safeguard valuable fishing grounds at maximum level to ensure the viability of the fisheries sector. This means retaining the current fishing grounds, as far as possible (this is subject to possible restrictions due to infrastructural constructions for coastal safety, energy production, storage and transport and the commissioning of the zones for commercial and industrial activities, as stipulated in Annex 2 of the MSP).

The current MSP designates three search zones within which areas can be selected for implementing fisheries measures to protect seafloor integrity. Three suitable areas within the three zones have already been identified through a detailed spatial analysis, which is described in a background document that will accompany a Joint Recommendation that should be reached with other relevant MS (Pecceu & Paoletti et al., 2021). The process of implementing these measures through a Joint Recommendation is ongoing. The measures should contribute to achieving GES as defined in the MSFD and contribute to the conservation objectives of benthic habitats through the Habitats Directive. The measures to be agreed on would comprise the banning of bottom disturbing fishing gear in the identified areas. This process is led by the federal government, who is responsible for implementing spatial measures in the Belgian part of the North Sea, with cooperation of the Flemish government responsible for fisheries matters.

However, balancing between different uses of the sea including nature conservation is considered challenging, especially given the limited space and the urgency of offshore wind energy progression. A practical barrier for a strong integration of biodiversity into MSP is that the Belgian part of the North Sea is a small area hosting many activities. In addition, the economic objectives of MSP are considered to contradict biodiversity protection. Similarly, transboundary collaboration is considered challenging since each country has its own approach to MSP e.g. in terms of governance arrangements, legislation, and even the scientific support, which may be difficult to align.

Another identified barrier to biodiversity mainstreaming is that environmental permitting only addresses negative impacts, whilst positive impacts on achieving conservation objectives are not considered. For example, renewable energy infrastructure could also include the creation of gravel bed habitats, thus addressing Natura 2000 objectives (an



example of Nature Inclusive Design). Such initiatives (nature inclusive design) should be carried out together with the government and scientists to evaluate what can be considered a positive contribution to the objectives and what cannot. An interviewee suggested that Nature Inclusive Design should be evidence-based and fit within the broader framework of nature conservation and restoration.

As the current MSP is only valid for six years, a new phase of revisions has already been launched. Within this context, several eNGOs working together as the 4Sea coalition (Bond Beter Leefmilieu, Greenpeace, Natuurpunt and WWF-Belgium) are calling for the inclusion of a marine reserve, to reach the target of 10% strictly protected areas of BS2030. The updated Marine Environment Act (2022) provides a legal basis for designating a marine reserve ([Bond Beter Leefmilieu 2022](#), [WWF Belgium 2023](#)). With the help of scientists, the 4Sea coalition examined what can be understood by 'strict protection' and where it could be implemented, and a proposal for a strictly protected area within the Vlaamse Banken MPA has been made. Plans for designating strictly protected areas focus on eliminating sea-floor disturbance, so the implementation will need to go through Article 11 of the CFP. Therefore, locating the marine reserve within existing MPAs and the suitable areas identified within the search zones for implementing fishing gear restrictions was identified as preferable.

Summary: Belgium

Ambition level, status, indicators

Belgium's national biodiversity strategy and the related action plan is under revision and will be implemented through the activities of all relevant sectors. For fisheries activities, biodiversity related objectives are included in the *Maatschappelijk Convenant* (2021-2025). This Covenant was developed by a task force that includes fisheries representatives, scientists, a conservation NGO and the government. The Belgian Operational Programme (2021-2027) under the EMFAF prioritises the restoration and conservation of biological resources and contributes to the implementation of the biodiversity objectives of the Covenant. Put together, the Covenant and the EMFAF programme have potential to raise the ambition of biodiversity protection in fisheries management from level 2 (minimize and reduce impacts) to level 3 (restore and remediate).

Barriers and levers

Despite the commitments of the fishery sector to BS2030 through the fisheries policy (i.e. the Covenant and the EMFAF Programme), the dispersion of competences between the federal jurisdiction (marine nature conservation) and the Flemish level (e.g. fishing) makes biodiversity protection challenging. Additionally, implementing fishing gear restrictions through Article 11 of the CFP in areas that are also being fished by other MS was identified as a challenging and slow process and has failed in the past; in part because other MS have the right to reject proposed measures. In addition, monitoring and reporting gaps regarding biodiversity issues may hinder environmental protection; biodiversity-related indicators are limited to summing up actions that can contribute to GES. Looking forward, the new Marine Environment Act (2022) provides a legal basis for designating marine reserves and is expected to support the prohibition of human activities in them.

MSP as a framework for biodiversity conservation

In the MSP 2020-2026, environmental objectives are among the highest priorities (level 5). The MSP aims to increase the level of *naturalness* which implies that ambition in MSP can even raise to level 4 (renew biodiversity). However, balancing between different uses of the sea is considered a barrier for biodiversity conservation, especially in a small sea area. The MSP plan defines MPA boundaries and is



used as a tool to enable the implementation of spatial fisheries measures, as well as to communicate the requirements of biodiversity legislation to marine users. MSP's environmental objectives correspond with the MSFD PoM, which aims to streamline the implementation of multiple legislative instruments. The Belgian MSP is under revision and the inclusion of a marine reserve is being considered, to help reach the 10% strictly protected target of BS2030.

4.2.3 Spain

Agenda setting

Biodiversity protection in Spain is regulated by the Law (42/2007) on Natural Heritage and Biodiversity, which adheres to the standards and recommendations of both the CBD and the EU (COM (2006) 216). The law mandates the integration of conservation, sustainable use, improvement, and restoration of natural heritage and biodiversity to sectoral policies and to all decision-making processes.

In 2011, a Strategic Plan on Natural Heritage and Biodiversity (2011-2017) with 39 objectives and 281 actions was approved through the Royal Decree 1274/2011, expanding upon the scope of the previous biodiversity strategy (1998). More recently, the "Strategic Plan on Natural Heritage and Biodiversity to 2030" was adopted by [the Royal Decree 1057/2022](#) aligning with the new EU Biodiversity Strategy for 2030. Several Spanish regions have also established their own instruments. For instance, Catalonia adopted the Natural Heritage and Biodiversity Strategy for 2030 in 2018. Additionally, the Law (41/2010) on the Protection of the Marine Environment implements the Marine Strategy Framework Directive (MSFD) through five regional marine strategies.

Competence for marine biodiversity conservation in the marine areas is shared between the Ministry for the Ecological Transition and the Demographic Challenge (MITERD) responsible for the exclusive economic zone, continental shelf, and straits subject to international law, and coastal autonomous communities responsible for the intertidal and coastal ecosystems. Marine aquaculture and coastal shell fishing are the responsibility of the regional government (e.g. Junta de Andalucía).

The Public Administrations are expected to collaborate in matters related to biodiversity conservation, but no specific body is dedicated to these issues. A cooperative body between the State and the Autonomous Communities has been created. As established by Law 41/2010, an Inter-ministerial Commission for Marine Strategies was created to coordinate the drafting, application, and monitoring of marine environmental planning. For each marine district, a Marine Strategy Monitoring Committee is set up. In order to integrate biodiversity objectives and actions into the sectoral policies, the Ministry of the Environment and the Ministries concerned will jointly draw up the Sectoral Plans that contribute to the State Strategic Plan for Natural Heritage and Biodiversity. The preparation of the Sectoral Plans includes consultation with the Autonomous Communities and the sectors involved.



Lack of coordination between regions and the local, regional, and national levels of governance has been reported to hamper biodiversity conservation in Spain ([The business and biodiversity resource centre](#)).

Policy formulation and adoption: biodiversity integration in fisheries and aquaculture policies

The case study of Spain focuses on the integration of biodiversity considerations into fisheries and aquaculture practices. These two sectors are the primary sources of significant environmental pressures within the Cadiz Bay Marine Protected Area (MPA) test site. In March 2023, the Law (3/2001) on State Maritime Fishing was updated by a new law ([5/2023](#)) on sustainable fishing and fishing research, to adjust the fisheries policy to the international commitments such as the FAO Agreement on eliminating illegal, unreported, and unregulated (IUU) fishing, the National Climate Change Adaptation plan (PNACC) 2021-2030, and the EU Green Deal, MSFD, and CFP.

The new fisheries law ([5/2023](#)) seeks a balance between the conservation of the marine environment and the development of fishing. It emphasizes the importance of achieving and maintaining GES, the protection of fish resources and their habitats and biodiversity and avoiding further deterioration. The measures of the new law include limiting the volume of catches or effort, gear used, and the weight or size of species, and the establishment of closed seasons. It commits to a more efficient and flexible use of fishing quotas and updates the mechanism of transferring fishing opportunities between vessels. The new law acknowledges the role of the EBA in considering interactions in the marine environment (adhering to the CFP), the norms and principles on the protection of the marine environment (of law 41/2010), and the establishment of a framework for MSP (Royal Decree 363/2017). The law implies the creation of a Fisheries Advisory Forum to involve authorities, industry, and civil society. Enactment by a royal decree is still needed for the law.

The new fishery legislation ([5/2023](#)) has a stronger approach to environmental protection than the previous one (3/2001), yet it still does not prioritize biodiversity over other topics. For example, Article 20 on Protection Measures and Regeneration mentions “Measures aimed at reducing or eliminating, *whenever possible*, accidental captures of protected marine species.” The term *whenever possible* indicates a low priority for biodiversity. Moreover, the lack of specification makes it difficult to understand what is and what is not possible in terms of reducing accidental captures. The new law ([5/2023](#)) also addresses the protection and conservation of the marine environment mainly by focusing on the resources and environment that might impact the sector. The law (5/2023) includes three types of measures for the protection of fishery resources and their habitats: i) Conservation measures and sustainable use of fishing resources; ii) Protection and regeneration measures; and iii) Protection measures in Protected Natural Areas and for protected marine species. Thus, it mainly aims to minimize and reduce impacts. The only mention of monitoring relates to the creation of Protected fishing zones for the protection and regeneration or breeding of fishing resources.



In marine aquaculture policy documents do not adequately address biodiversity and biodiversity is not a cross-cutting issue. Biodiversity or the environment is mentioned primarily because the EU includes or mentions them in its regulations and agreements, e.g. in the CFP. In Decree 58/2017 of aquaculture in Andalusia, the requirement of environmental sustainability and protection is included, yet biodiversity as such is not explicit. The Andalusian Strategy for the Development of Marine Aquaculture 2021-2030 calls for making aquaculture compatible with the specificity of each territory and other sectors (e.g. tourism) and with the maintenance of the biodiversity around it. The Aquaculture Strategy mentions that maintaining traditional aquaculture activity, recovering, and conserving the outside loops, etc., can help to regenerate biodiversity in some areas, yet this is somewhat anecdotal and tertiary.

Incorporating biodiversity issues in the aquaculture sector is considered difficult. Environmental policies are poorly adapted to the singularities, needs and possibilities of aquaculture. Conservation measures are inflexible and accompanied by bureaucracy and inadequate human resources. Also lack of training hampers the aligning of aquaculture with environmental policies. Research is considered necessary for improving the aquaculture-environment integration, for example by increasing the understanding of what type of aquaculture works in different areas and what are the specific environmental requirements.

Thus, in aquaculture biodiversity is prioritized less than most topics. Ambition in biodiversity conservation is at the lowest level aiming just to retain biodiversity by avoiding impacts. In aquaculture biodiversity conservation is confined to the provisions outlined by environmental assessment laws and the Natural Resources Management Plan (PORN in Spanish).

Implementation

In Spain and within MITERD, there exists a robust commitment to the implementation of the marine strategies. However, the MITERD policies often contend with other pressing matters on the political agenda, typically not ranking as the highest priority.

In general, contradiction between sector policies at different administration levels is usual in Spain. The most critical thing is lack of coordination between the national and regional administrations. For example, regions like Andalucía are developing blue economy strategies that could be applied to several (MSP) regions. However, lack of coordination mechanisms (and related human resources) hampers dialogues between the regional and national levels on the strategies. Indeed, there is not an administration either at the national or regional level with enough leadership capacity to foster transversal marine policies like MSP or biodiversity-related ones.

Despite the problems, a Network of MPAs has been formed in the Spanish marine environment. The network includes MPAs, Special Areas of Conservation and Special Protection Areas for Birds (Natura 2000 Network), areas protected by international instruments and marine reserves of fishing interest. Through regional sea collaboration OSPAR's network of MPA includes 15 Spanish MPAs, including in the Cadiz Bay



([OSPAR MPA network](#)). In addition, the Strategic Plan details some guidelines on conservation priorities for certain sites with vulnerable or at-risk species.

Role of MSP in biodiversity conservation

The MSPD was transposed to the legislation of Spain in 2017 ([RD363/2017](#)), and MSP plans for five sea areas were approved in 2023. MSP applies the provisions of the Marine Environment Protection Law (41/2010) implementing the objectives of MSFD. This implies considering MSP as a tool to guarantee coherence of the objectives of marine (environmental) strategies and to achieve GES (Royal Decree 363/2017; Law 41/2010). MSP aims to ensure, for example, that activities and uses in the marine environment are compatible with the preservation of its biodiversity.

Thus, biodiversity is among the highest priorities in the Royal Decree for MSP. It aims to promote the sustainable growth of maritime economies, the sustainable development of marine space and the sustainable use of marine resources. At the same time, it intends to promote the conservation, protection, and improvement of marine environment and to pursue GES by using the EBA. National MSP legislation regulates the monitoring of MSP objectives, whereas the monitoring of GES in terms of biodiversity is covered in the Marine Strategies and their follow-up reports.

The authority for MSP in Spain is the same ministry that is responsible for biodiversity conservation and marine (environmental) strategies (MITERD). Thus, the institutional arrangements for MSPD implementation are in line with the arrangements of the marine strategies implementing the MSFD and pursuing the environmental goals. Yet, even within the same ministry, coordination between these issues is considered poor.

A centralized inter-ministerial MSP working group led by the MITERD coordinates MSP planning, involving sector agencies. The human and financial resources of MITERD for the coordination of MSP have been limited, given competing issues in the political agenda. Thus, also the inter-ministerial working group has met rarely. The devolved MSP regions do not host any MSP or other sea-related authorities to be involved in the MSP process. Neither are there any formal mechanisms for public participation. In the recent MSP process, public participation took place virtually and the only way to participate was to formulate questions through a chat during the event. This means that MSP in Spain is a centralized process difficult to participate both in the formulation and implementation phase. Only a Monitoring Committee connects the central administration and the coastal regions. This has led to undermining the goals of the marine regions and to a situation in which MSP is used as a tool to avoid conflicts rather than to create sustainability visions and sector-specific objectives and measures for achieving them.

Thus, although conservation issues (related to marine strategies) are being considered as a transversal priority in the Royal Decree for MSP, the level of ambition in planning is low. According to the planning framework documents for MSP in Spain, the objective is to minimize and reduce impacts on ecosystems rather than to restore and remediate them and even less to take measures to renew biodiversity. The only objective indicating a higher ambition relates to “guaranteeing the integrity of the maritime-terrestrial public



domain for its own defense and conservation, as well as to favor the recovery of coastal spaces and promote solutions based on the functions of natural ecosystems”. The Marine Strategies have the perspective to biodiversity conservation across sectors and the role of monitoring GES in terms of biodiversity. Designating MPAs is a different process in Spain, and MSP apparently will not be used in this sense.

An open participatory mechanism is suggested for each marine planning region including land-sea interaction, to represent the regions in the MSP processes. Annual reports should be delivered by each marine region and the objectives of each region should be adjusted in a real participative process (with no more than 30% administration participants). Adjusting objectives should address the ways to introduce European and national biodiversity policies into the plans.

MSP plans for five regions in Spain were only recently approved (Royal Decree 150/2023). Thus, it is not possible yet to insight how the plans will be applied and how measures to ensure/enhance biodiversity conservation will be enforced. It is also pending to see if this vision of the Law is applied in the implementation of the different MSP plans recently approved.

Summary: Spain

Ambition level, status, indicators

Marine Biodiversity protection in Spain is regulated by Law (42/2007) on Natural Heritage and Biodiversity and Law (41/2010) on the protection of the marine environment. In 2022, Spain adopted the "Strategic Plan on Natural Heritage and Biodiversity to 2030" to align with BS2030. The new fisheries law (5/2023) increases the ambition of the fisheries sector in environmental protection to level 2 (minimize and reduce impacts). However, it does not prioritize biodiversity over other topics (restoration hierarchy level 3). In marine aquaculture, policy documents do not address biodiversity. In these sectors, the level of ambition in biodiversity conservation is at level 1 (retain biodiversity by avoiding impacts), and biodiversity is prioritized less than most topics (conservation hierarchy level 2).

Barriers and levers

Contradiction between sector policies at different administration levels is usual. Lack of coordination between national and regional/local administrations and between regions hampers biodiversity conservation. In the fisheries sector, ambiguity in the formulation of policy and lack of monitoring requirements may reduce the effectiveness of biodiversity protection. In the aquaculture sector, biodiversity integration in the policies and practices is considered difficult. Environmental policies are poorly adapted to the singularities, needs and possibilities of aquaculture. Conservation measures are inflexible and accompanied by bureaucracy and inadequate human resources. Also lack of training hampers the aligning of aquaculture with environmental policies.

MSP as a framework for biodiversity conservation

Biodiversity is among the highest priorities (level 5) in the Royal Decree for MSP. In practice, MSP aims to minimize and reduce impacts on ecosystems (ambition level 2). The authority for MSP in Spain is the same ministry that is responsible for biodiversity conservation and marine (environmental) strategies. Thus, the institutional arrangements for MSPD are in line with the arrangements of marine strategies implementing the MSFD. Yet, even within the same ministry, coordination between environmental issues and MSP is considered poor. An inter-ministerial MSP working group coordinates MSP planning, involving sector agencies. However, limited human and financial resources restrict the efficiency of planning. Moreover, the MSP process lacks representatives from the MSP regions and adequate public



participation. The centralized nature of MSP planning has led to undermining the goals of the marine regions and to a situation in which MSP is used as a tool to avoid conflicts rather than to create sustainability visions and sector-specific objectives and measures for achieving them. MSP will apparently not be used for the designation of MPAs.

4.2.4 Portugal

Agenda setting

In Portugal, BS2030 and the global target to protect 30% of the planet by 2030 have pushed marine governance towards better addressing biodiversity. A National Strategy for Nature Conservation and Biodiversity to 2030 ([Estratégia Nacional de Conservação da Natureza e Biodiversidade](#) (ENCNB) 2030) was adopted in 2018, to update the previous NBS ([2001](#)). The context of the ENCNB2030 is marked by three challenges: a) decarbonization of the economy, b) circular economy, and c) valorization of the territory. The vision of ENCNB 2030 is built on the ambition for achieving a good state of conservation of the natural heritage by 2050, based on progressive appropriation of biodiversity by society for the development of the country and in the pursuit of management models closer to those in the territory. The main objectives of ENCNB 2030 are to improve the conservation status of habitats and species and to promote the appropriation of natural values and biodiversity by society. For achieving these, the importance of increasing awareness of the value of natural heritage and the integration of biodiversity objectives into different policies, strategies, and practices are highlighted.

In addition, marine biodiversity conservation is guided by national environmental laws and policies that transpose EU Directives (MSFD, WFD, Birds and Habitats Directive), and international agreements (e.g. CBD, CITES, IUCN, OSPAR) into the national legislation (e.g. National Strategy for the Sea 2013-2030 Environmental Framework Law (Law 19/2014), Environmental Impact Assessment (EIA) Regime (Decree-Law 151-B/2013), Nature and Biodiversity Conservation Regime (Decree-Law 142/2008), National Ecological Reserve Regime (Decree-Law 166/2008) and Policy/Planning and Management of the National Maritime Space - Law no. 17/2014. Portugal has 12 MPAs listed in OSPAR's MPA network ([OSPAR MPA network](#)).

Specific conservation measures are targeted to species such as cetaceans and turtles. In addition, for example the aquaculture strategy of Azores only allows the production of local/endemic/native species.

The Ministry of Environment and Climate Action is the government body responsible for carrying out and enforcing environmental policies. The main regulatory authorities are the General Inspectorate of Environment, Spatial Planning, Agriculture and Sea (IGAMAOT), Portuguese Environment Agency (APA), and the Institute for Nature Conservation and Forests (ICNF). ICNF is Portugal's central responsible governmental body for the nature and forest policies, including the management of Protected Areas and Marine Protected Areas. It manages nature conservation and biodiversity through actions involving direct management (support in regulation, planning, evaluation, monitoring, surveillance, communication) and follow-up. The planning and management of protected



areas takes place through the National System of Classified Areas (SNAC), the National Network of Protected Areas (RNAP), the Protected Areas Management Plans (POAP), the Special Programs of Protected Areas (PEAP) and the Sector Plan of the Natura 2000 Network.

The Ministry of Environment integrates several agencies besides the ICNF, such as: APA (with a mission to propose, develop and monitor public policies for the environment and sustainable development, including reporting on the state of the environment in Portugal) and the Portuguese Institute for the Ocean and Atmosphere (IPMA) which is the governmental research institute devoted to ocean and atmospheric science and technology, providing technical and scientific support to the definition and implementation of national strategies and policies in these areas of expertise.

In the Azores, the Regional Assembly is responsible for the approval of environmental policies. The Regional Government, Political parties or NGOs can bring their concerns or suggestions to the Regional Assembly. Currently, the Blue Azores Project is proposing a new law to enlarge the Network of MPAs in the Azores.

Policy formulation

[The ENCNEB 2030](#) highlights the importance of integrating biodiversity objectives and effective practices and actions in economic sector policies. In general, the marine economic policies of Portugal declare the aim to minimize and reduce negative impacts on the environment. Still, biodiversity is prioritized less than other objectives. For example, the fisheries policy of Portugal does not acknowledge biodiversity conservation as an explicit objective. Biodiversity conservation in the marine economic sectors takes place by obeying the rules of MPAs, the environmental legislation, and other relevant national, EU and international regulations. For example, the maritime transport policy adheres to the IMO regulation (e.g. regarding ballast water). In some sectors, EIA/SEA is required to mitigate the environmental impacts. However, neither the EIA nor SEA Regime present specific terms of reference in relation to the marine environment. This means that EIA and SEA focusing on the marine areas are performed under a regime primarily targeted to terrestrial areas and adapted depending on the perspectives of the teams conducting them. Poor financial and political support to the institution responsible for biodiversity policies (ICNF) is suggested as a reason for the lack of integration of biodiversity objectives into marine economic policies. Environmental literacy is considered low even among decision-makers, and biodiversity is politically undervalued in comparison to economic objectives. To improve the situation, a National program for Ocean Literacy involving schools and students has been established. Better scientific and technical knowledge is seen necessary for political decision making.

An inter-ministerial Commission for Maritime Affairs (CIAM) aims to ensure the concertation of transversal policies in maritime affairs, including the conservation and management of natural resources. However, inter-administrative dialogue for the coordination of policies across sectors and between different governance levels is considered insufficient. For example, fisheries and conservation legislation have contradictory objectives and little inter-institutional dialogue to resolve the situation. More



inter-administrative interaction is needed for the coordination of policies across sectors and levels of governance. The establishment of a commission in which management is carried out tripartite of biodiversity, climate change and spatial planning is suggested.

The study indicates that monitoring and evaluation mechanisms of policies and the effectiveness of biodiversity conservation measures do not exist or are poorly used in Portugal. Clearly defined targets and metrics would help guide policy making and implementation and minimize negative impacts on biodiversity. In addition, investing in capacity building and training of public administration and technical staff to deal with biodiversity issues is highlighted.

Implementation

Maintaining a balance between economic activities and the conservation of natural resources and biodiversity is considered difficult, especially given the strong pressure of local authorities to secure economic interests. No protocol for weighing between objectives exists. International legislations, especially those enforced by the EU, are the most advanced in terms of implementation due to their binding character and the possibility of legal action in case of non-compliance.

A Portuguese interviewee considered that the designation of MPAs considers biodiversity, but it can target also other values such as underwater cultural heritage or unique geological features. In some MPAs monitoring, when existing, is periodic and more directed to enforcing the area than measuring the achievement of the goals. In general, there is no implementation of conservation policies allocated to MPAs. Conservation policies are still very much related to the interests of local managers, considering their competencies and resources. Thus, there is a gap between the declaration of MPAs and their goals, and the actual implementation of operational actions to achieve the goals.

The interviewee referred to cetacean/whale watching as an example of OECMs in biodiversity conservation in Portugal. Cetacean/whale watching is defined by zones and has a variation of regulations with the objective of conserving the species. Also, some areas of archaeological interest have restrictions on fishing, thus indirectly helping to conserve biodiversity. Other specific spatial management measures are immediate reactive responses to a biodiversity problem, such as the limpets harvesting zone to safeguard the species from a declining pattern.

Continuous and robust monitoring is missing because the monitoring programmes depend on annual funding and *ad hoc* studies (e.g. MoniCO programme, Condor). There is a program for Fisheries monitoring (POPA) and for Atlantic Tuna. The MPAs are assessed and monitored through various linked and often university-led projects. Among these are the cetaceans and turtles monitoring. The action of the Azores Sea observatory is still incipient. Apart from those are the European programmes from Natura 2000, MSFD, WFD, OSPAR and world heritage (cetaceans) but even these are often poorly reported.

MSP as a framework for biodiversity conservation



[Law 17/2014](#) defines and integrates actions to ensure proper organization and use of national maritime space in perspective of their valorization and protection, aiming to contribute to sustainable development in Portugal. Decree Law No. [38/2015](#) implements Law 17/2014 by establishing the Policy on the National Maritime Areas Planning and Management. According to this law, MSP aims to ensure the sustainable use of the ocean, reduce conflict, and improve responsibility in using marine areas and resources. The National Strategy for the Sea ([ENM 2021-2030](#)) recognizes MSP as an instrument to foster the role of marine ecosystem services and traditional and emerging Blue Economy sectors in sustainable development. [The National Maritime Spatial Planning Situation Plan \(PSOEM\)](#) integrates spatial data produced by various entities (i.e. DGRM, IH, APA, IPMA, ICNF etc.), thus representing the distribution of marine activities.

Biodiversity is an explicit objective in the MSP legislation. The Situation Plan includes the identification of relevant areas and/or volumes for the conservation of nature, biodiversity, and ecosystem services, including special areas of conservation and special protection zones, and classified marine protected areas and resources sediments of potential interest, such as patches of loan to feed coastal stretches.

When solving conflicts between marine uses or activities, the MSP law guides to evaluate the social and economic benefits of the activities and ensure the maximum coexistence of the activities, considering the GES of the waters. The MSFD, transposed to the national legislation by law 108/2010, sets objectives for defining the limits of the human impacts on the marine environment, to ensure the achievement of GES. Data collected for GES serve as the basis for MSP monitoring.

Thus, while MSP aims to minimize and reduce impacts, it does not prioritize biodiversity over other topics. Rather, biodiversity conservation is considered secondary in relation to the economic goals of MSP. An interviewee highlighted that ambiguity involved in the MSPD may decrease its effectiveness in environmental protection: *“It is possible to observe ambiguity between the instruments that make up the MSP, giving room for having constructive and less-constructive outcomes, e.g. by symbolic implementations or implementations in which actors take advantage of ambiguities in order to promote their own agendas. Often when the legal framework is set very vaguely the results are also vague. The lack of focus allows that priorities are set according to the values of the individual decision instead of following a hierarchy public and strategically set. Another issue that needs to be tackled is the tendency to build on the coastline and the impact is almost never measured on conservation”*.

Summary: Portugal

Ambition level, status, indicators

The National Strategy for Nature Conservation and Biodiversity to 2030 aims to improve the conservation of habitats and species, promotes the appropriation of natural values and biodiversity by society, and facilitates the integration of biodiversity objectives into different policies, strategies, and practices. The



marine economic policies of Portugal declare the aim to minimize and reduce negative impacts on the environment. Still, biodiversity is prioritized less than other objectives. It is not included in economic policies as an explicit objective. Biodiversity conservation in marine economic sectors takes place by obeying the rules of MPAs, national environmental legislation, and relevant international and EU regulations. In some sectors, EIA / SEA is required to mitigate the environmental impacts.

Barriers and levers

Lack of awareness, poor environmental literacy, and undervaluing biodiversity are fundamental barriers for biodiversity mainstreaming in Portugal. Insufficient coordination between governance levels and policy domains impedes policy formulation and negotiations between conflicting objectives. Monitoring and evaluation mechanisms do not exist or are insufficiently used to guide policy formulation and implementation. Maintaining a balance between economic activities and the conservation of natural resources and biodiversity is considered difficult, especially given the strong pressure of local authorities to secure economic interests. International legislation, especially laws enforced by the EU, are the most effectively implemented. Clearly defined targets and metrics would help guide policy making and implementation and minimize negative impacts on biodiversity. Investing in capacity building and training of public administration and technical staff is highlighted.

MSP as a framework for biodiversity conservation

The Portuguese legislation acknowledges the role of MSP in ensuring the sustainable use of the ocean, reducing conflict, and improving responsibility in using marine areas and resources. Biodiversity is an explicit objective in the MSP legislation. The Situation Plan includes the identification of relevant areas and/or volumes for the conservation of nature, biodiversity, and ecosystem services. While MSP aims to minimize and reduce the impacts of human activities on the ecosystem, it does not prioritize biodiversity over other topics. Rather, biodiversity conservation is considered secondary in relation to the economic goals of MSP. The ambiguity of the MSPD may decrease its effectiveness in environmental protection.

4.2.5 Baltic Sea - HELCOM

Agenda setting

HELCOM convention, also known as the Baltic Marine Environment Protection Convention, is a key environmental agreement specific to the Baltic Sea region. It addresses a wide range of environmental issues, including biodiversity protection, and sets goals for reducing pollution and conserving biodiversity in the Baltic Sea. Helsinki Convention was initially ratified in 1974 by all coastal countries bordering the Baltic Sea. HELCOM has ten Contracting Parties, namely Denmark, Estonia, the EU, Finland, Germany, Latvia, Lithuania, Poland, Russia, and Sweden. The HELCOM Secretariat is responsible for coordinating the Helsinki Commission's activities and meetings and supporting the Contracting Parties in fulfilling their obligations under the Helsinki Convention. HELCOM is focused on the protection and sustainable management of the marine environment in the Baltic Sea region. HELCOM's core objective is to protect the Baltic Sea and its marine ecosystem from various sources of pollution, including pollution from land-based activities, shipping, and other human-induced factors. This includes efforts to reduce nutrient pollution, hazardous substances, and the impact of maritime transport on the environment. Further, HELCOM is dedicated to conserving the biological diversity of the Baltic Sea.



The Baltic Sea Action Plan (BSAP) is HELCOM's strategic program, adopted in 2007 and updated in 2021, to achieve a healthy Baltic Sea environment. It comprises four segments: Biodiversity, Eutrophication, Hazardous Substances and Litter, and Sea-Based Activities, each with specific goals for ecosystem health, eutrophication prevention, pollution control, and sustainable sea-based activities. The objectives of BSAP are supported by a set of over 50 core environmental indicators (e.g. driver, pressure and state indicators) that help assess progress and inform decision-making, ensuring that the biodiversity of Baltic Sea is on a path to recovery and sustainability.

The heightened focus on marine biodiversity, reinforced by the commitments in the BSAP, establishes a strong base for conservation initiatives. Nevertheless, the critical challenge is to ensure long-term dedication from blue economy sectors, including offshore energy, fisheries, and shipping, to protect biodiversity. Major obstacles are the absence of a comprehensive sectoral planning framework and a lack of unified language and conceptual approach for protection across these sectors. These sectors must integrate biodiversity protection into their core strategies to achieve sustainable development. These obstacles hinder transboundary cooperation and efficient protection efforts. Additionally, limited resources and capacity for regional cooperation present challenges. Yet, levers such as regional cooperation, initiatives like the Protect Baltic project, and increased awareness due to ecological crises and climate change contribute to advancing biodiversity conservation in policy agendas.

Policy formulation and adoption

The BSAP's structure revolves around the updated HELCOM ecological and management objectives, with each segment containing specific measures and actions slated for completion by 2030. These segments are strategically designed to tackle land-based pressures, including "Eutrophication" and "Hazardous Substances and Litter," and sea-based activities while maintaining a strong focus on the overarching environmental condition – "Biodiversity." All the 199 actions in the 2021 BSAP have criteria for achievement, target years and responsible bodies under HELCOM, and their implementation is the basis for all Working Groups' workplans. 35 of the actions are under the biodiversity segment, three on MSP and five on climate change under horizontal topics segment. Implementation of the BSAP actions will be reported in the online HELCOM Explorer tool in 2025 and 2029.

To achieve the diverse goals outlined in the BSAP, HELCOM conducts HOLAS (Holistic Assessment of the Baltic Sea) assessments covering five-year periods. HOLAS reports comprehensively address various dimensions, encompassing the state of the ecosystem, biodiversity, environmental stressors, and human well-being. These assessments play a significant role in disseminating and advancing knowledge, fostering collaboration across different domains. Furthermore, HOLAS assessments provide a means to monitor the progress and efficacy of the BSAP, ensuring its continued success in safeguarding the Baltic Sea's ecological and environmental health. These HOLAS assessments play a crucial role in supporting biodiversity mainstreaming within HELCOM policies. The assessment enables HELCOM to make informed decisions and take targeted actions to integrate biodiversity concerns into its policies effectively.



HELCOM MPA Network serves as a comprehensive system of MPAs in the Baltic Sea region. The spatial protection of the Baltic Sea is characterized by multiple schemes coexisting in the same geographic location, with Natura 2000 areas often designated as HELCOM MPAs and smaller Natura 2000 areas merging into larger HELCOM MPAs. This network is instrumental in safeguarding key marine habitats, species, and ecosystems, and it plays a crucial role in promoting the sustainable use of marine resources in the Baltic Sea. Through its comprehensive guidance on MPA management, HELCOM lays a foundation for policy and practice development within the network. This guidance is significant in ensuring that the management of these MPAs is in line with the broader ecological goals of the Baltic Sea countries, aiming for a harmonious balance between conservation and sustainable use. Moreover, the HELCOM MPA Network undergoes evaluations, providing essential feedback on its operational effectiveness and identifying potential areas for improvement ([HELCOM 2016](#)).

HELCOM establishes an environmental framework to facilitate communication and the establishment of environmental objectives, such as the BSAP, offering numerous recommendations for various sectors including fisheries and agriculture. Although these recommendations are not mandated, they are considered crucial for achieving GES. These levers, along with legal empowerment through clear incentives and directives, regional environmental assessments like HOLAS offering actionable insights, and resource mobilization through dedicated projects such as Protect Baltic, are instrumental in building capacity and developing robust biodiversity policies.

Implementation

HELCOM plays an important role in implementing biodiversity policies in the Baltic Sea region, involving cooperation, data collection through monitoring and assessment, strategy development like the BSAP, issuing recommendations and guidelines, and monitoring their implementation. HELCOM also focuses on capacity building, international collaboration, and monitoring the progress of MS' biodiversity efforts. By actively participating in these initiatives, HELCOM contributes significantly to the region's biodiversity conservation. Also, HELCOM has been instrumental in developing the HELCOM MPA Network, a collective of MPAs aimed at preserving biodiversity and ecosystems in the Baltic Sea. This network not only serves as a crucial habitat for marine life but also as a tool for coordinating regional efforts in environmental protection and sustainable use of marine resources.

When it comes to implementing biodiversity policies in the Baltic Sea region, barriers and levers significantly influence the process. Notably, BSAP sets the stage for goals related to MPAs. However, sectors like offshore energy, fisheries, and shipping face substantial challenges in integrating biodiversity protection effectively into their operations and decision-making. Effective implementation faces barriers, primarily due to gaps in sector-specific legislation which lacks clear boundaries for biodiversity protection. Additionally, the economic implications of biodiversity policies must be carefully evaluated. It is also crucial for each sector to fully comprehend and acknowledge their specific pressures and impacts on biodiversity.



Role of MSP in HELCOM coordination

HELCOM is also important in advancing the integration of biodiversity considerations into sector policies, decision-making processes, and Marine Spatial Planning (MSP) initiatives within the Baltic Sea region. MSP provides important added value for the BSAP as it is a process that considers multiple human activities from a spatial perspective. It is important to note that the BSAP was the pioneering initiative in which MSP was first introduced within an environmental framework. HELCOM has adopted in 2021 the Regional Maritime Spatial Planning Roadmap 2021-2030. This roadmap outlines specific actions to enhance MSP's contribution to biodiversity conservation and sustainable use. It highlights the need to identify how MSP can support conservation and equitable utilization, particularly concerning MPAs and potential OECMs or areas of high natural value.

MSP enhances the BSAP by offering a spatial perspective on human activities, marking the BSAP as the first initiative to integrate MSP within an environmental framework. This approach is increasingly vital in decision-making, especially in regional MSP and sector policies. HELCOM, emphasizing an EBA, coordinates through the Working Group on the Implementation of the Ecosystem Approach (WG GEAR) and other groups for consistent ecosystem integration in activities like BSAP implementation and climate change response. HELCOM also develops guidelines for implementing MSP, such as the HELCOM-VASAB WG EBA Guidelines, to integrate ecosystem considerations into MSP, thereby improving environmental and biodiversity policy effectiveness and aiding in achieving Good Environmental Status (GES). HELCOM's recommendations, although not mandatory, target various sectors including fisheries and agriculture, focusing on achieving GES within an environmental framework.

HELCOM contributes to MSP - biodiversity integration through several means: integrating biodiversity into sectoral policies via recommendations and information exchange; collecting and disseminating data and information related to biodiversity and ecosystem health, and coordinating data practices in MSP (e.g. BASEMAPS and HELCOM Map and Data Services); advocating for the adoption of conservation measures that benefit biodiversity; and promoting synergy and coordination among different sectors impacting the marine environment. Also, HELCOM supports the development and implementation of MSP in the Baltic Sea region. This includes offering guidance and tools to facilitate effective MSP practices. Moreover, HELCOM collaborates closely with national authorities responsible for MSP, ensuring that the planning and management efforts are aligned with regional biodiversity goals and the overall sustainable use of marine resources.

In this context, the HELCOM VASAB MSP Working Group was created to foster cooperation among Baltic Sea Region countries, ensuring a unified approach to regional MSP in the Baltic Sea. In parallel, HELCOM's Working Group on Biodiversity, Protection, and Restoration (WG BioDiv) addresses topics related to monitoring, assessment, nature conservation, and biodiversity protection within the HELCOM framework. These two groups convene meetings to exchange insights and outcomes from their respective domains. HELCOM VASAB MSP Working Group incorporates environmental



assessments, such as the HELCOM holistic assessments (HOLAS), into their work plan (e.g., ecosystem service assessment, cumulative impact assessment).

Within the context of the EU Strategy for the Baltic Sea Region (EUSBSR) a dedicated working group "Policy Area Spatial Planning" (PASP) plays a crucial role in integrating biodiversity considerations into MSP and sector policies and decision-making.

According to HELCOM, to enhance the integration of biodiversity considerations into regional-level Marine Spatial Planning (MSP) and sector policies and decision-making, three key approaches can be considered: biodiversity-centered approach, ecosystem-based management (EBM) and data-driven decision-making.

Summary – HELCOM

Ambition level, status, indicators

Biodiversity is among the highest priorities of HELCOM (level 5). Biodiversity objectives are outlined in the updated BSAP. HELCOM employs core indicators and the HOLAS assessment to monitor and assess the state of the ecosystem.

Barriers and levers

There are several barriers in mainstreaming biodiversity in the Baltic Sea region, including sector-specific legislative gaps that inadequately define biodiversity protection limits and an incomplete understanding of biodiversity pressures. Resource limitations and a lack of comprehensive data may block effective policy formulation and execution. Further, the economic impacts of biodiversity policies, like the effects of establishing protected areas on fisheries, require thorough assessment. However, regional cooperation among contracting parties through working groups (e.g., WG GEAR), the implementation of BSAP actions, regional guidelines for implementing an EBA, participation in regional projects like Protect Baltic, and heightened awareness of ecological crises and climate change serve as levers to promote the mainstreaming of biodiversity in policies.

MSP as a framework for biodiversity conservation:

BSAP, a key component of HELCOM's conservation efforts, includes MSP in its horizontal actions. HELCOM brings together biodiversity and MSP experts, fostering collaboration and knowledge exchange. Regional Maritime Spatial Planning Roadmap 2021-2030 highlights the need to identify how MSP can support conservation and equitable utilization, particularly concerning marine protected areas (MPAs) and potential OECMs or areas of high natural value.

4.2.6 Poland

Agenda setting

In Poland, biodiversity is an explicit objective in the environmental legal acts and policies. The main legal acts governing biodiversity issues are the Act on Nature conservation 2004 and Act on Water Law 2017. The [national programme](#) for the conservation and sustainable use of biodiversity for 2015-2020 and the related action plan is under update to conform to the EU BS2030. Poland has no access to the ABNJ and is not involved in the coordination of biodiversity issues in them. Poland is a contracting party of HELCOM



through which it participates also in nature conservation actions. There are six Polish MPAs in the HELCOM MPA network ([HELCOM MPAs](#)).

The 2030 National Environmental Policy – the Development Strategy in the Area of the Environment and Water Management ([PEP2030](#)) (2019) targets GES and requires monitoring and assessing the progress towards the goal. One of the actions envisaged in the program relates directly to biodiversity protection, yet mainly to terrestrial issues.

There is no national body in Poland dedicated to biodiversity issues. The organization responsible for biodiversity policy formulation is the Ministry of Climate and Environment. Implementation tasks are the responsibility of the General Directorate for Environmental Protection with its 16 regional directorates. They play an important role in shaping content and outcome of SEA for MSP plans.

Policy formulation and adoption

In Poland, most marine economic policies give little attention to biodiversity. However, as raised by the EU and the conventions signed by Poland, the issue must be acknowledged. For example, the energy sector and the Transport Development Strategy (TDS) (2019), adhere to PEP2030, which implies the requirement to limit the negative environmental impacts of the operations, preserve biodiversity, and support free migration of species. The aim is to retain biodiversity by obeying the regulations of the above-mentioned environmental policies.

Environmental impact assessment (EIA) and Strategic Impact Assessment (SEA) are the key coordination mechanisms for enhancing biodiversity conservation through sector policies (e.g. offshore wind energy, mining, extension of port infrastructure, dredging) ([EIA Act 2008](#)). EIA concerns projects that always have impacts on the environment. For activities that can have impacts, an information card is required. A project's environmental impacts are assessed in terms of: a) direct and indirect impacts; b) the possibility and methods of preventing and reducing the negative impacts; and c) the required scope of project monitoring. When assessing the impact on Natura 2000 sites, projects are also analyzed in terms of the cumulative impact they may have with other projects. [SEA](#), stemming from Art. 46 of the EIA Act, is a proactive tool to assess the potential impacts of plans and programs, required for national spatial planning, projects likely to have significant impacts, and projects that are likely to have impacts on Natura 2000 sites (Tokarczyk-Dorociak et al. 2019).

The fisheries policy addresses biodiversity explicitly. It aims to restore and remediate the impacts of fishing on biodiversity. The ambition to protect biodiversity in fisheries originates from the [programme](#) financed under the European Maritime, Fisheries and Aquaculture Fund (EMFAF), adopted in 2022. The Program supports the objectives of the EU GD, the Farm to Fork Strategy, the 2030 Biodiversity Strategy, and the Habitats and Birds Directives. The programme aims to co-finance operations to limit the pressure on marine ecosystems (e.g. cessation of fishing, use of selective gear, collection of lost fishing gear, reducing invasive species, reducing incidental catch, research, monitoring) and even to improve biodiversity protection (e.g. expanding MPA network). Developing effective methods for environmental protection requires consensus between



stakeholders. Financial support is thus considered important for implementing solutions reducing the pressure of fishing on the marine environment. An equally important aspect is supporting the activities identified in the Priority Action Framework for the Natura 2000 network and raising the environmental awareness of water users, e.g. by including them in broader research and monitoring projects aimed at protecting marine nature.

Implementation

Biodiversity protection in Poland is assigned mainly to environmental policies. However, the Ministry of Infrastructure responsible for maritime affairs including maritime investments plays an important role in biodiversity issues at sea. Although inter-ministerial processes and consultation takes place in policy formulation and implementation, policy making still tends to work in silos, which is a problem also for biodiversity protection. Another problem is poor stakeholder participation in the elaboration of the policies. Policy making is open for stakeholders and public consultation, yet stakeholders do not believe that their involvement would make any change. Capacity building is suggested as a possibility to improve stakeholder participation, to also benefit the handling of biodiversity issues.

The requirement to apply EIA/SEA to sectoral policies implies that negative impact on biodiversity can stop project preparation or that ways to avoid or reduce environmental damage are identified. Nevertheless, socio-economic objectives, or climate concerns can be prioritized above biodiversity. For example, the benefits arising from shifting fossil fuels to offshore renewable energy and nuclear energy to climate change are often prioritized although they may have negative impacts on biodiversity in marine areas. However, climate warming also causes biodiversity loss.

The EMFAF program supports activities aimed at expanding the network of Polish MPAs. However, the establishment of new MPAs would require coordination between the Ministry of Climate and Environment responsible for environmental protection and the Ministry of Agriculture and Rural Development responsible for fisheries.

Role of MSP in biodiversity conservation

The MSPD was transposed into the national legislation of Poland in 2015 and is implemented by the Ministry of Infrastructure. The legal MSP act does not mention biodiversity conservation as an explicit objective. MSP is not involved in the designation MPAs, nor does it contribute to the drafting of biodiversity policies.

Still, biodiversity is prioritized relatively high in MSP. Complying with the legal acts addressing biodiversity, MSP aims to minimize and reduce negative environmental impacts. For this, it applies the EBA and EIA/SEA and considers the existing MPAs. It has a right to recommend new MPAs. Importantly, MSP has also a mandate to establish protected areas categorized under the system of the International Union for Conservation of Nature (IUCN). Broad stakeholder involvement and the interdisciplinary character of MSP are regarded important for biodiversity conservation as they ensure the involvement of e.g. eNGOs and marine scientists. Poland is an active member of the HELCOM-VASAB MSP working group aligning with the regional sea MSP policies.



The Maritime policy of the Republic of Poland till 2020 is a strategic document for MSP. It specifies priorities for the use and conservation of sea resources, targeting GES. No specific methods for the prioritization of objectives exist. The only method is an open discussion between stakeholders to find solutions to trade-offs concerning biodiversity.

Minimizing negative impacts through MSP can be challenging as MSP has no mandate to interfere in other policies such as fisheries. Thus, the siloed policy making concerns also MSP.

Still, Polish MSP has delivered different types of OECMs. It has established areas such as military training grounds where activities endangering biodiversity are banned. It has secured migratory corridors free of obstacles for diadromous species and areas for future use with all immobile uses banned as well as areas where the basic function is nature protection. Polish MSP has also controlled environmental impacts by limiting investment projects to the time periods when there is no fish spawning or bird nesting. It has also recommended the extension of the EIA reports to commercial species instead of only focusing on the protected ones.

SEA has been prepared in a reliable manner. For example, in the SEA of the MSP Plan of the Vistula Lagoon, the impact on biodiversity has been analyzed as the “sum” of individual elements constituting the environment. Not only legal forms of protection have been taken into consideration in the SEA and in the recommendations, but also regions of high natural value important for the functioning of the marine ecosystem (the so called “centers of biodiversity”). The impacts of separate investments are assessed later in the EIA procedure, often preceded by detailed environmental studies. The MSP process has no mandate to interfere with the EIA procedure e.g. to indicate its scope and content. Thus, the investment reality might change this optimistic outlook. The reality will be dependent on the quality of the EIA reports on separate investments. The quality of EIA reports varies despite legal requirements, and if EIA is not of good quality, biodiversity can be diminished. In addition, MSP has relatively little tools to tackle climate change, which is the key factor jeopardizing biodiversity. A better monitoring system directed to climate change in MSP could be developed.

It is too early to judge if the role of biodiversity in MSP/sector policies is appropriate or if changes are needed. The adoption of the new national BD Programme may reveal the need for amending the MSP plans. Linking the preparation of the new BD Program with the preparation of the MSP plans would be important for biodiversity mainstreaming in MSP. In general, consultations between BD policies and MSP authorities would be important as MSP brings together different policies affecting marine areas.

Summary: Poland

Ambition level, status, indicators

In Poland, the national programme for the conservation and sustainable use of biodiversity is under update to conform to the EU BS2030. Biodiversity is given little attention in the policies of marine economic sectors. The level of ambition in most marine policies is at level 1 (retain biodiversity by avoiding impacts), and the environmental policies, EIA, and SEA are the key coordination mechanisms for enhancing biodiversity conservation in the marine sectors. Only in the fisheries sector, the ambition



has raised to level 3 (restore and remediate impacts), along with the plan adopted under the EMFAF programme.

Barriers and levers

Biodiversity protection in Poland is assigned mainly to environmental policies. A problem for biodiversity conservation is that despite inter-ministerial processes and consultation, policy making tends to work in silos. Thus, lack of coordination between the ministry responsible for environmental protection and the ministry responsible for fisheries may hamper the expanding of the network of Polish MPAs supported by the EMFAF program. Another problem for biodiversity conservation, overall, is missing stakeholder participants in the elaboration of policies.

MSP as a framework for biodiversity conservation

The legal MSP act of Poland does not mention biodiversity conservation as an explicit objective. Still, biodiversity is prioritized at level 4 (relatively high) in MSP. Complying with the legal acts addressing biodiversity, MSP aims to minimize and reduce impacts (ambition level 2). For this, it applies the EBA and EIA/SEA and considers the existing MPAs. MSP is not involved in the designation of MPAs but it has a right to recommend new MPAs and to establish IUCN areas. Broad stakeholder involvement and the interdisciplinary character of MSP are considered important for biodiversity conservation. Minimizing negative impacts through MSP is considered challenging as MSP has no mandate to interfere in other policies such as fisheries. Thus, the problem of siloed policy making concerns also MSP.

4.2.7 Estonia

Agenda setting

[The Estonian Environmental Strategy 2030](#) defines long term development trends for the good status of the natural environment. This includes ensuring habitats and biotic communities necessary for the preservation of viable species populations. Also, [the Estonia 2035 Strategy and the related Action Plan](#) refers to the importance of improving the natural environment, achieving GES in marine waters, and conserving and enhancing biodiversity, including habitat restoration and species conservation. Estonia has signed the High Seas Treaty BBNJ and it is a contracting party to HELCOM.

The main authority for the formulation and implementation of biodiversity policies is the Estonian Ministry of Climate. An important part of nature conservation is species protection, which is mainly based on the [Nature Conservation Act](#) (NAC; RT I 2004, 38, 258). The purpose of NAC is to 1) protect the natural environment by promoting the preservation of biodiversity through ensuring the natural habitats and the populations of species of wild fauna, flora and fungi at a favorable conservation status; 2) preserve natural environments of cultural or esthetical value, or elements thereof; and 3) promote the sustainable use of natural resources. The Ministry of Climate also has the mandate to govern the Natura 2000 network and to establish protected areas.

The Ministry of Climate coordinates the work of the Estonian delegation in HELCOM working groups, where one of the priorities is the protection and conservation of marine and coastal biodiversity. Estonia takes part in the HELCOM MPA network activity, in which it has seven MPAs included ([HELCOM MPAs](#)). The Ministry of Climate also manages the Estonian MSFD Programme of Measures (PoM). The Estonian Environment Agency collects and manages information regarding nature protection in the Estonian



Nature Information System (EELIS) (www.eelis.ee). EELIS is used for keeping track of existing as well as planned natural features, alien species, subsidized areas, hunting areas, hunting trophies and the related legal acts and documents.

Policy formulation and adoption

The Estonian case analyzed biodiversity mainstreaming in the fisheries policy. The Estonian Fisheries policy, aimed at advancing the fishing industry and enhancing its competitiveness, is formulated and executed by the Ministry of Regional Affairs and Agriculture. The fisheries policy adheres to the principles of CFP, coordinates the Estonian fishing legislation with the EU legislation, and structures the definitions, rights, and obligations of fishers according to the national legislation. An online fisheries database has been established to monitor illegal fishing and fish trade. The actions include systematic recovery of threatened fish stocks such as salmon, eel, and sea trout through supplementary stocking, ecological improvements (opening of fish ladders to enlarge habitats, improving the ecological quality of water bodies), and the assessment of spawning grounds.

[The Agriculture and Fisheries Strategy 2030](#) contributes to the GD's "Farm to Fork" objective of moving towards a more sustainable food system. Among other objectives, it aims at competitive, sustainable, and environmentally responsible fisheries and aquaculture. In the strategy, the importance of biodiversity conservation is explicitly addressed in relation to agriculture, but not in relation to fisheries and aquaculture. However, biodiversity relevant fisheries actions are included: increasing gear selectivity and reduction of bycatches (including marine mammals and birds), the restoration of hatcheries and habitats, the restoration of fish migration routes, and stocking. Also, the Estonian Environmental Strategy expresses the aim to avoid negative impacts of fishing on the ecosystem. Fisheries management contributes to biodiversity protection e.g. by regulation according to which trawling of Baltic herring and sprat is allowed only in Estonian marine areas deeper than 20 m. In shallower areas, trawling is prohibited as it would damage the seabed ([Estonian Maritime Spatial Plan 2021](#)).

Estonia has adopted a program for 2021-2027 under the [EMFAF](#) that supports the fostering of sustainable fisheries and aquaculture, and the restoration and conservation of aquatic biological resources. The program facilitates Estonia's fisheries and aquaculture sector in meeting the key objectives of the CFP. It also supports the GD, the Farm to Fork Strategy, BS2030, and Estonia's own Agriculture and Fisheries Strategy. The EMFAF is managed by the Ministry of Regional Affairs and Agriculture. The recent EU Marine Action Plan ([COM\(2023\) 102 final](#)) and the related Communication ([COM\(2023\) 103 final](#)) are considered important for better integrating biodiversity into the Estonian fisheries policy to fulfill the national and EU requirements. In Estonia, it will induce the development and implementation of measures to improve gear selectivity and reducing the impact of fisheries on sensitive species and on the seabed.

It is concluded that the CFP and Estonia's national policies and strategies, such as the Agriculture and Fisheries Strategy 2030, place a strong emphasis on integrating biodiversity concerns into fisheries management. The Estonian fisheries policy is



considered relatively well compatible with biodiversity conservation. It includes explicit objectives and actions to protect marine biodiversity and prioritizes biodiversity relatively high. Still, there is room for improvement to better and more strongly and effectively integrate biodiversity into fisheries policy.

Implementation

Objectives related to the establishment of offshore wind parks are viewed as the most difficult for the implementation of the biodiversity objectives, particularly those related to reef habitats and bird migration routes. When selecting sites for wind farms, there's a focus on avoiding sensitive habitats and the migration routes of birds and bats, while also balancing wind farming with fishing, food provision, and maintaining natural beauty ([Loodusveeb, 2022](#)). There are no explicit weighting methods for the prioritization of objectives. Environmental Impact Assessment (EIA) is required before building a wind farm, which also needs to assess its potential impact on biodiversity.

There are currently no OECMs in Estonia as they are not yet legally defined. However, Estonia participates in a HELCOM process which means that OECMs may in the near future be planned for example for the protection of wrecks. Also, elaboration of action plans to achieve the targets of 30% protected areas and 10% strictly protected areas in Estonia is ongoing. Currently approximately 19% (6800 km²) of Estonia's marine area is protected, aligning predominantly with the Habitats and Birds Directives ([Estonian Maritime Spatial Plan 2021](#)). So far, the effectiveness and coherence of the network of Estonian MPAs areas has not been evaluated.

Role of MSP in biodiversity conservation

To implement the EU MSPD, Estonia established a [Planning Act](#) (1.7.2015) ([Maritime Spatial Planning Country Information Estonia](#)). MSP planning is conducted at the state level by the Ministry of Regional Affairs and Agriculture as the responsible authority. MSP adheres to several national and international laws, regulations, strategies and policies (e.g. UNCLOS, CBD, MSFD, Habitats and Birds Directives, EU Strategy for the Baltic Sea Region, HELCOM-VASAB MSP working group, Estonia's 2030 National Energy and Climate Plan). Currently, the process for developing a monitoring system for MSP is ongoing.

The Planning Act, as such, does not refer to biodiversity conservation as such. It requires using SEA and EIA to assess and limit the impacts of human activities on the environment, to support the objectives of MSFD and Birds and Habitats Directives.

However, the MSP plan of Estonia (2021) acknowledges the requirement for the protection of marine biodiversity and the sustainable use of natural resources. It refers to the BS2030 call for 30% of marine space to be protected, including one-third strictly protected, and to the HELCOM target of defining at least 10% of the Baltic Sea sub-basins as coastal or marine protected areas ([The Estonian MSP explanatory memorandum](#)). [The Estonian MSP explanatory memorandum](#) acknowledges that in Estonia, this objective has not been fulfilled and that the establishment of offshore protected areas is under consideration. However, it highlights the need to consider the impact of the protected



areas on the social and economic environment and on Estonian climate and renewable energy objectives. The Estonian MSP also guides to avoiding impacts on biodiversity (in relation to trawling, cable installations, and dumping). MSP in Estonia aims to achieve and preserve GES and follows an EBA in planning. Using the EBA as a tool for MSP emphasizes the functioning of ecosystems and values broad-based expertise in know-how and interests involved (The Estonian MSP explanatory memorandum). Estonian MSP pursues balanced marine use based on the protection of marine biodiversity and the sustainable use of natural resources. MSP does not have a mandate to establish protected areas, but it considers the existing and planned ones. Protected natural objects are integrated into the plan, and other marine uses are regulated with respect to these, thereby supporting biodiversity and the achievement of GES.

The first round of Estonian MSP including an Action plan was adopted in 2022. For the preparation of the plan, existing databases such as the Estonian Nature Information System were utilized, and additional studies were conducted, e.g. related to bird migration corridors and bat migration. The preparation also involved stakeholders and their input. A separate impact assessment report, which determines the mitigation measures to avoid significant impacts, has been prepared for the spatial plan.

Summary: Estonia

Ambition level, status, indicators

The Estonian Environmental Strategy 2030 aims to ensure the habitats and biotic communities necessary for the preservation of viable species populations. Also, the Estonia 2035 Strategy includes objectives related to conserving and enhancing biodiversity. Biodiversity is prioritized relatively high in the Estonian fisheries policy aiming to minimize impacts of human activities. The fisheries policy is considered relatively well compatible with biodiversity conservation.

Barriers and levers

The EMFAF programme and the Marine Action Plan of the EC are important levers for the integration and implementation of biodiversity objectives in fisheries policy. Also, the division of responsibilities between fisheries authorities supports biodiversity conservation. Interactions between organizations, including stakeholder engagement, are considered appropriate for addressing biodiversity issues. The expansion of wind parks is seen as a barrier for biodiversity mainstreaming.

MSP as a framework for biodiversity conservation

The Planning Act of Estonia does not refer to biodiversity conservation as such. It requires using the EIA and SEA to assess and limit the impacts of human activities on the environment. However, the MSP plan of Estonia (2021) acknowledges the requirement to protect marine biodiversity by establishing offshore protected areas and avoiding the impacts of trawling, cable installations, and dumping on biodiversity. It also highlights the need to consider the impact of the protected areas on the social and economic environment and on Estonian climate and renewable energy objectives. MSP does not have a mandate to establish protected areas, but it includes the existing and planned ones. In the first MSP planning round, biodiversity related databases and studies were utilized. A monitoring system for MSP is being developed. An impact assessment report for the MSP has been prepared.

4.2.8 Mediterranean Sea - Barcelona Convention

Agenda setting



The Mediterranean Action Plan of the United Nations Environment Programme (UNEP/MAP) is a regional cooperation platform established in 1975. UNEP/MAP was instrumental in the adoption (1976) and enactment (1978) of the Convention for the Protection of the Marine Environment and Coastal Region of the Mediterranean (Barcelona Convention). [Barcelona Convention \(BC\) and its Protocols](#) involve [21 Mediterranean countries](#) and the EU. BC provides an institutional, legal and implementation framework to fulfil the vision of a healthy Mediterranean Sea and Coast that underpin sustainable development in the region.

Apart from one of the seven BC's Protocols - Specially Protected Areas and Biological Diversity Protocol ([SPA/BD Protocol](#)), the most important policies and regional guidance documents in terms of formulating biodiversity political agenda are:

- The [Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region](#) (Post-2020 SAPBIO); and
- The [Post-2020 Regional Strategy for Marine and Coastal Protected Areas \(MCPAs\) and Other Effective Area-based Conservation Measures \(OECMs\) in the Mediterranean](#) (Post 2020 Strategy).

Post 2020 Strategy sets targets for achieving the 30% biodiversity conservation in the Mediterranean. Inclusion of biodiversity into regional environmental and sectoral policies under BC is coordinated under the principle of EBA (BC uses the abbreviation EcAp) to ensure achieving and maintaining GES. Several COP decisions² achieved between 2017 and 2022 encompass the adoption of an ecosystem-based vision for a healthy and productive Mediterranean Sea and Coast along with 11 Ecological Objectives and a [Roadmap](#) to support efforts towards achieving [GES](#). Biodiversity and GES are also integrated in sectoral policies³ under BC. Furthermore, protection of biodiversity through

²COP Decisions important for biodiversity mainstreaming: COP 15 Decision IG.17/6 – introducing EcAp; COP 17 Decision IG.20/4 – definition of operational objectives; COP 18 Decision IG.21/3 - GES definitions and associated targets; COP 19 Decision IG.22/7 - adoption of the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP), that is linked with MSFD.

³ Examples of sectoral policies addressing biodiversity/GES under Barcelona Convention: [Designation of the Mediterranean Sea, as a whole, as an Emission Control Area for Sulphur Oxides Pursuant to MARPOL Annex VI](#) (Decision IG.25/14); [Mediterranean Strategy for the Prevention of, Preparedness, and Response to Marine Pollution from Ships \(2022-2031\)](#) (**Decision IG.25/16**); [Ballast Water Management Strategy for the Mediterranean Sea \(2022-2027\)](#) (**Decision IG.25/17**); [Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas \(SPA\) within the Framework of the Mediterranean Offshore Action Plan](#) (Decision IG.24/9); [Guidelines for the Conduct of Environmental Impact Assessment \(EIA\) under the Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil](#) (Decision IG.25/15); [Regional Plan on Marine Litter Management in the Mediterranean in the Framework of Article 15 of the Land Based Sources Protocol](#) (Decision IG.21/7); [Regional Action Plan on Sustainable Consumption and](#)



the concept of EBA, has been integrated in the [Conceptual Framework for MSP](#) as well as [Common Regional Framework for ICZM](#) (initially presented as part of [Decision IG.23/7](#)). Updated Conceptual Framework for MSP, with stronger emphasis on the EBA is adopted as part of COP23 in December 2023.

The EU policy framework (e.g. MSFD, Birds and Habitats Directives) is important for the development of the regional policies of BC. Thus, although the Post 2020 SAP/BIO and the Regional Strategy for MPAs and OECMs are not the result of the EU BS, they share similar targets. The Mediterranean Strategy aims towards 30% protection by 2030 along the lines presented in the negotiations towards the GBF, but it does not imply 10% of strict protection requirement. The stricter EU targets implemented by the EU MS involved in BS can have positive impacts on policy development within BS and the overall biodiversity conservation in the Mediterranean. On the other hand, having the same 30% protection target applied to the entire Mediterranean Sea (not just the northern part mainly falling under EU), is an irreplaceable precondition for achieving biodiversity objectives in practice, including those set by the EU.

Policy formulation and adoption

The Post 2020 SAPBIO focuses on the conservation of marine biodiversity through objectives and targets for reducing the threats to biodiversity, ensuring that biodiversity is preserved or enhanced to meet people's needs, and enabling the necessary transformative change. Mainstreaming biodiversity is highlighted as one of policy goals. The Post 2020 SAPBIO entails 42 actions to be taken at regional or national level. Policy ambition towards biodiversity conservation spreads from retaining to restoring biodiversity and remediating impacts. However, stronger focus is placed on minimizing and reducing impacts.

The Post-2020 Regional Strategy aims towards the conservation targets (30% by 2030) through marine (and coastal) protected areas (and OECMs). It has five main pillars: governance, MCPA (marine and coastal protected area) coverage, OECMs, MCPA effectiveness, and government and stakeholder action and support. The strategy is aligned with several international, regional, and sub-regional relevant strategies and ongoing programmes.

The Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) adopted in 2015, applies the EBA for the achievement of GES. The process for adopting all the GES definitions, targets, and indicators, under ecological objectives, is still ongoing. IMAP enables a quantitative, integrated analysis of the state of the marine and coastal environment covering pollution and marine litter, biodiversity, non-indigenous species, coast, and hydrography. While

[Production in the Mediterranean; Regional Measures to Support the Development of Green and Circular Businesses and to Strengthen the Demand for more Sustainable Products](#)



GES definitions and targets for specific indicators on biodiversity (benthic habitats, marine mammals, birds and reptiles), non-invasive species, fisheries (bycatch of vulnerable and non-targeted species) are defined, other indicators relevant for biodiversity (sea floor integrity, food webs) are not yet adopted in the IMAP, which affects the entirety of biodiversity-related monitoring.

The IMAP sets the standards and introduces formal and mandatory marine monitoring and assessment, in line with the MSFD, for all the Mediterranean countries, including the non-EU ones. However, while in the MSFD, the criteria of GES are determined on the level of national marine waters, the IMAP implies defining GES targets regionally and adopted by the Contracting Parties. This adds to a participatory approach and cooperation among countries towards commonly addressing environmental issues. Based on IMAP national monitoring results, a Quality Status Report (QSR) is being developed. Monitoring results for many Mediterranean countries are still missing, but still, the assessments undertaken so far provide a basis for organising targeted actions towards strengthening the environmental policy development and implementation.

Other sectoral policies within the BC, although including biodiversity conservation as a vision or strategic goal, usually do not include specific actions or indicators dedicated to measuring the progress. The QSR results could steer targeted actions towards addressing these barriers.

Overall, it may be concluded that biodiversity is among the highest prioritized topic within the BC system, along with other, mainly environmental ones.

Implementation

The [MAP Coordinating Unit](#) promotes the implementation of the BC and facilitates the Contracting Parties in meeting their commitments under the BC. It receives technical support from thematic [Regional Activity Centres](#). [Specially Protected Areas Regional Activity Centre \(SPA/RAC\)](#) provides support for the implementation of the biodiversity policies framed within the respective [SPA/BD Protocol](#). This is done through the development of comprehensive strategies (e.g. SAP/BIO) or action plans focusing on specific topics (e.g. for the conservation of turtles).

The SPA/RAC has a central role in coordinating, facilitating, and providing technical assistance to the Contracting Parties in the implementation of the Post 2020 and the Regional BS and SAP/BIO. It also provides a platform and supports transboundary cooperation between the Contracting Parties. However, the Contracting Parties are responsible for delivering indicative actions at the national and local levels.

To further support the Contracting Parties and to measure the progress of implementation, the BC establishes compliance mechanisms. As part of it, the Compliance Committee has a specific task to promote compliance and address cases of non-compliance. However, it only provides advice and non-binding recommendations. Reporting on compliance and implementation takes place through the BC Reporting System (BCRS).



Despite all these mechanisms, the most recent regional comprehensive assessments, including QSR 2023 identify critical barriers for biodiversity conservation. Although legislation is fit for purpose, implementation is lagging. The gap between the ambition of international agreements and their implementation at the national and local levels is evident because of the insufficient political interest and the limited awareness and engagement in decision-making at the national level where most of the implementation needs to take place.

Role of MSP in BC coordination

The BC's [Protocol on Integrated Coastal Zone Management \(ICZM\) in the Mediterranean](#) takes into account coastal ecosystems and landscapes, the diversity and interactions of activities as well as their impacts on the marine and land parts of the coastal zone. Spatial planning is an essential component of the ICZM. Thus, the implementation of MSP in the Mediterranean shall be done within the broader ICZM framework.

The EBA is a fundamental concept in the Mediterranean MSP Conceptual Framework defined by the BC. However, its actual implementation still poses challenges calling for clearer guidance and the sharing of good practices, studies, and tools. To address the challenges, the COP 23 of the BC adopted a new Conceptual Framework. It aims to strengthen the cooperation of the Contracting Parties based on knowledge and efficient governance mechanisms. Although the Conceptual Framework is only a guiding document, it will lay the ground for ensuring that environmental issues and needs for achieving or maintaining GES are considered by the economic sectors.

Furthermore, a dedicated working group to lead the work on MSP implementation within the BC will be established during 2024. This should ensure coordination among the Contracting Parties and streamline the implementation of MSPD as well as MSFD and IMAP across the Mediterranean, in particular by ensuring the harmonization of approaches and cooperation with non-EU countries.

Summary: The Barcelona Convention

Ambition level, status, indicators:

Biodiversity is among the highest priorities within the Barcelona Convention (level 5). The Convention's key documents relevant for biodiversity conservation place strong focus on enhancing biodiversity by establishing networks of protected areas and minimizing and reducing impacts (level 2). Mainstreaming biodiversity is also explicitly highlighted as one of the most relevant policy goals.

Barriers and levers:

The policy documents of the Barcelona Convention align with both EU directives and global requirements for biodiversity conservation. The policy framework extends applicability to non-EU countries in the Mediterranean Sea, playing an indispensable role in fulfilling practical objectives for reaching marine biodiversity targets, including those set by the EU. Still, despite concerted efforts, a comprehensive monitoring system and in-depth assessment of pressures and impacts on the marine environment have not been fully implemented across all Mediterranean countries. Moreover, while certain biodiversity policy documents include specific indicators for biodiversity protection, other sectoral policies, despite featuring biodiversity protection among their objectives, lack dedicated indicators for monitoring progress in this regard. This absence can result in imprecise definitions of measures and actions aimed at reducing



impacts on biodiversity. However, the collaborative initiatives, technical assistance, and support programs provided by the Barcelona Convention facilitate countries in adopting more systematic approaches to the protection of Mediterranean biodiversity.

MSP as a framework for biodiversity conservation

The EBA is acknowledged as a fundamental concept of MSP within the Barcelona Convention. However, its practical implementation remains a considerable challenge in the MSP process. To address this challenge and guide Mediterranean countries in this direction, a dedicated working group will be established in 2024. This group will lead efforts to implement ecosystem-based MSP within the Barcelona Convention, ensuring that environmental considerations and requirements for achieving or maintaining GES are adequately taken into account by all sectors.

4.2.9 France

Agenda setting

In France, the international agreements, the EU policies, pressure from the civil society, and knowledge about the rapid change at sea have driven the integration of biodiversity in the national policies. The main biodiversity policies are the Law for the recovery of biodiversity, nature, and landscapes ('Biodiversity Act' 2016), the NBS2030 (2022), and [the National Strategy for protected areas and Action plan 2030](#). The National Strategy for the Sea and Coast (NSSC, revision approved November 2023) addresses biodiversity conservation in marine sectors explicitly referring to fisheries, ports, and offshore windfarms, includes the extended MPA targets, and acknowledges the objectives of the GD and the conclusions of the BBNJ treaty. Through the NSSC France can make stronger contribution to overall implementation of regional seas conventions such as Barcelona Convention and OSPAR ([NSSC](#)).

The Ministry of Ecological Transition is responsible for the NBS2030. An inter-ministerial biodiversity committee steers the implementation of the strategy, yet mainly in the terrestrial areas. An inter-ministerial committee for the sea deals with marine biodiversity issues. Agencies such as the French Biodiversity Agency and the National Museum for Natural History (in charge notably of the National Biodiversity Observatory) participate in biodiversity governance, e.g., in guiding the monitoring and evaluation of biodiversity issues. The General Secretariat for Ecological Planning (Prime Minister service) has increased its biodiversity focus, in addition to climate issues. The National Council for the Sea and Coasts gives advice on marine issues including MSP. At sea basin level, the maritime prefect is responsible both for marine biodiversity and MSP (joint responsibility with one terrestrial prefect for MSP). Regional biodiversity committees act as the consultative bodies. The regions coordinate the actions of other local authorities in the implementation of the biodiversity policy. France is actively involved in supporting the BBNJ treaty implementation.

In general, missing institutions dedicated to the sea at administrative and technical level is seen as a barrier for dealing with marine biodiversity. For example, the former MPA agency was merged in the French Biodiversity Agency, and the former maritime affairs territorial administration was merged in the sustainable development system. On the



contrary, at the political level, the Government includes a Secretariat of State for the Sea, notably in charge of MSP.

Policy formulation: biodiversity integration in fisheries policy and policies governing ports

The case study of France raised fisheries and ports as examples of economic sectors for the analysis of mainstreaming. The fisheries policy includes an internal objective to preserve biodiversity and minimize impacts (level 2), and projects have been carried out to restore species (e.g., lobsters in Brittany) (level 3). [A sustainable fisheries action plan \(2022\)](#) is a recent political declaration in favor of the fisheries sector, training, employment and energy transition with no consideration for biodiversity issues. Under the EMFAF program France aims to restore aquatic biodiversity and ecosystems (level 3). The actions focus on limiting the impacts of fishing on the marine environment, reduction, and management of waste from fishing and aquaculture, experimentation with local actors to restore biodiversity and marine ecosystems, making innovations, and enhancing eco-awareness. However, economic constraints impede the realization of the actions. In general, biodiversity is ranked among the highest priorities in fisheries, but practices do not always conform to the priority. No monitoring requirements and related indicators concerning biodiversity are included in the fisheries documents.

[The National Port Strategy \(2021\)](#) aims to ensure better protection of biodiversity through management plans or local innovative projects, in partnership with universities and environmental associations. Thus, biodiversity is prioritized (relatively) high, yet, no reporting requirements are included. At a local level, the ports are encouraged to define restoration objectives (level 3): “...*whatever the development, ports must take biodiversity into account...the notion of economic versus biodiversity is outdated*”, as highlighted by a ministry representative. There is, indeed, a growing practical concern for biodiversity. According to the interviewee, the ports are keen to play an active role in achieving more effective levels of protection. However, there is a feeling that the environmental law is restrictive when it comes to taking more active steps to regain biodiversity. This is particularly true of the offsetting aspect, where a very defensive approach is cited, which in their opinion deprives the port authorities and managers of certain levers for action. The legislation is considered to lack flexibility for compensation.

Implementation

The main rule for all sectors in dealing with biodiversity in France is to avoid (level 1) and reduce (level 2) impacts, and to compensate loss (level 3). However, this is not always realized in the sector policies because only activities subject to authorization and the related EIA procedure are concerned. For example, maritime transport and fisheries do not need authorization, which implies that the avoid-reduce-compensate procedure does not apply for them. Thus, biodiversity is not sufficiently addressed in the marine policies and especially not in their implementation in France. Economic activities tend to be prioritized above biodiversity. When biodiversity is considered, the focus is on emblematic objects whereas issues valued less significant are ignored.

The implementation of the Biodiversity Act of 2016 has not been evaluated. The NBS2030 is viewed as too generic and thus not prescriptive. This decreases the operationalizability



of the strategy. The National Strategy for Protected Areas including the clear international 30/30 and 10% targets is considered more implementable. In addition, the economic resources for the implementation of the National Biodiversity Strategy are considered insufficient.

The evaluation of policies is difficult as the problems are complex, uncertainty is high, and knowledge is missing. The requirement for the designation of highly protected areas further increases the knowledge challenges.

Coordination between directives, policies, sectors, and organizations is seen difficult. For example, the hierarchy of strategies and policies is unclear and should be clarified. Links between the national and regional/sea basin level must be strengthened. At sea basin level, collaboration works better. For example, the EMFAF programme has implied steps for developing collaboration between fisheries and aquaculture operators with local environmental authorities. In addition, the actors dealing with sea basin strategies and water management plans have collaborated in developing indicators and on cross-consultation. Shortcomings at the regional level mostly relate to lack of human and financial resources.

Stronger mechanisms, more effective tools, and instructions are needed. For example, guides and mitigation banks are still lacking, and businesses (e.g., offshore energy, fisheries, ports, sand and gravel) need clear, easy-to-understand tools. For example, the implementation of the restoration law suggested by the EC would require improving ecological planning.

Due to the increasing concern about the possible impact of offshore windfarms on biodiversity, an observatory of offshore windfarms and biodiversity has been set up and is managed by the French biodiversity Agency.

MSP as a tool for biodiversity conservation

The MSPD was transposed into the legislation of France in 2016 by law (2016-1087) for the “reconquest of biodiversity, nature and landscapes”, and four maritime spatial plans were adopted in 2022. The policy framework for MSP includes the [National Strategy for Sea and Coast](#) (NSSC) and the Sea Basin Strategies. The NSSC requests reinforcing the role of MSP as an integrated planning framework between the national level and sea basins. The sea basin strategy is divided into four parts: state of play, strategy (including MSP), action plan, and monitoring system. The NSSC proposes several indicators for monitoring biodiversity related issues: conservation status of Natura 2000 species and habitats, MPAs with a management plan, surface of natural coastal ecosystems depending on the distance to the sea, areas restored by the Conservatoire du Littoral, exotic invasive species, pollution reports, coastal water quality, light equipment and mooring areas in coastal zones, and IUCN red lists. The sea basin strategy includes a requirement to report the implementation of the MSFD to the EU, with descriptor 1 about biodiversity.

The MSP authority is responsible for the NSSC. The task of MSP is to integrate elements relating to the ecological coherence of protected areas into the various regional schemes and sea basin strategies. For this, MSP coordinates collaboration between the authorities



representing the sectoral policies and the biodiversity issues, to jointly formulate decisions relating to marine biodiversity. Thus, at sea basin level, the authority responsible for sea basin strategies (MSP authority) is also in charge of biodiversity. MSP implements the BS2030 target of 30% MPAs including 10% strictly protected areas by identifying candidate areas, yet the designations must follow a regulatory process. The National Council for the Sea and Coast is a consultative body with participation of members of parliament, local authority representatives, industry, NGOs, trade unions and experts. For each sea basin a similar consultative committee is set up.

The environmental pillar of MSP is based on the MSFD and the reaching of GES. Thus, through the pursuit of GES, biodiversity protection and conservation are seen as objectives of MSP. However, it is reminded that GES is not the same thing as protecting species, habitats, and ecosystems: GES aims to ensure that ecosystems are able to provide socio-economic activities/services. MSP values biodiversity mainly from the perspective of natural capital and ecosystem services instead of biodiversity as such. The implementation of MSFD is based on a certain number of indicators. However, the relevance of the indicators and their convertibility into analytical summaries is considered unclear, which suggests that the MSFD indicators are not operational.

Thus, at the policy level, biodiversity is one of the main priorities and MSP can be a tool for minimizing and reducing impacts. In practice, this is not necessarily the case. Stakeholder influence on policy making at the regional level often leads to prioritizing socio-economic issues above biodiversity which results in 'biodiversity pockets' in areas that are not of interest to the economic sectors whereas in threatened areas the human impacts may increase.

Summary: France

Ambition, status, indicators

In France, the Biodiversity Act, the NBS2030, and the National Protected Areas Strategy guide biodiversity conservation. The National Strategy for the Sea and Coast focuses on biodiversity conservation in marine areas. A general rule is to avoid (level 1) and reduce (level 2) impacts and to compensate losses (level 3). However, this concerns only sectors subject to authorization and related EIA procedures. Biodiversity is explicitly considered in the fisheries policy and the National Strategy for Ports. In the fisheries policy, biodiversity is ranked among the highest priorities (level 5), and in the port strategy (relatively) high (level 4). Both policies aim to minimize impacts (level 2) or even restore biodiversity (level 3). Still, implementation of policies may not conform to the aims, as economic activities are often prioritized above biodiversity.

Barriers and levers

A general barrier for biodiversity conservation is the prioritization of economic activities. When biodiversity is considered, the focus is on emblematic objects whereas issues valued less significant can be ignored. The EMFAF program is an important lever for strengthening biodiversity considerations in the fisheries sector. However, economic constraints restrict the actions. In ports, a concern for biodiversity has arisen, but the environmental legislation's lack of flexibility is seen as a barrier for innovative actions. NBS2030 is viewed as too generic for operationalization, and economic resources for its implementation are limited. Instead, the National Protected Areas Strategy with its clear targets is considered more implementable. The evaluation of policies is difficult owing to lack of knowledge. Coordination between directives, policies, sectors, organizations, and governance levels is challenging



and lacks guidance, effective tools, and strong mechanisms. E.g. the implementation of the restoration law suggested by the EC would require improving ecological planning. Local level collaboration works better, and shortcomings mostly relate to lack of human or financial resources. The EMFAF programme has facilitated collaboration between the fisheries sector and environmental authorities.

MSP as a framework for biodiversity conservation

The task of MSP is to integrate ecological and MPA elements into the regional and sea basin strategies. For this, it coordinates collaboration between authorities representing sectoral policies and biodiversity issues. MSP is also expected to integrate planning between the national level and sea basins. MSP identifies MPA areas, but the designations follow a regulatory process. The MSFD and GES are important in MSP. Yet, they are not seen as equal to biodiversity and the GES indicators are considered poorly operational. Although biodiversity at the policy level is one of the main priorities of MSP that works for minimizing and reducing human impacts, in practice, MSP may fail in achieving biodiversity goals. Stakeholder pressure at the regional level may lead to prioritizing socio-economic issues above biodiversity and prioritizing biodiversity only in areas that are not of interest to the economic sectors whereas in threatened areas the human impacts may increase.

4.2.10 Italy

Agenda setting

In Italy, the EU and global biodiversity frameworks together with other concurrent policies and directives have pushed the government towards increased attention and more substantial actions on biodiversity. [A National Biodiversity Strategy \(NBS\) 2030](#) (MITE, 2022) was recently completed to update the biodiversity strategy from 2008. Italy is presently preparing its pledges towards the Biodiversity Strategy targets to be discussed in the coming biogeographical workshops. The NBS2030 commits to ensuring conservation and the sustainable use of biological diversity and to integrating, as far as possible and appropriate, the conservation and sustainable use of biodiversity in relevant plans, programmes, and sectoral policies.

Italy is also committed to biodiversity protection through the transboundary agreements RAMOGES and PELAGOS, of which the latter is included in the list of MPAs under Barcelona Convention. Especially the latter one showed the importance of the pressure of civil society for policy making.

Italy has participated in the negotiation of the BBNJ Treaty and since 2015 it is a member of the Legal and Technical Commission (LTC) of the International Seabed Authority (ISA), focusing on environmental regulatory issues of deep-sea mining. Italy signed the ACCOBAMS Agreement (1996) for the conservation of cetaceans in the Mediterranean Sea, ratified with Law n. 27 of 10 February 2005.

Italy is investing in marine biodiversity through the Recovery and Resilience Plan (2021) funded by [NextGeneration EU](#). Substantial funds have been assigned under Mission 2 - Green revolution and ecological transition to habitat mapping, observing systems and restoration actions and under Mission 4 - Education and research to the creation of the National Future Biodiversity Centre (NBFC).

Policy formulation and adoption in maritime transport policies



In Italy, relevant biodiversity-related directives (i.e. Habitat and Birds Directives, MSFD, WFD) have been transposed in due time in the national legislation. Coordinating mechanisms have been developed for the formulation and implementation of biodiversity policies. These involve the responsible authority for marine biodiversity policy (Ministry of the Environment (MASE)), regional authorities with competencies for the establishment of natural reserves, and economic sectors. Currently, the state and regional authorities collaborate to identify new sites for Natura 2000 in territorial waters.

The Italian case study focusing on the Northern Tyrrhenian Sea analyzed biodiversity integration in maritime transport policies owing to the high relevance of the sector to the area. The main national policies, strategies, and laws on maritime transport, including the related environmental aspects, directly refer to the international conventions and protocols. Italy adheres to the international standards and agreements (UNCLOS; EU, IMO, Barcelona Convention) aiming to protect the sea and marine biodiversity. Site-specific objectives and measures may be specified under these conventions and protocols. Examples are the newly established PSSA in the Northern Tyrrhenian Sea (IMO RESOLUTION MEPC.380(80 - adopted on 7 July 2023) and the new Management Action Plan of the Pelagos Sanctuary that was approved in 2021, which includes actions and studies regarding the environmental impacts of maritime transport.

On ports and logistics, Law 84/94 and its amendments is the reference regulation. 15 Port Authorities (Autorità di Sistema Portuale) are now established (Decree 169/2016), which regulate their respective areas and competencies through 3-Year Operational Plans (Piano Operativo Triennale). Those Operational Plans contain specific environmental measures and are subjected to SEA procedures. A national plan on ports and logistics (PSNPL, 2015) was approved in 2015, also addressing environmental impacts that are essentially attributable to air, soil and water pollution, conservation of energy, climate change, noise pollution and production of waste.

The competent Authority on maritime transport and ports is the Ministry for Infrastructures and Transport (MIT), while the Ministry for the Environment and Energy Security (MASE) has the competence on environmental protection and pollution prevention. The Italian Coast Guard is the operative arm of MASE on environmental protection and pollution prevention at sea, including surveillance in marine protected areas and underwater cultural heritage. The Coast Guard operates under the control of MIT in safety and surveillance.

However, while there are mandatory environmental rules and prescriptions, biodiversity is not prioritized more than other topics in the Italian maritime transport policy. The regulations aim to minimize and reduce impacts e.g. by reducing the risk of collision with marine mammals, and other accidents, and by addressing underwater noise), preventing oil spills and water pollution, and properly managing wastes and marine litter in ports.

According to the analysis, some aspects of the maritime transport policies require improvements both for the formulation of policy and its implementation. Management rules and practices on ballast waters are not fully developed and implemented, which increases diffusion and risks related to alien species. Reducing underwater noise requires better risk assessment and regulations, moving towards more “silent” ships, and spatial



planning to identify areas to be avoided for certain types of vessels or reduction of speed. Moving towards cleaner fuels will produce direct (lower emissions in air and water) and indirect (mitigation of climate change) effects on biodiversity.

Implementation

Biodiversity policies are currently implemented according to their specific provisions and timelines. For example, MSFD has completed its first and second cycles and in 2024 a third cycle will start, based on the results of the last monitoring plan (2021). Moreover, the MSFD PoM – II Cycle (DPCM 07/07/2022) contains a number of measures directly related to the maritime transport sector: MADIT-M072 - Operational measures, referable to both the national and international framework, of direct efficacy in the prevention of acute pollution linked to accidents; MADIT-M078 - Measure to reduce discharges into the sea, in particular illicit ones, of waste and cargo residues produced by ships using ports located in the territory of the State, as well as to improve the availability and use of port collection facilities for such wastes and residues; MADIT-M086 – Guidelines to evaluate and mitigate impacts of underwater noise.

A process is ongoing to identify and establish new Natura 2000 marine sites in Italian territorial waters and the Tyrrhenian Ecological Protection Zone, responding to the infringement notice (June 2021) to ensure adequate protection for habitats and species under Council Directive 92/43/EEC (the Habitats Directive) and under Directive 2009/147/EC (the Birds Directive). WFD RBMPs are currently being updated (IV cycle).

Several coordinating mechanisms or multi-sector processes are developed and applied during the implementation of biodiversity policies (e.g. public consultation on the MSFD PoM; interactions between different ministries, agencies, regions and local stakeholders around the establishment of new protected areas; SEA on Plans). They depend a lot on the political will behind the process. However, improvements in interactions between organizations to address biodiversity issues could be introduced in the implementation phase (e.g. joint working groups, joint monitoring, public consultation). There is a need for permanent and structured fora and processes, with a clearer political mandate. Inputs from stakeholders and research institutes to the competent authority are very important and often considered only when there is a clear political will or EU / international obligations.

Role of MSP in biodiversity conservation

The MSPD was transposed to the Italian legislation in 2016 (201/2016). Plans for three Maritime Areas are currently under strategic environmental assessment (SEA) and public consultation and are expected to be finalized and approved.

MSP is viewed as an approach that allows the development of maritime activities and preventing conflicts in the use of marine space while ensuring GES and the provision of ecosystem services and protecting the environment (DPCM 01/12/2017). The guidelines advise using an EBA in developing the plans, addressing land-sea interactions, and enhancing cross-border cooperation. Further, considering environmental policies and



protected areas in the plans is suggested. Effective monitoring of MSP including environmental and biodiversity indicators is required (Chapter 7 of the Plans submitted to public consultation). Nevertheless, the MSP guidelines leave a lot of freedom for the preparation of the plans and their implementation.

Also, the NBS2030 (MITE, 2022) views MSP as a tool to reach its objectives (e.g. to extend the network of MPAs, to avoid degradation of marine ecosystems, to restore marine ecosystems, to improve coherence between marine policies). A strong limitation in this direction is the fact that MSP plans are not in place yet. Informally, ongoing processes (e.g. the one on national pledges towards biodiversity targets) are considering the provisions of the draft plans. Also, the preparation of the National Guidelines for MSP and the MSP plans has involved discussion about increasing the role of biodiversity in MSP. The public consultation indicated a need to increase the ambition of MSP in addressing biodiversity to avoid environmental impacts (e.g. areas for offshore wind farms). A more explicit and operational connection between MSP and BS/NBS2030, Habitat and Bird Directives, MPA designation and management should be introduced. Present limitations may also be due to the strategic nature of the current draft plans, that may be considered inadequate to properly address biodiversity issues. In fact, the plans fully and explicitly consider and address all main biodiversity elements (i.e. strategic and specific objectives, anthropogenic pressures and their effects, conservation values and priorities, vocations of areas, different types of conservation measures). On the other hand, the MSFD PoM – II cycle (DPCM 7 July 2022) almost disregards MSP as a tool and a policy process to reach the MSFD objectives, since MSP is mentioned only once and very generically. Again, this may be due to the absence of approved plans, but still, it appears as a significant limitation.

The interactions between different organizations for addressing biodiversity issues are considered reasonably appropriate for MSP policy formulation. The MSP Competent Authority is the Ministry of Infrastructure and Transport. The development of the MSP plans has been appointed to a Technical Committee, including state and regional authorities. Involvement of the Ministry of Environment (MASE) should ensure coherence of MSP with environmental policy processes and the related targets (e.g. MSFD, WFD, Habitat and Bird Directives, BD2030). Moreover, the plans contain specific measures to establish permanent and well-structured stakeholder engagement platforms and mechanisms.

However, the practical and concrete implementation process of MSP, starting from the design, approval and monitoring of the plan is far more uncertain in addressing biodiversity, given the requirement to balance the demands of the different sectors and the strategic nature of current draft plans. A barrier is the lack of pre-established, clear and mandatory mechanisms to connect MSP provisions, monitoring, and adaptation with actions focusing on biodiversity (e.g. establishment of new protected areas, other area-based management tools and measures, effective management of protected areas). Moreover, there is a need to find consensus on assessments and solutions in transboundary issues (in sectors such as maritime transport – and on ecosystems and species at risk – e.g. mobile species like marine mammals). Overcoming issues (data availability, complexity, uncertainty) that limit the use of decision support tools could



significantly assist decision-making (from the assessment and risk identification phase to the quantitative and spatially explicit evaluation of the effects of possible management measures and future scenarios).

Thus, in principle and in current draft plans, biodiversity is prioritized relatively high in MSP, yet in practice, moving from the strategic to a more operational level, it may not be prioritized more than other topics. Presently MSP aims mainly to minimize and reduce impacts. This objective will require identifying more precise measures (spatial and not spatial) towards objectively verifiable and measurable targets.

Summary: Italy

Ambition level, status, indicators

Italy has recently adopted a new NBS2030. A process is ongoing to identify and establish new Natura 2000 marine sites in Italian territorial waters and the Tyrrhenian Ecological Protection Zone. The impacts of maritime transport are regulated by international standards and agreements, national laws on ports and logistics as well as environmental laws and plans. A new Management Action Plan (2021) for the Pelagos Sanctuary includes actions regarding the environmental impacts of maritime transport. However, while there are mandatory environmental rules and prescriptions, the Italian maritime transport policy does not prioritize biodiversity more than other topics (restoration hierarchy level 3). The regulations aim to minimize and reduce impacts (ambition level 2).

Barriers and levers

Some aspects of the maritime transport policies require improvements both for the formulation of policy and its implementation. Management rules and practices on ballast waters are not fully developed and implemented, which increases diffusion and risks related to alien species. Reducing underwater noise requires better risk assessment and regulations. Improvements in interactions between organizations to address biodiversity issues could be introduced in the implementation phase (e.g. joint working groups, joint monitoring, public consultation). There is a need for permanent and structured fora and processes, with a clearer political mandate. Inputs from stakeholders and research institutes to the competent authority are very important and often considered only when there is a clear political will or EU / international obligations.

MSP as a framework for biodiversity conservation

In principle, biodiversity is prioritized relatively high in MSP (level 4). In practice, the level may be 3 (not prioritized higher than other topics). MSP aims to minimize and reduce impacts. This requires identifying precise measures towards verifiable and measurable targets. Whereas NBS2030 views MSP as a tool to reach its objectives, the MSFD PoM almost disregards MSP as a tool to reach its objectives. Interactions between organizations for MSP policy implementation are appropriate, including biodiversity issues. The plans support stakeholder engagement. However, the MSP policy leaves freedom for planning and implementation, which brings uncertainty in the ways biodiversity is addressed. More precise mandatory mechanisms to connect MSP with biodiversity actions are needed. Transboundary coordination of assessments and solutions must be improved for certain sectors and conservation targets. The use of decision support tools is limited by data availability, complexity, and uncertainty.



4.2.11 Black Sea - The Black Sea Convention

Agenda setting

The Convention on the Protection of the Black Sea Against Pollution (the Black Sea Convention/Bucharest Convention) (BSC) was signed in Bucharest in 1992, and ratified by all [six legislative assemblies](#) of the Black Sea countries in 1994. The vision of the BSC is to preserve the Black Sea ecosystem as a valuable natural endowment whilst ensuring the protection of its marine and coastal living resources. It has four key [Protocols](#) that focus on the pollution from land-based sources and activities; pollution by oil and other harmful substances in emergency situations; pollution by dumping, and the conservation and sustainable management of the Black Sea ecosystem, biodiversity and landscape.

The BSC is a regional cooperation framework with one member from each of the six national governments. The areas of concern are, *inter alia*, to monitor, assess, and control pollution, to ensure conservation of biological diversity, to address environmental safety aspects of shipping, to address the environmental aspects of the management of fisheries and other living resources, and to promote integrated coastal zone management and maritime policy. The Permanent Secretariat of the Black Sea Commission (BSC PS) was established in 2000 to assist the BSC in the implementation of the provisions of the Convention and the Black Sea Strategic Action Plan (BS SAP). The BSC PS coordinates activities of the Advisory Groups, which are the main source of expertise, information, and support of the BSC.

The BSC has a Memorandum of Understanding (MoU) with the UNEP/MAP (Barcelona Convention); GFCM (FAO); ACCOBAMS Agreement and IMO. It has more than nine observers, collaborates with UNEP and helps to promote relevant projects and initiatives in the Black Sea region.

Policy formulation and adoption

Biodiversity issues are addressed in the Strategic Action Plan (SAP) (1996) for the Rehabilitation and Protection of the Black Sea (BS SAP) which was [updated](#) in 2009 and in the Black Sea Biodiversity and Landscape Conservation Protocol (Black Sea Biodiversity Protocol) signed in 2002 and enforced in 2011.

The Black Sea Biodiversity Protocol is a modern and innovative approach for the protection of biodiversity in the Black Sea. It incorporates principles from the main international conservation conventions, particularly the CBD (1992) and the Pan-European Biological and Landscape Diversity Strategy (“PEBLDS”) (1998). The Protocol applies to the Black Sea proper and the Azov Sea, the latter having been excluded from the Bucharest Convention. The extension of the geographic scope of application to include the Azov Sea is essential to ensure a truly regional, harmonized, and cooperative legal framework for the protection of marine living resources and biodiversity, especially those of a transboundary nature.

The purpose of the Black Sea Biodiversity Protocol is to “maintain the Black Sea ecosystem in a good ecological state and its landscape in a favorable condition” and to “preserve and to sustainably manage the biological and landscape diversity of the Black



Sea in order to enrich the biological resources”. The objective of achieving the “good ecological state” is understood to mean a return to the state of the Black Sea marine environment during the 1960s and to actively “enrich” biodiversity. Furthermore, the Protocol is to serve as the legal instrument “for developing, harmonizing and enforcing necessary environmental policies, strategies and measures in preserving, protecting and sustainably managing the nature, historical, cultural, and aesthetic resources and heritage of the Black Sea states for the present and future.”

The BS SAP (1996) was a groundbreaking document for the Black Sea region establishing targets and timetables for the implementation of the objectives of the 1992 Bucharest Convention. However, it was an overly ambitious document and very few of the targets were accomplished on time. It suffered from problems of enforcement in the national environmental legislations and the lack of a regional mechanism to ensure compliance with the policy actions (BS SAP 2009). An amendment in 2002 aimed to resolve some of these issues and to reconfirm the commitments of the Black Sea coastal states to implement the BS SAP.

The BS SAP (2009) was formulated through consideration of *inter alia* the SAP (1996), the Black Sea Transboundary Diagnostic Analysis (TDA) (2007) and the BS SAP Gap Analysis (2007). It is presented as a response to four main challenges of the Black Sea: eutrophication/nutrient enrichment; changes in marine living resources; chemical pollution; and biodiversity/habitat changes including alien species introduction. The Black Sea SAP (2009) adheres to 3 key environmental management approaches: Integrated Coastal Zone Management (ICZM); the EBA; and Integrated River Basin Management (IRBM). It defines four long-term objectives for ecosystem quality, 65 management targets for short-, medium- and long term and a priority status required to meet the long-term objectives, and nine recommendations for fisheries management in terms of the EBA. It provides guidelines for capacity strengthening for enforcement, public engagement, regional coordination by the BSC, and climate change. In addition, it guides in legal and institutional reforms for the implementation of the SAP and investments necessary to solve the environmental problems.

Implementation

The main achievement of the BSC since its founding was that it became one of the best-known Regional Sea Conventions and instruments of the International Environmental Law in the Black Sea basin. It serves as a framework for cooperation. It has provided a legal ground for combating pollution and for achieving sustainable management of marine living resources and sustainable human development in the Black Sea Region. Moreover, it is also the only existing legal instrument in the field of marine environment which has all the Black Sea riparian countries as signatories. The activities implemented so far by the relevant Convention bodies allowed a significant increase in public involvement, address transboundary environmental issues, and introduce sound environmental decision-making related to the sustainable use of the resources of the Black Sea.

Since December 2016, the UNEP/MAP Secretariat supports several activities also in the Black Sea area under the EU-funded Marine Litter MED project to strengthen bilateral



collaboration in marine litter management. Currently the draft Regional Action Plan on Marine Litter Management in the Black Sea (adopted in 2018) is being finalized. Drafting a related Monitoring Programme is discussed. The BSC collaborates in a Working Group on the global indicators together with the other RSCs. It cooperates with the CBD Secretariat on the description of Ecologically and Biologically Significant Marine Areas (EBSA process) and the establishment of EBSA sites for the Black Sea. The CBD Convention COP Meeting of 2018 endorsed 17 sites. BSC also contributes to the UN World Ocean Assessment II (WOA II) Report and works for the Post 2020 Biodiversity Outlook (UNEP+CBD Convention).

The Bucharest Convention was elaborated 30 years ago, and the latest version of BS SAP is dated 2009. Since that, new challenges such as climate change, marine litter, marine noise, green economy, the MSFD requirements (definition of GES), blue growth, circular economy, and MSP have emerged but are not reflected in the work of the Convention. The incorporation of these issues in the documents of the Bucharest Convention is needed.

Role of MSP in Black Sea policy coordination

The BSC does not have a role in the MSP processes of Bulgaria and Romania (the two EU MS involved in the BSC). However, it has supported the MSP process as a member of the Advisory Board in the MARSPLAN-BS II EMFF project focused on the cross-border collaboration between Bulgaria and Romania for the implementation of the MSPD.

Summary: The Black Sea Convention

Ambition level, status, indicators

Biodiversity protection is one of the highest priorities of the Black Sea Convention through its vision to preserve the Black Sea ecosystem and its Biodiversity Protocol. The BS SAP adheres to 3 key environmental approaches: ICZM, EBA, and Integrated River Basin Management (IRBM) and has 4 Ecosystem Quality Objectives: preserve marine living resources; protect biodiversity and habitats; reduce eutrophication; and ensure good water quality.

Barriers and levers

The Black Sea Convention is one of the key environmental instruments in the Black Sea basin, and currently works on the Post 2020 Biodiversity Outlook (UNEP+CBD Convention). However, the latest version of the BS SAP is dated 2009. New challenges such as climate change, marine litter, MSFD requirements, blue economy and MSP have emerged but are not reflected in the Convention's work. The effectiveness of the Black Sea Convention measures is difficult to evaluate.

MSP as a framework for biodiversity conservation:

BSC does not work on MSP and the Convention does not play a role in the MSP processes of Bulgaria and Romania. However, the Black Sea Commission has supported the MSP as a member of the Advisory Board in the EMFF MARSPLAN-BS II project focused on the cross-border collaboration between Bulgaria and Romania for the implementation of the MSPD.



4.2.12 Bulgaria

Agenda setting

Bulgaria as a contracting party to the Black Sea Convention implements the Black Sea Convention, but biodiversity related international commitments relate especially to CBD and the EU. Bulgaria has implemented the CBD since 1996 by the Act on Protected areas (133/1998; 45/2022) and the Biodiversity Act (77/2002; 98/2018). In 2022 Bulgaria approved a new Biodiversity Strategy 2030 (NBS2030). The strategy integrates national, regional, district and municipal biodiversity strategies, and supports the integration of biodiversity into sectoral policies. The plan is developed over a period of five years, to be updated six times. Bulgaria also has a multiannual Priority Action framework for Natura 2000 (2021-2027) aiming to outline measures to implement the EU-wide Natura 2000 network. Bulgaria has contributed to the negotiations on the BBNJ.

The Ministry of Environment and Water (MoEW) is responsible for the environmental policies including MPAs. Regional Inspectorates of Environment and Water within the MoEW implement the state environmental policy at the regional level. Different ministries and other bodies cooperate for the integration of biodiversity in all sector policies and plans and for biodiversity monitoring. NGOs have been involved in the planning and management of MPAs. MSP Authority does not participate in biodiversity policy formulation as MSP and environmental protection are separate processes.

Biodiversity policy formulation and adoption in fisheries

Also, the Bulgarian case focused on the analysis of biodiversity mainstreaming in the fisheries policy. In the Bulgarian fisheries policy, biodiversity protection is not an explicit objective but still relatively highly prioritized. The aim is to minimize and reduce the negative impacts of fishing on the ecosystem. The CFP and other EU legislation are considered important driving forces for the integration of biodiversity into the national fisheries policy. The Fisheries and Aquaculture Act (2001) requires obeying the rules of MPAs and the temporary, regional and/or gear-based fishing restrictions. An incentive-based approach is used to prevent bycatch of cetaceans. However, fishing is still allowed in MPAs with restrictions only/mainly targeted to beam trawling and dredging. In addition, fisheries and conservation legislations may have contradictory objectives and poor inter-institutional dialogue. Fishing bans to protect fish populations during reproduction periods, and restrictions on beam trawling to protect sea bottom are considered as OECMs.

The new NBS 2030 of Bulgaria includes a set of measures to enhance the protection of biodiversity in the fisheries sector. It requires significantly reducing the negative impacts of fishing on vulnerable species and habitats (including seabed) to achieve GES and to eliminate or reduce bycatch to a level that enables species recovery and conservation.

Under the EMFAF programme approved for 2021-2027, Bulgaria implements the priorities of the CFP and GD. The financial support of the EMFAF is also expected to help manage and extend MPAs and to fight against marine litter. The programme reinforces the environmental actions undertaken under the Bulgarian prioritized action framework for Natura 2000, to monitor marine habitats and species and to promote the production



of scientific knowledge. The Bulgarian fisheries policy requires the monitoring and reporting of catch data and economic statistics. In contrast, there are no data requirements on the implementation and effectiveness of the fisheries measures on biodiversity protection. Projects under the EMFAF programme will bring biodiversity objectives and related indicators to the fisheries policy context. However, whether this will lead to adding reporting requirements on these indicators is not evident.

Implementation

The current objectives of MPAs are considered very general and limited to the minimum required by the EU directives, and not tailored to the actual state of the sea areas. However, under the Priority Action Framework for Natura 2000 (2021-2027 Programme period) a set of measures to develop the specific objectives of the MPAs and measures to achieve them have been planned. Actions have been taken to provide data and analyses for assessing the compliance of the existing territorial protection in the country with the criteria of the EC.

MSP as a tool for biodiversity conservation

The MSPD 2014/89/EU was transposed in the Bulgarian legislation in 2018 (by an Amendment of the Maritime Spaces, Inland Waterways and Ports of the Republic of Bulgaria Act (SG No. 28/29.03.2018)). The Birds and Habitats Directives, the MSFD and the WFD as well as the national environmental legislation (e.g. The Protected Areas and Biodiversity Acts) are incorporated in the national MSP legislation. The Responsible Authority for MSP is the Ministry of Regional Development and Public Works of Bulgaria (MRDPW). In 2023, the first Bulgarian MSP plan for 2021-2035 was approved. The Plan has four scenarios for future development: A) Economic growth; B) Sustainable ecosystems; C) Social balance; and D) Integrated (EU, local, national, and regional) priorities. The Plan is supported by an Environmental Impact Assessment (EIA) and a document provided by the MoEW encompassing measures to reach the EU BS2030 targets. Monitoring is required, and a report on the environmental impacts of the MSP plan using a set of indicators must be submitted every 2 years to the MoEW.

Biodiversity is not an explicitly prioritized strategic goal or objective in Bulgarian MSP, but it is ranked as a relatively high cross-cutting priority. Biodiversity and ecosystem protection are widely considered in the MSP Plan's goals and scenarios as cross-cutting and overarching priorities. Thus, MSP in Bulgaria is also considered to support the targets of the EU BS2030. Identifying new MPAs is not in the mandate of MSP but it takes into account MPAs and the related policies. MSP also supports the progression of the MPA network by additional measures as suggested by the MoEW. The MSP Plan and its EIA coordinate biodiversity conservation across sectors and promote synergies between economic sectors and ecosystem protection. The EIA can be used, e.g. to restrict by-catch and identify areas prohibited for fishing. OECMs are not considered in Bulgarian MSP.

However, coherence between MPA and MSP policies is still considered low and should be improved to enhance the integration of BD in MSP. The guidelines of the EC for harmonizing the processes of monitoring and reporting under the water (WFD) and



environmental protection directives (MSFD) are expected to improve this. Furthermore, even though MSP incorporates the MSFD and WFD, the national legislation and strategies are considered to disregard MSP as an integrated tool and process for achieving the GES of marine waters. However, the inclusion of the measures taken to implement Natura 2000 and MSFD in the MSP plan enhances its social acceptance.

The EU BS2030 is mentioned in the Plan, but without details on how to reach the 30% protected areas (of which 10% strictly protected) target until 2030. Environmental stakeholders are not aware of the MSP plan and if or how the plan includes the targets of the BS2030. In the MSP Plan, suitable water areas are indicated, which may be explored to determine areas for protection, and the future expansion of MPAs will be reflected in the plan once the new MPAs are legally recognized. Thus, the level of ambition in biodiversity conservation in Bulgarian MSP is assessed to be between retaining biodiversity and minimizing and reducing impacts. The MSP Plan is a strategic guidance document including recommendations, whereas it does not have the mandate for legally binding spatial measures.

The Bulgarian case suggests that stronger integration of biodiversity in MSP could be advanced by 1) Promoting synergies between economic sectors and ecosystem protection in MSP through multifunctional zones; 2) Reporting on the implementation of ecological indicators in MSP every two years to the MoEW and adopting the targets of the EU BS2030; 3) Using MSP and its EIA report for providing guidance on measures to avoid environmental impacts through using the MSFD and WFD objectives and measures; 4) Supporting the progression of MPAs and extension of the Natura 2000 MPA network in MSP; 5) Understanding MSP policy by MPA managers and vice versa; 6) Developing more comprehensive stakeholder engagement platforms and mechanisms for MSP.

Cross-border collaboration focusing on MSP has been well developed with Romania under the two EMFF projects MARSPLAN-BS I and II, however the collaboration in MPAs coherence is still insufficient. Currently, cross-border collaboration and information exchange with Romania for improving MPA management and coherence is ongoing. This is an objective in the MSP4BIO Black Sea test site.

Limited marine space with many different activities is considered a difficulty for the implementation of biodiversity objectives in MSP, and can even affect the integration of biodiversity in policies. It is also challenging to maintain a balance between economic activities and sustainable use of natural resources. The Bulgarian interviewees call for more dialogue and better coordination of policies across sectors and between organizations and different levels of governance. This includes improved and smooth interaction between the MSP and MPAs authorities with easier, informal processes and forums. Investing in capacity building and training of technical staff is suggested.

In general, in the implementation and revision of the MSP plan, more explicit focus on biodiversity is called for to achieve the targets of BS2030, to integrate MPAs designation and management, and to consider blue corridors and effects of climate change on biodiversity. Even more important is the practical and operational implementation process of MSP, monitoring of the plan and revisions.



Weighting methods or guidelines for the prioritization of the biodiversity objectives in relation to other objectives are not provided or used. Also, the nature of MSP plan as a strategic and guiding tool has a limited effect on sustaining biodiversity. This also relates to the poor articulation of the integrative role of MSP to create a practical blueprint for balanced sea use and ecosystem conservation.

Summary – Bulgaria

Ambition level, status, indicators

In 2022, Bulgaria adopted a new national Biodiversity Strategy 2030. The strategy includes, for example, measures to enhance the protection of biodiversity in fisheries. Together with actions to be taken under the EMFAF programme, the strategy is expected to strengthen biodiversity considerations in the Bulgarian fisheries sector. The aim is to minimize and reduce negative impacts of fishing on the ecosystem. Thus, biodiversity conservation is prioritized relatively high. Still, biodiversity conservation is not an explicit objective in the Bulgarian fisheries policy.

Barriers and levers

Contradictory objectives between biodiversity conservation and the fisheries sector in combination with poor inter-institutional dialogue is considered to hamper biodiversity conservation. For example, fishing is allowed in MPAs. The objectives of MPAs are yet more general, and not tailored to the actual state of the sea areas. Fisheries policy includes monitoring and reporting requirements in terms of catch data and economic statistics, and the EMFAF operational programme envisages a number of projects as indicators related to biodiversity objectives, however, requirements for reporting on these indicators have not been evident. Under the Priority Action Framework for Natura 2000 (2021-2027), developing specific objectives and measures for MPAs has been planned.

MSP as framework for biodiversity conservation

Biodiversity conservation is not an explicit objective in Bulgarian MSP, but it is still given a relatively high priority. Indeed, biodiversity and ecosystem conservation are widely considered in the MSP Plan's goals and scenarios as cross-cutting and overarching priorities: MSP aims to retain biodiversity, or to minimize and reduce impacts. The MSP plan is a strategic guidance document with no mandate for legally binding spatial measures. It cannot designate new MPAs, but it supports the existing ones and the progression of the MPAs network. The MSP Plan and its EIA coordinate biodiversity conservation across sectors and promote synergies between economic sectors and ecosystem protection through the provisions of WFD and MSFD. Coherence between MSP and MPA policies is still considered low. Most stakeholders are not aware of the integrative role of MSP and its possibilities in promoting GES and the BS. The developed cross-border collaboration with Romania on MSP and currently on MPAs may improve the MPAs coherence and integration of biodiversity in MSP. Also, limited marine space with many activities can hinder the consideration of biodiversity in MSP. Improving coordination across sectors, organizations, and governance levels is needed. This concerns also interaction between MSP and MPAs authorities.



5. Synthesis

5.1. Status of biodiversity mainstreaming

5.1.1. Biodiversity mainstreaming from the EU to regional and national levels

With its aim to enlarge the network of MPAs and to set legally binding nature restoration targets, the BS2030 has upgraded the ambition and scope of the EU in biodiversity conservation from level 2 (minimizing and reducing impacts) to level 3 (restoring and remediating impacts) in the mitigation and conservation hierarchy (see section 3.1). The realization of the BS2030 goals requires mainstreaming biodiversity to all relevant EU, regional, and national policies, and to the related practices.

For the Regional Sea Conventions (RSCs) OSPAR, HELCOM, and the Barcelona Convention biodiversity is one of the highest priorities (level 5) and they have recently updated their strategies (the NEAES 2030/OSPAR, the Baltic Sea Action Plan (2021)/HELCOM, and Post-2020 SAPBIO and Post 2020 Strategy/Barcelona Convention) to align with the BS2030, GD, MSFD, and other EU instruments, as well as the GBF. In the Black Sea Convention, progress in addressing biodiversity has been slower compared to the other RSCs, and problems in national enforcement and poor compliance have been encountered. The Black Sea Strategic Action Plan was adopted in 2009 and the Biodiversity Protocol entered into force in 2011. Since that, new challenges such as the incorporation of climate change, marine litter, and the new requirements of the MSFD into the work of the Convention have emerged but are not reflected in its work. Also, the other RSCs have faced difficulties in putting biodiversity objectives into action, specifically owing to low commitment of the economic sectors.

The BS2030 and the global biodiversity frameworks have boosted the revision of national biodiversity strategies (NBS). In all the studied countries, the NBSs have been recently updated (Portugal 2018, Spain 2022, France 2022, Bulgaria 2022, Italy 2023), are under update (Belgium, Poland), or biodiversity is explicitly addressed by broader national environmental strategies (Estonia). Thus, biodiversity is an explicit objective in the environmental legal acts and policies in all the studied countries. The national strategies, accompanied by operationalization plans, include long-term aims to improve the conservation of habitats and species.

Typically, the NBSs refer to MSFD (GES) and MSP as policy instruments that can support their implementation. They also reiterate the requirement of BS2030 to integrate biodiversity objectives in all national policies, strategies, and practices. However, actual integration of the biodiversity objectives in marine economic policies varies between countries and between policy domains, indicating that the level of ambition in biodiversity conservation varies between countries. Furthermore, even if biodiversity objectives are integrated in sector policies, significant gaps in their implementation exist. This is evident in all countries included in this study. In general, the implementation of biodiversity objectives through sectoral policies is considered difficult, owing to different types of institutional, operational, technical and resource related barriers (Section 5.2, Table 1). A



fundamental challenge is the socio-economic objectives that are often valued higher than biodiversity, accompanied with societal pressure to prioritize economic issues in decision making. For example, urgency for establishing and enlarging offshore wind parks is viewed as the most recent challenge for the implementation of the biodiversity objectives.

5.1.2. Biodiversity mainstreaming across policy domains

How does the MSFD address biodiversity?

The EC has revised relevant EU-level environmental and sector policies to support the national biodiversity-related policy making. The potential of MSFD to support biodiversity objectives is high since many of the descriptors of GES given in the MSFD are related to conservation of biodiversity, species and/or habitats. Achieving these objectives has been enhanced in concrete terms by the request for MS to specify the determination of GES by quantitative criteria. However, less than 50% of MS have set quantitative threshold values for GES and less than 25% of MS have established adequate means to determine GES for descriptors on biological diversity, non-indigenous species, contaminants, and marine litter. In general, monitoring programs of GES are often incomplete with variations between MS for the descriptors. The ambition level of MSFD is assessed to be at level 3 in the conservation hierarchy. However, as GES includes the element of the sustainable use of marine resources, the level of conservation may remain at level 2 (reducing or minimizing impacts).

How do the EU- and national fisheries policies address biodiversity?

The CFP Transition package (2023) adopted by the EC builds on, complements, and supports the existing environmental legislation (MSFD, Bird and Habitat Directives, WFD), incorporates the BS2030, and links to the GD. It raises the ambition of the CFP in biodiversity conservation by strengthening the measures to avoid, minimize, and reduce the negative impacts of fishing activities on the marine environment and by extending them towards the restoration and remediation of biodiversity (level 3). The Transition package and the *Action Plan to protect and restore marine ecosystem for sustainable and resilient fisheries*, as part of it, are intended to give the MS a sense of prioritization of biodiversity issues and to increase their political commitment to the implementation of the existing environmental legislation. To support BS2030, the CFP Transition package calls on the MS to create MPAs and to effectively manage the existing ones, use low-impact fishing gear, utilize OECMs, pursue habitat restoration, improve connectivity, and address barriers to migration. In particular, it requests phasing out mobile bottom fishing in all MPAs.

In all the studied countries, the existing fisheries laws and policies, at least in principle, support the aims of the CFP to avoid, minimize, or reduce the negative impacts of fishing on the ecosystem. Their objectives include ensuring sustainable fish populations and the diversity of fish species. However, to better integrate biodiversity, in general, and other environmental aspects in their fisheries policies, most of the studied countries have adopted new strategies, laws, or programmes. For example, Belgium has adopted a



multi-party agreement (the Maatschappelijk Convenant 2021-2025) that includes objectives relating to sustainable fish stocks, low impact fishing fleet, and the protection of ecologically valuable sea features, and that sets explicit implementation responsibilities for different actor groups. Spain updated its fishing law to adjust the fisheries policy to better highlight GES, the protection of fish resources and their habitats and biodiversity, and to avoid further deterioration. The new law limits the volume of catches or effort, gear used, weight or size of species or the establishment of closed seasons. In Bulgaria, the NBS2030 includes measures to enhance the protection of biodiversity in the fisheries sector. In France, the Strategy for the Sea and Coast (2023) addresses biodiversity conservation in fisheries.

In Belgium, Poland, France, Bulgaria, and Estonia, the EMFAF programme facilitates the fisheries policies and practices to respond to the challenges of the CFP, the GD, including the Farm to Fork strategy and BS2030, as well as Natura 2000. The EMFAF programme supports operations to protect, restore, and improve the management of sites and species with a particular focus on MPAs. It facilitates the development of measures to improve gear selectivity, to enhance compliance with the landing obligation, and to avoid discards, and to reduce the impact of fishing on sensitive species and the seabed. In general, the EMFAF is considered a framework that would enable to raise the ambition of fisheries policies in biodiversity conservation to level 3 (restore and remediate impacts).

The study raises Portugal as the only one among the studied countries where the fisheries policy does not acknowledge biodiversity conservation as an explicit objective. Instead, biodiversity conservation in the Portuguese fisheries policy takes place by obeying the rules of MPAs and the environmental legislation.

However, difficulties especially related to siloed policy making between the fisheries and environmental policy domains, and lack of coordination between organizations, governance levels and national boundaries, is considered to hamper the realization of higher conservation ambitions even in countries where they are included in policies. In many cases, the perception is that prioritization of biodiversity over other topics is difficult and thus the fisheries policies cannot do much more than try to minimize and reduce the impacts of fishing on the marine ecosystems. Typically, the fisheries policies rank biodiversity among their highest priorities, but practices do not conform to the priority. In addition, monitoring requirements and related indicators concerning biodiversity, beyond single target species, are in many cases missing from the fisheries policies. Effective monitoring would ensure that biodiversity considerations are not only prioritized in policy documents but also actively reflected in fisheries management practices.

How do the aquaculture policies address biodiversity?

Biodiversity mainstreaming in marine aquaculture was examined in the case study of Spain. The results suggest that in aquaculture biodiversity is addressed inadequately and that it is also difficult owing e.g. to mismatch between environmental policies and the specificities of the sector, inflexible conservation measures, and lack of training. In Spain, biodiversity conservation in aquaculture is only governed by the laws related to EIA and a Natural Resources Management Plan, which do not explicitly address biodiversity.



Biodiversity is prioritized less than most topics and the aim is to retain biodiversity by avoiding impacts (level 1).

How do maritime transport policies address biodiversity?

Increasing scientific understanding of marine ecosystems and the impact of shipping activities on them have promoted the considerations of biodiversity in maritime transport policies. The most important biodiversity relevant IMO and EU policies relate to tackling invasive species through regulations targeted to ballast water, biofouling, and anti-fouling systems; limiting the dumping of waste in the sea; regulations related to ship recycling, and the designation of PSSAs. The IMO-rules are transposed in the EU legislation, and in many cases adapted to the regional conditions by the RSCs.

The Italian case study explored biodiversity integration in the Italian maritime transport policy and practices. In Italy, the main national policies, strategies, and laws on maritime transport directly refer to the regulations of international conventions and protocols (UNCLOS; EU, IMO, Barcelona Convention) to protect the sea and marine biodiversity. These policies aim to minimize and reduce the impacts of shipping on the marine ecosystem (e.g. to reduce the risk of accidents) but they do not prioritize biodiversity over other topics. However, in Italy, the policy framework has, for example, supported the establishment of a PSSA in the Northern Tyrrhenian Sea (2023). Italy has also approved a new Management Action Plan for the Pelagos Sanctuary in 2021, including actions and studies regarding the environmental impacts of maritime transport. Moreover, Italy has recently assigned port authorities for the environmental management of ports, involving SEA procedures. A national plan on ports and logistics addressing environmental impacts has been approved. Still, the study identified needs for improvements both in policy formulation and implementation. For example, rules and practices on ballast water and underwater noise, and spatial planning to identify areas to be avoided for certain types of vessels or reduction of speed, require more elaboration.

In France, the National Strategy for the Sea and Coast (2023) addresses biodiversity conservation in marine sectors including fisheries, ports, and offshore windfarms, includes the extended MPA targets, and acknowledges the objectives of the GD and the conclusions of the BBNJ treaty. The National Port Strategy (2021) aims to ensure better protection of biodiversity through management plans or local innovative projects, in partnership with universities and environmental associations. It prioritizes biodiversity (relatively) high, yet no reporting requirements are included. At the local level, the ports are encouraged to define restoration objectives. However, lack of flexibility in the environmental legislation is considered to restrict the realization of innovative actions. In Poland, the Transport Development Strategy (2019) adheres to the national environmental strategy 2030, which implies the requirement to limit the negative environmental impacts of the operations and to preserve biodiversity and support free migration of species.

How do the offshore energy policies address biodiversity?

The EU strategy to harness the potential of offshore renewable energy for a climate neutral future acknowledges the importance of minimizing or reducing the impacts of



offshore energy on biodiversity and the environment as a whole and the potential of new technologies in minimizing the impacts on habitats and protected species (level 2). The strategy also requires monitoring the impacts of offshore energy on the environment and other maritime activities and updating scientific knowledge accordingly. The main ambition of the EU renewable energy, however, is to boost the deployment of renewable energy production while biodiversity conservation is not among the highest priorities.

None of the case studies analyzed offshore energy policies as such, at the national level. However, the study suggests that for example in Poland, biodiversity is given little attention in the offshore energy policy, and the same concerns marine mining and dredging policies and policies regulating the extension of port infrastructure. Instead, these sectors are required to limit their negative environmental impacts according to the national environmental strategy (PEP 2030). This implies retaining biodiversity by avoiding impacts through using EIA and SEA as the key mechanisms. Similarly in Portugal, marine economic policies aim to minimize and reduce negative impacts by EIA or SEA, which implies that biodiversity is prioritized less than other objectives. By contrast, In France, the National Strategy for the Sea and Coast (2023) governs biodiversity conservation in offshore windfarms, and owing to the increasing concern for the possible impact of offshore windfarms on biodiversity, an observatory of offshore windfarms and biodiversity has been set up and is managed by the French Biodiversity Agency. Still, the economic sectors in France (e.g., offshore energy, fisheries, ports, sand and gravel) are considered to need clear, easy-to-understand tools, stronger mechanisms, and instructions. As for the RSCs, for example the HELCOM recognizes the difficulties of offshore energy and other blue economy sectors to integrate biodiversity objectives into their decision making and operations and calls for a comprehensive planning framework using a shared conceptual approach across sectors to address the challenges.

5.2. Barriers and levers of mainstreaming

We classified the identified barriers and levers of biodiversity mainstreaming into four broad categories, as introduced in section 3.1. The category “institutional” refers to rather stable governance arrangements, that is, policies or responsibilities/mandates, that can hamper or enable biodiversity mainstreaming. “Operational/organizational” relates to the coordination of issues within or between organizations or actor groups. “Technical” barriers/levers denote the procedures and practices of policy formulation or implementation, and the tools, knowledge, or data used in these processes. Resource-related barriers/levers refer to the adequacy of economic or human resources for biodiversity mainstreaming. The barriers identified in the different phases of a policy cycle are summarized in Table 1 and levers in Table 2. The tables provide findings from different policy levels (EU, regional, national).

Institutional barriers

Conflicting objectives between policies was considered a usual barrier for addressing biodiversity in policy or decision making. Difficulties in aligning objectives between policies can be encountered already in the agenda setting or policy formulation as the



parties shelter their policy domain, but most likely contradicting objectives complicate the implementation of biodiversity objectives. Marine economic policies like the CFP or the energy policy include social and economic objectives which may be prioritized over biodiversity. Even the MSFD includes the element of the sustainable use of natural resources in a stronger way than it is included in BS2030. The recent requirement to increase offshore wind energy production was considered to impede biodiversity conservation especially in small sea areas hosting many activities. However, the offshore renewable energy strategy suggests a synergy between renewable energy development and biodiversity conservation, where wind parks not only generate clean energy but also serve as habitats (artificial reefs) that enhance marine biodiversity. The study also suggests that often the focus of biodiversity conservation is on emblematic objects whereas issues valued less significant are ignored.

In some cases, the inflexibility of EU-policies was seen as a barrier for realizing more ambitious biodiversity policies at the national level. For example, the CFP still allows restricted fishing in MPAs. It has not allowed the enactment of some restrictions on fishing gear impacting the seabed in Natura 2000 areas. In Belgium, the Natura 2000 framework is deemed static and inflexible in the face of changing environmental conditions that might call for the reconsideration of the locations of protected areas. Lack of requirements for monitoring and reporting is seen as a significant barrier for biodiversity conservation leading to missing data trends, missing or poor policy evaluations, and inadequate adjustment of measures. In the case of ports in France, the environmental legislation, in general, was considered to lack flexibility in relation to biodiversity related objectives.

Ambiguous policy formulations are also considered to complicate or poorly guide decision making, potentially leading to low priority for biodiversity. The MSFD gives descriptors for GES, but missing quantitative threshold values has hampered the operationalization of the Directive and the achievement of GES. Also, the monitoring programs are often incomplete with variations between MS for the descriptors. In France, the NBS2030 is deemed too generic to be prescriptive. Similarly in Bulgaria, the general objectives of MPAs are limited to the minimum and not tailored to the actual state of the sea areas. In Spain, the new fishery law allows to reduce or eliminate accidental captures “whenever possible” and focuses on the protection and conservation of the resources and environment that might impact the sector itself.

Also, the division of mandates and responsibilities between organizations and levels of governance in dealing with marine issues can hamper biodiversity integration. Under the EU treaties, the conservation of marine biological resources (i.e. for fisheries) is the EU’s exclusive competence whereas environmental policy is a shared competence with MS. This prevents the adoption and implementation of coherent management measures. In France, missing institutions dedicated to the sea is seen as a barrier for dealing with marine biodiversity. In Italy, the political mandates are considered unclear, which decreases the capacity to implement biodiversity objectives. In Poland, the missing mandate of the fisheries administration to designate MPAs is considered a problem. In Belgium, the division of mandates between the Flemish and the Federal jurisdictions complicates both the setting of conservation objectives and the implementation of measures in MPAs.



Operational/organizational barriers

The analysis suggests that coordination between governance levels, organizations, sectors, regions, and actor groups is often weak. This can negatively influence biodiversity integration in any phase of a policy process. In the EC, collaboration between the biodiversity experts under the MSFD and those under the Birds and Habitats Directives is still on an *ad hoc* basis, which hinders coherence between the assessment methodologies of these policies. In Belgium, the dispersion of competences between the Federal and Regional government hampers biodiversity considerations in sector policies. In Spain, lack of coordination between sector policies at different governance levels (national and regional) and between regions has been identified. In Bulgaria, poor inter-institutional dialogue makes it difficult to align conflicting objectives or to discuss tradeoffs e.g. between fisheries and environmental conservation. Also in Italy, more efficient interaction between organizations, permanent fora, and processes with clearer political mandates to address biodiversity issues is called for, especially in the implementation phase (e.g. joint working groups, joint monitoring, public consultation). In addition, inputs from stakeholders and research institutes to the competent authority are seen important and often addressed only when there is a clear political will or EU / international obligations. Similarly in France, coordination between directives, policies, sectors, and organizations is considered difficult, especially given an unclear hierarchy between strategies and policies and unclear links between national and regional/sea basin level. In Poland, policy making is considered to work in silos with missing stakeholder participants in policy formulation. In particular, the establishment of new MPAs would require coordination.

Technical barriers

Technical problems (mismatch of assessment methodologies and classification types, scope, timing of assessment/reporting) between the MSFD and the Birds and Habitats Directives impedes the ongoing work on the development of GES criteria. Poor adjustment of the environmental policies to the specificities, needs, and possibilities of aquaculture hampers biodiversity considerations in aquaculture (Spain). This leads to a lack of operational conservation measures or to measures considered inflexible and accompanied by bureaucracy and poor human resources. The requirement to designate strictly protected areas increases knowledge challenges. Also, the evaluation of policies is considered difficult in the face of complex and uncertain problems and missing knowledge. Missing data owing to lack of monitoring and reporting makes evaluation of policy and adjustments of policies and measures difficult. In Belgium and Spain, lack of monitoring and reporting requirements of the achievement of biodiversity objectives in fisheries policy prevents the evaluation of measures and adoption of truly effective measures. Lack of training in aquaculture was identified as a barrier for biodiversity integration in aquaculture in (Spain).

Resource barriers

Financial constraints typically impede the implementation of biodiversity objectives. For example, in France, economic resources for the implementation of the NBS and the



actions of the EMFAF programme are considered insufficient. In addition, lack of human and financial resources at the regional level hampers the implementation of biodiversity objectives. The case of Portugal indicated low environmental literacy even among decision makers. National funding allocations are often a barrier also for the full implementation of marine monitoring programs in line with MSFD, which is very costly. Similarly, monitoring in areas beyond national jurisdiction was considered expensive, and thus difficult to realize. In Spain, lack of human resources is considered as a barrier for applying environmental legislation to aquaculture.

Levers of biodiversity mainstreaming

The study indicates that increased scientific understanding on marine ecosystems and public opinion are important leverages for biodiversity mainstreaming. In MS, global processes and agreements in general, and EU-policies in particular, support the integration of biodiversity objectives in policies. At the EU-level, policies explicitly addressing biodiversity support each other in further mainstreaming and in the implementation of biodiversity objectives. Binding EU-legislation is considered the most effective in terms of national implementation. However, different types of EU strategies and programmes (e.g. the EMFAF), especially those with specified targets, well promote the implementation of biodiversity objectives. They also provide a sense of prioritization, ambition, and political commitment. Similarly, national strategies are important for successful implementation of biodiversity objectives. Appropriate division of responsibilities between authorities is essential for biodiversity mainstreaming in every phase of a policy process, to avoid gaps between environmental management and marine resource management. In general, collaboration between all relevant actors in terms of working groups, expert panels, etc. is needed for the deliberation of biodiversity issues, for sharing knowledge and views and for the harmonization of policies and approaches. The study suggests that the more specific guidance or requirements are provided, the easier it is to implement them, both in technical terms and motivation. Thus, for example, the development of quantitative threshold values for GES are considered to facilitate the implementation of MSFD. Similarly, roadmaps and/or specified criteria for e.g. MPA designation are considered important for the implementation of biodiversity objectives. Also, the study suggests that requirements for biodiversity monitoring, data sharing, and analysis would be important levers for biodiversity mainstreaming. Funding, in general, is considered an important lever for biodiversity mainstreaming.



Table 1 Barriers of biodiversity mainstreaming

Category/Policy cycle phase	Agenda setting	Policy formulation	Implementation
Institutional barriers: policies	<ul style="list-style-type: none"> Biodiversity politically undervalued in comparison to economic objectives. Conflicting objectives between policy domains hamper (consistent) agenda setting, in practice. The complexity of multi-level international governance (e.g. maritime transport) makes agenda setting more difficult. 	<ul style="list-style-type: none"> Conflicting objectives between policy domains hamper (coherent) policy formulation. EU-policies (e.g. Natura 2000, the CFP) hamper more ambitious/more fitting national biodiversity policy making. Missing monitoring/reporting/evaluation requirements of biodiversity issues (both in biodiversity strategies and economic sectors) hampers policy formulation/updating. Ambiguous, unrealistic, or generic policy formulation leads to low priority for biodiversity. EIA / SEA regime primarily formulated for terrestrial areas with no explicit Terms of Reference for the Marine Environment. Lack of conservation policies in MPAs Fundamental difference between GES (aims to ensure that ecosystems can provide ecosystem services) and biodiversity protection (biodiversity as such). Permission procedures/EIA requirements do not concern all marine activities (e.g. Fisheries, maritime transport). Environmental permitting only addresses negative impacts; positive impacts on achieving conservation objectives are not considered. 	<ul style="list-style-type: none"> Conflicting objectives between policy domains hamper biodiversity policy implementation and lead to low priority for biodiversity. Inflexibility of EU-policies as barriers for the implementation of (more ambitious/more fitting) national policy. Unclear hierarchy between policies poorly supports decision making/implementation. Ambiguous, unrealistic, or generic policy text poorly supports decision making/implementation. Narrow policy text leads to narrow implementation: focus on emblematic objects whereas issues valued less significant are ignored. Varying capabilities between states restrict uniform implementation of maritime transport policies. Non-binding nature of regulations limits implementation Gap between MPA goals and the implementation of actions. International nature of fishing may hinder the implementation of conservation measures (individual state can reject proposed measures).
	Institutional barriers: responsibilities	<ul style="list-style-type: none"> Missing institutions focusing on marine issues and/or unclear political mandates hampers biodiversity agenda setting. 	<ul style="list-style-type: none"> Missing institutions focusing on marine issues and/or unclear political mandates hampers biodiversity policy formulation.



<p>Operational/organizational barriers</p>		<ul style="list-style-type: none"> • Division of mandates between policy domains/governance levels/organizations hampers objective setting and/or the adoption of coherent management measures. 	<ul style="list-style-type: none"> • Division of mandates between policy domains/governance levels/organizations hampers the implementation of management measures (e.g. in MPAs).
	<ul style="list-style-type: none"> • Poor coordination between governance levels, regions, sectors, organizations, and/or experts/actors/groups hampers agenda setting. 	<ul style="list-style-type: none"> • Poor coordination between governance levels, regions, sectors, organizations, and/or experts/actors/groups hampers policy formulation and adoption. • Poor stakeholder participation hampers policy formulation. • Lack of coordination (and leadership) hampers dialogue between regional and national levels 	<ul style="list-style-type: none"> • Poor coordination between governance levels, regions, sectors, organizations, and/or experts/actors/groups hampers biodiversity policy implementation. • Historical or political reasons complicate collaboration. • Pressure from local authorities to secure economic interests hampers biodiversity conservation.
<p>Technical barriers</p>		<ul style="list-style-type: none"> • Uncertainty of the cumulative environmental impacts of economic activities complicates policy formulation. • Unclear GES criteria hamper policy formulation. • Poor practices, lack of guidelines, missing tools and missing knowledge hamper policy formulation. • Mismatch of methodologies between MSFD and Habitats Directive hampers assessment. • Missing data, lack of and problems of monitoring, reporting, and evaluation (requirements) hamper policy formulation and identification and the updating of effective measures. • Difficulties in evaluation (complexity, uncertainty, missing knowledge) hampers policy formulation or update. • Poor adjustment of biodiversity policy to the specifics of a sector (e.g. aquaculture) hampers the identification of effective measures • Knowledge challenges increase with the requirement to establish strictly protected areas. 	<ul style="list-style-type: none"> • Poor practices or lack of guidelines, missing tools and/or knowledge hamper the implementation of biodiversity objectives. • Lack of functional measures is a barrier for the implementation of biodiversity objectives (aquaculture). • Lack of training (in aquaculture) hampers the implementation of biodiversity objectives. • Poorly guided MPA monitoring: directed to enforce the area instead of measuring the achievement of goals • Incomplete GES monitoring programs with variations between MS for the descriptors. • Unclear GES criteria.



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



Resource barriers	<ul style="list-style-type: none"> • Insufficient financial and political support to the institution(s) responsible for biodiversity • Low environmental literacy even among decision-makers 	<ul style="list-style-type: none"> • Lack of human resources hampers the application of environmental/biodiversity legislation in economic policies (e.g. aquaculture). 	<ul style="list-style-type: none"> • Lack of human and financial resources hampers the implementation of biodiversity objectives. • Lack of economic resources hampers the full implementation of marine monitoring programmes (also in ABNJ) • Conservation policies (e.g. in MPAs) depend on the interests, competences, and resources of local managers. • Lack of resources may limit monitoring, policy evaluation, research, and innovation

Table 2 Levers of biodiversity mainstreaming

Category/Policy cycle phase	Agenda setting	Policy formulation	Policy implementation
Institutional levers: policies	<ul style="list-style-type: none"> • High level (global, EU) processes, reports, agreements, policies, and strategies are drivers for biodiversity mainstreaming. • Public opinion • Increased scientific understanding of marine ecosystems 	<ul style="list-style-type: none"> • The CFP Transition Package to give MS a sense of prioritization of biodiversity objectives and to increase their ambition and political commitment towards environmental legislation in fisheries policy making • The EU Action Plan (CFP Transition package 2023) supports the achievement of GES and encourages the designation of MPAs. • MSFD and its descriptors, data, and assessment on seafloor integrity provide legitimacy to the EU Action Plan (CFP Transition package 2023). • Guidance document on Natura 2000 and fisheries (by the end of 2024) • The EMFAF Programme brings biodiversity objectives and criteria to fisheries policy and enhances collaboration between fisheries and aquaculture operators with local environmental authorities 	<ul style="list-style-type: none"> • Binding EU legislation is the most effective for the implementation of biodiversity conservation at national level. • The EU Action Plan (CFP Transition package 2023) encourages the designation of MPAs • The Marine Action Plan helps the MS in tradeoffs between conflicting objectives. • The EMFAF Programme supports the implementation of biodiversity objectives • The EMFAF Programme supports collaboration • National strategies (e.g. for ports, fisheries, MPAs) including clear targets facilitate the implementation of biodiversity objectives.



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



		<ul style="list-style-type: none"> • Priority Action framework for Natura 2000 (2021-27) to develop objectives and measures • Strategic biodiversity policies at Regional Seas levels support biodiversity mainstreaming also to non-EU countries 	
<p><i>Institutional levers:: responsibilities</i></p>	<ul style="list-style-type: none"> • Appropriate division of responsibilities between ministries/authorities to avoid separation between marine environmental / biodiversity management and resource management • National body dedicated to biodiversity and/or marine issues 	<ul style="list-style-type: none"> • Appropriate division of responsibilities between ministries/authorities to avoid separation between marine environmental / biodiversity management and resource management 	<ul style="list-style-type: none"> • Appropriate division of responsibilities between ministries/authorities to avoid separation between marine environmental / biodiversity management and resource management
<p><i>Operational/organizational levers</i></p>	<ul style="list-style-type: none"> • Appropriate interactions between organizations for the deliberation of biodiversity issues, involving stakeholders. 	<ul style="list-style-type: none"> • Appropriate interactions and coordination mechanism between organizations in policy formulation, involving stakeholders • Working groups, expert panels, biodiversity platforms to enhance collaboration. • In EC, a new special group established involving fisheries and environmental administrators to follow the progress in biodiversity integration and bring together experts, legislations, frameworks. • Collaboration between DGs in the EC, including the EEA. • The EC will promote a Community of Practice for exchanging views on sustainable offshore renewable energy and for working on joint projects. • Actors at sea basin level to collaborate in developing indicators and cross-consultation. 	<ul style="list-style-type: none"> • Appropriate interactions and coordination mechanisms between organizations for the implementation of biodiversity issues, involving stakeholders • Working groups, expert panels



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



<p>Technical levers</p>		<ul style="list-style-type: none"> Quantitative GES threshold values will link GES to BS (e.g. recommendations of threshold values for seabed integrity communicated in 2023) The GES criteria enhance interest in MSFD and the related expert group Guidance document on Natura 2000 and fisheries Aligning MSFD criteria with the criteria of Birds and Habitats Directives. Monitoring requirements to ensure monitoring and policy evaluation and update. Data sharing and analysis requirements EU Biodiversity platform: Implementation roadmap, monitoring and review mechanism incl. Indicators to facilitate the transfer and implementation of BS goals in regional/national policies Criteria and guidance for MPA designation (Biodiversity platform). Assessments and solutions in transboundary issues (e.g. between sectors such as maritime transport and ecosystems and species at risk e.g. marine mammals) 	<ul style="list-style-type: none"> Quantitative GES threshold values will link GES to BS Guidelines and tools for the implementation of biodiversity objectives Implementation roadmap, criteria, and guidance for MPA designations Consumers and markets to take an active role. Increasing concern for biodiversity Aligning the criteria of monitoring programs (MSFD, CFP, WFD) to support monitoring. Capacity building, training of administrative and technical staff.
	<p>Resource levers</p>	<ul style="list-style-type: none"> Increase Ocean Literacy in schools and among students 	<ul style="list-style-type: none"> The EMFAF programme Financing for biodiversity conservation



5.3. MSP to enhance biodiversity mainstreaming

The study also analyzed the role, potential, and limitations of the MSPD and its practical implementation through the MS's MSP plans for enhancing biodiversity mainstreaming and policy coherence. The BS2030 refers to MSP applying an EBA as an important tool in reducing the adverse impacts of human activities on sensitive species and the seabed. MSP contributes to the operationalization of the MSFD and provides a framework for reducing conflicts and fostering synergies between economic activities in sea areas. MSP plans are subject to SEA and to assessments required by the Habitats and Birds Directives. Thus, all the analyzed EU-policies (BS 2030, MSFD, The CFP Transition package, Renewable Energy Strategy, maritime transport policies) acknowledge the potential of MSP in the conservation of marine environment and biodiversity. The requirement of MSP for cross-border collaboration and stakeholder involvement as well as its interdisciplinary character are considered to enhance the effectiveness of MSP in biodiversity conservation. Furthermore, the study suggests that MSP can serve as a useful tool for communicating the requirements of biodiversity legislation to the users of the sea, and thus enhance the social acceptance of environmental legislation.

In all the studied countries, the MSP legislation acknowledges the importance of ensuring the compatibility of marine activities with the conservation of the environment. In most of them, the MSP legislation also explicitly refers to biodiversity conservation and prioritizes it high (Belgium, Spain, Italy, Portugal, France, Bulgaria). The results suggest that in Belgium, the ambition level of MSP in biodiversity conservation is the highest (level 4) aiming towards the renewing of biodiversity. In Poland, France, Spain, Italy, Estonia, and Portugal, MSP aims to minimize and reduce the negative impacts of human activities on biodiversity (level 2). In Bulgarian MSP, the aim is to retain biodiversity by avoiding impacts (level 1). In general, the EBA and EIA/SEA are important tools for MSP for the evaluation of the environmental impacts of a plan.

The study finds out that despite high prioritization of biodiversity in MSP legislation, the level of ambition in practical planning remains lower. Thus, MSP may have limited effects in achieving the biodiversity goals. The MSPD is implemented in diverse ways, which is a challenge for its effectiveness in environmental conservation. For example, the nature of MSP as a strategic tool without legally binding consequences, as implemented e.g. in Bulgaria, can decrease its effectiveness in sustaining biodiversity. The differing approaches between countries also complicate transboundary collaboration. The study also suggests that MSP poorly supports balanced decisions between the marine environment and the economic activities, and that stakeholder pressure may lead to prioritizing economic issues above biodiversity. The ambiguity of the concept of EBA and its incoherent role in MSP, and the missing threshold values for GES reduce the usefulness of MSP as a tool for biodiversity conservation and mainstreaming. Moreover, siloed policy making, poor coordination between issues, lack of public participation, and centralized planning are considered problems that limit the possibilities of MSP in biodiversity conservation. MSP lacks possibilities to influence sectoral decision-making, which further limits its capacity as a coordinating mechanism for marine biodiversity mainstreaming. In some cases, MSP is poorly known among the environmental



stakeholders and even disregarded as an integrated tool for pursuing GES and the objectives of BS2030.

The MSP arrangements of the countries also differ in their approach to MPA. In Belgium, the MSP defines MPA boundaries and strives to reduce the impacts of human activities on MPAs. In France, MSP implements the BS2030 target of 30% MPAs including 10% strictly protected areas by identifying candidate areas, yet the designations must follow a regulatory process. In the other studied countries, MSP does not have a significant role in designating MPAs (Spain, Poland, Estonia, Bulgaria), yet MSP can recommend new MPAs or at least indicate areas of high nature value. Missing mechanisms to connect MSP with actions focusing on biodiversity (e.g. establishment of new protected areas, OECMs and effective management of protected areas) is considered a problem.

The RSCs with their strategies and plans aiming to protect the marine environment provide forums to facilitate the implementation of MSP, and as part of that, to enhance biodiversity mainstreaming. However, the RSCs are not similar in the way they include MSP in their work. The HELCOM works actively on MSP, the EBA, and the integration of ecosystem and biodiversity considerations in MSP. It has adopted Regional Maritime Spatial Planning Roadmaps for 2013-2020 and more recently for 2021-2030 including actions to enhance MSP's contribution to biodiversity conservation and sustainable use. Also, the Barcelona Convention deals with MSP and highlights the importance of the EBA. In contrast, OSPAR does not explicitly include MSP in its work, yet possibilities especially for the coordination of MPAs in relation to the development of wind farms are insighted, given that the Contracting Parties would support that. Neither has the Black Sea Commission explicitly incorporated MSP in its work. However, it has supported the implementation of the MSPD in the cross-border issues between Bulgaria and Romania.

The identified barriers that may limit the potential of MSP in biodiversity mainstreaming and levers that support its role in biodiversity mainstreaming are listed in Tables 3 and 4. The Tables are structured similarly as Tables 1 and 2, to follow the logic of a policy process and to group institutional, operational/organizational, technical, and resource-related factors.

Table 3 MSP as a tool for biodiversity mainstreaming: barriers

	Agenda setting	Policy formulation	Implementation
Institutional barriers: policies	<ul style="list-style-type: none"> MSPD allows variable governance arrangements and procedures which can compromise the pursuit of environmental objectives. MSPD and national MSP guidelines leave room for interpretation for the implementation. Economic objectives of MSP contradict BD conservation. 	<ul style="list-style-type: none"> MSPD and national MSP guidelines leave room for interpretation regarding the prominence of MSP as a coordinating mechanism. Consolidating EBA in MSP is challenging. Fisheries aspect weak in MSPD. All RSCs do not work explicitly with MSP 	<ul style="list-style-type: none"> MSPD and national MSP guidelines leave room for varying implementations. Balancing between different uses of the sea including biodiversity conservation is challenging (especially in small sea areas hosting many activities).



	<ul style="list-style-type: none"> MSFD PoM does not (in some countries) view MSP as a tool and a policy process to reach the objectives of MSFD. MSP values BD from the perspective of natural capital and ecosystem services instead of BD as such. 	<p>(OSPAR, Black Sea Convention).</p> <ul style="list-style-type: none"> Designating MPAs and MSP are separate processes (in most countries). Priorities set short-sighted instead of following a long-term strategy. Lack of pre-established, clear and mandatory mechanisms to connect MSP provisions, monitoring, and adaptation with actions focusing on biodiversity 	
<p>Institutional barriers: responsibilities</p>		<ul style="list-style-type: none"> MSP does not have mandate to operate as a mechanism for biodiversity mainstreaming Minimizing negative impacts through MSP can be difficult as MSP cannot interfere with other policies -> siloed policy making. MSP has no or limited mandate to designate MPAs (most countries) MSP does not contribute to drafting biodiversity policies. 	<ul style="list-style-type: none"> MSP not involved in MPA designation.
<p>Operational/organizational barriers</p>		<ul style="list-style-type: none"> Coordination between policy domains even within the same ministry can be weak. Centralized MSP process is difficult to participate at regional level which can lead to undermining the goals of marine regions and to using MSP as a tool to avoid conflicts rather than to create sustainability visions and sector-specific objectives and measures. Lack of coordination (and leadership) hampers dialogue between regional and national levels 	<ul style="list-style-type: none"> Transboundary collaboration in MSP is challenging as each country has its own MSP approach. Missing mechanisms for public participation in MSP. Centralized MSP process is difficult to participate at regional level which can lead to undermining the goals of marine regions and to using MSP as a tool to avoid conflicts rather than to create sustainability visions and sector-specific objectives and measures. Lack of coordination (and leadership) hampers dialogue between regional and national levels



<p>Technical barriers</p>		<ul style="list-style-type: none"> • Ambiguity of the concept of EBA hampers biodiversity considerations in MSP. • Linking BS2030, the nature restoration law and MSFD with the MSPD is challenging. 	<ul style="list-style-type: none"> • Missing threshold values for GES weaken the link between MSP(D) and MSFD. • Nature Inclusive Design not yet included in the framework of nature conservation and restoration / MSP but could be considered in MSP. • Practical MSP implementation process (design, approval, monitoring) uncertain in addressing BD, given the requirement to balance demands of different sectors and the strategic nature of current draft plans. • Strategic nature of MSP may decrease ambition in biodiversity conservation. • Lack of mechanisms to connect MSP with actions focusing on BD • Lack of tools to address climate change through MSP • GES targets (aiming to ensure ecosystem services) are not the same as biodiversity as such (species, habitats, ecosystems) • MSFD indicators are poorly operational • Stakeholder pressure at regional level leads to prioritizing socio-economic issues which results in 'biodiversity pockets' in areas not of interest to economic sectors whereas in threatened areas human impacts may increase. • The use of decision support tools in MSP is limited by data availability, complexity, and uncertainty.
<p>Resource barriers</p>		<ul style="list-style-type: none"> • Limited human and financial resources for the coordination of MSP, given many competing issues in the political agenda of the responsible ministry. 	<ul style="list-style-type: none"> • Poor quality SEA/EIA is a risk to biodiversity • Lack of funding allocated to SEA/EIA can lead to poor quality reports.

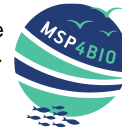


Table 4 MSP as a tool for biodiversity mainstreaming: levers

	Agenda setting	Policy formulation	Implementation
Institutional levers: policies	<ul style="list-style-type: none"> • BS2030 refers to MSP as a tool for reducing human impacts on species and habitats • MSP as a tool for the operationalization of important elements of MSFD and BD protection • CFP Transition package acknowledges the role of MSP in the coordination of maritime activities (incl. fisheries and aquaculture) within and between MS • EU Offshore Renewable energy strategy acknowledges the role of MSP in the protection of vulnerable ecosystems in line with GES. • EU Offshore renewable energy strategy, MSPD, and MSFD share the requirement for cross-border collaboration. • HELCOM integrates biodiversity considerations into MSP in the Baltic Sea region, promotes EBA, and aligns MSP with GES goals. e.g. through the Regional MSP Roadmap 2021-2030 • Barcelona Convention integrates EBA in MSP in the Mediterranean region, aligning it with GES objectives • Policies should explicitly acknowledge the role of MSP in aligning conflicting objectives. • National biodiversity strategies to explicitly acknowledge MSP as a tool to reach the biodiversity objectives 	<ul style="list-style-type: none"> • MSPD requires the use of EBA and supports the MSFD in the pursuit of GES • MSPD encourages the consideration of protected areas and ecosystems • EU Offshore Renewable energy strategy recognizes the significance of public consultation for environmental and socio-economic assessments and in MSP • MSPs subject to SEA and assessments required by Habitats and Birds Directives • HELCOM integrates biodiversity considerations into MSP in the Baltic Sea region, promotes EBA, and aligns MSP with GES goals. e.g. through the Regional MSP Roadmap 2021-2030 • HELCOM as a framework to facilitate communication and to establish environmental objectives (e.g. BSAP) including recommendations. • Barcelona Convention integrates EBA in MSP in the Mediterranean region, aligning it with GES objectives • Preparation of national guidelines for MSP to highlight the importance of increasing the role of BD. • Monitoring system to be developed for MSP. • EBA for MSP highlights the functioning of the ecosystem and broad-based expertise and interests. • Linking the preparation of biodiversity policies with the preparation of MSP plans 	<ul style="list-style-type: none"> • HELCOM integrates BD considerations into MSP in the Baltic Sea region, promotes EBA, and aligns MSP with GES goals. e.g. through the Regional MSP Roadmap 2021-2030 • Barcelona Convention integrates EBA in MSP in the Mediterranean region, aligning it with GES objectives and can thus facilitate the implementation of biodiversity objectives in MSP.
Institutional levers: responsibilities		<ul style="list-style-type: none"> • The same ministry responsible for biodiversity conservation and for MSP supports the 	<ul style="list-style-type: none"> • MSP takes into account existing and planned MPAs



<p>Operational/organizational levers</p>		<p>implementation of biodiversity objectives in MSP.</p> <ul style="list-style-type: none"> • MSP has a right to recommend MPAs. • MSP has a right to establish IUCN areas. • The same authority responsible for MSP, biodiversity conservation and marine environmental strategy provides favorable conditions for enhancing policy coherence. • MSP process could contribute to identify areas for the implementation of the BS targets (30%/10%) 	
		<ul style="list-style-type: none"> • Collaboration between EU biodiversity authorities (DG Env) and MSP authorities (DGMARE) to link BS2030, nature restoration law and MSFD to MSP • EU Strategy for the Baltic Sea Region working group "Policy Area Spatial Planning" supports the integration of BD into MSP (and to sector policies). • Stakeholder involvement to ensure broad perspective to MSP. • Interdisciplinarity important for broad perspective to MSP. • Consultations between biodiversity and MSP authorities would be important as MSP brings together different policies affecting marine areas. 	<ul style="list-style-type: none"> • RSCs to coordinate cross-border MSP to enhance policy coherence (e.g. between offshore energy and environmental policies) • EC aims to support MS in MSP in the preparation and implementation of MSPs and marine strategies. • Cross-border issues in MSP considered more relevant for RSCs than national MSP (OSPAR) • HELCOM Working Groups, such as HELCOM-VASAB, foster cross-sector coordination and support biodiversity monitoring and conservation efforts. • Barcelona Convention establishes a working group on MSP e.g. to support integration of EBA in MSP in the Mediterranean region and to support transboundary cooperation • Consultation with the fisheries sector in MSP to ensure conservation and management of fishery resources. • Inter-ministerial MSP working group to coordinate MSP planning involving sector agencies. • Open stakeholder participatory mechanism for each MSP region to represent the regions in



Technical levers			<p>(centralized) MSP processes.</p> <ul style="list-style-type: none"> MSP or other sea-related regional/local authorities of the MSP areas to be involved in the (centralized) MSP process.
	<ul style="list-style-type: none"> The EU offers methodological guidelines for assessing the impacts of MSP. EMODnet to be developed as a repository for harmonized data to support MSP. The EC will analyze interactions between offshore renewable energy and other uses of the seas HELCOM Working Groups, such as HELCOM-VASAB, foster cross-sector coordination and support biodiversity monitoring and conservation efforts. (HELCOM-VASAB EBA guideline) Established ecosystem-based approach (the EU guideline) Established SEA ensure that negative impacts are avoided Clarify the guidelines to use EBA in MSP. 	<ul style="list-style-type: none"> Efforts to consolidate the practical use of EBA in MSP Threshold values for GES to set clear ecological boundaries for MSP planning Guidelines needed for MSP planners and blue economy operators for the implementation of biodiversity objectives in MSP. OSPAR sees potential for MSP in coordination of spatial use of the sea in relation to MPAs HELCOM collects and disseminates biodiversity data and advocates the adoption of conservation measures Barcelona Convention collects biodiversity data (also within IMAP) that could be used for MSP as well MSP is considered useful for communicating the requirements of biodiversity legislation to sea users. MSP helps to create social acceptance for the environmental directives. Natura 2000 and MSFD provide long-term perspective to MSP Evidence-based Nature Inclusive Design to be included in the framework of nature conservation /MSP. Public consultation indicates a need to increase the ambition of MSP in addressing biodiversity. Explicit operational connection between MSP 	



			<p>and BS2030, Habitat and Birds Directive, MPA designation and management should be introduced.</p> <ul style="list-style-type: none"> • Consensus on assessments and solutions in transboundary issues needed. • Decision support tools to assist decision making in different phases of MSP process. • Application of EBA and SEA important for MSP. • MSP to explicitly address MPAs. • Develop a monitoring system directed to climate change in MSP • Link the preparation of new biodiversity programs with the preparation of MSP plans

5.4. Conclusions

Policy ambitions

- Biodiversity is well addressed in the environmental policies of the EU, the regional sea, and national levels.
- The environmental policies, also at the national level, acknowledge the requirement to integrate biodiversity objectives in all sector policies, strategies, and practices. However, the actual integration varies between countries and between sectors.
- Even if biodiversity objectives are integrated into national sector policies, significant gaps in their implementation exist. Prioritization of economic issues over biodiversity was evident in many of the studied cases.

Barriers

- Institutional barriers to biodiversity mainstreaming relate to conflicting objectives, inflexible policies, ambiguous or inadequate policy formulation, and unclear, missing, or incompatible responsibilities.
- Operational barriers relate to weak coordination between governance levels, organizations, sectors, regions, or actor groups.



- Technical barriers were found in assessment methods, poorly fitting environmental policies to the specifics of sectors (aquaculture), lack of data owing to missing monitoring and reporting (requirements) regarding biodiversity, and lack of knowledge.
- Threshold values for GES are partly missing and the existing values are not easy to turn into protection measures. Ambiguity of EBA hampers the potential of MSFD and MSPD to support the achievement of biodiversity objectives.
- Resource barriers relate to financial constraints and lack of human resources.

Levers

- International/EU policies are efficient drivers for biodiversity mainstreaming. Practical guidelines and binding requirements support policy making and implementation.
- Collaboration across governance levels and sectors is a key for biodiversity mainstreaming.
- Funding schemes leverage biodiversity mainstreaming.

MSP's roles

- The potential of MSP to support biodiversity mainstreaming is well acknowledged.
- Biodiversity is highly prioritized in the national MSP legislation and plans, but the level of ambition in operationalizing the biodiversity related aims remains lower.
- Largely similar issues that hamper biodiversity mainstreaming also reduce the effectiveness of MSP in biodiversity mainstreaming. Conflicting objectives, lack of coordination between sectors, ambiguity of EBA, and the missing GES values are identified as typical barriers for MSP to facilitate biodiversity mainstreaming.
- Mechanisms to connect MSP with actions focusing on biodiversity are needed.
- The RSCs value biodiversity highly and provide frameworks for supporting their contracting parties in biodiversity conservation and in MSP. This would require enhancing commitment of the countries and sectors to collaborate around biodiversity.

6. Next steps

Following the biodiversity mainstreaming analysis of Task 6.1, the next step will be to systematically formulate recommendations in Task 6.2. This will begin with an in-depth analysis of the identified barriers, levers, and indicators at different levels together with an investigation of the deliverables produced in WP2, WP4 and WP5 of MSP4BIO. The following analysis will use the same categorization (institutional, operational/organizational, technical, and resource related) for barriers and levers that was used in D6.1.



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



A participatory approach will be employed to identify and discuss potential levers for change within policy frameworks, thereby converting barriers and levers into opportunities for mainstreaming biodiversity. The next stage involves collaborative brainstorming and creative thinking to generate example solutions to address these policy barriers. This stage is critical for leveraging the collective knowledge of participants, encouraging the sharing of successful strategies and good practices from various sea basins where effective levers have been implemented. This process will then highlight policy solutions and good practices that promise rapid progress towards biodiversity protection targets, pinpointing quick-win solutions that can be easily implemented for early achievements (i.e., low hanging fruits). Task 6.1 identified several institutional barriers to the mainstreaming of biodiversity at the national, regional seas, and the EU levels. Solving some of these barriers would require revision of policies or even amendments of legislation, which are rather slow processes. The development of solutions in Task 6.2 will identify also such, more substantial policy developments.

The solutions to be developed in Task 6.2 will be ranked in terms of feasibility, impact, urgency, and their potential for biodiversity protection and restoration, utilizing a comparison table for clarity. An integral part of this process will be the Science-Policy Dialogues (Task 6.3) that will be realized to gain diverse perspectives and insights to enrich the recommendations. Finally, the exercise will identify which actors will benefit from these recommendations, ensuring that the proposed solutions are targeted and effective, ultimately contributing to a coherent and comprehensive policy approach for biodiversity protection.



Bibliography

Candel J.J.L., Princen S., and Biesbroek R. 2023. Patterns of coordination in the European Commission: an analysis of interservice consultations around climate change adaptation policy. *Journal of European Public Policy* 30(1): 104-127. <https://doi.org/10.1080/13501763.2021.1983008>

Cliquet A., Schoukens H., and Lecomte L. 2012. The conservation of Belgian marine Natura 2000 sites: the first steps into a brave new world? In K. Belpaeme, O. McNeel, T. Vanagt, & J. Mees (Eds.), *VLIZ Special Publication* (pp. 59–61). Ostend, Belgium: VLIZ. <http://hdl.handle.net/1854/LU-4090111>

Eisenack K., Moser S.C., Hoffmann E., Klein R.J.T., Oberlack C., Pechan A., Rotter M., and Termeer C.J.A.M. 2014. Explaining and overcoming barriers to climate change adaptation. *Nature Climate Change* 4: 867-872.

European Environment Agency (EEA 2017). *Climate change, impacts and vulnerability in Europe 2016. An indicator-based report.* EEA Report No 1/2017. <https://www.eea.europa.eu/publications/climate-change-impacts-and-vulnerability-2016>

European Environment Agency (EAA) 2020. *State of nature in the EU. Results from reporting under the nature directives 2013-2018.* EEA Report No 10/2020. [State of nature in the EU — European Environment Agency \(europa.eu\)](https://www.eea.europa.eu/state-of-nature)

EMTER 2021. *European Maritime Transport Environmental Report 2021.* European Maritime Safety Agency (EMSA) and European Environment Agency (EAA). doi:10.2800/3525 <file:///C:/Users/E1009133/Desktop/EMSA%20ja%20EAA.pdf>

Geldmann J., Deguignet M., Balmford, A., Burgess N.D., Dudley N., Hockings M., Kingston N., Klimmek H., Lewis A.H., Rahbek C., Stolton S., Vincent C., Wells S., Woodley S., and Watson J.E.M. 2021. Essential indicators for measuring site-based conservation effectiveness in the post-2020 global biodiversity framework. *Conservation Letters* 14:e12792.

Haapasaari P., Helle I., Lehtikoinen A., Lappalainen J., and Kuikka S. 2015. A proactive approach for maritime safety policy making for the Gulf of Finland: seeking best practices. *Marine Policy* 60: 107-118. <https://doi.org/10.1016/j.marpol.2015.06.003>

Haapasaari P. and van Tatenhove J. 2022. A Finnish regional non-binding MSP approach: What are the consequences for integrating Blue Growth and GES? *Marine Policy* 141: 105101. <https://doi.org/10.1016/j.marpol.2022.105101>

Hillmer-Pegram K. and Robards M.D. 2015. Relevance of a Particularly Sensitive Sea Area to the Bering Strait Region: a policy analysis using resilience-based governance principles. *Ecology and Society* 20(1): 26. <http://dx.doi.org/10.5751/ES-07081-200126>



Huntley, B.J. and Redford, K.H. 2014. 'Mainstreaming biodiversity in Practice: a STAP advisory document'. Global Environment Facility, Washington, DC. http://www.thegef.org/sites/default/files/publications/Mainstreaming-Biodiversity-LowRes_1.pdf

IPBES 2019. Summary for policymakers of the global assessment report on biodiversity and ecosystem services. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). S. Díaz, J. Settele, E. S. Brondízio E.S., H. T. Ngo, M. Guèze, J. Agard, A. Arneeth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany. 56 pages.

Jann W. and Wegrich K. 2007. Four theories of the policy cycle. In: Handbook of Public Policy Analysis. Editors: Frank Fischer, Gerlad J. Miller, Mara S. Sidney. Chapter 4. CRC Press. DOI: 10.1201/9781420017007.pt2

Kapos, V., Balmford A., Aveling R., Bubb P., Carey P., Entwistle A., Hopkins J., Mulliken T., Safford R., Stattersfield A., Walpole M., and Manica A. 2008. Calibrating conservation: new tools for measuring success. *Conservation Letters* 1:155-164.

Karlsson-Vinkhuyzen S., Kok M.T.J., Visseren-Hamakers I.J., and Termeer C.J.A.M. 2017. Mainstreaming biodiversity in economic sectors: an analytical framework. *Biological Conservation* 210: 145-156. <http://dx.doi.org/10.1016/j.biocon.2017.03.029>

Karlsson-Vinkhuyzen S., Boelee E., Cools J., van Hoof L., Hospes O., Kok M., Peerlings J., van Tatenhove J., Termeer C.J.A.M., and Visseren-Hamakers I.J. 2018. Identifying barriers and levers of biodiversity mainstreaming in four cases of transnational governance of land and water. *Environmental Science and Policy* 85: 132-140. <https://doi.org/10.1016/j.envsci.2018.03.011>

Kinds A., Sys K., Schotte L., Mondelaers K., and Polet H. 2016. VALDUVIS: An innovative approach to assess the sustainability of fishing activities. *Fisheries Research* 182: 158-171. <https://doi.org/10.1016/j.fishres.2015.10.027>

Kingma I. and Walker, P. 2021. Was Article 11 of the CFP doomed to fail? Report produced by Ocean Future Collective for Oceana. Amsterdam, The Netherlands. 53 pp. https://europe.oceana.org/wp-content/uploads/sites/26/2022/10/report_for_oceana_was_article_11_of_the_cfp.pdf

Kivimaa P, and Mickwitz P. 2006. The challenge of greening technologies: environmental policy integration in Finnish technology policies. *Research Policy* 35(5):729–744. doi:10.1016/j.respol.2006.03.006



Knill C, and Tosun J. 2008. Policy making. Chair of Comparative Public Policy and Administration Department of Politics and Management, University of Konstanz. Working paper 1/2008. Also published as: Christoph Knill/Jale Tosun: Policy Making. In: Daniele Caramani (ed.), Comparative Politics. Oxford: Oxford University Press, 2008, pp. 495-519.

Kuronen J. and Tapaninen U. 2010. Evaluation of maritime safety policy instruments. *WMU Journal of Maritime Affairs* 9(1): 45-61.

Leadley, P.W., Krug, C.B., Alkemade, R., Pereira, H.M., Sumaila U.R., Walpole, M., Marques, A., Newbold, T., Teh, L.S.L, van Kolck, J., Bellard, C., Januchowski-Hartley, S.R. and Mumby, P.J. (2014): Progress towards the Aichi Biodiversity Targets: An Assessment of Biodiversity Trends, Policy Scenarios and Key Actions. Secretariat of the Convention on Biological Diversity, Montreal, Canada. Technical Series 78, 500 pages.

Lefebvre-Chalain, H. 2007. Fifteen Years Of Particularly Sensitive Sea Areas: A Concept In Development. *Ocean and Coastal Law Journal*, 13(1): 46-69

Long R.D., Charles A., and Stephenson R.L. 2015. Key principles of marine ecosystem-based management. *Marine Policy* 57: 53-60.
<https://doi.org/10.1016/j.marpol.2015.01.013>

Milner-Gulland E.J., Addison P., Arlidge W.N.S., Baker J., Booth H., Brooks T., Bull J.W., Burgass M.J., Ekstrom J., zu Ermgassen S.O.S.E., Fleming L.V., Grub H.M.J., von Hase A., Hoffmann M., Hutton J., Juffe-Bignoli D., ten Kate K., Kiesecker J., Kumpel N.F., Maron M., Newing H.S., Ole-Moiyoi K., Sinclair C., Sinclair S., Starkey M., Stuart S.N., Tayleur C., and Watson J.E.M., 2021. Four steps for the Earth: mainstreaming the post-2020 global biodiversity framework. *One Earth* 4(1): 75-87.
<https://doi.org/10.1016/j.oneear.2020.12.011>

Patton M.Q. 2002. Qualitative research and evaluation methods (3rd ed). Thousand Oaks, California.

Persson Å., Runhaar H., Karlsson-Vinkhuyzen S., Mullally G., Russel D., and Widmer A. 2018, Editorial: Environmental policy integration: taking stock of policy practice in different contexts. *Environmental Science and Policy* 85: 113-115.
<https://doi.org/10.1016/j.envsci.2018.03.029>

Puspitawati, D., & Wardana, R. V. 2022. IMO's Guidelines on Particular Sensitive Sea Areas toward the Protection of Underwater Cultural Heritage. *Media Iuris*, 5.

Reimer J.M., Devillers R., Trouillet B., Ban N.C., Agardy T., and Claudet J. 2023. Conservation ready marine spatial planning. *Marine Policy* 153: 105655.
<https://doi.org/10.1016/j.marpol.2023.105655>



Roe M.S. 2008. Safety, security, the environment and shipping: The problem of making effective policies. *WMU Journal of Maritime Affairs* 7(1): 263-279.

Runhaar H., Driessen P., and Uittenbroek C. 2014. Towards a systematic framework for the analysis of environmental policy integration. *Environmental Policy and Governance* 24: 233-246. DOI: 10.1002/eet.1647

Russel D.J., den Uyl R.M., and de Vito L. 2018. Understanding policy integration in the EU – Insights from a multi-level lens on climate adaptation and the EU's coastal and marine policy. *Environmental Science and Policy* 82: 44-51. <https://doi.org/10.1016/j.envsci.2017.12.009>

Secretariat of the Convention on Biological Diversity (SCBD) 2005. Handbook of the Convention on Biological Diversity including its Cartagena protocol on biosafety. 3rd edition. Updated to include the outcomes of the 7th meeting of the Conference of the Parties to the Convention and the 1st meeting of the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety. CBD, UN, UNEP. <file:///D:/Users/E1009133/Downloads/cbd-hb-all-en.pdf>

Schleyer C. Görg C., Hauck J., and Winkler K.J. 2015. Opportunities and challenges for mainstreaming the ecosystem services concept in the multi-level policy-making within the EU. *Ecosystem Services* 16: 174-181.

Tokarczyk-Dorociak K., Kazak J.K., Haladyj A., Szewranski S., and Swiader M. 2019. Effectiveness of strategic environmental assessment in Poland. *Impact Assessment and Project Appraisal* 37(3-4): 279-291. <https://doi.org/10.1080/14615517.2019.1601441>

Trouillet, B., and S. Jay. 2021. The complex relationships between marine protected areas and marine spatial planning: Towards an analytical framework. *Marine Policy* 127:104441.

Uittenbroek C.J., Janssen-Jansen L.B., and Runhaar H.A.C. 2012. Mainstreaming climate adaptation into urban planning: overcoming barriers, seizing opportunities and evaluating the results in two Dutch case studies. *Regional Environmental Change* 13: 399-411. <https://doi.org/10.1007/s10113-012-0348-8>

UN Conference on Trade and Development (UNCTAD) 2023. Review of Maritime Transport 2023. <https://unctad.org/publication/review-maritime-transport-2023>

UN Environment Programme (UNEP) 2023. Regional Seas Programme. <https://www.unep.org/explore-topics/oceans-seas/what-we-do/regional-seas-programme#:~:text=The%20Regional%20Seas%20Conventions%20and,sources%20of%20pollution%2C%20for%20example>

Van den Burg S., Chouchane H., Kraan M., Selnes, Roebeling P., Bogers M., Neumann T., Finello F., Pirlot A., Giraud L., Arora G., Roostenberg T., and Viana de Miranda A.



This project has received funding from the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



2022. Assessment of the relevance and effect of the Maritime Spatial Planning Directive in the context of the European Green Deal. Final report. Wageningen Research, Deloitte and Ramboll. European Commission, Contract number: EASME/EMFF/ 2019/1.3.1.6.

van Tatenhove J. 2011. Integrated marine governance: questions of legitimacy. *MAST* 10(1): 87-113.

Varjopuro, R., and M. Hildén. 2022. Marine environment and sustainable development governance. Pages 95-114 in D. Russel and N. Kirsop-Taylor, editors. *Handbook on the Governance of Sustainable Development*. Edward Elgar, Cheltenham, UK.

Whitehorn P.R., Navarro L.M., Schröter M., Fernandez M., Rotllan-Puig X., and Marques A. 2019. Mainstreaming biodiversity: a review of national strategies. *Biological Conservation* 235: 157-163.

Withouck I., Rombouts I., De Raedemaecker F., Gutierrez D., Calado H., Costa A.C., Pegorelli C., Garcia Sanábria J., Garcia Onetti J., de Andres M., Stancheva M., Stanchev, H., Spinu A., Boudy C., Alloncle N., Magaldi M., Sciascia R., Barbanti A., Randone M., Pınarbaşı K., Blazauskas N., Kotta J., Lukic I., Stojanovic I. (2023) Site specific gaps and opportunities to support knowledge-based MSP (Deliverable – D5.1, under the WP5 of MSP4BIO project (GA n° 101060707)).