CrossGov

Coherent & Cross-compliant Ocean Governance for Delivering the EU Green Deal for European Seas

Summary Report

North Adriatic Case Study

The CrossGov Project

CrossGov is a three-year research Project funded by the European Union's Horizon Europe Program. The project aims to enhance knowledge on how coherence and cross-compliance of marine-related policies and legislation affect realising the EU Green Deal goals for biodiversity protection, zero pollution, and climate change adaptation and mitigation.

The project conducts case studies in various European marine regions, including the Adriatic Sea, Baltic Sea, Dutch North Sea, Finnish Archipelago, French Mediterranean Sea, German North Sea, Mediterranean Sea, and Oslo Fjord.

By examining these diverse marine environments, CrossGov seeks to identify best practices and develop strategies that promote sustainable ocean governance, ensuring that marine policies are effectively integrated and coherently implemented across Europe.

More info on the project is available at this link. The page of the North Adriatic case study is available here.

The North Adriatic Sea case study

The case study covers the Italian Northern Adriatic, from Friuli Venezia Giulia to Veneto and Emilia Romagna, including marine areas between the Italian coastline and the continental shelf boundary set with Slovenia and Croatia. It extends to land, incorporating major river watersheds like the Po, Adige, and Isonzo, whose freshwater inflow and nutrients shape the region's high productivity and oceanographic characteristics (Cozzi & Giani, 2011).

The area supports multiple maritime activities, such as fishing, aquaculture, tourism, maritime transport, offshore gas extraction, offshore sand extraction, coastal defence, military training operations, etc. Intense fishing pressure due to bottom trawling and hydraulic dredging for shellfish has largely impacted marine benthic habitats (Pranovi et al., 2000), although some improvements have been recently provided by the implementation of the CFP and the GSA 17 management plans. The activity still plays an important socio-economic role for coastal communities and includes both large and small-scale fisheries. The Northern Adriatic is a key region for shellfish farming in Italy, with the highest density of long-line mussel farms, supported by favourable trophic conditions from major rivers. Approximately 60,000 tons of Mediterranean mussels (*Mytilus galloprovincialis*) are produced annually in this area (Veneto Agricoltura, 2022), along with significant clam farming (*Ruditapes philippinarum*) in coastal wetlands and extensive fish farming in the Venice lagoon. Tourism is another major sector, with the northern Adriatic being one of Italy's main summer destinations. The region offers a wide range of coastal and maritime tourism types, including seaside tourism, cruising, yachting, recreational boating, sports tourism, and to a lesser degree eco-tourism, recreational fishing and pesca-tourism, alongside cultural and historical visits. Lastly, the maritime economy of the area has historically been tied to maritime transport, including commercial, passenger, and cruise sectors. As a maritime hub in the Mediterranean, the Northern Adriatic plays a crucial role in both intercontinental and intra-Mediterranean transport. At the same Northern Adriatic hosts important biodiversity hotspots (such as coastal wetlands and rocky outcrops habitats) and megafauna species (*Tursiops* and *Caretta caretta* in particular). As a climate change hot spot, the region faces coastal risks like flooding, erosion, and saltwater intrusion, underscoring the importance of integrated land-sea management.

The Italian portion of the Northern Adriatic Sea is a crowded area where the marine space is characterised by several different uses. Policy and planning integration is essential to ensure the proper and coherent management of such a complex system. Therefore, the study examines:

(i) the synergies and conflicts in implementing the Marine Strategy Framework Directive (MSFD), Water Framework Directive (WFD), and Maritime Spatial Planning Directive (MSPD) in the region, considering governance and coordination mechanisms at different levels;
(ii) whether the integrated implementation of these directives contributes coherently to EU Green Deal goals related to biodiversity conservation;
(iii) whether the directives include objectives and measures aimed at supporting the sustainable management of fisheries and aquaculture sectorial activities, given the socio- economic importance of these sectors for local communities of the region;
(iv) whether sectoral policies for aquaculture and fisheries adequately address sustainability, aligning with the requirements set by the MSFD, WFD, and MSPD to deliver healthy marine ecosystems;
(v) if and how fisheries and aquaculture policies contribute to biodiversity conservation;
(vi) what is the role and functioning of Science-Policy-Society Interfaces (SPSIs) in supporting a) the coherent implementation of MSFD, WFD, MSPD and how well these contribute to the realisation of the key biodiversity-related GD objectives; b) the internalisation of biodiversity EGD goals into sectoral policies of fisheries and aquaculture.

This case study has been conducted using document analysis and stakeholder engagement through eight semi-structured interviews and two questionnaires.

1) Synergies and conflicts in the integrated implementation of MSFD, WFD and MSPD

Time plays a crucial role in fostering the continuous integration of the WFD, MSFD, and MSPD policies. The WFD transposed in 2006, introduced ecological goals for marine waters alongside chemical ones. The MSFD transposed in 2010, integrated WFD objectives with additional marine-focused environmental goals like litter reduction and underwater noise management. The MSPD, transposed in 2016, seeks to manage conflicts and foster synergies among marine uses, at the same time aiming for a good environmental status (GES) through an ecosystem-based approach. Progressive integration is likely, though MSPD is not explicitly considered yet in WFD and MSFD objectives and measures.

Partial alignment exists between the WFD and MSFD, particularly regarding eutrophication. MSFD Descriptor 5 refers to WFD targets for reducing nutrient inputs from rivers, which is crucial for regions like the Northern Adriatic. Additionally, both policies align on chemical standards (Descriptors 8 and 9) (DM 22/03/2019). The MSP Adriatic Plan (DM 07/10/2024) aims at integrating measures supporting MSFD goals as stressed by its strategic objective OS_N|03. Other MS plan strategic objectives directly relate to MSFD, such as the one aiming at supporting the enlargement of protected areas at 30%, of which 10% are strictly protected (OS_N|2) and the one improving the alignment of coastal defence strategies with flood risk management (OS_DC|01) thus contributing to the integration of land-sea interaction (LSI) aspects, towards integrated management of the coast.

Integration is supported by shared measures in implementation programs. The MSFD's second-cycle Programme of Measures - PoM (DPCM 07/10/2022) includes measures from the WFD's Water Management Plans, such as pesticide regulation and coastal water quality management (MADIT-M067, MADIT-M056, MADIT-M068, MADIT-M069, MADIT-M070). The MS plan identifies 80 measures at the national level and for 17 of these it underlines how these are linked and integrated with those of the PoM, therefore contributing to MSFD. Coordinated actions like the establishment of MSFD-MSP working groups and the enhancement of coastal management strategies exemplify efforts toward policy coherence.

Monitoring fosters cross-policy fertilization. MSFD monitoring activities build on WFD indicators (e.g., nutrient concentrations), while the MSP monitoring plan integrates existing monitoring frameworks including those deriving from WFD and MSFD (see Chapter 7 – Phase 5 of the MS plan). Data exchange between MSFD and MSP has supported environmental status assessments and impact analysis (see Chapter 3 – Phase 1 and Chapter 4 - Phase 2 of the MS plan).

Organizational structures show some coordination. The Ministry of the Environment and Energy Security (MASE) is the Competent Authority MSFD, while District Basin Authorities are the ones responsible for WFD, with the support of Regions. In both cases, ISPRA and ARPAs are supporting the implementation and conducting monitoring according to both directives. The Ministry of Infrastructures and Transport (MIT) is the Competent Authority for MSPD. The MSP Technical Committee which was set in 2016 (Legislative Decree n. 201/2016) to co-develop the MS plans provides a structured governance framework involving multiple ministries (including MASE) and regions, favouring horizontal and vertical coordination.

Despite these remarkable experiences, full collaboration and integration across the three policies remain fragmented and require additional reinforcement, facing important challenges. Differences in objectives, timeframes, and scales hinder full alignment. Spatial overlaps exist, but each policy applies distinct scales and classifications, which may cause misalignments. Lastly, stakeholder engagement happens in silos for each policy and is often limited to formal consultations with minimal

active participation. Public involvement is sometimes hindered by inaccessible information and insufficient awareness campaigns, leaving these policies primarily relevant to experts.

2) *How the implementation of MSFD, WFD and MSPD through plans in the Italian Northern Adriatic Sea coherently contribute to EGD aspects related to biodiversity conservation*

Among the three policies, the MSFD is central to biodiversity conservation, with Descriptor 1 playing a pivotal role. In particular, its second-cycle targets align with the EU Biodiversity Strategy 2030, contributing to nature protection and restoration (e.g., improving conservation of habitats and effective management of protected areas, reducing fishing impacts and managing invasive species). The WFD also supports biodiversity goals, although more indirectly. As requested by the WFD and specific EC Guidelines (European Commission, 2023), all four analysed Water Management Plans[1] incorporate a so-called Register of Protected Areas. This register identifies areas – at land and/or sea – with specific functions and therefore requiring specific monitoring programmes. These areas include Natura 2000 sites and other areas as those designated for bathing, suitable for fish life, or shellfish life. Lastly, the MS plan integrates biodiversity goals in its strategic objectives, in particular those pointing to the extension of the protection of EU seas to 30%, with 10% under strict protection by 2030, the integration of land-sea interactions within MSP also as far as nature conservation is concerned, and the support through MSP to marine ecosystem restoration, thus aligning with EGD and the EU Biodiversity Strategy.

The achievement of these objectives is pursued through a rich package of measures set in the plans defined according to the three directives. Water Management Plans include measures such as those related to the prevention and/or management of invasive species (e.g. water turtles in the Po Delta) and the development of knowledge on the interaction of different water bodies and its impacts on Natura 2000. The Po District Plan explicitly addresses EGD objectives related to biodiversity including measures aimed at reaching the "Renaturation of the Po area". The MSFD's second-cycle PoM includes all the already existing measures related to marine protected areas management (e.g. H&BDs for Natura 2000 sites) and a series of new measures based on the H&BDs and the EU Biodiversity Strategy 2030 contributing to their objectives, such as expanding the extension of marine areas under protection in territorial waters (including both MPAs and Natura 2000 sites) and strengthening their management (MADIT-M2022-NEW1). Lastly, among several others, relevant examples of MSP measures linking to MSFD are those focusing on creating an MSFD-MSP-biodiversity (protection and restoration)-fisheries policies working group to identify marine protected areas and expand their network (NAZ_MIS|15) and the one aimed at enhancing knowledge about the distribution of habitats and species outlined in the EU Nature Restoration Law to properly inform MS Plans (NAZ_MIS|19).

As previously mentioned, cross-policy integration also relies on shared monitoring activities. ISPRA coordinates MSFD and WFD monitoring; it collects data from the ARPAs and integrates them, also considering those deriving from monitoring activities of specific habitats under the Habitat Directive (e.g. corals and Posidonia). However, temporal and spatial misalignments—like differing reporting cycles—complicate data integration.

Currently, Italy is in the process of implementing actions to foster the identification of areas to be protected, coherently with the most recent WFD, MSFD and MS plans. Italy aims to reach the objective of 30% protection of its marine area through MPAs, Natura 2000 sites and the establishment of Other Effective Area-Based Conservation Measures (OECMs). Moreover, the need to enhance proper and effective management of Natura 2000 sites is acknowledged as highly important.

[1] Management Plan (2021) of the Po River Basin, Management Plan (2021) of the Eastern Alps District Basin, Management Plan (2021) of the Norther Apennines District Basin and Management Plan (2021) of the Central Apennines District Basin.

Additionally, concerning the goal of 10% of strictly protected areas, based on existing definitions and key documents (e.g. SWD (2022) 23 final) different options are being considered and the issue is still under discussion. Projects are being conducted (e.g. Project MER through the Recovery and Resilience Plan (2021) funded by NextGeneration EU) to enhance initiatives towards the goal of 20% of restoration areas (e.g. passive restoration of Posidonia seagrass and corals forbidding anchoring in certain areas and active restoration, such as of Posidonia and other seagrass or oysters in the Adriatic).

3) *How the implementation of MSFD, WFD and MSPD through plans in the Italian Northern Adriatic Sea consider measures aiming to improve the sustainability of aquaculture and fisheries*

Given its nature and geographic scope, the WFD is less directly tied to fisheries and aquaculture at sea compared to MSFD and MSPD, as the sustainability of these sectors is not among its explicit objectives. However, achieving good water status of surface, underground and coastal waters is among the main WFD objectives and indirectly affects the biodiversity of marine areas and the economic activities based on their resources' exploitation. Under Legislative Decree 152/2006, Regions, in agreement with MASAF (Ministry of Agriculture, Food Sovereignty, and Forests), designate "waters for the life of molluscs and fish". These bodies of (inland, transitional and coastal) water are identified in the so-called Register of Protected Areas in the Water Basin Management Plans as "protected areas for molluscs or fish farming" and designated as "areas for the protection of economically significant aquatic species".

The MSFD addresses aquaculture and fisheries more explicitly through its second-cycle targets (DM 22/03/2019). Targets focused on aquaculture goals concern Descriptor 2 (e.g., managing non-indigenous species and implementing traceability and response systems to their presence in aquaculture facilities). Targets focused on fisheries are reported under Descriptor 3 (e.g., reducing exploitation rates of commercially fished species, addressing IUU fishing, and regulating recreational fishing) and Descriptor 6 (e.g., protecting seabed areas from physical disturbance and ensuring fishing gear does not damage biogenic substrates). These goals are operationalized through measures of the second-cycle Program of Measures (DPCM 07/10/2022), which incorporate existing measures - e.g. those defined under international agreements (e.g., GFCM, CITES, ACCOMBAS, EU Regulations) - and new ones, such as the identification of edible NIS species (e.g. blue crab) that can be commercialized (MADIT-2022-NEW4), the development of a system of traceability of all movements of bivalve molluscs to limit the spread of NIS (MADIT-2022-NEW6), the development of education and training activities for the fishery operators on sustainability of professional fishery activities (MADIT-2022-NEW8), the ban of recreational fishing of protected species (MADIT-2022-NEW18).

The MS plan explicitly considers fisheries and aquaculture in its objectives (Chapter 5 – Phase 3). For fisheries, the 6 strategic goals include, among others, promoting sustainable value chains (OS_P|01), supporting the implementation of national multiannual management plans (OS_P|02), promoting small-scale coastal fishing operated with sustainable techniques (OS_P|03), and supporting the creation of areas for fish stock restoration and Essential Fish Habitat (EFH) protection (OS_P|04). The 2 objectives for aquaculture focus on the sustainable development of the sector, in alignment with the CFP and the Sustainable Blue Economy Strategy (OS_A|01), specifically supporting the process of definition of the Allocated Zones for Aquaculture - AZAs (OS_A|02). National measures of the MS plans (Chapter 6 – Phase 4) operationalise these objectives to further enhance the sectors' sustainability. For fisheries, examples of the 12 measures include co- management agreements between small-scale fishers and protected area managers of MPAs and Natura 2000 sites (NAZ_MIS|35) and the identification of EFH for prioritized protection, e.g. through ZTB/FRA and related management measures (NAZ_MIS|37). For aquaculture, examples of the 6 measures deal with the study and development of the ecosystem services related to aquaculture activities (NAZ_MIS|47) and the integration of sustainable aquaculture activities in Natura 2000 sites (NAZ_MIS|43). Regional measures complement national ones, with specific actions aiming to support sustainable small-scale and artisanal fisheries (all three regions), promote the sustainable management of fisheries within the framework of national management plans for target species,

particularly small pelagics, demersal species, and bivalve molluscs (Veneto and Friuli-Venezia Giulia).

Together, these policies and measures ensure a comprehensive approach to fisheries and aquaculture management, contributing to balancing economic development with biodiversity conservation.

4) *How policy instruments set for the implementation of sectoral policies (fisheries and aquaculture) internalize key requirements of EU policies established to deliver healthy marine ecosystems (MSFD/WFD/MSPD) and contribute to biodiversity conservation*

The multi-level governance framework for fisheries and aquaculture includes international (i.e. GFCM recommendations), EU (i.e. Council Regulation setting fishing opportunities) and national mechanisms (i.e. the National Triennial Program for Fisheries and Aquaculture 2022-2024, the EMFAF Operational Program 2021-2027, management plans on specific gears and/or target species), in addition to regional and municipal ones.

Given this complex framework, some coordination mechanisms were established at the regional and local levels. The North Adriatic Fishing District was established by the Ministry of Agricultural, Food and Forestry Policies (MIPAAF) in 2010 (DM 23/02/2010), to promote a partnership with producers and businesses of the fisheries sector to propose actions for fisheries management (plans and interventions) identified and shared between the Ministry and the three North Adriatic regions (Friuli Venezia Giulia, Veneto, Emilia Romagna). The main tasks of the District include the formulation of proposals for local management plans and measures that can be submitted to the MASAF for evaluation and possible implementation. In November 2022, the Northern Adriatic Fisheries District submitted proposals regarding management plans for different fishing techniques (e.g. hydraulic dredges, trawl nets, and seine nets). In addition, the Socio-Economic Observatory of Fisheries and Aquaculture plays an important role in terms of collecting and analysing socio-economic data on fishing and aquaculture in the northern Adriatic Sea (including Veneto, Friuli Venezia Giulia, and Emilia-Romagna, as well as Slovenia and the Istrian Region of Croatia, which were partners in the initial ADRI.FISH community project under which the Observatory was created). Consortia for the management of some fishing resources represent other relevant local initiatives. These include (i) consortia for the management of bivalves, which can regulate their activities at the local level, e.g. by adopting more restrictive measures than the limits imposed by national and EU regulations, and (ii) CO.VE.P.A. (Consorzio Veneto Pesca Artigianale), which is a consortium of fishers operating in the Veneto region, aiming to preserve, enhance, and promote small-scale artisanal fishing, e.g. by providing coordination and support to the activities, promoting training initiatives for fishers as well as research in the field.

The National Triennial Program for Fisheries and Aquaculture 2022-2024 (MASAF, 2022b) indirectly supports biodiversity goals, primarily through the CFP's objectives to achieve Maximum Sustainable Yield (MSY), reduce fleet capacity, and control IUU fishing. Similarly, the National Management Plans for hydraulic dredges and trawling (MIPAAF, 2019; MIPAAF, 2011) indirectly contribute to biodiversity conservation. For example, dredge fishing regulations set catch limits, specify characteristics of allowed hydraulic dredges, prohibit fishing for certain species, and regulate discards. The trawling plan regulates fishing permits, minimum landing sizes, and trawl net selectivity; defines restricted areas for fisheries (e.g. on seagrass beds or rocky outcrops), and establishes permanent and temporary bans for the trawling activity. Trawling is permanently prohibited within the 3 nautical miles from the coastline baseline. In addition, MASAF annually issues a Decree (e.g. MASAF, 2024) establishing the summer ban for most of the fisheries (e.g. in 2024, from July 31 to September 13). The same decree extends the trawling ban to 6 nautical miles in the period before and after the overall summer ban (e.g., from July 1 to October 31 in 2024), except for "small trawlers" (units registered in the IV category authorized for local fishing within 6 miles and units with an overall length of up to 15 m), which are allowed to operate beyond four miles. Eventually, MASAF, in collaboration with local administrations and scientific institutions, can establish Biological Protection Zones (ZTB) where fishing is strictly regulated (e.g. trawling is in

general prohibited). The study area includes several ZTBs of small/medium size: in the area between Filtri and Barcola that includes the Miramare MPA, tegnue di Chioggia, tegnue di Porto Falconera Caorle, and Fuori Ravenna. Moreover, the scientific community has advanced a proposal for the establishment of the so-called "Soles Sanctuary" Fishery Restricted Area (FRA), located astride the demarcation of the continental shelf agreed between Italy and Croatia (activity carried out in the context of the DORY Project – Interreg between Italy and Croatia; Bastardie et al., 2017).

The EMFAF National Program 2021-2027 (MASAF, 2022a) integrates fisheries and biodiversity actions by supporting (i) reduced fishing effort in overexploited GSAs (e.g., for pelagic trawling and purse seining in the case of the Adriatic Sea), (ii) environmental improvements aligned with MSFD spatial protection, and (iii) conservation efforts in MPAs and Natura 2000 sites. The four FLAGs (Fisheries Local Action Groups) in the region, funded by EMFAF, play a key role in supporting the improvement of the sustainable management of the sector. Their initiatives include collaboration with research institutes and NGOs on biodiversity projects (such as *Caretta caretta* protection; e.g., the TARTATUR Project, promotion of the use of selective fishing gear, bycatch monitoring, fisher education, and recovery programs). FLAGs also contributed to management plans for two Natura 2000 sites (IT3270025, IT4060018) of the Po Delta, designated for the conservation of *Caretta caretta* and *Tursiops truncatus*. Conservation measures adopted by Veneto and Emilia Romagna include reducing fishing pressure on these species (e.g., banning longlines and hook lines in the two sites) and restricting other activities like windsurfing and kitesurfing to prevent species disturbance (Decision No. 710 of 17/05/2021 by Emilia Romagna; Decision No. 1135 of 06/08/2020 by Veneto Region).

Concerning aquaculture, an important link to biodiversity conservation is provided by the Technical Guide for the Allocation of Marine Areas for Aquaculture (AZA), developed by ISPRA in 2020. Aquaculture activities have spatial and environmental interactions with other uses and economic activities of the sea and can generate negative or positive externalities directly or indirectly. According to the guide, these interactions can be classified as: incompatible, potentially compatible (e.g. with Natura 2000 sites), and compatible. The guide also recommends considering a distance to be respected (standoff distance) when allocating areas for aquaculture, this is a buffer area to reduce the negative impacts aquaculture may have on sensitive areas (e.g. MPAs). ISPRA guidelines have been followed by Veneto Region for the elaboration of the draft AZA Plan for the maritime compartments of Chioggia and Venice (Resolution 1651/2023). As required by the Technical Guide, in the initial phase of identification of marine zones, the interaction between AZAs and protected areas was considered. Therefore, the AZAs plan, as proposed, has located the new aquaculture areas in sites where there are no expected negative interactions with MPAs or Natura 2000 sites. Moreover, in the final definition of the AZAs, other elements were evaluated and taken into consideration, such as the interference with trawling fishing activities and maritime traffic (mostly in front of the Venice Lagoon and its Malamocco inlet in particular)

In conclusion, sectoral fishery and aquaculture policies indirectly support biodiversity conservation by regulating fishing activities through temporal, spatial, and technical measures (e.g., gear regulations, permanent and seasonal bans, ZTBs and FRAs). These efforts contribute to the restoration of fish stocks and the protection of benthic habitats and mobile species of megafauna. Additionally, engaging fisheries communities in biodiversity policy and planning is recognized as a valuable action to be further enhanced.

5) *The role and contribution of SPSIs to a coherent implementation of MSFD, WFD and MSPD and support the achievement of the EGD objectives related to biodiversity conservation*

The role of knowledge production, transfer, and application in decision-making is central to Science-Policy-Society Interfaces (SPSIs), ensuring the use of the best available science across policy areas. However, data fragmentation and accessibility issues hinder coherent policy implementation, as observed in the North Adriatic Sea case study. Data availability varies by type, scale, and policy timeline, leading to potential inconsistencies (e.g., outdated MSFD monitoring data used for the MSP process in 2022). Despite efforts to integrate data across policies (MSFD, WFD, H&BDs, CFP), structured and continuous data-sharing mechanisms remain insufficient, and often affected by delays. Additionally, knowledge gaps persist in critical areas such as nature-based solutions, non-indigenous species, and ecosystem restoration.

Assessments can play a key role in showing policy coherence and cross-compliance. While policies generally do not impede each other's objectives, further integration is required in future WFD and MSFD cycles (e.g. including coordinated efforts to fill identified knowledge gaps and better integration and consideration of MSPD elements). The EU Green Deal is not yet fully incorporated into assessment frameworks, necessitating improved alignment. Resource limitations (e.g., personnel and expertise deficits) can compromise policy evaluations. Nonetheless, collaborative initiatives, such as MSP assessments involving national and regional authorities, have strengthened horizontal coherence. ISPRA's annual environmental assessment integrates WFD, MSFD, and H&BD indicators, offering a model for cross-policy analysis (ISPRA, 2023), though MSPD remains underrepresented despite its potential to harmonize land-sea interactions.

The models of scientific policy advice and knowledge transfer mechanisms in place are key to ensuring knowledge-based implementation processes for each of the policies considered. In the area, for most of the policies considered, collaborative models of knowledge transfer prevail, where knowledge production is not separated from policy-making processes. Environmental Agencies (e.g. ARPAs and ISPRA mainly for MSFD), Universities and Research Institutions (e.g. the Scientific Pole for MSPD) are becoming more and more capable of acting not only as knowledge providers or policy advisors but also as knowledge brokers and boundary organizations in a real co-design and co-management collaborative process. Importantly, these operate across multiple policies, therefore potentially contributing to their coherence. Despite this, the role of society is not well integrated into the co-production of knowledge, as it mainly takes place through consultation processes that should be more structured and continuous along the entire policy cycle and the research processes of projects.

Platforms operating at multiple levels (EU, national, local) contribute to C&CC by supporting knowledge exchange, governance integration, and cross-compliance (e.g., MSP platform, WFD and MSFD technical groups, ADRION initiatives). However, discontinuity in platform activities can hinder sustained engagement. Additionally, sector-specific expertise may limit interdisciplinary collaboration, with differences in technical knowledge and resource constraints posing integration challenges. EU-funded projects and programmes (e.g., MEDREGION, ADRION) have enhanced cross-sectoral capacity building, but long-term funding remains a critical factor, particularly for ensuring stability in human resources beyond ad hoc funding programs.

Preliminary Recommendations

In the context of the North Adriatic case study, we formulated the following recommendations, based on the outcome of the analysis conducted through the document analysis and integrated with the interviews and questionnaires.

The pool of proposed recommendations is made of three sets of actions focusing on:

- How to further enhance horizontal coherence to contribute to managing conflicts between uses and to achieving a good status of water and marine environment in an area with many anthropic uses;
- How to further enhance vertical coherence that would contribute to the delivery of the EGD objectives of protection of marine biodiversity;
- How to further facilitate the internalization of key EGD biodiversity objectives into sectoral policies (fisheries and aquaculture).

These recommendations are the basis for the cross-case studies comparison (Deliverable 3.6 on cross-compliance in integrative planning and Deliverable 3.7 on cross-compliance in policy integration, currently under development) and are partially integrated into the development of the roadmaps towards enhanced cross-compliance in European Seas (Deliverable 4.1 of the Project, currently under development).

*How to further **enhance horizontal coherence** to contribute to managing conflicts between uses and to achieving a good status of water and marine environment in an area with many anthropic uses*

- An important role could be played by a **well-conducted Strategic Environmental Assessment** (SEA) on the plans to improve and ensure **consistency** between policies and derived instruments. Unfortunately, SEA processes are often merely formal requirements that do not always truly impact planning choices.
- A **strengthened consideration and integration of MSPD** requirements **in the other two policies** is needed for better horizontal coherence. Indeed, while MSPD aims at systemising the other two directives to promote a sustainable planning of the sea, WFD and MSFD do not consider widely MSPD in their objectives and measures, yet. Furthermore, while WFD has fixed objectives, MSFD and MSPD are characterised by an adaptive approach, enhancing a continuous evolution of goals and targets. This misalignment can cause a limited integration of policies.
- The **temporal alignment of policies or at least a continuous exchange of data, information, and updates on objectives and measures** (e.g. linked to the reporting phases of MSFD and WFD) could have positive impacts on their consistent, coherent and more efficient implementation (e.g. through better-integrated objectives, measures and monitoring systems).
- Some **participatory working groups and committees** (e.g. the institutionalised Technical Committees under MSFD and MSPD) are present but **need to be reinforced as cross-policy mechanisms**. This could imply strengthening the capacity of these committees and groups to effectively involve institutions working in the implementation of the three policies at different levels (from the national to the regional and even local scale). For instance, the Technical Committee for MSFD could work towards a more active engagement of regional authorities

(already part of it) to enhance a diversified dialogue across the three policies. As for the WFD, it would be useful to enhance the cooperation between different Hydrographic District Authorities, which do not always collaborate. In general, all interviewees highlighted the need/interest for governmental organisational structures effectively centred on cross-policy integration. This could help reduce the impact of an approach that is still rather focused on a single policy and where effective cooperation among entities is difficult also due to different spatial scales.

- **Stakeholder engagement processes should be properly organised and funded**, to ensure an **effective participation** along the whole policy cycle. Indeed, these processes emerged as not sufficiently participatory, either for the typology of engagement (only formal engagement process) or for their timing (stakeholders are consulted only on the already designed policies, there is not a co-design process). The **alignment** of consultation processes **across policies** could enhance their coherence, reinforce the engagement mechanism and make them more inclusive and efficient. This progressive alignment can form the basis to move towards an **integrated stakeholder engagement** process dealing with the overall management of the sea (in coherence with the approach of the **integrated maritime policy**).
- A **continuous system of funding** is needed to ensure stable human resources and to fund research and capacity building, also to approach the complex issue of coherent implementation of different policies. Strengthened technical competence is also needed to address some specific topics which are essential component of the coherent implementation of the three policies (e.g. GES, NBS, LSIs etc.).
- **Reinforcing the analysis of LSIs** and the understanding of the way these affect land and sea planning and management within the implementation of three directives can enhance horizontal coherence. Indeed, **LSI can be seen as a common denominator** linking the three policy and planning processes, i.e. from the watershed to the coastline, the onshore and offshore sea space.

*How to further **enhance vertical coherence** that would contribute to the delivery of the EGD objectives of protection of marine biodiversity*

- The **temporal alignment of policy** implementation is relevant also concerning vertical coherence. It is for example important that reporting and assessments are aligned between MSFD and H&BDs, to improve their efficiency and consistency. **This alignment should be based on a continuous exchange** of data and information and an update on objectives and measures between the three policies (WFD, MSFD and MSPD) and the process of implementation of the EU Biodiversity Strategy and the H&BDs.
- Concerning WFD, not all **Water Management Plans** consider how to **contribute to EGD** objectives, including those related to biodiversity. A **better integration** and consideration of these is necessary. This could be achieved through the **clear communication of EGD** implications (and requirements) for the water management plans.
- **MS plans** consider biodiversity protection and conservation and the related EGD objectives. However, these are strategic – although binding – plans. **Mechanisms are needed to reinforce the connection between MSP and the process of identification and designation**

of new protected areas. This could for example imply more detailed planning in the next MSP cycle.

- The ongoing work on the **definition** of strict **protection** and **biodiversity restoration goals** as well as the identification of real areas at sea to be strictly protected and restored will help a better integration of the EGD objectives related to biodiversity within WFD, MSFD and MSPD policies and plans.
- There is the need for the regional authorities to **ensure proper management of the Natura 2000 sites**, that are often designed but not effectively protected and managed through effective measures. This is necessary for these to count as part of 30% of protected areas, under the EU Biodiversity Strategy 2030. MSP, MSFD and WFD can support (e.g. through objectives and measures) this process.

*How to further facilitate the internalization of key **EGD biodiversity objectives into sectoral policies** (fisheries and aquaculture)*

- Sectoral fishing policies and plans contribute to biodiversity conservation through measures such as regulating fishing gear, establishing no-take zones, implementing temporal and spatial fishing restrictions, and contrasting illegal, unreported and unregulated fishing. Although the package of measures is rich, there is room to strengthen it with other science-based measures targeting biodiversity conservation, such as those aiming at: (i) supporting small-scale fishing operating with sustainable methods, (ii) defining co-management schemes for protected areas involving fishery operators (e.g. development of management measures and support to their implementation in the Sites of Community Importance - SCIs IT3270025 and IT4060018 extending across the Veneto and Emilia Romagna regions), (iv) support the co-participation of fishery operators in environmental restoration projects of coralligenous habitats ("tegnue") and marine seagrasses, etc.
- **Participation of sectoral stakeholders in the Directives** (WFD, MSFD, MSPD) implementation would provide benefits also for the internationalisation of EGD biodiversity objectives into sectoral policies. In particular, engagement processes should be designed in a way to ensure the involvement of **small-scale** fishery and aquaculture operators, who are in general poorly represented.
- **AZA plans should be completed** within the wider framework provided by MSP (and in coherence with WFD and MSFD). This implies the allocation of areas for aquaculture while **minimising conflicts with other uses** and impacts on the environment, as well as **maximising synergies with biodiversity conservation.** The potentialities of restorative aquaculture should be further investigated and applied (as it has been done within the EU-funded project MAREA, focused on reintroducing native flat oyster reefs under mussels' culture sites, investigating the best practices for integration at a pilot site in the Northern Adriatic Sea). It is relevant to consider that mussel farming (low trophic aquaculture) is the only form of aquaculture at sea in the area.
- Improving the discussion on biodiversity-related topics in **already-existing coordination fora and mechanisms** could positively impact a better integration of biodiversity protection into sectoral policies. The **Northern Adriatic Fishing District**, due to its cross-border scope and serving as an exemplary model for regional cooperation, can promote innovative

measures and actions for a better integration of biodiversity. **FLAGs** of the Northern Adriatic can also act as promoters of innovative actions fostering the contribution of fishing and aquaculture to biodiversity conservation and restoration.

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