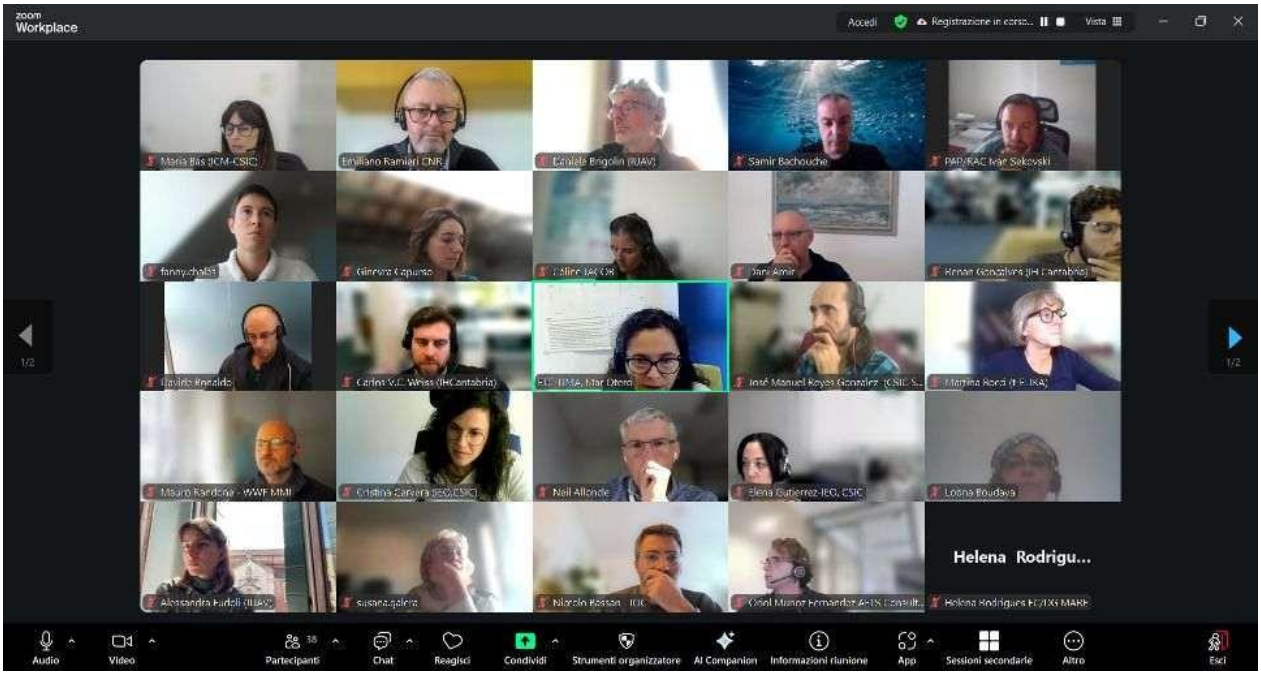
Report of the MED-MSP-CoP III 2025 workshop

Tuesday, 07 October 2025



1. Introduction: objective and agenda of the workshop

The third 2025 workshop of the Community of Practice on Maritime Spatial Planning in the Mediterranean (MED-MSP-CoP) was held online on 7 October 2025, from 10:00 to 12:45 CET. The meeting built upon the outcomes of the previous MED-MSP-CoP workshop (26 May 2025) and the subsequent online survey, which together helped to identify and prioritise the main thematic issues for each of the four Working Groups of the Community of Practice:

1. MSP and Fisheries
2. MSP and Nature Protection,
3. MSP and Aquaculture, and
4. MSP and Offshore Renewable Energy (ORE).

During the May workshop, the MED-MSP-CoP launched the work of these four thematic WGs, initiating a structured dialogue among experts to identify between 7 and 15 key issues per group. The follow-up survey then enabled members to prioritise these issues based on two main criteria:

- the importance of MSP in supporting the sustainable development of each sector; and
- the transboundary dimension of the issue and its relevance at the Mediterranean scale.

This third workshop was therefore designed as a knowledge-sharing and discussion event, building on these earlier steps and setting the scene for the final 2025 workshop to be held in Tunis on 27 November 2025, in a hybrid format. The objectives of the III 2025 workshop were to:

- Gather information from Working Group members on relevant sources of knowledge (such as case studies, projects, reports, and formal planning processes) addressing the framing topic and its most prioritised issues;
- Engage the MED-MSP-CoP experts in discussing persistent knowledge gaps that remain to be tackled in each Working Group;
- Inform the upcoming MEDIGREEN studies on MSP and fisheries, aquaculture, nature protection, and offshore renewable energy, ensuring close alignment between the MED-MSP-CoP's dialogue and the project's thematic research.

The workshop was structured in three main parts:

- Opening plenary session: Recap of the outcomes of the second 2025 workshop and presentation of the ranking survey results; introduction of the agenda, objectives and expected results of the meeting, followed by a short Q&A.
- Two breakout sessions: Participants were divided into parallel groups dedicated respectively to (I) *MSP and Fisheries* and *MSP and Nature Protection* during the first session, and to (ii) *MSP and Aquaculture* and *MSP and Offshore Renewable Energy* during the second. In each room, participants provided and discussed information about relevant knowledge sources, focusing on their typology, content, and transboundary relevance. Discussions concluded with a collective identification of key knowledge gaps for each thematic area.
- Concluding plenary: Reports from the breakout sessions and a summary of the next steps towards the Tunis workshop, scheduled within the MSP Week 2025.

The insights and materials collected during this third workshop, especially those captured on the Miro boards, represent a crucial contribution to the ongoing work of the MED-MSP-CoP. They will support both the summary of existing knowledge and the identification of knowledge and policy gaps to be further addressed in the next phase of the MED-MSP-CoP and in the MEDIGREEN studies. These outcomes will be further discussed and detailed in the next MED-MSP-CoP workshop, to advance the identification of challenges for the four sea uses in an MSP context and initiate the discussion around possible actions.

The report is structured as follows. Sections 2–5 present the main outcomes of the four breakout sessions, while the annexes include: the agenda (Annex A), and the detailed results of the Miro exercise conducted during the four breakout sessions, integrating the outcomes of the MED-MSP-CoP II workshop and the subsequent survey (Annexes B–E).

2. Breakout session on MSP and Fisheries: main outcomes

Discussions revealed that a major limitation for MSP in the Mediterranean remains the scarce availability of spatially explicit fisheries data, particularly in southern countries. This data gap constrains spatial planning and the capacity to design evidence-based measures. While Vessel Monitoring Systems (VMS) offer valuable insights in the EU, significant portions of the fleet remain untracked, especially among small-scale fisheries (SSF), which are of key socio-economic importance in Mediterranean coastal communities. Participants shared examples of innovative data collection approaches that could help overcome this limitation, such as the use of GPS-based surveys under the Marine Strategy Framework Directive (MSFD) in the Canary Islands, which could be scaled up to national or regional levels.

The discussions also reflected on the evolving nature of fisheries management and its increasing relevance for MSP. Changing seasonal patterns and growing conservation and restoration objectives require regular updates of data and adaptive planning approaches. Although the fisheries sector is showing greater openness to participating in mapping and planning initiatives, further clarity is needed on the type of information to be collected, the methodologies to be applied, and the way in which participatory processes can ensure that fisheries' perspectives are effectively reflected in MSP decisions.

In terms of governance and participation, participants agreed that fisheries are still perceived as being insufficiently involved in MSP processes, despite the existence of multiple platforms and projects that support dialogue. The main challenge lies not in creating additional venues for discussion but in making existing interactions more effective and impactful. True participation, it was emphasised, should move beyond consultation to include co-decision and shared ownership of planning outcomes.

A related concern emerged in connection with Marine Protected Areas (MPAs). In several Mediterranean contexts, MPAs remain "paper parks," with weak management structures and limited engagement of the fisheries sector. Examples from France illustrate how nature parks can provide a space for dialogue and partial involvement of small-scale fishers, yet this does not always lead to genuine co-management. Participants underlined the need to develop clearer frameworks for integrating conservation and fisheries management objectives within MSP, in ways that promote both ecological and socio-economic sustainability.

MSP discussions also tend to underrepresent the socio-economic dimensions of fisheries, especially those linked to the land-sea interface, such as ports, processing, value chains, and employment. These aspects are crucial for a comprehensive understanding of the fisheries sector's role in coastal systems but remain poorly documented and unevenly considered in planning processes. Strengthening the inclusion of socio-economic linkages would allow MSP to better capture the full contribution of fisheries to coastal livelihoods and sustainable development.

Finally, participants highlighted the need to improve capitalisation and knowledge transfer at the regional scale. Experiences from other countries and projects remain underutilised, and systematic sharing of lessons learned could significantly enhance MSP–fisheries integration. The creation of a Mediterranean MSP–fisheries knowledge hub was suggested as a concrete way forward, serving as a platform to collect and disseminate case studies, data standards, and training resources, thereby supporting capacity building and cross-regional cooperation.

3. Breakout session on MSP and Nature Protection: main outcomes

The discussions highlighted that achieving an integration of biodiversity and conservation objectives into MSP is essential to meet the EU's biodiversity protection targets, particularly through the effective incorporation of MPAs into maritime plans. A range of initiatives and methodologies have been developed in projects to address this challenge, including scenario development for spatial planning (MSP4BIODIVERSITY), ecological corridor mapping (DESIRMED, MARINE PLAN), and the creation of prioritisation tools (MSP4BIO). Other approaches build on the implementation of MSFD (REMAP) or on the development of methodologies to assess the effectiveness of plans (MSPglobal, MEDIGREEN).

Participants also underlined that assessing the environmental impacts of maritime uses, including their cumulative effects on marine ecosystems, is fundamental to progress towards sustainable and ecosystem-based planning. Several projects (such as BlueConnect, MSPMED, MSP4BIO) have developed replicable approaches that could be applied across different scales in the Mediterranean to strengthen this dimension of MSP.

Another key aspect discussed was the need to anticipate and address the effects of climate change within MSP to ensure the long-term resilience of maritime plans. Existing guidelines developed by MSPglobal, together with methodological advancements from projects such as INCORMED and MSP4BIO, provide valuable tools for forecasting climate-related impacts and integrating adaptation measures into planning processes.

Across these experiences, a wealth of guidance documents, technical methods, and best practices have been developed, both within the Mediterranean and in other sea basins. However, an important question now is whether Mediterranean countries, both EU and non-EU, are adequately equipped to implement these guidelines in practice. The discussion pointed to several potential bottlenecks, including limited data and knowledge availability, insufficient technical capacity, and policy or institutional constraints that can hinder effective implementation.

Finally, participants exchanged views on different ways to prioritise nature protection within national MSP processes. Italy, for instance, has adopted an approach where conservation is prioritised (or co-prioritised) within certain planning units, some of which may host future MPAs, even if protection does not extend to the entire unit area. In France, by contrast, the planning process directly identifies potential sites for future strict protection. These examples illustrate the diversity of national approaches to integrating conservation objectives into MSP. Further comparative analysis and targeted support would be useful to help countries identify and adopt approaches that best fit their legal and institutional contexts.

4. Breakout session on MSP and Offshore Renewable Energy: main outcomes

Discussions revealed that, while ORE is gaining growing political and economic attention, several persistent challenges hinder effective planning and implementation.

A first key issue identified concerns the misalignment between national MSP frameworks and the regulatory authorisation procedures for ORE installations. Participants noted that, in some Mediterranean countries, such as Spain, strategic MSP documents are not adequately connected to the permitting pathways that developers must follow. This lack of integration leads to inefficiencies, delays, and uncertainty for investors and planners alike, showing the need for better coordination between strategic and operational levels of governance. Participants shared updates from different Mediterranean countries, including Spain, Italy, France, and Israel, where ORE, mostly offshore wind (OWF), is advancing to varying degrees. These national experiences show that past MSP processes have been instrumental in identifying potential development zones, but that approaches remain heterogeneous, reflecting different administrative systems, policy priorities, and levels of readiness for ORE deployment.

The discussion also underlined the importance of clarifying the conceptual distinction between multi-use and co-location strategies. While “multi-use” implies the shared and possibly synergistic use of marine space among sectors, “co-location” refers to the simple physical proximity of activities without necessarily implying integration or interaction. This conceptual clarity is critical to defining realistic planning strategies and regulatory frameworks that guide how ORE, particularly OWF, can coexist with other maritime uses, such as aquaculture, fisheries, or nature protection.

Differences also emerged regarding national approaches to site descriptions and assessment methodologies for OWF development. Each country applies its own terminology and evaluation criteria, which complicates regional comparison, joint environmental assessments, and the development of a coherent Mediterranean vision for ORE. Participants stressed the value of promoting greater methodological consistency across countries to support transboundary learning and cooperation.

Beyond offshore wind, participants pointed out the limited knowledge and visibility of alternative ORE technologies in the Mediterranean, such as wave energy converters and floating solar platforms. Examples from countries like Croatia show that pilot testing is ongoing, yet information remains scattered. Collecting and disseminating knowledge on these emerging technologies would help broaden the regional understanding of ORE potential and its interactions with other maritime users.

Another point concerned port infrastructure and regulations, which are often not yet adapted to accommodate the logistical and operational needs of ORE projects. The ongoing revision of the Port State Control Directive is expected to indirectly facilitate ORE deployment by modernising regulatory and operational frameworks at ports, but further adaptation at the national level will still be needed.

Environmental considerations were also central to the discussion. Participants agreed that Environmental Impact Assessments (EIA) for ORE installations would greatly benefit from more comprehensive and fine-scale biodiversity data, particularly regarding migratory species and sensitive habitats. Enhancing data availability and integration is essential to minimise the environmental impacts of ORE development and operation.

Participants also shared examples of scenario-building exercises as useful tools to engage

stakeholders and facilitate dialogue. Integrating aspects such as climate change impacts, biodiversity protection (e.g. through MPAs), and energy needs into participatory scenarios helps visualise trade-offs and fosters transparent, evidence-based decision-making.

Finally, the group discussed emerging technologies for monitoring environmental impacts, including innovative tracking and sensor systems designed to assess the effects of ORE infrastructure on bird migration and marine fauna. Sharing these experiences more widely across the region could support evidence-based monitoring and encourage the adoption of best practices in impact assessment and mitigation.

5. Breakout session on MSP and aquaculture: main outcomes

Participants discussed several initiatives, knowledge gaps, and forward-looking needs that could help strengthen the sustainable development of the sector while aligning it with broader marine ecosystem objectives.

A first point raised concerned the availability and use of technical guidance on Allocated Zones for Aquaculture (AZAs). While numerous guidelines exist, particularly those developed under the General Fisheries Commission for the Mediterranean (GFCM), practical applications and pilot cases remain limited (examples from Albania, Georgia, and Italy). Strengthening this evidence base through additional pilot projects would support both policymakers and practitioners in refining spatial planning methodologies for aquaculture.

The discussion also touched upon stakeholder engagement and socio-economic dimensions, which were considered central for ensuring socially accepted and economically viable aquaculture planning. Projects such as INCORE were mentioned as positive examples of how local-level engagement can foster more inclusive and legitimate decision-making.

Another emerging theme was the need for more forward-looking approaches in aquaculture planning, incorporating climate change scenarios and adaptive management. Participants stressed that future MSP and AZA developments should not only respond to current pressures but also anticipate the evolving environmental and economic conditions that will affect aquaculture viability in the coming decades.

The group further emphasised the importance of improving alignment between environmental monitoring and regulatory frameworks, particularly between MSFD monitoring programmes and the EIA required for aquaculture installations. Aligning these systems and developing common environmental thresholds would help streamline decision-making while ensuring better environmental outcomes.

Participants also highlighted the need to strengthen knowledge and research on algae cultivation and restorative aquaculture. In this regard, the FAO's proposal to develop the concept of "Allocated Zones for Restoration" was noted as an innovative idea with strong potential links to the newly adopted EU Nature Restoration Regulation. Such a concept could serve as a bridge between conservation and aquaculture.

The discussion briefly addressed additional sustainability aspects, including circular economy and energy efficiency considerations within aquaculture operations. While not identified as immediate priorities, participants acknowledged that these elements should become more prominent in future planning and policy frameworks.

The land-sea interface was also recognised as critical for aquaculture development, since shore-based facilities, logistics, and water quality management directly influence the sustainability and competitiveness of marine production systems.

Overall, the session underscored that, while the Mediterranean region benefits from a solid technical foundation and growing policy attention to aquaculture, several implementation, knowledge, and coordination gaps persist. Addressing these will be essential to ensure that MSP contributes effectively to the sustainable and restorative development of aquaculture across the region.

ANNEX A - WORKSHOP AGENDA

MED-MSP-CoP

III 2025 workshop

Tuesday, 7 October 2025

10 – 13 CET

On-line

During the second 2025 MED-MSP-CoP workshop held online on May 26, 2025, the MED-MSP-CoP initiated the work of the four MED-MSP-CoP Working Groups (MSP and Fisheries, MSP and Nature Protection, MSP and Aquaculture, and MSP and Offshore Renewable Energy) and engaged the MED-MSP-CoP experts in identifying and discussing key issues of interest for each Working Group. These numerous issues were further ranked through an online survey.

This third 2025 workshop of the MED-MSP-CoP is based on the outcomes of these latest activities and aims to:

- Gather information from Working Group members about relevant sources of knowledge on the framing topic and its most selected issues (see section below). Sources of knowledge can include case studies, pilots, projects, manuscripts, reports, and information from formal MSP and other planning processes.
- Engage the MED-MSP-CoP experts in discussing persistent knowledge gaps relevant to each Working Group.

The results from this workshop will inform the last 2025 workshop of the MED-MSP-CoP, which will be held in Tunis on November 27th, in a hybrid format. This workshop's results will also contribute to the ongoing MEDIGREEN studies on MSP and fisheries, nature protection, aquaculture, and ORE.

AGENDA	
10:00 – 10:20	**Introduction** Recap of the MED-MSP-CoP 2025 II workshop and presentation of the survey results, *10'* Introducing the agenda and the expected outcome of the workshop, *5'* Q/A session, *5'*
10:20 – 11:10	**Breakout session 1** Participants will be divided into two rooms, one for each of the following working groups: (a) MSP and fisheries, (ii) MSP and nature protection. In each room, participants will be invited to provide information about sources of knowledge relevant to the framing topic (MSP and fisheries or MSP and nature protection) and, in particular, for the prioritised issues (those in red above). For each source of knowledge following information will be noted through Miro (links below) and then discussed: • Typology of source of knowledge, i.e., case studies, pilots, projects, manuscripts, reports, information from formal MSP, information for other planning processes (cross-cutting or sector-based), etc. • Short description • Issues of relevance (select one or more from those highlighted in red) • Short explanation of relevance for MSP • Short explanation of transboundary relevance • Link to more information Identification and discussion of knowledge sources will last about 40'. The last 10 minutes will be dedicated to a facilitated group discussion on persistent knowledge gaps: what are the major knowledge gaps for the topic and its prioritised issues?
11:10 – 11:30	**Coffee break**

11:30 – 12:20	**Breakout session 2** Participants will be divided into two rooms, one for each of the following working groups: (i) MSP and aquaculture, (ii) MSP and ORE. In each room, participants will be invited to provide information about sources of knowledge relevant to the framing topic (MSP and fisheries or MSP and nature protection) and, in particular, for the prioritised issues (those in red above). For each source of knowledge following information will be noted through Miro and then discussed: • Typology of source of knowledge, i.e., case studies, pilots, projects, manuscripts, reports, information from formal MSP, information for other planning processes (cross-cutting or sector-based), etc. • Short description • Issues of relevance (select one or more from those highlighted in red) • Short explanation of relevance for MSP • Short explanation of transboundary relevance • Link to more information Identification and discussion of knowledge sources will last about 40'. The last 10 minutes will be dedicated to a facilitated group discussion on persistent knowledge gaps: what are the major knowledge gaps for the topic and its prioritised issues?
12:20 – 12:45	**Concluding session** Report for the breakout sessions Next steps towards Tunis workshop, November 27

ANNEX B – OUTCOME OF MIRO EXERCISE: BREAKOUT SESSION ON MSP AND FISHERIES

List of issues identified during the MED-MSP-CoP II 2025 workshop. Those in red were prioritised in a subsequent online survey:

1. Co-management of fisheries, in particular within MPAs
2. Climate change and fisheries: impacts, adaptation and mitigation
3. Improving fisheries and ecological data (including stock assessment and socioeconomic aspects) collection and availability, in particular in the southern Mediterranean
4. Supporting the sustainability of fisheries and facilitating the implementation of fisheries management policies through ecosystem-based MSP
5. Improving the dialogue between MSP practitioners and fisheries stakeholders at regional, sub-regional and local scales
6. Extension and management of Fisheries Restricted Areas
7. Marine governance and policy coordination to improve the sustainability of the sector
8. MSP-related initiatives supporting small-scale fisheries (dialogue, knowledge exchange, synergies with marine conservation, etc.)
9. The way MSP can contribute to combat Illegal, Unreported and Unregulated (IUU) fishing, particularly in sensitive Mediterranean ecosystems
10. MSP support for innovation in low-impact fishing techniques

Table reporting the Miro exercise outcome

Guiding question of the exercise: participants are invited to provide information about sources of knowledge relevant to the framing topic MSP and fisheries, in particular, for the 5 prioritised issues (those listed in red).

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Project ADAPT	2023-2027 in Med (Gulf of Lyon, FR). Objective: to develop participatory approaches and integrated models to optimise the trade-off between conservation and fisheries in the context of climate change (Led by IFRMER).	1 (co-construction), 2, 3, 4, 5, 7	Consideration of interactions between uses and ecosystems; Consideration of (future impacts and adaptation; Participatory approach to reconcile different interests.	Ecosystems do not know boundaries The methodology can be useful for other countries	https://www.francefilierepeche.fr/projets/adapt-scenarios-adaptation-mediterranee-nord/
The State of Mediterranean and Black Sea Fisheries — GFCM / FAO		3			New one, for 2025, should be issued in late November 2025 - registration link: https://forms.office.com/e/Uh43gbu6vU
Marine spatial planning for enhanced fisheries and aquaculture sustainability. Its application in the Near East by FAO		4	MSP is its main focus	Yes	https://openknowledge.fao.org/server/api/core/bitstreams/a18ebc6a-1e3a-44a4-817d-0a149fd196bd/content
Copernicus Ocean State Report 9, 2025	Very recent, includes examples of how climate change impacted commercial species in the Italian side of the Adriatic	2			https://marine.copernicus.eu/access-data/ocean-state-report/ocean-state-report-9
Kuran et al. (2025). Co-management of small-scale fisheries in the Eastern Mediterranean: Insights and lessons from Türkiye's Gökova MPA		1			Kuran et al (2025) Co-management of small-scale fisheries in the Eastern Mediterranean: Insights and lessons from Türkiye's Gökova MPA
MSP4BIODIVERSITY project	This is a national project aimed at reinforcing the mainstreaming of biodiversity conservation in MSP. The project includes the co-design of scenarios for management of sectors (including fisheries) and improved biodiversity conservation in 3 pilot areas (Northern Adriatic, Ligurian Sea, and Straight of Sicily)	4, 5	The project includes the development of a methodology for the co-construction of scenarios. In each of the three pilot areas, three scenarios have been developed: (i) BAU scenario; (ii) scenario focused on enhanced biodiversity protection and restoration; (iii) scenario focused on sustainable blue economy. Scenarios include fisheries in their formulation, considering also different fisheries typologies: industrial fisheries (i.e. trawling), small-scale and recreational fisheries. Scenarios were developed through the active involvement of stakeholders, including those from the fisheries sector (e.g. fisheries officials from regional administrations, fisheries representatives, etc.)	The project is mainly national (Italy). However, in each pilot area, transboundary elements are taken into consideration, e.g. proposed design of transboundary FRA or the transboundary effects of fish stock management	Information not yet available. Scenarios are described in Italian in: https://marefuturoismar.isig.it/#
MedBycatch Project	Regional project aimed at reducing the incidental catch of vulnerable species as turtles, and improving fisheries and ecosystem data collection in the southern Mediterranean	Mainly 3 and 4, but also 1,2 and 5	Provide ecological and fisheries data essential for spatial planning and ecosystem-based management	Covers multiple Mediterranean countries and harmonises monitoring protocols	https://accobams.org/wp-content/uploads/2022/11/MOP8.Inf37_Final-report-of-the-MAVA-Bycatch-project.pdf
MPA Europe	MPA Europe is modelling species distribution that could become useful for decision-making	2, 3	Support decision-making for potential MPAs and strict or no protection	Regional approach	

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
FishEMB MED Project	To reverse the over-exploitation of selected commercial living marine resources by enhancing the capacity of Mediterranean countries to manage fisheries, including through the application of ecosystem-based management tools				https://spa-rac.org/en/article/238/fishebm-med
Virtual MSP workspace for the Mediterranean under UNEP/MAP	It has a planning tool for the inclusion of climate change into MSP, per sector. These include fisheries as well	2	MSP is the main focus	yes	https://msp.iczmplatform.org/planning-tools/climate-action-and-msp-planning-tool/
Global fishing watch	Dataset on apparent fishing effort based on transmissions broadcast using the automatic identification system (AIS). 2018	3	Datasets for fisheries consideration/assessment	Datasets include numerous countries and identify vessels by country	https://globalfishingwatch.org/dataset-and-code-fishing-effort/
Briefing "Fisheries in MSP", October 2025 EPRS	Recent resolutions of the European Parliament on Fisheries and MSP	1 and 7	Pathways for cohabitation in the space between ORE sites and Fisheries are explored.		https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/777935/EPRS_BRI(2025)777935_EN.pdf
IMAP (integrated monitoring and assessment programme) for the Mediterranean	Monitoring system compatible with MSFD for EU and non-EU countries as well (CP of the Barcelona Convention). Ecological Objective 3 is focused on fisheries. It is done together with GFCM	3			
Queirós, A. M., Ten Brink, T., Bas, M., Sweeting, C. J., McGuinness, S., Edwards, H., ... & Nic Aonghusa, C. (2025). The opportunity for climate action through climate-smart Marine Spatial Planning. *npj ocean sustainability*, *4*(1), 26.	Despite global climate-driven change in marine ecosystems and associated economic sectors, climate-smart Marine Spatial Planning (CSMSP) implementation remains limited. This joint perspective from across the climate research and Marine Spatial Planning policy interface discusses reasons for CSMSP's slow pace (blockers) and shares operational examples about how CSMSP is working around the world (enablers). Learning from national CSMSP contexts can help deliver needed and faster international collaboration on climate action.	2, 5	MSP is the main focus	Yes	https://www.nature.com/articles/s44183-025-00129-2

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Ges4seas project	Analyses on different scenarios, including different sectors: fisheries, CC, offshore windfarms, maritime traffic using ecosystem modelling (including important commercial species)	2	Not focused on MSP	Yes	Deliverable not published yet (Lynam, C. P., J. Carstensen, H. D.A., M. Coll, M. Ortega, S. Gregory, C. Garcia, X. Corrales, R. Puntila-Dodd, J. Steenbeek, D. Szalaj, M. Tomczak, A. Vafeiadou, C. Dimitriadis, S. Katsanevakis, A. Mazaris, L. Lazar, L. Boicenco, A. Nikolaou, G. Tsirtsis, K. Juva, H. Peltonen, Y. Ammar, S. Korpinen, E. Villarino, G. Chust, A. Borja, F. L. Matos, A. Hilário, H. Teixeira, C. Loiseau and J. Claudet (2025). GES4SEAS Deliverable 3.2. Applications of selected tools by Learning Sites, their specific configurations and main outputs to test tipping points and thresholds: 307.)
The **blue crab research program within GFCM (General Fisheries Commission for the Mediterranean)**	The program is designed as a comprehensive, multi-pillar strategy. Its strength lies in moving from basic data collection to applied management, which directly feeds into both fisheries and spatial planning	1, 2 and 4	The Blue Crab Research Program provides essential data layers and context for effective MSP	Yes	https://www.fao.org/gfcm/activities/fisheries/scientific-advice/research-programmes/blue-crabs/en/
MEDIGREEN project and UNEP/MAP-PAP/RAC initiative on small-scale fisheries in Albania	National study on the state of the SSF sector, interactions with other sectors and recommendations for inclusion in (future) MSP	8	The MSP perspective is highly emphasised		
MEDPAN, a network of MPA managers in the Mediterranean, developed training in favour of co-management with fisheries	Build participatory approaches to the management of fishing activities in Marine Protected Areas. Training manual	1	For small-scale fisheries, MSP can use MPA as a spatial measure to combine fisheries and nature protection objectives.		https://medpan.org/sites/default/files/media/downloads/training_manual_towards_co-management_build_participatory_approaches_to_the_management_of_fishing_activities_in_your_mpa.docx.pdf

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Spanish MSFD implementation - Activities Monitoring programs	The objective of this program is to obtain a spatial distribution and time series of fishing effort by métier, carried out by both professional and recreational activities throughout Spanish territory, without taking into account continental or transitional waters. The methods used to assess effort, both in terms of units and methods, will be adapted according to the métier and the habitats with which it interacts, to describe the pressure exerted most appropriately. Thus, among the units to be used, for example, the technical characteristics of the vessels (GRT, HP, length, etc.), the number of crew members/persons, the number of gear (number of nets, rods, hooks, etc.), fuel consumption, etc., will be used. In terms of methods, both nominal and standardised effort measures will be used, employing standard statistical techniques in the latter case. The sampling or census technique used to obtain fishing effort is determined by the type of activity. Professional activities: With VMS (Vessel Monitoring System). Without VMS (fishing from a boat/vessel or fishing/shellfish gathering on foot): with other non-VMS vessel monitoring systems (VMS); with observers on board; and in the case of the Canary Islands demarcation, given that there is practically no fleet with VMS or other VMS, the information will be supplemented with specific sampling using GPS on board (this will be replicated for all Spanish Marine Demarcations).	3	One of the limitations when integrating fishing in MSP is that it is a mobile activity. Characterisation of fisheries activity is essential for MSP. Important to focus on "artisanal fishery" (i.e. not having VMS)	Fishing vessels do not only fish in their national waters. Important to characterise the foreign fishing fleet in the national MSPs	https://www.miteco.gob.es/content/dam/miteco/es/costas/temas/temas-pm/eemm/2-estrategias-seguimiento/Programas%20de%20seguimiento%20de%20actividades%20PostConsulta_d(mag).pdf
French reference warming trajectory for adaptation (TRACC) and corresponding datasets	The French reference warming trajectory for the TRACC (Temperature Reference Adaptation Climate Change) project provides climate projections for spatial planning and corresponding datasets, which are useful for consistently implementing climate change scenarios.	2	Consider climate scenarios in a consistent approach	Consistent approach between countries	https://unece.org/transport/documents/2025/05/informal-documents/french-reference-warming-trajectory-adaptation-tracc & datasets: https://www.drias-climat.fr/accompagnement/sections/401
Mediterranean Quality Status Report (QSR) by UNEP/MAP	There is a chapter on EO3 Harvest of Commercially Exploited Fish and Shellfish				https://medqsr2023.info-rac.org/wp-content/uploads/2024/12/2023-MED-QSR-full-version-English-1.pdf

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Global Fishing Watch or Sea Around Us	Useful sources with official data on fisheries	3, 4		Yes	https://globalfishingwatch.org/ https://www.seaaroundus.org/
Cantonnement de pêches (France)	A closed area is a defined zone at sea in which the capture of marine species is either prohibited, restricted to certain times of year, or reserved for certain types of fishing gear or vessels. Closed areas are established to improve the management of fishery resources.	1, 3, 4			https://www.medamp.org/index.php/fr/9-uncategorised/182-medamp-main-pourquoi-r5-1-les-cantonnements-de-peche
Spanish Marine Reserves of Fisheries interest		1			
Ortega, M., Lloret-Lloret, E., & Coll, M. (2025). Linking sea and land systems through food web models and value chains: a portrait of the Ebro Delta (NW Mediterranean Sea). *Sustainability Science*, 1-23.	There is increasing interest in using integrated ecological–economic tools to support ecosystem-based fisheries practices within a value chain framework, aiming to reduce ecological impacts while ensuring socioeconomic benefits. Our study integrates a food web model with a value chain model for an area of the Mediterranean Sea. This case study may provide valuable insights for decision-makers: (1) it allows the calculation of indicators that go beyond the evaluation of species and fisheries incomes, which are relevant for assessing fisheries management; (2) it offers a more comprehensive perspective on what should be considered priority fisheries species and their key characteristics; and (3) it supports the identification of key actors of the fisheries value chain and generates pertinent information to use in vertically integrated decision-making initiatives.	3	Not focused on MSP	No, local case study	https://link.springer.com/article/10.1007/s11625-025-01644-4
Valpena project (French MED)	Valpena identified in the REGINA project recommendations. Spatial data collected by regional fisheries committees and framed/validated by two scientific teams of Nantes University (combining reported data and statistical modelling data). Data complementary to the data (e.g., VMS data).	3,4,5	Focus on MSP	No, but the methodology is transferable	https://valpena.univ-nantes.fr/

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Developed within the MSP4BIO series, this sheet focuses on fisheries, helping MPA managers incorporate fisheries management into an integrated marine spatial planning approach.	Summarises fisheries dependencies and pressures on ecosystem services, promoting practices that balance sustainable use and biodiversity conservation.		Supports the inclusion of fisheries management in spatial planning to sustain marine ecosystems and reduce user-environment conflicts.		https://msp4bio.eu/wp-content/uploads/2025/02/FISHERIES_-SECTORIAL-SHEET_AC-4.pdf https://msp4bio.eu/wp-content/uploads/2024/11/D4.2-Guideline-for-the-strategic-and-spatial-measures-for-the-nature-inclusive-operation-of-blue-economy-sectors-ESE3.pdf

Knowledge gaps and additional observations

A major challenge identified concerns the availability and accessibility of spatially explicit fisheries data, which remains limited, particularly in Southern Mediterranean countries. Important information, such as fishing effort, landings, and biomass of commercial species, is often incomplete or not spatially referenced, making it difficult to integrate into MSP processes.

Although Vessel Monitoring Systems provide valuable data in EU countries on where and how many vessels are fishing, a significant segment of the fleet, particularly small-scale fisheries, remains invisible to planners. This issue extends to Southern countries as well. Promising methodologies, such as GPS-based surveys developed under the MSFD in Spain's Canary Islands, could help fill these gaps and might be expanded to other regions.

The evolving nature of fisheries activities adds further complexity. Changing seasonality patterns and the growing emphasis on conservation and restoration objectives require updated data and approaches. While the fishing sector is increasingly open to participating in spatial mapping exercises, questions remain about how these should be conducted and what types of information should be included.

There is also a perception gap: fisheries are often viewed as insufficiently involved in MSP processes. However, multiple projects and platforms already provide opportunities for dialogue. The challenge lies in recognising and valuing these existing interactions and ensuring that participation translates into genuine influence and co-decision-making rather than mere consultation.

Another important gap relates to the co-management of fisheries within Marine Protected Areas. Many MPAs still lack management plans or operational frameworks, making it difficult to establish effective collaboration with the fisheries sector. Some examples, such as initiatives within French nature parks involving small-scale fisheries, offer valuable insights but do not yet represent full co-management models. There remains a need to define how fisheries management and conservation objectives can be effectively integrated within MSP.

Knowledge is also lacking on the socio-economic linkages between sea-based activities and their land-based impacts, including aspects such as ports, processing, employment, and value chains. Although this information is crucial for holistic planning, it remains difficult to obtain and integrate.

Finally, the capitalisation and transfer of experiences across countries were identified as key gaps. Lessons learned from successful initiatives are not always shared or adapted regionally. Strengthening knowledge exchange, data harmonisation, and cross-country learning could greatly enhance the integration of fisheries and MSP in the Mediterranean.

ANNEX C – OUTCOME OF MIRO EXERCISE: BREAKOUT SESSION ON MSP AND NATURE PROTECTION

List of issues identified during the MED-MSP-CoP II 2025 workshop. Those in red were prioritised in a subsequent online survey:

1. Strengthening the integration of MPAs, MPA connectivity and ecological corridors in MSP
2. Assessing cumulative impacts of multiple sectoral activities in shared marine spaces
3. The role of MSP in meeting the EU objectives on biodiversity protection (including 10% of strict protection) and nature restoration
4. Integrated climate change in nature protection in terms of expected impact (on habitats and species) and protection needs. Using climate change impact modelling in MSP.
5. Cross-border and transboundary MSP for nature protection
6. Data availability and data gaps for improvement in nature protection
7. Implementing ecosystem-based management strategies that support the EGD objectives
8. Working with maritime sectors on OECM designation and management
9. Moving from paper MPAs to implemented protection
10. Integrating the human/social dimension in nature protection
11. Better designation of MPAs and other protection measures (including OECM)
12. Reinforcing the effective role of strategic environmental assessment in MSP
13. The role of MSP in supporting the sustainable management of maritime uses outside protected areas and minimising pressures and impacts
14. Developing/implementing social criteria to assess the multiple values (e.g. relational values), belief systems and perceptions of stakeholders using and benefiting from nature
15. The importance of standardised methods for biodiversity assessment and improved data accessibility across the Mediterranean for MSP.

Table reporting the Miro exercise outcome

Guiding question of the exercise: participants are invited to provide information about sources of knowledge relevant to the framing topic MSP and nature protection, in particular, for the 5 prioritised issues (those listed in red).

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Guidelines including Case Studies MSPglobal International Guide on Marine/Maritime Spatial Planning Volume 2 – Biodiversity Inclusive Principle	Volume 2 complements the original Guide by emphasising the central role of biodiversity in ocean health, ecosystem services, and sustainable livelihoods, while supporting countries in responding to the Kunming-Montreal Global Biodiversity Framework. It calls for biodiversity-inclusive MSP that recognises biodiversity as the foundation of sustainable development, sets nature-positive objectives, and integrates conservation and resilience across all maritime activities. The volume explains why biodiversity must be central to MSP (Chapter 2), defines key elements of biodiversity-inclusive planning (Chapter 3), and offers 20 recommendations aligned with planning phases, each with a rationale and suggested actions (Chapter 4). Developed with global expert input and lessons from practice, the volume reinforces rights-holder and stakeholder engagement as a fundamental principle throughout the MSP process. More info: during MSPglobal 3.0 regional in-person trainings on the Guidelines will be implemented in 2026 (Asia, Africa, America), and an online self-paced course on the Guidelines is currently being developed on OTGA.	1, 3 and 5			https://unesdoc.unesco.org/ark:/48223/pf0000395354.locale=en

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Guidelines including Case Studies MSPglobal International Guide on Marine/Maritime Spatial Planning Volume 3 - Climate-smart Principle	Volume 3 complements the original Guide by focusing on the integration of climate considerations into MSP, aiming to support the development of climate-smart MSP that enhances ocean and coastal resilience. It highlights the importance of incorporating climate knowledge, flexibility, and adaptation and mitigation measures into planning, enabling countries to scale up climate action through ocean-based strategies. The volume explains why climate-smart MSP is essential (Chapter 2), defines its key elements (Chapter 3), and offers 24 recommendations aligned with planning phases, each with a rationale and suggested actions (Chapter 4). Developed through global expert contributions and lessons from practice, the volume stresses that rights-holder and stakeholder engagement is fundamental throughout the MSP process, reinforcing inclusive and effective climate-smart planning.	4			https://unesdoc.unesco.org/ark:/48223/pf0000395357.locale=en
Information from formal MSP - information for other planning processes Country profiles and information	MSP country profiles from around the world - updated on a rolling basis				https://www.mspglobal2030.org/msp-roadmap/msp-around-the-world/
MSP4BIODIVERSITY project	This is a national project aiming at reinforcing biodiversity conservation mainstreaming in MSP. The project includes the co-design of scenarios for the management of sectors and improved biodiversity conservation in 3 pilot areas (Northern Adriatic, Ligurian Sea, and Straight of Sicily)	1, 3	The project assesses the ecological connectivity of *Posidonia oceanica* meadows across marine protected areas in Sardinia, both MPA and Natura 2000 areas, to highlight potential new sites for protection and strengthen the coastal ecological network. The project includes the development of a methodology for the co-construction of scenarios. In each of the three pilot areas, three scenarios have been developed: (i) BAU scenario; (ii) scenario focused on enhanced biodiversity protection and restoration; (iii) scenario focused on sustainable blue economy. Scenarios were developed through the active involvement of stakeholders, including those from "nature protection" (e.g. Ministries, regional administrations, NGOs, etc.)	The project is mainly national (Italy). However, in each pilot area, transboundary elements are taken into consideration, e.g. in the proposed design of a few transboundary protected areas and/or OECMs	Information is not yet available. Scenarios are described in Italian in https://marefuturoismar.isig.it/#

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
DESIRMED, HORIZON PROJECT	"DesirMED - Demonstration and mainstreaming of Nature-based Solutions for Climate Resilient transformation in the Mediterranean" is a project funded under the Horizon Europe Programme, prioritising Nature-based Solutions (NbS), innovative technologies and social practices to accelerate the transformation towards climate adaptation and resilience in the Mediterranean	1, 3	The project combines ecological connectivity analysis and corridor mapping between Sardinian protected areas with climate change projections to identify and prioritise *climate refugia*.		https://www.desirmed.eu/p/the-project
BlueConnect Project SAIS EBSA Pilot site BlueConnect project (Demo site Spanish Corridor-PSSA-Pelagos)	Cumulative pressure analysis, MPA connectivity, and conservation measures in place SAIS EBSA aims to scale up good practices from the BlueConnect pilots to the SAIS EBSA level	1,2,4,5, 9, 12, 6	Measure options to reduce interactions with maritime traffic, noise, etc	Western Med (Spain-France-Monaco)	https://blueconnect-project.eu/
Report: MSPglobal Rapid Assessment Methodology	This document presents the MSPglobal Rapid Assessment Methodology (MSPglobal RAM) for the identification and development of actions, tasks and work plans to advance MSP within beneficiary countries supported by UNESCO-IOC, collaborators and other organisations working in this field.				https://unesdoc.unesco.org/ark:/48223/pf0000393841.locale=en
Good practices for stakeholder engagement Engaging indigenous peoples and local communities, and embracing indigenous and local knowledge in marine spatial planning, volume 1: basic concepts & volume 2: good practices	As we tackle the challenges of marine conservation and sustainable development, Volume 1 serves as a guide to navigate through concepts and international frameworks to engage with Indigenous Peoples and local communities, including fishing communities, in marine policies. Complementary, Volume 2, which was developed with the great support of indigenous and non-indigenous experts from all continents, is a beacon to encourage such engagement through detailed good practices.	10, 11 and 14			https://unesdoc.unesco.org/ark:/48223/pf0000389940.locale=en https://unesdoc.unesco.org/ark:/48223/pf0000390615.locale=en
Italian MSP plans	They identify priority areas for nature conservation, based on the presence of marine protected areas and/or high-value habitats	1, 3	The MSP plans do not identify MPAs, but delimitate larger areas prioritised for conservation where new MPAs could be established. Several measures are included in the plan to support the creation and management of MPAs.		
Publication					https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2019.00759/full

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
MSP4BIO reports and tools		1, 2, 3	The MSP4BIO project provides tools to support the integration of biodiversity into MSP. ESE1 illustrate a step-by-step approach to include MPAs in MSP		See also the overall ESE framework https://ese.tools4msp.eu/ Ecological Toolkit - ESE1 for MPA prioritisation and networking **MPA/MSP Guide**: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://msp4bio.eu/wp-content/uploads/2025/07/MSP4BIO-Factsheet-MPA-MSP-Guide.pdf Guidance for building climate change scenarios for protection strategies: https://msp4bio.eu/wp-content/uploads/2024/07/Deliverable-3.3_Guidance-for-including-Climate-Change-scenarios-in-protection-and-prioritization-strategies-for-Marine-Protected-Areas-development-1.pdf
REMAP project (almost concluded)	The project produced a set of modules (tools) that can be used to analyse spatial data supporting MSP (e.g. one module focuses on MSP-nature conservation; another on MSP-ecosystem services; a third one on MSP-MSFD, a fourth one on cumulative effects). A transboundary CS focused on the western Medit PSSA area was used to test the possibilities for the combined use of the modules	1,3,5	Tools produced by the project can support multiple aspects of the analysis. Their modular combination can produce ad-hoc assessments required by the different study areas	Promotes cross-learning and interoperability among tools applied across various regional and sea basin scales, from Galicia to the Baltic Sea and the Western Mediterranean	https://www.geoportal.ulpgc.es/remap/
MSPMED - Transboundary collaboration in windfarm effects assessment	The Mammellone Bank is located in the Strait of Sicily between Tunisia and Italy. It is an ecological hotspot and a traditional fishing ground affected by overlapping national claims, weak governance, and resource overuse.	2, 5			
Deep-sea Atlas of the Eastern Mediterranean Sea	Filling the gaps to achieve 30% protection in the Mediterranean by 2030, mapping pressures and knowledge	1,2, 6			https://iucn.org/news/mediterranean/202205/deep-sea-atlas-eastern-mediterranean-sea-state-art-knowledge-better-protection
INCORE-MED (recently launched)	Transnational project that promotes coastal climate adaptation based on nature-based solutions and democratic innovation. Pilot regions are Sardinia and Catalonia.	2,4,5	Development of inclusive tools and methodologies to prevent social conflict and empower coastal communities to become more resilient and engaged in ecosystem protection	Methodologies are tested in Portugal, Spain, Italy, and Croatia. Recommendations to the Euro-Med region	https://incore-med.interreg-euro-med.eu

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Manuscript and related project (MEDAQUA)	Ocean multi-use for the transition to sustainable energy and aquaculture developments in the Mediterranean Sea / Overlap areas with nature protection	2	Most related to multi-use development (wind, wave and aqua) and the pressure on MPAs	Mediterranean Sea analysis	MEDAQUA Project: https://fpcup.eu/user-uptake/action-details/examining-the-opportunities-for-multiuse-activities-in-the-mediterranean-sea-aquaculture-and-renewable-energies-medaqua-333 Paper: https://doi.org/10.1016/j.jenvman.2025.126678 Ongoing project: https://seadito.eu/ (demonstrate a Pan-European approach to cumulative effect assessment for Europe's coastal and marine socio-ecological resources)
Scientific article: Marine spatial planning for connectivity and conservation through ecological corridors between marine protected areas and other effective area-based conservation measures		1			https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2023.1271397/full
Transboundary CAMP Otranto project results (UNEP/MAP PAP/RAC)	Feasibility study for Area-Based Management Tools in the Strait of Otranto	5			Link to the feasibility study: http://camp-otranto.com/wp-content/uploads/2024/04/04-WEB-ABMT-ENG.pdf Link to the story map: https://storymaps.arcgis.com/stories/375a55178f444fafbff1df5731847e21
MPA Europe results					
Ecosystem-based MSP Assessment tool (MARINE PLAN)	An assessment framework and tool that integrates the fundamental principles of an ecosystem approach to management and translates them into specific actions to be undertaken during planning processes	1,2,3,5,7,10	The framework consists of five stages and sub-stages, representing the marine spatial planning implementation process It's available as a web app to use: https://aztidata.es/EB-MSP	The applicability of this EB-MSP assessment tool is exemplified and illustrated by its use in the transboundary context of the Bay of Biscay (France and Spain), but it is designed to be applicable in any geographic context.	https://www.nature.com/articles/s43247-024-01975-7 https://www.marineplan.eu/marineplan-final-event
Developed under the MSP4BIO Project. Deliverable 4.2, this sheet focuses on the integration of Marine Spatial Planning (MSP) and Nature Protection in relation to five key Blue Economy sectors: Aquaculture, Fisheries, Marine Non-Living Resources, Renewable Energy, and Tourism.	Addresses how MSP can align the spatial needs of these sectors with biodiversity and conservation goals. It highlights the use of ecosystem services as a common language to connect nature protection with sustainable maritime uses, supporting coherent and resilient marine ecosystems.		Promotes the inclusion of conservation and restoration objectives across sectoral planning processes, enabling MSP to guide sustainable development while ensuring the protection of marine biodiversity and ecosystem services.		https://msp4bio.eu/wp-content/uploads/2024/11/D4.2-Guideline-for-the-strategic-and-spatial-measures-for-the-nature-inclusive-operation-of-blue-economy-sectors-ESE3.pdf

Knowledge gaps and additional observations

The integration of MPAs into MSP is widely recognised as a fundamental principle of the planning process. Since MPAs can occupy a significant share of marine space, potentially up to 30%, it is not possible to design a coherent spatial planning framework without explicitly accounting for their presence and future designation. However, participants highlighted that while concepts such as connectivity and ecological corridors are well established in terrestrial planning, they are rarely applied or clearly defined in the marine context. On land, connectivity is often disrupted by infrastructure or urban development, directly impeding the movement of species and ecological processes. In the marine environment, development takes different forms and tends to affect ecosystems in other ways, with direct interruption of species movement being less evident. Two possible exceptions were noted: the ecological disruption caused by areas of intense fishing activity, which can fragment habitats or alter species distribution, and the need to maintain connectivity between coastal and marine ecosystems within and across MPAs. These aspects deserve further exploration to clarify how connectivity can be meaningfully addressed in MSP.

The discussion also stressed the persistent challenges of assessing cumulative impacts arising from multiple maritime sectors operating within shared marine spaces. Even evaluating the cumulative effects of activities within a single sector is highly complex, as existing scientific tools and datasets are often insufficient to address the full extent of ecological interactions. Expanding these assessments to include the combined effects of all sectors is considered nearly impossible under current conditions, except in a very general or indicative way. However, such generalised approaches are often too broad to inform practical decision-making. This gap highlights the need for more robust and integrated methods and tools capable of capturing cumulative pressures across sectors, ultimately supporting more sustainable and informed spatial planning.

ANNEX D – OUTCOME OF MIRO EXERCISE: BREAKOUT SESSION ON MSP AND OFFSHORE RENEWABLE ENERGY

List of issues identified during the MED-MSP-CoP II 2025 workshop. Those in red were prioritised in a subsequent online survey:

1. Knowledge needed for ORE sustainable development and its spatial allocation (i.e. on impacts to the marine environment, conflicts with other uses, etc.)
2. Co-location, co-existence and multi-use, in particular regarding nature protection
3. Suitability maps for ORE
4. Regulatory and governance challenges
5. The role of MSP in advancing ORE and meeting the EU objectives (GW)
6. Transboundary planning, cooperation and mutual learning for ORE
7. Cost-benefit analysis throughout the life cycle of renewable energy devices
8. Synergy opportunities between shipping and the ORE sector
9. Regulatory framework for facilitating a just, sustainable and effective deployment of ORE
10. Innovation

Table reporting the Miro exercise outcome

Guiding question of the exercise: participants are invited to provide information about sources of knowledge relevant to the framing topic MSP and offshore renewable energy, in particular, for the 4 prioritised issues (those listed in red).

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
MSPglobal Report: Engaging the offshore wind sector in marine spatial planning, volume 1: sector overview	This MSPglobal publication provides practical guidance for integrating offshore wind (OW) into marine spatial planning (MSP), recognising its rapid global expansion and growing spatial pressures. Structured in two volumes—one introducing the OW sector's spatial characteristics, lifecycle, and interactions, and the other outlining MSP phases and good practices—it highlights OW's full lifecycle, from planning and siting to decommissioning and reuse, each with distinct spatial challenges. It reviews regulatory and governance models, including plan-led and developer-led approaches, centralised versus decentralised systems, and streamlined "one-stop-shop" permitting. The publication stresses the need to address technical, spatial, and environmental considerations, such as foundation types, exclusion zones, and co-existence strategies with other maritime sectors. It emphasises the importance of impact assessments (sensitivity mapping, SEA, EIA) to balance risks and opportunities, acknowledging both environmental pressures during construction and socio-economic benefits during operation, while safeguarding Indigenous Peoples and local communities. Finally, it underlines MSP's key role in coordinating OW with navigation, fisheries, aquaculture, conservation, energy, and cultural uses through multi-use and three-dimensional spatial planning, ensuring the sustainable integration of offshore wind within the marine space. More info: Also, to be noting that in the next phase of MSPglobal 3.0, specific data toolboxes on Cumulative Impact Assessment and scenario building will be developed	5 and 10			https://unesdoc.unesco.org/ark:/48223/pf0000395576.locale=en

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
MSPglobal Report: Engaging the offshore wind sector in marine spatial planning, volume 2: good practices	Volume 2 of the joint UNESCO-IOC and UN Global Compact publication under MSPglobal 2.0 addresses the urgent need to integrate offshore wind (OW) into marine spatial planning (MSP) as the sector rapidly expands to meet climate goals. Building on Volume 1, it draws on expert dialogues, workshops, and case studies from Asia, Europe, and Latin America to outline how MSP—an integrated, strategic, and participatory process—can enable OW deployment by aligning it with national policies, reducing conflicts, facilitating cross-sectoral coordination, and accelerating permitting. However, challenges remain, including governance misalignments, data gaps limiting cumulative impact assessments, and insufficient community engagement leading to social opposition. To address these, the report presents four strategic pillars: (1) spatial and temporal planning to coordinate siting and transboundary collaboration, (2) stakeholder engagement that is early, continuous, and context-sensitive, (3) environmental considerations using mitigation hierarchies, Nature-based Solutions, and Nature-Inclusive Design, and (4) data sharing and technological innovation to ensure transparency and informed decision-making across sectors.	1, 2 and 4			https://unesdoc.unesco.org/ark:/48223/pf0000395581.locale=en
MSP4BIODIVERSITY	This is a national project aiming at reinforcing biodiversity conservation mainstreaming in MSP. The project includes the co-design of scenarios for management of sectors (including ORE) and improved biodiversity conservation in 3 pilot areas (Northern Adriatic, Ligurian Sea, and Straight of Sicily)	1 and 2	The project includes the development of a methodology for the co-construction of scenarios. In each of the three pilot areas, three scenarios have been developed: (i) BAU scenario; (ii) scenario focused on enhanced biodiversity protection and restoration; (iii) scenario focused on sustainable blue economy. Scenarios include ORE in their formulation, considering allocation of space, production targets and measures to manage use-use and use-environment interactions. Scenarios were developed through the active involvement of stakeholders, including those from the ORE sector.	Not considered for ORE	Information is not yet available. Scenarios are described in Italian in: https://marefuturoismar.isig.it/#

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Manuscripts, projects, MSP platform (from IH Cantabria)	Tools, suitability index maps, Multi-use approaches, analysis in different scales (global, regional, local...)	1, 2, 3	Tools, suitability index maps, Multi-use approaches, analysis in different scales (global, regional, local...)	Application to different case studies (different scales of analysis)	https://msp.ihcantabria.com https://doi.org/10.1016/j.enconman.2018.09.059 https://doi.org/10.1016/j.ocecoaman.2023.106764 https://doi.org/10.1016/j.ocecoaman.2018.05.006 https://doi.org/10.1016/j.marpol.2025.106786 https://doi.org/10.1016/j.jenvman.2025.126678 https://doi.org/10.1093/icesjms/fsaa226 https://fpcup.eu/user-uptake/action-details/examining-the-opportunities-for-multiuse-activities-in-the-mediterranean-sea-aquaculture-and-renewable-energies-medaqua-333 https://www.programapleamar.es/proyectos/acuflot-interacciones-entre-la-acuicultura-offshore-y-la-energia-eolica-flotante-retos-y
A review of developments in the study of environmental impacts related to offshore wind energy and its socioecological environment.	EU and regional update legislation on OWE, EIA overview, mapping of OWE, competition with other users, knowledge gaps for impacts and cumulative, consideration on monitoring, MPAs interactions	1,2,3			Publication EEA Report, 2025.
Softmar project	The general objective is to formulate proposals for methodologies and regulatory frameworks that facilitate the sustainable and resilient implementation of offshore wind energy in Spain. To analyse the various models of governance and marine spatial planning designed for the coexistence of offshore wind energy with other activities. To identify the specific features of the environmental assessment of offshore wind plans and projects. To compare the different concession and administrative authorisation regimes for offshore wind energy and its value chain.	4	Effective MSP needs to be aligned with regulatory frameworks (SEA, EIA, Authorisations, etc.)	Governance frameworks can be extrapolated and adapted	https://www.softmar.es/about/
MSPMED. Transboundary collaboration in windfarm effects assessment		1			

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Offshore Wind and Grid mitigation and avoidance report	Avoidance and minimisation of environmental impacts from Offshore Wind and Grid Infrastructure. More than 80 solutions are listed and described, from planning to decommissioning	1, 2	Yes, in matters of recommendations for better large-scale modelling and mitigation beyond project levels		https://offshore-coalition.eu/wp-content/uploads/2024/10/OCEaN-Mitigation-Report-2024_compressed.pdf
NECP plans - RED Directive (offshore renewable sources deployment)		4, 2, 3	Yes	Yes - but depends on each MS	
WWF Nature Positive Framework - Report	WWF's new report, Towards Nature Positive for the Ocean, provides a first-of-its-kind guide specifically designed to support companies operating in marine and coastal environments. It offers practical, science-based pathways to help businesses credibly contribute to the global nature-positive goal: halting and reversing biodiversity loss by 2030, and achieving full recovery by 2050. The briefing document reported in the links column provides a summary of the full report for the offshore wind sector, designed specifically for those working on project scoping and planning, construction, operation, and decommissioning of fixed and floating offshore wind projects. It highlights a selection of discrete science-based actions, drawn from the full report, to support nature-positive contributions for the ocean. Full details and information on nature positive in a cross-sector context are included in the report; this briefing provides a high-level overview of the key concepts and action pathways for the offshore wind sector.	1, 3, 5, 7, 10	Report addresses planning elements		https://www.worldwildlife.org/publications/towards-nature-positive-for-the-ocean-offshore-wind-brief
Lloret, J., Wawrzynkowski, P., Dominguez-Carrió, C., Sardá, R., Molins, C., Gili, J. M., ... & Olivares, A. (2025). Floating offshore wind farms in Mediterranean marine protected areas: a cautionary tale. *ICES Journal of Marine Science*, *82*(3), fsad131.	Review of the initial development of offshore wind energy inside and/or in the vicinity of Mediterranean Natura 2000 sites and other types of MPAs.	2	Not focused on MSP but on co-use	No, focused on Natura2000 sites	https://academic.oup.com/icesjms/article/82/3/fsad131/7246576?login=true
Migralion	The combined analysis of the data collected will help to characterise the movements and behaviours of birds and bats in the Gulf of Lion, to better anticipate their interactions with offshore infrastructure and other human activities.	1	Yes, for the OWF location to consider the birds' seasonal migration		https://www.eoliennesenmer.fr/observatoire/migralion https://www.france-energies-marines.org/projets/migralion/

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
French windfarm planning: Issue in integrating the effect assessment within the global MSP SEA		1			SEA in French : https://geolittoral.din.developpement-durable.gouv.fr/telechargement/concertation/MED/Pi%C3%A8ces%20obligatoires/Rapport%20de%20synthe_se%20EES%20fac_ade%20MED_CLEAN.pdf
Specific national policies for potential sites for offshore RES deployment - Malta https://energywateragency.gov.mt/wp-content/uploads/2024/10/MEE-National-Policy-23_-DIGITAL-_final-5.pdf	The scope of this Offshore Renewable Energy policy is to enable the Maltese Government to exploit the offshore potential in the country's best interest and to meet the following objectives: (i) Support the implementation of offshore renewable projects, mainly wind and solar, in areas lying beyond the territorial waters and within Malta's potential EEZ, with focus on the sea area within 25NM from the baselines or the median line, whichever is closer to the shore. (ii) Promote investment in renewable energy infrastructure. This shall be done in a manner to reduce regulatory and financial risk. (iii) Provide a comprehensive framework to promote investment in renewable energy. The development of this policy includes an initial assessment of the wind resource and an assessment of the bathymetry to delineate areas earmarked for potential development. (iv) Effectively incentivise investment promotion towards renewable energy resources in line with maritime spatial planning and management of maritime resources. (v) Direct potential investors towards efficient renewable technologies to increase the deployment of green energy technologies and shift away from carbon-intensive sources. (vi) Promote research, development and innovation in the offshore renewable energy sector.	3,4			

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Lloret, J. (2025). Offshore wind farms and marine protected areas in European waters: Better apart than together. *Marine Pollution Bulletin*, *220*, 118368.	This article contends that OWFs should not, as a general rule, be considered to be a biodiversity conservation tool, nor a "*de facto* MPA", and any such claim should be demonstrated case by case. Indeed, as a first principle, OWFs should not be allowed to be developed within or near Natura 2000 sites, nor other type of area devoted to biodiversity conservation or the management and recovery of fish stocks. A new concept is proposed for the spatial planning of OWFs: "Not in marine protected areas" (NIMPA). This strategy entails searching for alternative sites that prioritise already degraded seafloors and industrialised areas.	2	Not MSP-focused but co-use	No, focused on Natura2000 sites	https://www.sciencedirect.com/science/article/pii/S0025326X25008434
Pharos4MPAs Project	The general objective of the PHAROS4MPAs project is to enhance management effectiveness and networking for Mediterranean MPAs, to contribute to the conservation of marine biodiversity and natural ecosystems, taking into account the complex ensemble of human activities developed within the Blue Growth perspective and their interaction with protected areas and marine ecosystems. To achieve this goal, PHAROS4MPAs supports the implementation of EU maritime policies for the sustainable management of human activities and the protection of Mediterranean ecosystems, including the MSP Directive and the MSFD, among others.	1, 2, 3, 7, 10			https://maritime-spatial-planning.ec.europa.eu/projects/pharos4mpas-blue-economy-and-marine-conservation-safeguarding-mediterranean-mpas
Sensibility map of seabirds to Offshore Wind Energy in Spanish waters (SEO/BirdLife)	Map developed with the assessment of experts and using a systematic quantitative approach based on species ecology and conservation status	1,2,3,4	Yes	Partially	
MedOCEaN published a statement on Non-price Criteria in offshore wind energy tenders.		4			https://offshore-coalition.eu/wp-content/uploads/2025/09/Med-OCEaN-Statement-on-Non-Price-Criteria.pdf
State of play of OWF in France (Med)	Overview of existing projects, including prototype but also commercial plants	1 and 5	Yes	Partially in the Lion Gulf	https://www.eoliennesenmer.fr/facades-maritimes-en-france/facade-mediterranee

Source of knowledge	Short Description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
As part of the MSP4BIO sectoral series, this sheet addresses Renewable Energy development, assisting MPA managers and planners in integrating offshore renewables with ecosystem-based management.	Highlights ecosystem dependencies and pressures from offshore wind, wave, and tidal energy, presenting Good Management Practices for environmentally responsible deployment.		Informs spatial planners and policymakers on integrating renewable energy infrastructure within marine plans while safeguarding ecosystem services and reducing conflicts with other uses.		https://msp4bio.eu/wp-content/uploads/2025/02/RENEWABLES_MSP4BIO-FACTSHEET.pdf https://msp4bio.eu/wp-content/uploads/2024/11/D4.2-Guideline-for-the-strategic-and-spatial-measures-for-the-nature-inclusive-operation-of-blue-economy-sectors-ESE3.pdf

Knowledge gaps and additional observations

A key gap concerns the availability of reliable data on bird distribution and migratory routes, which are essential for assessing the environmental impacts of ORE installations and guiding their spatial allocation. While general wind models and radiation data are usually sufficient to identify suitable areas for ORE development at the MSP level, the lack of detailed information on seabird movements and migration patterns remains a critical limitation. Such data are costly and difficult to obtain, but fundamental for informed policy and spatial planning decisions.

Participants further reflected on the relationship between ORE development and nature protection, particularly in connection with concepts such as co-location, co-existence, and multi-use. It was noted that effectively managed MPAs should function as no-take zones, which would exclude ORE installations such as wind turbines and floating photovoltaic systems. These technologies can have multiple environmental effects, including noise, light, and habitat disturbances that impact both benthic and pelagic ecosystems, as well as bird populations. Ensuring that ORE development proceeds sustainably, therefore, requires robust ecological data, comprehensive impact assessments, and clear guidance on how to balance renewable energy goals with biodiversity conservation and other maritime uses.

ANNEX E – OUTCOME OF MIRO EXERCISE: BREAKOUT SESSION ON MSP AND AQUACULTURE

List of issues identified during the MED-MSP-CoP II 2025 workshop. Those in red were prioritised in a subsequent online survey:

1. Interactions between aquaculture and marine conservation
2. Multi-use, including aquaculture
3. Proper allocation of space for aquaculture through MSP
4. Strengthening the engagement of aquaculture stakeholders in MSP
5. Sustainable site selection to minimise ecological disruption
6. Improving adaptation to climate change
7. Energy transition in aquaculture

Table reporting the Miro exercise outcome

Guiding question of the exercise: participants are invited to provide information about sources of knowledge relevant to the framing topic MSP and aquaculture, in particular, for the 4 prioritised issues (those listed in red).

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
ALLOCATED ZONES FOR AQUACULTURE A guide for the establishment of coastal zones dedicated to aquaculture in the Mediterranean and the Black Sea	A practical tool to facilitate the understanding of site selection and planning for aquaculture and provide information on processes for establishing allocated zones for aquaculture (AZAs) in the Mediterranean and Black Sea region.	3			Macias, J.C., Avila Zaragozá, P., Karakassis, I., Sanchez-Jerez, P., Massa, F., Fezzardi, D., Yücel Gier, G., Franičević, V., Borg, J.A., Chapela Pérez, R.M., Tomassetti, P., Angel, D.L., Marino, G., Nhhala, H., Hamza, H., Carmignac, C. & Fourdain, L. 2019. Allocated zones for aquaculture: a guide for the establishment of coastal zones dedicated to aquaculture in the Mediterranean and the Black Sea. General Fisheries Commission for the Mediterranean. Studies and Reviews. No 97. Rome, FAO. 90 pp.
Aquaculture communities: Database issued by the EU aquaculture assistance mechanism	This section of the knowledge base includes information on active aquaculture communities - including working groups, technical groups, partnerships, and networks - where stakeholders and/or representatives of stakeholders can engage to express their opinions and concerns on different aquaculture topics, as well as work together to find solutions to challenges faced by the aquaculture sector	4			aquaculture.ec.europa.eu/knowledge-base/aquaculture-communities
Guidelines on social acceptability of aquaculture	Social acceptability of aquaculture. The guidelines address governance, environmental, economic, social and ethical aspects that could influence the social acceptability of aquaculture in the region. For each aspect, they recommend practical actions and identify the main categories of stakeholders that should be involved.	4			FAO. 2022. Guidelines in support of social acceptability for sustainable aquaculture development. General Fisheries Commission for the Mediterranean. Rome. https://doi.org/10.4060/cc2299en
COMMISSION STAFF WORKING DOCUMENT: Implementing the Strategic Guidelines on EU Aquaculture Climate-change Adaptation in the Aquaculture Sector	The principal objective is to support authorities and policymakers in Member States and the aquaculture sector in creating and updating CAPs for aquaculture. To that end, it presents the effects (both negative and positive) that climate change can have on EU aquaculture.	6			SWD(2024) 282 final

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Overview of the effects of offshore wind farms on fisheries and aquaculture	Provides an overview of the state of knowledge on the existing and potential future effects of offshore wind farms (OWFs) on fisheries and aquaculture. A literature review on several aspects (ecology, management, legislation, socio-economics, stakeholders and governance) is executed, and complemented by stakeholder interviews (p 36-50) and two case studies	2			Van Hoey, G., Bastardie, F., Birchenough, S., De Backer, A., Gill, A., de Koning, S., Hodgson, S., Mangi Chai, S., Steenbergen, J., Termeer, E., van den Burg, S., Hintzen, N., Overview of the effects of offshore wind farms on fisheries and aquaculture, Publications Office of the European Union, Luxembourg, 2021, p. 99.
SWD(2024) 107 final COMMISSION STAFF WORKING DOCUMENT					
Article "Ocean multi-use for the transition to sustainable energy and aquaculture developments in the Mediterranean Sea", Ondiviela et al, 2025.	Highlights: Multi-use opportunities are addressed. 17 countries have opportunities (Libya, Italy, Tunisia...). The main overlap of MU is with the N2000 network. Posidonia is the most affected ecosystem by MU.	2	Optimisation of space, coherence with MSP objectives (integrated management and spatial efficiency), Use of synergies through the use of EMR structures for algae or mussels, Innovation	The development of multi-use requires overcoming legal, technical, and regulatory barriers—challenges often shared across countries—making transnational projects essential to share lessons learned, harmonise regulatory frameworks, and develop common standards.	https://www.sciencedirect.com/science/article/pii/S0301479725026544
MSP4BIODIVERSITY project	This is a national project aiming at reinforcing biodiversity conservation mainstreaming in MSP. The project includes the co-design of scenarios for management of sectors (including aquaculture) and improved biodiversity conservation in 3 pilot areas (Northern Adriatic, Ligurian Sea, and Straight of Sicily)	3, 4	The project includes the development of a methodology for the co-construction of scenarios. In each of the three pilot areas, three scenarios have been developed: (i) BAU scenario; (ii) scenario focused on enhanced biodiversity protection and restoration; (iii) scenario focused on sustainable blue economy. Scenarios include aquaculture in their formulation. Scenarios were developed through the active involvement of stakeholders, including those from the aquaculture sector.	Not considered for ORE	Information is not yet available. Scenarios are described in Italian in: https://marefuturoismar.isig.it/#
GENIALG project **(2017-2021)**	Objectives: to maximise socio-environmental benefits and social acceptance of seaweed farming. Specific objectives are: (i) to assess and monitor the potential biotic and abiotic impacts of farms on surrounding ecosystems, (ii) to model the carrying capacity of the seaweed farming sites, and assess the benefits of seaweed cultivation, (iii) to act upon acquired knowledge to stimulate the social licensing process for seaweed aquaculture and develop best socio-economic-environmental management practices.	4	Social license to operate.		https://genialgproject.eu/

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
MedAID project (2017-2021): Mediterranean Aquaculture Integrated Development	Understanding the social bottlenecks of aquaculture development Accompanying a strategy to enhance the social acceptability of aquaculture Testing protocols and tools for stakeholders' engagement to support the emergence of social license for aquaculture sustainable development	TOPIC 4	Stakeholders' engagement in MSP		http://www.medaid-h2020.eu/
AQUASPACE project **(2015-2018)**	The overall impact of the project will be to enable the aquaculture sector to grow sustainably and to effectively negotiate for space using Marine Spatial Planning.	3	Toolbox		https://aquaspace-h2020.eu/?page_id=11646
Nature-based solutions framework applied to aquaculture	This publication discusses potential synergies between aquaculture and marine conservation by looking at the emerging concept of NbS as an opportunity to explore relevant/illustrative case studies.	1			https://iucn.org/resources/publication/aquaculture-and-nature-based-solutions https://ultfarms.eu/# https://olamur.eu/
Multi-use: ORE and aquaculture: ULTFARMS project (2023-2026); OLAMUR (2023-2025)	Circular low-trophic offshore aquaculture in wind farms and restoration of marine space	2			
Manuscripts, projects, MSP platform (from IHCantabria)	Tools, suitability index maps, Multi-use, analysis in different scales (global, regional, local...)	2, 3	Tools, suitability index maps, Multi-use, analysis in different scales (global, regional, local...)	Application to different case studies (different scales of analysis)	https://msp.ihcantabria.com https://doi.org/10.1016/j.aquaculture.2018.07.054 https://doi.org/10.1016/j.ocecoaman.2023.106764 https://doi.org/10.1016/j.ocecoaman.2018.05.006 https://doi.org/10.1016/j.jenvman.2025.126678 https://doi.org/10.1093/SCIsjms/fsaa226 https://doi.org/10.1016/j.marpol.2025.106786 https://fpcup.eu/user-uptake/action-details/examining-the-opportunities-for-multiuse-activities-in-the-mediterranean-sea-aquaculture-and-renewable-energies-medaqua-333 https://www.programapleamar.es/proyectos/acuflot-interacciones-entre-la-acuicultura-offshore-y-la-energia-eolica-flotante-retos-y
Implementation of AZA in the Portodimare project					https://www.portodimare.eu/tools_r/1.8/

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Manual on the use of geographic information systems for the identification of allocated zones for aquaculture	This practical manual aims to facilitate the understanding and use of geographic information systems (GIS) for the planning and management of aquaculture in Mediterranean and Black Sea countries.	3			https://openknowledge.fao.org/items/f25c08b2-b9c6-4bf0-9086-f52cc9585788
AZA4ICE, Interreg EuroMED project	Allocated Zones for circular Aquaculture to trigger the transition to an Inclusive and Circular Economy in the aquaculture sector, fostering new business opportunities and an eco-conscious society	1,3,5			https://aza4ice.interreg-euro-med.eu/
AZA-RER project (FEAMPA)	Project supporting the development of the AZA plan for Emilia-Romagna region (Italy) - production mainly shellfish (interest in diversification, climate change related issues, resilience of the sector; the project valorises data from operational oceanography for supporting MSP.	1,3,4,5	Provides a methodology for a sustainable site selection considering interaction with other MSP sectors, including advanced modelling and geo-statistical analysis		
French reference warming trajectory for adaptation (TRACC) and corresponding datasets	The French reference warming trajectory for the TRACC (Temperature Reference Adaptation Climate Change) project provides climate projections for spatial planning and corresponding datasets, which are useful for consistently implementing climate change scenarios.	6	Common climate scenarios to have a consistent approach	Common datasets for climate change consideration	https://unece.org/transport/documents/2025/05/informal-documents/french-reference-warming-trajectory-adaptation-tracc & datasets: https://www.drias-climat.fr/accompagnement/sections/401
FAO (2021). Aquaculture and Marine Protected Areas: Interactions, Conflicts and Coexistence.	Analyses spatial and ecological interactions between aquaculture and marine conservation. It identifies potential conflicts and co-existence strategies.		Provides the scientific and policy basis for balancing aquaculture development with marine biodiversity protection in spatial planning.	Supports regional harmonisation of aquaculture and conservation policies to reduce cross-border impacts and ensure coherent ecosystem-based MSP across shared Mediterranean waters	https://openknowledge.fao.org/server/api/core/bitstreams/af2450a6-a183-4d48-b308-bdbf09f95893/content
AQUAWIND - Innovative multi-use prototype combining offshore renewable energy and aquaculture in the Atlantic Basin	Real prototype deployed in the Canary Islands	1,2	Provides in-situ information on multi-use between aquaculture and ORE and the cumulative impacts on the marine environment.	France, Spain, Portugal	https://aquawind.eu/project/
A study was conducted on determining the best possible aquaculture sites in France (Meilleurs Emplacements Aquacoles Possibles, 2017)	Identification of best aquaculture sites. The study led to the creation of a dedicated aquaculture section in the geoportal GEOLITTORAL.	3	Helps to minimise environmental impact, reduce conflicts between marine activities, and facilitate the attractiveness of the sector for first installations.	The methodology can serve for the identification of the best aquaculture sites in other countries as well.	

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
PNR DZAquaFarm project: multi-stakeholder platform for sustainable aquaculture in Algeria	The DZAQUAFARM project is a multi-stakeholder platform for sustainable aquaculture in Algeria that provides the essential evidence and tools required to implement effective Marine Spatial Planning for aquaculture in Algeria	4 and 5	The GIS platform developed by DZAQUAFARM can be used to map not only environmental parameters but also other human activities like fishing grounds, shipping lanes, tourism areas, and marine protected areas (MPAs)	The project is aligned with the regional vision and plan, such as GFCM EMP (environmental monitoring programs for aquaculture) https://www.fao.org/gfcm/activities/environment/monitoring/en/	https://www.lncappasm.dz/projet-national-de-recherche/
The AZA Sardinia project ended with the AZA plan (now in the Strategic Environmental Assessment phase)	The AZA Sardinia project identifies and maps *Allocated Zones for Aquaculture* in the sea, lakes, and lagoons. The plan has been pre-approved by the Sardinia Region	1,3,4,5	The outputs of the suitability maps have already been incorporated into the Maritime Spatial Plan for Sardinia's territorial waters.		https://www.fondazioneimc.it/It/Progetto/16
Inclusion of the aquaculture sector within the Italian MSP Plans	Aquaculture (shellfish and finfish) was considered in the Italian plans along different dimensions (from the analysis of environmental interactions and the coexistence with other uses to the identification of specific measures, zoning)	1,3,4,5			https://sid.mit.gov.it/mappa
Blueboost project, SBEP	BLUEBOOST aims to provide knowledge based solutions that will enable the aquaculture industry to overcome bottlenecks that inhibit Governments and businesses, following an impact pathway that can increase the volume and diversity of aquaculture products, reduce environmental footprint towards a carbon-neutral economy, raise the circularity and competitiveness of the blue economy, provide new products, restore ecosystems, create jobs and increase ecosystems resilience against climate change.	1,3,4,5	A task concerns the spatial evaluation of IMTA suitability.		https://www.blueboost.eu/
AZA Georgia	Plan on the Allocated Zones for Aquaculture (AZA)	1,3,4,5			
AZA Albania	Plan on the Allocated Zones for Aquaculture (AZA)	1,3,4,5			https://euprojects.al/euprojects/support-to-the-fisheries-sector-in-albania/

Source of knowledge	Short description	Issues of relevance	Relevance for MSP	Transboundary relevance	Link to more information
Framework for Allocated Zones for Restoration (AZRs) and criteria for key species selection in restorative aquaculture.	The present Meeting Document intends to propose the concept of *"Aquaculture Restoration Area"* and the "*Criteria for Selection of Key Candidate Species"*. It aims to contribute to the discussion on the concept, analysing the available references and proposing a common definition of *Allocated Zones for Restoration* (AZRs) while considering the multiple uses of coastal areas (e.g., fisheries, tourism, transport, etc.). It also aims at providing some simple common criteria for the definition of key candidate species for restorative aquaculture. This Meeting Document is also intended to be a technical contribution to the work of the GFCM Technical Advisory Group on spatial planning for aquaculture (TAG-SPA).	1,3,5			https://openknowledge.fao.org/items/faa9d399-0dc9-49c0-ba33-9575d9164118
NBFC - Action 2 – Restoration of Biodiversity and Ecosystems	Activities focus on studying restocking methodologies for the European Native Oyster (*Ostrea edulis*) and the ecosystem services associated with it. Restorative aquaculture of *Ostrea edulis* using modelling and experimental approaches	1,3,5			https://www.fondazioneimc.it/It/Progetto/26
MSP4Bio -Part of the MSP4BIO sectoral series, this sheet focuses on Aquaculture and supports MPA managers in addressing aquaculture activities through an integrated approach, while guiding blue economy stakeholders on sector impacts on ecosystem services.	Provides an overview of aquaculture interactions with ecosystem services and conservation areas, outlining Good Management Practices to mitigate pressures and promote sustainable sector development.		Offers guidance to policymakers for integrating aquaculture within spatial planning processes, supporting trade-off analysis and conflict resolution between users and the environment.		https://msp4bio.eu/wp-content/uploads/2024/11/D4.2-Guideline-for-the-strategic-and-spatial-measures-for-the-nature-inclusive-operation-of-blue-economy-sectors-ESE3.pdf https://msp4bio.eu/wp-content/uploads/2025/02/AQUACULTURE-MSP4BIO-FACTSHEET.pdf

Knowledge gaps and additional observations

Participants noted that information on algae production remains scarce, despite its growing relevance for sustainable aquaculture and circular bioeconomy strategies. The socio-economic dimension of aquaculture development is also often insufficiently addressed in both MSP processes and Aquaculture Zone Allocation planning, with limited data available on employment, value chains, and local community benefits. Similarly, genuine stakeholder engagement processes are sometimes lacking or remain superficial, hindering shared ownership and effective implementation of planning decisions.

Environmental monitoring programs were also identified as a key challenge, as existing frameworks are not easily applicable to the Mediterranean context. Competent authorities often lack harmonised parameters and thresholds to assess aquaculture impacts, and greater coordination is needed to ensure consistent and comparable monitoring approaches. Emerging techniques such as environmental DNA (eDNA) analysis offer promising potential to strengthen monitoring capacities, supporting both regulators and farmers in better understanding ecosystem impacts.

The group also highlighted the growing interest in multi-trophic aquaculture, an area where research and data are rapidly expanding. Further exploration is needed to identify suitable species combinations and assess the ecological and economic benefits of such systems. Finally, the links between AZA designation and climate change require greater attention, as current planning approaches rarely incorporate climate scenarios. Integrating climate change considerations into MSP and aquaculture planning will be crucial to ensure the long-term sustainability and resilience of the sector.