mspmed

D2.21 – Report of technical workshop

3rd Technical workshop “Ecosystem-Based Maritime Spatial Planning in the Mediterranean”

MSP-MED | 3rd Technical Workshop

ACKNOWLEDGEMENT
The work described in this report was supported by the European Maritime and Fisheries Fund of the European Union- through the Grant Agreement number 887390 - MSPMED-EMFF-MSP-2019, corresponding to the Call for proposal Call EMFF-MSP-2019 (Maritime Spatial Planning) Topic: EMFF-MSP-2019 Type of action: EMFF-AG for Projects on Maritime Spatial Planning (MSP).

DISCLAIMER
The content of this report represents the views of the author only and is his/her sole responsibility; it cannot be considered to reflect the views of the European Commission and/or the Executive Agency for Small and Medium-sized Enterprises (EASME) or any other body of the European Union. The European Commission and the Agency do not accept any responsibility for use that may be made of the information it contains.

Co-funded by the European
Maritime and Fisheries Fund

Project Full Title	**Towards the operational implementation of MSP in our common Mediterranean Sea**
Project Acronym	**MSP-MED**
Gant Agreement Nr.	**887390**
Project Website	**www.mspmed.eu**

Deliverable Nr.	**D2.21 (Internal numbering D24)**
Status (Final/Draft/Revised)	**Final**
Work Package	**WP2 – Setting-up Maritime Spatial Plans**
Task Number	**2.7 – Sharing experiences among countries**
Responsible Institute	**CORILA**
Author/s	**Daniele Brigolin, Niccolò Bassan, Elena Gissi, Neil Alloncle, Elisabetta Manea, Martina Bocci, Fabio Carella, Federico Fabbri, Camille Assadi**
Infographics	**Folco Soffietti**
Recommended Citation	
Dissemination Level (Public/Partnership)	**Partnership**

Document History			
Version	**Date**	**Modification Introduced**	
		Modification Reason	**Modified by**
1	29/03/2021	Revision	Cristina Cervera Núñez (IEO), Stavros Antoniadis (UNEP-MAP), Linda Fourdain (FAO-GFCM), Dania Abdul Malak

			(ETC-UMA)

INDEX

1 Introduction

What is meant by "Ecosystem-Based Approach"?

The Convention on Biological Diversity (CBD) (COP 5/Decision V/6) stated in May 2000 the following definition of the ecosystem approach: "*The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Thus, the application of the ecosystem approach will help to reach a balance of the three objectives of the Convention: conservation; sustainable use and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. An ecosystem approach is based on the application of appropriate scientific methodologies focused on levels of biological organization, which encompass the essential structure, processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of many ecosystems*". This definition of ecosystem approach is rooted in the so-called "*Malawi principles*" of the Ecosystem approach (CBD, 2018)[1]. The ecosystem approach represents the overarching guiding principle to all policy implementation and development undertaken under the auspices of UNEP/MAP Barcelona Convention (UNEP/MAP, 2008). The need for management approaches based on an ecosystem perspective that thoroughly incorporate ecosystem considerations into marine planning has become increasingly urgent (Douvere and Ehler 2008, Ansong et al. 2017). The ecosystem approach has evolved in the Ecosystem-Based Approach (EBA), and, in the ecosystem-based management (EBM), which are almost overlapping (Kirkfeldt, 2019) but with some nuanced differences (Kirkfield, 2019, Katona et al. 2017). Nevertheless, the different interpretations all have in common to consider the limits of ecosystems demand for an integrated management approach (PanBaltic Scope, 2019). The European Union, has adopted the "ecosystem-based approach" (EBA) with the Maritime Spatial Planning Directive 2014/89/EC.

In 2018, within the SUPREME and SIMWESTMED projects, the project partners identified and discussed a series of key principles of EBA (elaborated from McLeod et al. 2005, Ehler and

[1] Malawi principles: (1) Management objectives are a matter of societal choice. (2) Management should be decentralized to the lowest appropriate level. (3) Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems. (4) Recognizing potential gains from management there is a need to understand the ecosystem in an economic context. Any ecosystem management program should a) reduce those market distortions that adversely affect biological diversity; b) align incentives to promote sustainable use; c) internalize costs and benefits in the given ecosystem to the extent feasible. (5) A key feature of the ecosystem approach includes conservation of ecosystem structure and functioning. (6) Ecosystems must be managed within the limits to their functioning. (7) The ecosystem approach should be undertaken at the appropriate scale. (8) Recognizing the varying temporal scales and lag effects which characterize ecosystem processes, objectives for ecosystem management should be set for the long term. (9) Management must recognize that change is inevitable. (10) The ecosystem approach should seek the appropriate balance between conservation and use of biological diversity.

(11) The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices. (12) The ecosystem approach should involve all relevant sectors of society and scientific disciplines.

Douvere 2009, UNEP 2011, Pisces 2013, MMO 2014, Barcelona convention 2015, Long et al. 2015, Helcom-Vasab 2016, Ansong et al. 2017, from Gissi et al. 2018) which are:

1. Have a long term vision;
2. Integrate ecological, social, economic and institutional perspectives and recognize their interdependencies;
3. Make protecting and restoring marine ecosystems as a priority;
4. Take anthropogenic pressures and cumulative impacts into account;
5. Consider connections and connectivity between and across ecosystems;
6. Take an ecosystem services perspective;
7. Promote adaptive management;
8. Planning at the appropriate scales;
9. Adopt a precautionary approach;
10. Use the best available knowledge;
11. Involve stakeholders.

Why is important to tackle this topic?

EBA considers humans as integral part of the natural ecosystem and, when applied, it can show the trade-off and interactions between the goods and services provided by natural ecosystems and the different management goals (Levin et al., 2009).
Although the MSP Directive does not directly provide a definition of EBA, the requirement to implement EBA is stated in the Preambles (3), (14), (22) as well as directly in the Article 5 on the objectives of MSP:

MSPD Preamble (3): "…*The application of an ecosystem-based approach will contribute to promoting the sustainable development and growth of the maritime and coastal economies and the sustainable use of marine and coastal resources*."

MSPD Preamble (14): "*In order to promote the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources, maritime spatial planning should apply an ecosystem-based approach as referred to in Article 1(3) of Directive 2008/56/EC with the aim of ensuring that the collective pressure of all activities is kept within levels compatible with the achievement of good environmental status and that the capacity of marine ecosystems to respond to human-induced changes is not compromised, while contributing to the sustainable use of marine goods and services by present and future generations" and "an ecosystem-based approach should be applied in a way that is adapted to the specific ecosystem and other specificities of building on existing knowledge and experience.*"

MSPD Article (5): "*When establishing and implementing maritime spatial planning, Member States shall consider economic, social and environmental aspects to support sustainable*

development and growth in the maritime sector, applying an ecosystem-based approach, and to promote the coexistence of relevant activities and uses."

Which are the objectives of this third technical workshop?

The main goal of this third MSP-Med project workshop is to foster a sound application of the EBA within MSP implementation in the Mediterranean Sea, by sharing experiences among project partners and with international experts and institutions. Ways of integrating ecosystem-based approach principles in the MSP process will be discussed by considering a set of key elements:

- the baseline principles recognized under the EBA definition;
- the potential for merging environmental quality management (e.g. MSFD) with MSP and the role of Strategic environmental assessment;
- the core elements for a sound EB-MSP implementation;
- the relevance of monitoring and the integration of near real-time data for dynamic management.

What should be addressed during this third technical workshop?

The workshop will include a plenary section, focusing on a set of broad themes of interest for the EB-MSP implementation in the Med. Within the following parallel sections, project partners and experts will share their experiences on specific themes regarding EBA implementation in the steps of the MSP process.

2 Programme

Programme	
09:30	**Introduction, greetings and warm-up** Pierpaolo Campostrini (Corila) Project coordinator Céline Frank (DG-MARE)
09:45	**Plenary: overarching themes for EB-MSP implementation in the MEDITERRANEAN (1 hour 15'):** Moderator: Daniele Brigolin (IUAV) Format: 4 talks of 15' each + introduction Introduction – EBA, from principles to plan implementation **Stavros Antoniadis (UNEP-MAP) -** Linking ECAP with MSP in the MED; **Mauro Randone (WWF Med) -** Ecosystem Based Approach for healthy marine ecosystems; **Linda Fourdain (FAO-GFCM) -** Ecosystem based approach for sustainable food production in the Med; **Dania Abdul Malak (ETC-UMA) -** Ecosystem-based approaches for transboundary biodiversity conservation.
11:00	**Virtual Coffee Break**

11:15	**Parallel sessions on key topics - EBA in the steps of the MSP process (1 hour 15')** a) ***EBA in the analysis phase*** *- moderator Elena Gissi (ISMAR-CNR)* *the session focuses on the operational steps and related methodologies that the Partner Countries put in place on the following topics: defining current and future priority areas for conservation (e.g., sensitive areas, priority habitats and species, identification of marine green infrastructure); analysing conditions and related methods to depict environmental interactions, pressures, and impacts between human activities and the environment (e.g. Ecosystem Services assessment, Cumulative Effect Assessment); articulation between scales of analysis; managing knowledge and data gaps; defining links to SEA.* ***Format:*** *the session is organized in two parts (A and B), preceded by an introduction by the moderator.* *A) Round of 8-minute presentations from each partner country of MSP-MED (France, Greece, Italy, Malta, Slovenia, Spain). The presentation aims at providing an overview about how the analysis of the interactions, pressures and impacts of human uses on the environment are addressed in each national process, and to discuss strategic and technical challenges encountered, and potential solutions envisaged to overcome them.* *B) Guided discussion (30' approximately) on the successful practices, difficulties and remaining challenges presented by the partners, to learn from each other and exchange best practices.* ***Contributors:*** *a participant from each partner country is invited to present the state of the art about the operationalization of EBA in the analysis phase. Experts on technical aspects of the analysis of pressures will be invited as discussant to contribute on the topics of overcoming potential challenges and finding solutions.* ***b)EBA in the design phase*** *- moderator Neil Alloncle (AFB)* *The objective of the session is to share good practices and remaining challenges to implement EBA principle when drafting the plans. This could be addressed through different key questions:* *o How to ensure MSP coherence with MSFD and other environmental policies (Habitat and Birds directives)?* *o How to account for EBA principles when defining planning units and designing measures? Consideration of aspects related to environment sensitivity, ecosystem services, socio-economic impact of environmental measures;* *o How to ensure that plans are implemented at the appropriate scale and by/with the appropriate actors (subsidiarity principle)?*

	o *What role does SEA play in ensuring EBA in the design phase?* ***Format:*** *the session is organized as a guided discussion, preceded by an interactive phase carried out with the support of an online based collaborative tool. Considering the key questions provided, participants will be asked to share during the session (1) example of successful practices, (2) main difficulties encountered and (3) remaining challenges to address in future planning processes.* ***Contributors:*** *each participant will be invited to share experiences during the session (organisation's aim is to get at least one representative from each MSP-MED partner country - France, Greece, Italy, Malta, Slovenia, Spain)* c) ***Implementing adaptive EB-MSP*** *– moderator Elisabetta Manea (ISMAR-CNR)* *The session deals with the theme of EBA integration in the MSP-monitoring process, including the themes of monitoring and adaptive management, indicators characteristics and coherence with MSFD, integration with existing monitoring programs, and observing systems. Key aspects to be addressed are:* *1. How the monitoring programme related to the MSP of your own country is structured and has been implemented?* *2. The main difficulties and limitations dealing with EBA implementation within the MSP monitoring programme in your country.* *3. The main challenges in implementing an EB-MSP monitoring programme.* ***Format:*** *the session is organized in two parts (A and B), preceded by a brief introduction by the moderator.* *A) Round of 8-minutes presentations from each partner country of MSP-MED (France, Greece, Italy, Malta, Slovenia, Spain), who will be asked to describe the MSP monitoring approach under development in their own country;* *B) Guided discussion (30' approximately) to allow partners to share questions, doubts and perspectives related to the topics.* ***Contributors:*** *beyond the 7-minutes presentations from each partner country during Part A, the participants are invited to share their experiences during Part B of the session. Experts on monitoring aspects are welcome as discussant to contribute on the topics.*
12:30	**Debriefing and conclusions**

3 Participants

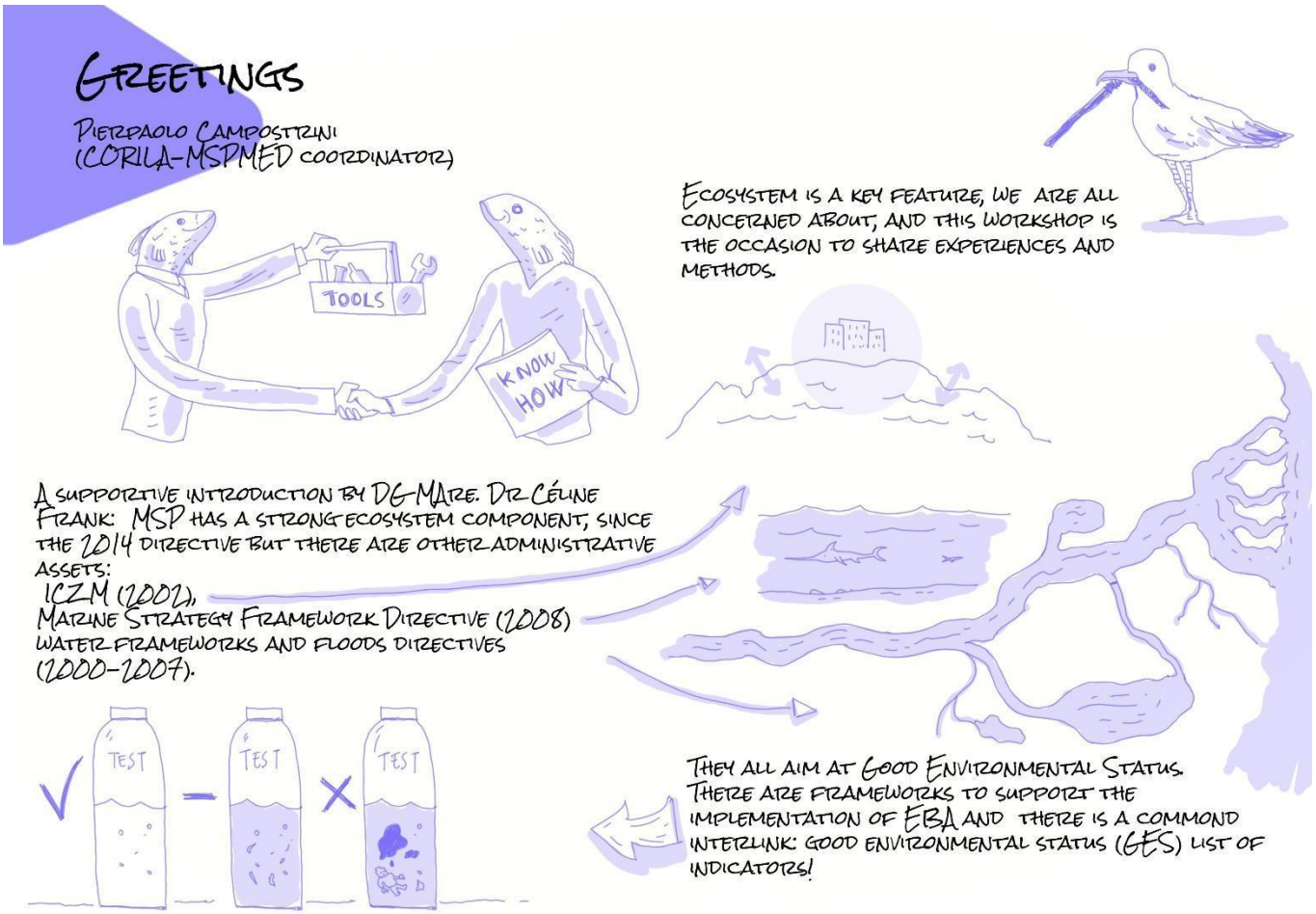
MSP-MED Partners	
CORILA	*Pierpaolo Campostrini, Barbara Giuponi, Francesca Coccon, Niccolò Bassan, Fabio Carella, Daniele Brigolin, Francesco Musco, Denis Maragno, Federico Fabbri, Elena Gissi, Elisabetta Manea, Micol Roversi Monaco, Giulio Farella, Martina Bocci, Stefano Menegon, Andrea Barbanti*
PA	*Michelle Borg, Alexia Vella*

Shom	*Laura Ceyrac, Florent Le Courtois, Benjamin Ollivier, Emilie Tew-Kaï, Dominique Carval, Laura Cotte*
OFB	*Camille Assali, Neil Alloncle*
RRC Koper	*Slavko Mezek*
UTH	*Harry Coccossis, Kal. Lappa, Vanessa Halastani, Tonia Koutsopoulou, Alexandros Chalalis, Evangelos Asprogerakas*
YPEN	*Evgenia Lagiou, Elena Lalou*
IEO	*Mónica Campillos-Llanos, Cristina Cervera-Nuñez, María Gómez-Ballesteros*
MSP Competent Authorities	
Ministry for the Ecological Transition and the Demographic Challenge – DG for the coasts and the sea (Spain)	*Aurora Mesa*
Ministry of the Sea (France)	*Olivier Laroussinie, Maïté Verdol*
Ministry of Environment and Energy (Greece)	*Foteini Stefani, Elena Lalou, Evgenia Lagiou*
Other Institutions	
European Commission – DG MARE	*Cèline Frank, Juan Ronco*
UNEP-MAP	*Stavros Antoniadis*
WWF Med	*Mauro Randone*
FAO-GFCM	*Linda Fourdain*
ETC-UMA	*Dania Abdul Malak*
MSP Platform	*Yves Henocque*
Unesco-Ioc	*Alejandro Iglesias, Firdaous Halim*
University Mohammed V in Rabat	*Maria Snoussi*
Regione Sardegna	*Fabrizio Madeddu*
Regione Toscana	*Renzo Pampaloni*
UfM	*Alessandra Sensi, Celia Murcia*
Acteon	*Pierre Strosser*
Milieu	*Guillermo Gea, Tony Zamparutti*
Zavita	*Sabina Cepuš*
Geodetski Inštitut	*Dalibor Radovan*

4 The Workshop

Introduction, greetings and warm up

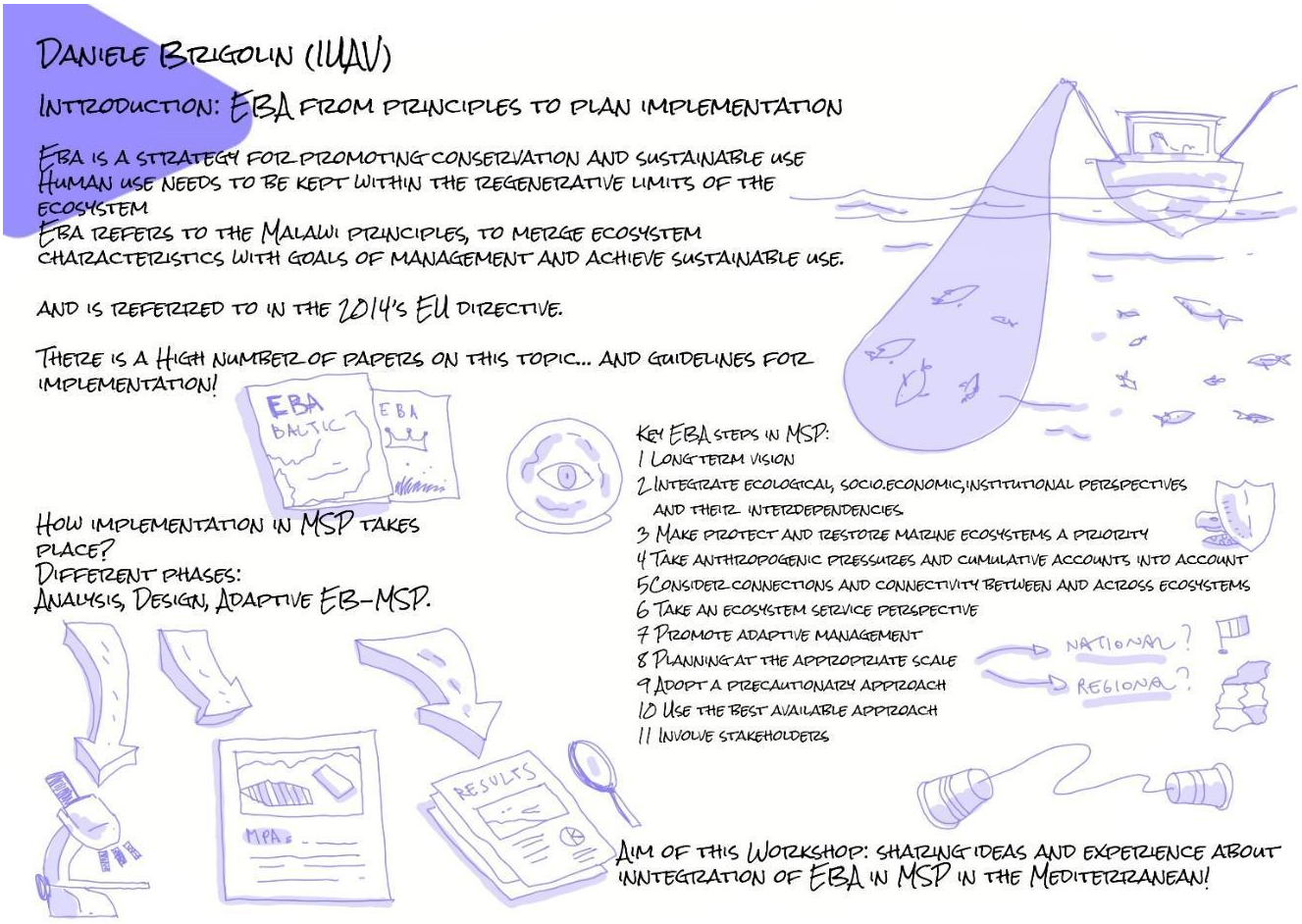
More than 50 participants attended the workshop showing the general interest in the topic among Mediterranean countries and institutes. The participants were welcomed by Ing. Pierpaolo Campostrini (CORILA) who introduced MSP-MED project context, and the workshop program. Dr. Cèline Frank (DG-MARE) introduced the MSP directive, underlining its strong environmental components (applying ecosystem-based approach, contributing to environment preservation, take into consideration land-sea interactions, use best available data). Dr. Frank remarked how MSFD represents an umbrella for other directives and strategies, underlining the interlinkages between MSPD and MSFD, with reference to the common objectives including the achievement of Good Environmental Status. In June 2020, an implementation report under MSFD was published by the commission, highlighting specific issues per sea basins (COM 2020/259 final). An upcoming workshop was announced, promoted by DG-MARE and DG-ENV, on the theme of assessment of coast and marine ecosystem services and their socio-economic importance.



Plenary session: overarching themes for EB-MSP implementation in the Mediterranean

Introduction – EBA, from principles to plan implementation – Dr. Daniele Brigolin (IUAV University of Venice)

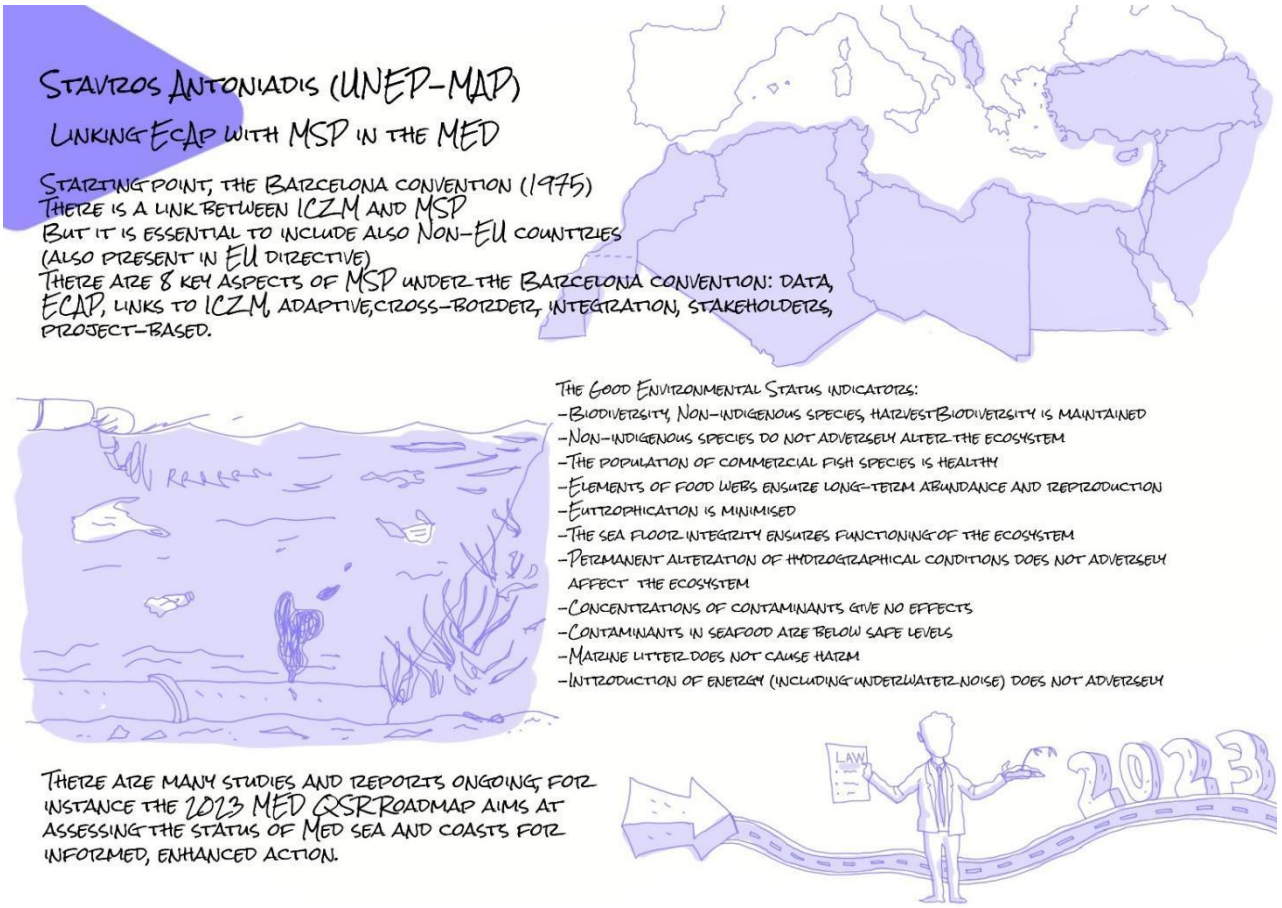
An introductory overview on the state of the art concerning EBA application in MSP was provided, explaining the rationale of the workshop and the expected outcomes. It is recalled the need to intensify efforts towards EBA, as confirmed very recently with the Ministerial declaration of the UfM - Union for the Mediterranean. MSP in the Directive is presented as a tool to support EBA. Dr. Brigolin recalled the Convention on Biological Diversity for setting the basis of EBA, pointing to the concepts of ecosystem carrying capacity and resilience. Starting from the "Malawi principles" on EBA, it was briefly introduced how, in previous projects carried out in the MED, these EBA principles were declined for their incorporation within MSP plans. Relevant issues are related with EBA, including management of transboundary ecosystems and stakeholder engagement. A positive aspect is that the scientific literature on EBA in MSP has been steadily increasing over the past decade. Nonetheless, there is a strong need to implement this knowledge in real plans. Some resources are available to foster this transfer, such as technical guidelines, provided by at national level and by recognized international institutions. The goal now is defining good practices for including EBA in each of the steps of the MSP process, and this topic will feed the discussion on the second part of this workshop. With respect to this, the Baltic experience as an example is available as a starting point.



Linking Ecosystem Approach with MSP in the MED – Stavros Antoniadis (UNEP-MAP)

Mr Antoniadis provided a comprehensive overview of the legal and policy framework under the UNEP/MAP Barcelona Convention (BC), and its relevant Protocols. UNEP/MAP legislation and policies aim at addressing key environmental issues of the Mediterranean marine and coastal environment, in particular preventing and reducing pollution and conserving biodiversity. The ecosystem approach is an overarching principle in the BC introduced with a specific roadmap adopted by the Contracting Parties in 2008. The role of regional seas convention is highlighted in the EU-MSP directive and therefore work at regional level is essential for its effective implementation. UNEP/MAP is supporting MSP application as part of the ICZM Protocol implementation including through development of guidelines, tools and capacity building activities. In this context, the Conceptual Framework for MSP has been introduced, representing a guideline on how to implement MSP in the Mediterranean region in coherence with the obligations deriving from the UNEP/MAP Barcelona Convention framework. Mr Antoniadis highlighted the key aspects of MSP implementation, and underlined how the ecosystem approach in the BC, comprising a system of 11 Ecological Objectives, GES definitions and associated targets is implemented through the Integrated Monitoring and Assessment Programme (IMAP). The Mediterranean Quality Status Report (QSR) is an important outcome of IMAP, the next edition of which will be prepared in 2023 (2023 MED

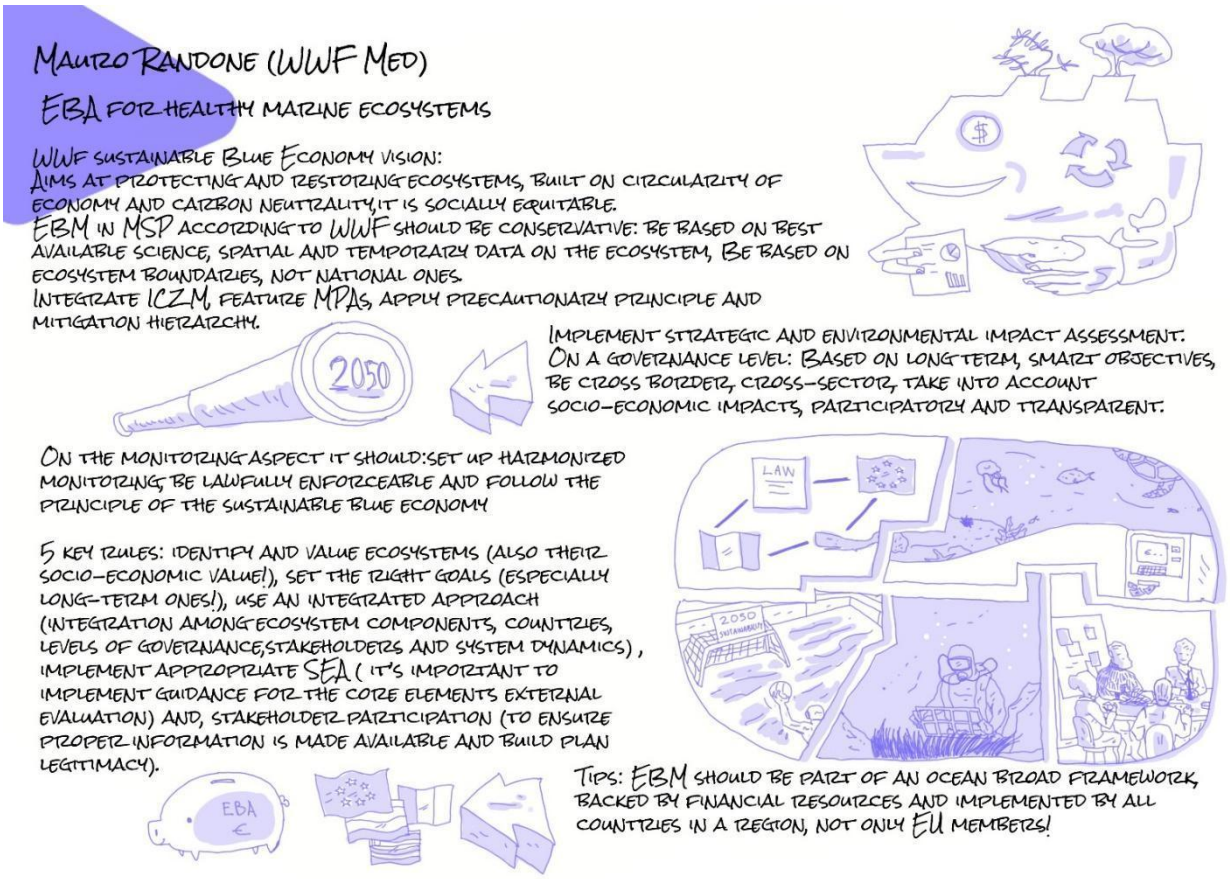
QSR). IMAP and MSP are linked by common steps and IMAP can provide information on the environmental status of the sea and coasts that can feed into the environmental assessment component required for a comprehensive MSP. UNEP/MAP PAP/RAC is supporting on-the ground activities for implementation of ecosystem-based MSP in the Mediterranean, towards identification of sea uses suitability.



Ecosystem Based Approach for healthy marine ecosystems – Dr. Mauro Randone (WWF Med)

Dr. Randone resumed the WWF vision on sustainable Blue Economy, and introduced the WWF position paper on EBA, including 1) conservation measures 2) transparency and governance 3) monitoring and enforceability. The talk highlighted 5 key elements of success in the integration of EBA in MSP: 1) assess and value marine & coastal ecosystems; 2) Set the right goals and targets; 3) Adopt an integrated approach; 4) Implement an appropriate SEA; 5) Ensure stakeholder participation and representation. Ecosystem should be in the core of EBM MSP: knowledge on ecosystems is crucial, as crucial is understanding the value of the ecosystem. This is a key to take into account the ecosystem within planning, since it demonstrates its economic relevance. With respect to goals and targets, Dr. Randone pointed out how MSP is increasingly perceived as an instrument for sustainable development (e.g. In the context of SDGs). Nonetheless, in this context it is fundamental to achieve the new goals like the 30% of protection of the sea. EBA needs to integrate across all environmental components including

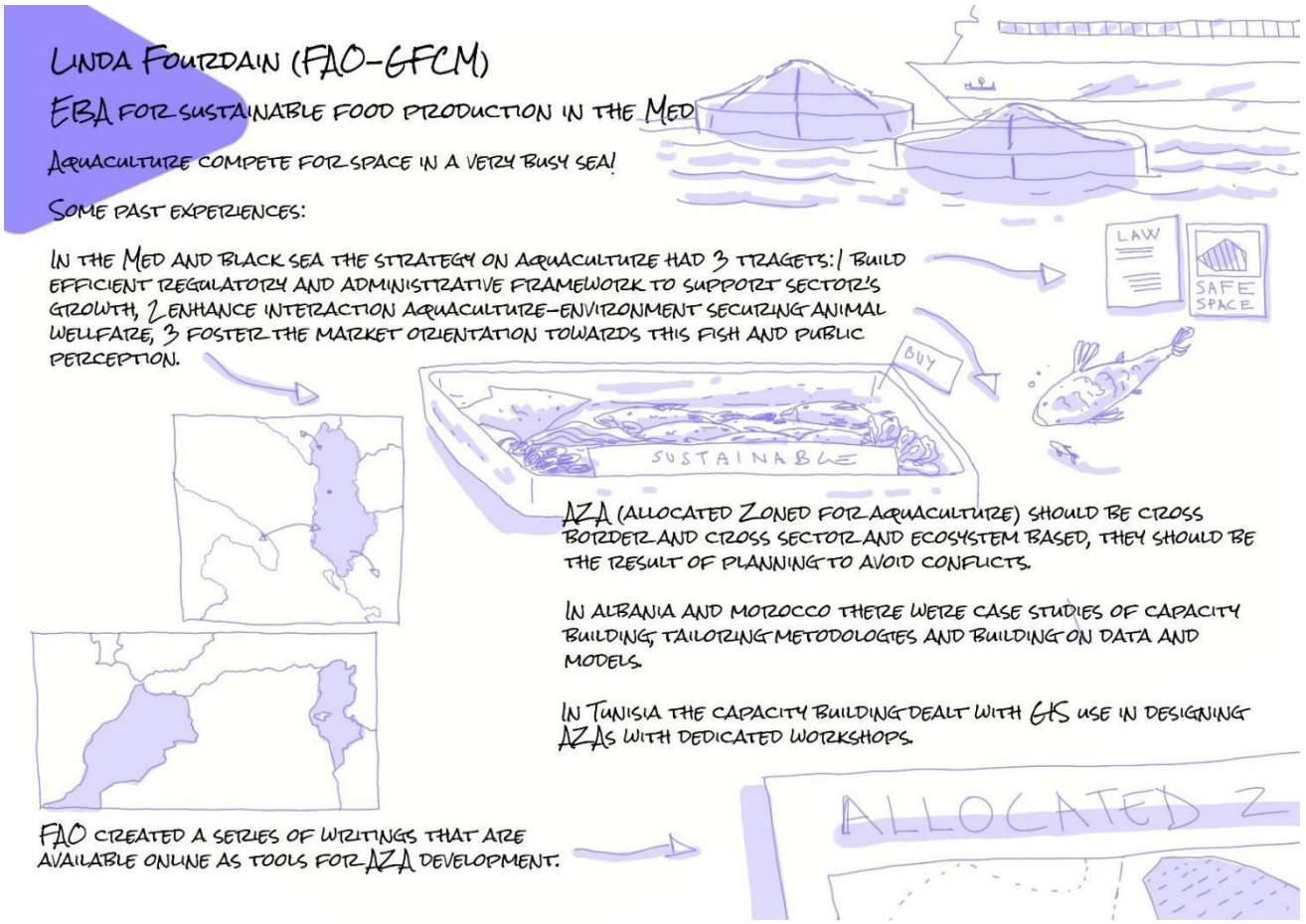
humans. Integration should also occur in governance, through different competences, and in knowledge, through the integration of research studies and experts. Integration of stakeholders and transboundary integration are also needed. SEA implementation has an important role: SEA scope varies greatly across countries, and external evaluation and audit of SEA would be a good option. SEA is not enough at country level, and the effective stakeholder participation and representation should be ensured. No spatial protection measures can be proposed without a consultation process. In this respect, it was pointed out that WWF got involved in a very low number of consultation processes across the Mediterranean.



Ecosystem based approach for sustainable food production in the MED – Linda Fourdain (FAO-GFCM)

Ms Fourdain explained how FAO-GFCM identified tools to promote sustainable development of aquaculture. The EEA - Ecosystem Approach for Aquaculture - is a strategy for the integration of aquaculture activity in the FAO larger perspective. Aquaculture represents an important sector in the Mediterranean, with respect to food-security and employment. The sustainable development requires adequate space to better integrate the activities and to mitigate the potential conflicts with other coastal sectors and resources. Besides, due to the increasing complexity and need of maritime space, tools have been developed to integrate aquaculture in the coastal space. In this sense, the GFCM adopted a strategy around three targets: 1) building

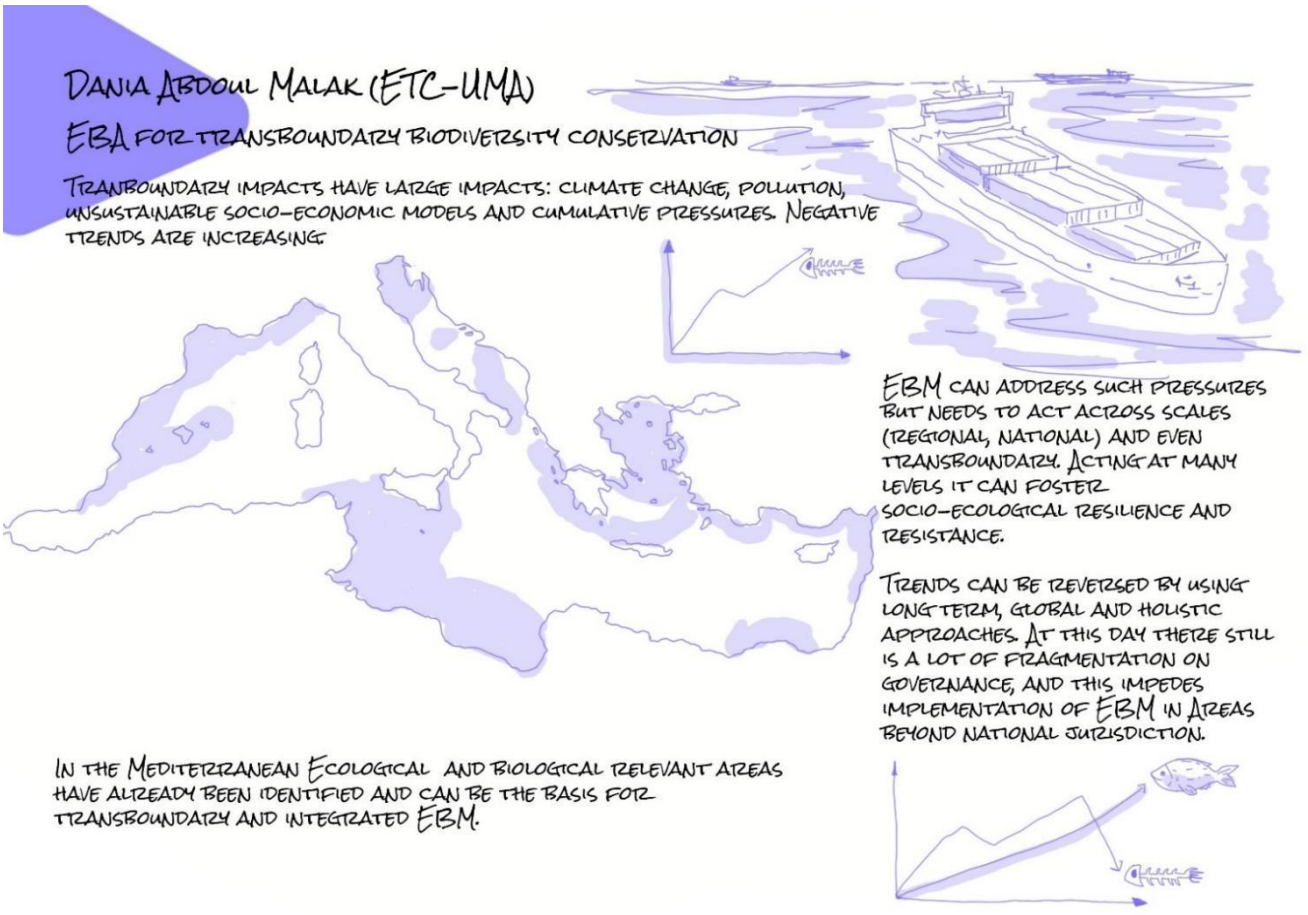
and efficient regulatory and administrative framework to support the growth of the sector; 2) enhance aquaculture-environment interactions, securing animal welfare; 3) foster market orientation and public perception towards aquaculture productions. A specific resolution on AZA – Allocated Zones for Aquaculture has been adopted in 2012, considering AZA as a key planning tool, for promoting sustainable aquaculture development within MSP, and incorporating social, economic, and environmental dimensions. Since the implementation of resolution of AZA, the GFCM established cooperation with experts in the MED, to work on capacity building towards enhancement of the implementation of AZA. Particularly, the GFCM performed technical cooperation on AZA's establishment and carrying capacity in Albania, Tunisia and Morocco. GFCM knowledge tools have been developed to facilitate the understanding, the harmonization and the use of AZAs across the MED and Black Sea: AZA Guidelines and AZA toolkit.



Ecosystem based approaches for transboundary biodiversity conservation - Dania Abdul Malak (ETC-UMA)

Dr. Abdul Malak underlined how intensification of all pressures in the Mediterranean region is evident, with significantly increasing trends aggravated by the blue growth aspirations & the climate crisis. Associated impacts are transboundary and cumulative in nature, but we tend to look at them in an isolated and sectorial manner and hence limit the effectiveness of actions to

reduce such impacts. Ecosystem resilience reaches tipping points, and there is evidence by now that thresholds are being overcome. We are considering individual species, single habitat or sector, and with a short-term perspective. Effective management tools need to be put in place, to address transboundary & cumulative pressures at various scales. We should move from business-as-usual management to incremental EBM, with tools including MPA, MMA and LMMA, and finally to EBM, with tools including ICZM, MSP, IWM. We might increasingly look at the long-term perspective and integrating scale and sectors. Area-based management should focus on the ecological scale and is by default transboundary. However, fragmentation at different levels (conceptual, institutional, governance) impedes the implementation in areas beyond national jurisdiction (ABNJ). Governance fragmentation is impairing the conservation of very sensitive habitats, such as the deep sea and the interface between land and sea. In this respect, important instruments are EBSAs: 15 areas are defined in the Mediterranean building on scientific and political consultative processes. These areas are unique for their biodiversity, they include threatened species, they are fragile and productive: governance in the Mediterranean should look on how to manage EBSAs. EBSAs offer integration among countries, region, scales, they need to be our platform for regional management, since countries are committed to them under the CBD, as well as under the SDGs.



5 Parallel Sessions

Session A - EBA in the analysis phase (Chair: Elena Gissi, CNR-ISMAR; Rapporteur: Fabio Carella, IUAV)

The session titled “EBA in the analysis phase” focused on the operational steps and related methodologies that the Partner Countries put in place on the following topics: defining current and future priority areas for conservation (e.g., sensitive areas, priority habitats and species, identification of marine green infrastructure); analyzing conditions and related methods to depict environmental interactions, pressures, and impacts between human activities and the environment (e.g. Ecosystem Services assessment, Cumulative Effect Assessment); articulation between scales of analysis; managing knowledge and data gaps; defining links to SEA. During the parallel session, partners involved presented how their respective countries are addressing the interactions, pressures, and impacts of human uses on the environment, within the analysis phase of the MSP process.

The session was organized in a round of 7-minute presentations from each partner country of MSP-Med (France, Greece, Italy, Malta, Slovenia, Spain) followed by an open discussion between participants. The presentations provide an overview about how the analysis of the interactions, pressures and impacts of human uses and activities and the environment are addressed in each national process, and to discuss strategic and technical challenges encountered, and potential solutions envisaged to overcome them.
The partners from Italy, France, Spain, Slovenia, and Malta introduced the procedure that their National competent authorities have put in place to address EBA in the analysis phase. Here below we report the major challenges and solutions encountered by the partners in setting and implementing the activities.

Italy
The main activities envisaged in the Italian National process to operationalize EBA in the analysis phase are included in the phase 1 «Initial state and current and expected trend» and phase 2 «Analysis of interactions (conflicts and synergies) between uses and environmental components- » of the Italian MSP process. After defining the state of the art on uses and environmental components, the planning authority is in the process of identifying interactions between them. Because of the different levels of knowledge and available data, the analysis has leveraged on multiple knowledge sources, and where possible, on existing cumulative effect assessment tools, as for instance, in the Adriatic Sea. The analysis has also been anchored as much as possible to the ongoing initiatives related to the conservation of the marine environment, especially in terms of the knowledge and contents produced, for instance, by the Habitat Directive, the Marine strategy Framework Directive, and other International initiatives. A major difficulty envisaged in setting the assessment of the cumulative effects of multiple uses on the environmental components is related to an inherent trade-off of

synthesizing and prioritizing knowledge on key environmental dynamics and potential negative effects for the sake of informing planning («prioritizing for planning»), against being extensive and dive into the complexity of addressing the topic of maintaining the good environmental status for the marine plans in the three Italian sub-regions (Adriatic, Ionian and Central Mediterranean, Tyrrhenian Seas). This problem was addressed by framing the process for the purpose of planning, and so maintaining the environmental values and concerns that were relevant for the type of planning, which is strategic, and defined at the scale of the three sub-regions. Moreover, the analysis was anchored to the other ongoing initiatives about marine conservation to leverage the proper knowledge, information and data on which to ground decisions in MSP.

France

The approach adopted in France implies a coastal strategy that integrates IMP, MSFD, and MSP. The French planning process has considered since the beginning the ecosystems.
The designation of EB-MSP, the creation of MPAs and the mapping of impacts on the marine ecosystems allowed to define a comprehensive socio-economic analysis and localize the most vulnerable and critical ecological areas. Moreover, several issues in the ongoing process, summarized in three specific categories, were pointed out. The first one is about data spatialization, information that is not always available and cross-cutting from various public entities and institutes – this factor affects a homogeneous database. The second one focuses on the difficulties behind recognizing the impacts in terms of quantification and cumulation of impacts. The third one analyses the cost evaluation of degraded environment, not only in an ecological way, but also economically. Finally, it was highlighted the issue of coordination and suitability for decision-making and communication between parties involved. The design of a new model capable of standardizing ecological zones, inventories, and monitoring for both marine ecosystems and human activities was addressed as a possible solution to overcome these problems.

Spain

The MSFD is the planning tool that defines Spain's five Maritime Spatial Plans drafts.
In terms of conservation, each MSP draft incorporates three main blocks of information: habitats and species distribution, including known areas with high ecological value; marine protected areas declared by several tools, and, on a later stage, Marine Green Infrastructure's components.
The analysis methodology to outlining environmental interactions, pressures, and impacts between human activities and the environment is organized into five steps: i) defining AMPs by each Marine Demarcation; ii) collecting data from national marine database (especially Marine Strategies database) and the Autonomous Communities marine databases; iii) defining limits between AMPs, human uses and activities, and iv) Future AMP areas and hotspot of boidiversity: e.g. related to marine N2000 network; v) identifying conflicts between uses, activities and AMP.

It was highlighted the opportunity of several Spanish marine conservation projects,, that are currently on research which will be taken into consideration to determinate and locate future areas with high ecological value into the analysis,. To achieve this process a working group of MPA and MSP Plans have been created with the representatives of the Competent Authority, Autonomous Communities and MSP Working Group. The roadmap to proceed will be that MSP Plans will include a compilation of uses and activities regulated by different management plans approved for each MPA. The management model proposes two typologies of zones in relation to marine biodiversity: 1. Preferential zones with priority use for the protection of biodiversity and natural heritage (current marine protected areas) and 2. Areas with high potential for the conservation of biodiversity and natural heritage.

Greece

MSP in Greece is still at the beginning of the planning process. For this reason, there are some gaps in defining EBA.

The challenges stressed out by Greece are more focused on the analysis overview. Most of them are related to the extent of the available knowledge on specific maritime activities as well as the scientific evidence (research and data) to support the analysis.

Furthermore, the collaboration with the extensive number of institutions required due to the multidimensional nature of the analysis may also prove difficult. Finally, the time and resources required for EBA are challenging for the timely preparation of MSP Frameworks in Greece. The solution proposed is based on an operation perspective.

Slovenia

The MSP process is currently in the public disclosure phase through EBA, since the beginning, was implicitly considered.

To achieve a cognitive framework of environmental interactions, Slovenia has adopted a specific methodology. It consists, first of all, of identifying conservation features and vulnerability areas. Secondarily, to depict pressures and conflicts through a qualitative approach between marine uses and the state of the environment. And thirdly, to assess the acceptability of impacts.

Challenges highlighted during the Slovenia process were related to the knowledge data, especially about intensity, specificity, and transboundary issues.

At the beginning of the planning process, there have been some difficulties of communication and coordination among the experts of the planning team and also among other institutions and initiatives.

To achieve a good result, it was underlined the importance of a clear definition of competences, recommendations, and obligations. Intensive collaboration with stakeholders and competent authorities, at both local and national levels, can be key to resolve the issue of timing.

Malta

After the first cycle of MSFD and WFD, there is still limited availability of relevant long-term data and information on actual environmental impacts of existing and historical uses. Moreover, there were also difficulties related to identifying the data trend.
It is necessary having a dedicated research institute to inform policymaking supporting long-term research. The solution might be to implement a national monitoring program that would increase knowledge of the marine areas and data.

Synthesis of the discussion

Analysing cumulative effect of multiple uses on the marine environment is recognized as a very crucial activity by all the partners. However, since it is a knowledge-intense activity, all the partners have encountered similar challenges and developed solutions to address those challenges. All the countries have approached in a similar way the identification of ecological values at sea – defined, for instance, as habitats and species of priority for conservation, or marine protected areas – by relating to the ongoing conservation policies and initiatives enforced in the Mediterranean. Much various appear the approaches applied in the analysis, identification and assessment of the cumulative effects on the environmental values, which span from qualitative to quantitative methods according to knowledge availability or to other existing initiatives or projects implementing CEA (e.g. Tools4MSP in the Adriatic with ADRIPLAN, SUPREME, PORTODIMARE projects). Slovenia has approached the analysis of cumulative effects from an ecosystem services perspective, in order to represent the benefits from human activities deriving from the environment. Also, France has proposed a full socio-economic analysis including impacts on marine ecosystems as well as dependency to GES. As a general reflection, it might seem difficult for competent authorities to apply a methodology or an approach that it is not yet consolidated or well defined in science.
At present, the countries are at different level of implementation of MSP. All the partners have reflected on the importance of coordinating the MSP and MSFD initiatives, but with different ways of interaction. For instance, in Spain, the MSP implementation process is subordinated to the MSFD process. The French partner reflected on the need to envisage the MSFD as the "engine" of the MSP process, on which to ground the analysis and evaluation of the cumulative effects. The Italian MSP process has anchored the analysis of the cumulative effects on the available MSFD results, for instance, for the identification of key conservation features (descriptor 1) or for the identification of the thresholds on the targets of good environmental status.
Interestingly, only Slovenia and Malta explicitly mentioned the Strategic Environmental Assessment procedure (SEA) as the context of the cumulative effect assessment, because they are in the process of elaborating SEA. In Italy, the SEA process is not yet started but it is in the preparation phase.
The technical difficulties and the required knowledge and capacity to set and implement the cumulative effect assessment can be underestimated by the competent authorities, risking reserving inadequate budget and resources to perform this activity, though it is of the highest priority to effectively and sustainably address blue growth and conservation together. Another challenge is related to the scale of the assessment, since the analysis of cumulative effects

should be performed at the scale of the plan, corresponding to the entire extension of the Member States marine waters. Not only data availability and spatialization were mentioned as challenges, but also the consideration on technical challenges related to knowledge and capacity required to model CEA, and to perform the analysis and the assessment.

All the partners agree in highlighting the importance of the collaboration between ministries and between research institutions in order to support the assessment of the cumulative impacts in the MSP analysis phase. The partners specifically mentioned the importance of building a dialogue between scientists and the planning teams, with intense collaboration with national and local research institutes. For instance, the partner from Malta stressed the fact that during the first planning cycle, the competent authority for MSP was also in charge for the environmental set up of the plan. This fact facilitated the activity of collecting data on human uses and on the marine environment. In the second planning cycle the MSP regulating authority was separated by the one in charge of marine conservation, and this complicated the efforts to collect information and knowledge.

Another problem envisaged by the partners in the coordination of the MSP and the MSFD directives is the different timing in the review of the two processes, that makes the collaboration and dialogue difficult.

Both Italy and Spain partners mentioned that specific projects targeted on understanding and modelling cumulative effect assessments were very useful to advance in the knowledge needed for MSP, also because of the collaborative nature of the projects that can help overcome difficulties that might emerge in the confrontation between National governments.

All the partners agreed that there still are several technical and methodological problems that are well beyond the capacity of the National competent authorities to address them, but that needs specific and appropriate research. Some fundamental questions, such as, for instance, how to consider dynamics and define the future "state of the ecosystem" and related trade-offs under a baseline scenario, are far from being addressed in the MSP implementation processes. Nevertheless, the partners are aware that the analysis process is the first step for gathering knowledge and efforts in the current planning cycle considering the best available knowledge and information that it was possible to access and gather. In the subsequent planning cycles, the analysis will need to be necessarily improved. It is indeed important to run through the subsequent steps also for the matter of synthesizing the available knowledge and to discuss about it with the stakeholders and the research institutions.

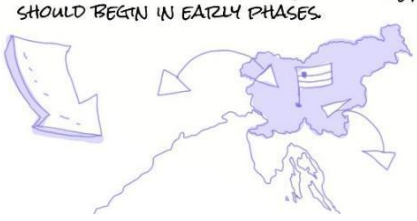
Break room A

EBA in the analysis phase (Facilitator: Elena Gissi ISMAR-CNR)

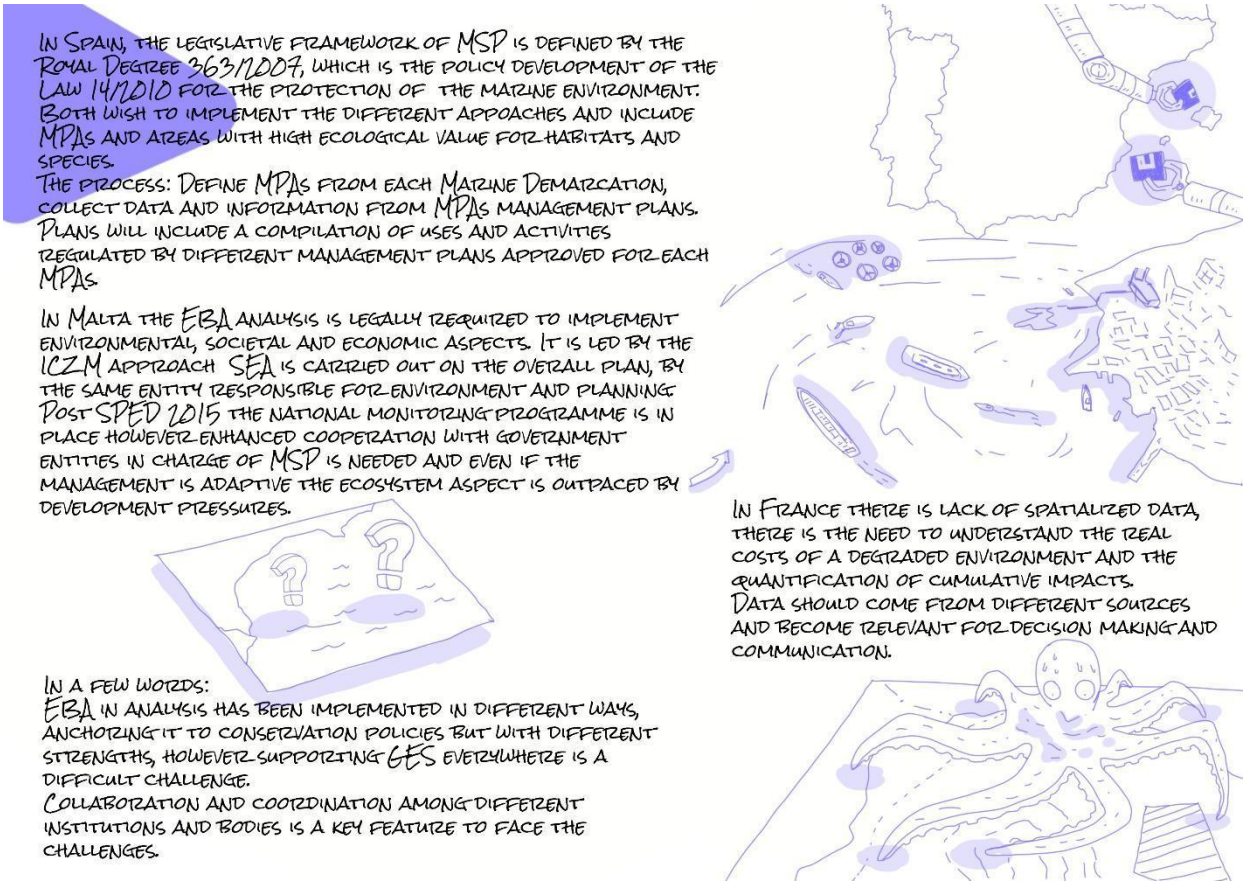
How countries faced the different challenges and how they were/implemented it in the analysis phase?

In Italy for instance: analysis of interactions uses through a qualitative method that identifies priority areas and uses according to scale and state of knowledge
But there are difficulties because in some areas data is less robust. A balance must be found between prioritization and extensiveness. Solutions can be found by leveraging knowledge in different regions,anchoring MSP assessment in existing initiatives of ecosystem conservation. Keeping in mind that it is important to correctly identify the areas for planning and maintaining a transparent process.

In Slovenia there are challenges as well: data is not always available, especially on transboundary issues and the 1st SEA was carried out underestimating the difficulties. Collaboration between MSP and SEA teams should begin in early phases.



In Greece the methods used to assess potential impacts are linked to EBM, LSI and general principle of sustainability, to understand the acceptability of these impacts it is used the Strategic Environmental Impact Assessment. The main difficulties are the knowledge of the intensity and specificity of activities, the coordination with other institutions, the technical, financial and timely issues in performing the assessment.



Session B – EBA in the design phase (Chair: Neil Alloncle, OFB; Rapporteur: Federico Fabbri, IUAV)

The session aimed to point at good practices, difficulties and challenges when countries concretely design their maritime plans and associated measures. To do so, participants were asked to prioritize among 4 key topics particularly at stake during this design phase: (1) Coherence between MSP and MSDF or other environmental policies; (2) EBA principles accounted when designing spatial units and associated measures; (3) Links between multiple implementation scales; (4) Role played by SEA in EBA implementation. The two first topics were discussed during the session time.

<u>Coherence between MSP and MSFD or other environmental policies</u>

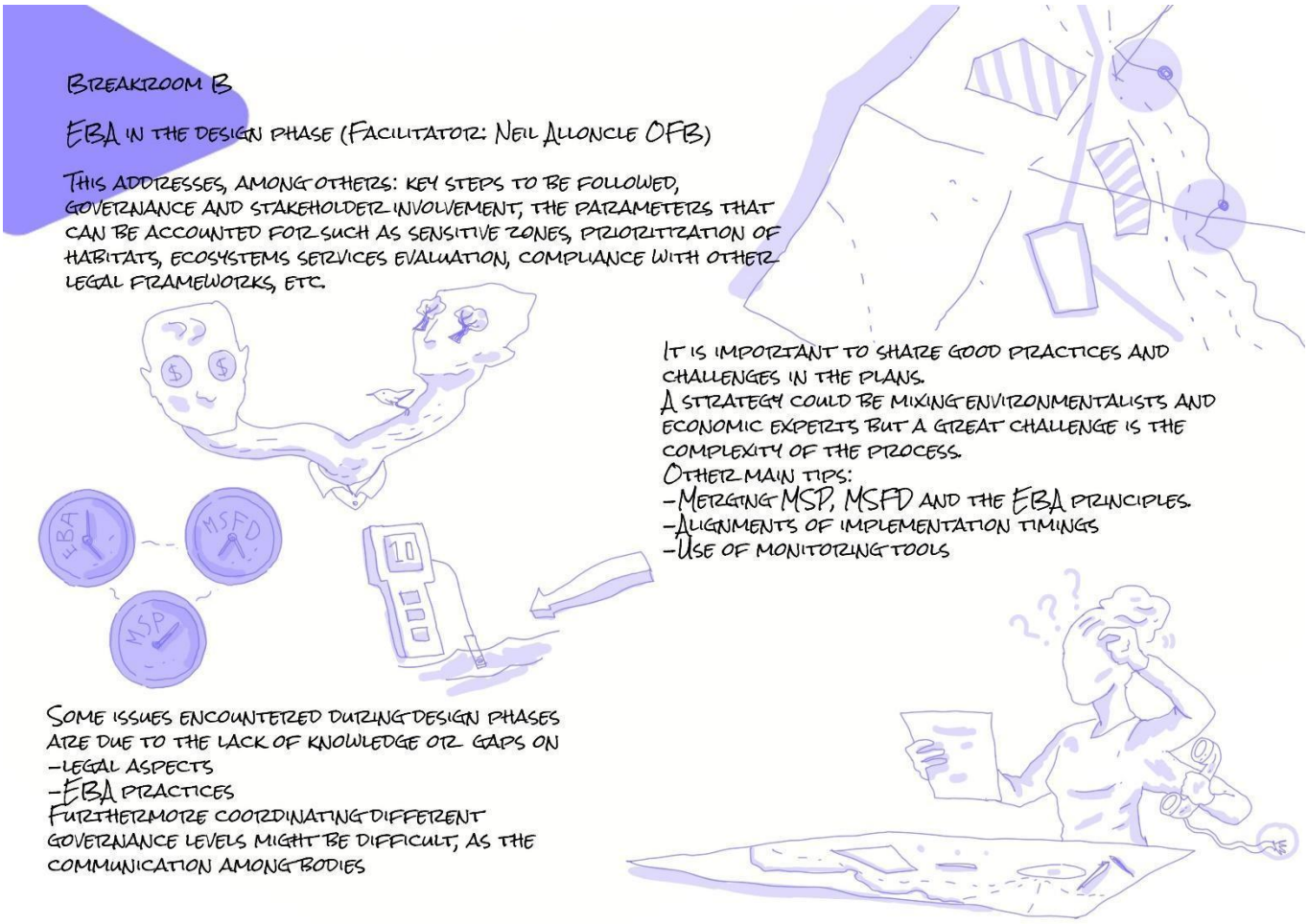
MSFD is meant to be the environmental pillar of the MSP Directive. It is therefore a crucial point to guaranty that its implementation is articulated within national MSP processes.

Process integration for the two directives obviously came up as a general challenge in Europe. Timeline alignment remains a challenge across EU countries. It was pointed out that for the majority of MSP Mediterranean countries, transposition of the MSP directive in national law gives provision for MSFD accounting in MSP implementation. In Spain, MSFD objectives are legally over MSP objectives, guarantying an approach respectful of the marine environment.

France decided to merge MSFD and MSP processes into a unique process, strengthening coherence between environmental and economic policies and so EBA. It was also raised that countries are implementing MSFD since 2012 and that this longer experience could constitute a strong basis for an ecosystem-based MSP implementation. However, the complexity of the MSFD process, highly technical and strongly driven by EU reporting requirements, is a constraint to get a proper integration with MSP process which rely more on governance and co-decision with stakeholders.
Participants also agreed that knowledge and measure coming up from MSFD should constitute a baseline for MSP, which could be considered as an additional tool to achieve Good Environmental Status (GES). Important areas of environmental concern, stressed areas as well as some GES indicators are spatialized though MSFD and can guide MSP design phase. MSFD monitoring programs are also important information providers for the MSP. However, the complexity of information delivered by MSFD (complex system of descriptors, criteria, indicators and targets) is still challenging for a proper use in the MSP. Efforts should be done to make this knowledge understandable for MSP decision makers.
Further, it is still challenging for every country to find and explain coherence and synergies between environmental and socio-economic objectives pursue by the two directives.

<u>EBA principles accounted when designing spatial units and associated measures</u>
Beyond MSFD accounting, EBA in MSP can be strengthened by considering the environment and its links with human activities when spatial units or measures are defined.
Considering MPAs in maritime plans is an important mean for pushing EBA in MSP. MPAs are important areas of environmental concern to be accounted in MSP. But participants raised that MSP enables to go further. First, by considering other important areas, such as green infrastructures, that can complete the protection network. MPA network coherence can also be improved by encompassing several MPAs within a larger planning unit sharing the same environmental objectives. Although most MPAs are managed through their own plans and processes, MSP can complete MPAs management or serve as a substitute for MPAs without plan, such as in Spain. Nature Marine Parks, multi-objective MPAs (environmental and sustainable development objectives) with shared governance between State and stakeholders, constitute planning units on their own in French maritime plans.
Moreover, articulation between planning scales and alignment between boundaries are crucial aspects. Participant mostly came up with difficulties and challenges with this topic. Spatial planning should be done according to ecological stakes distribution. The main related issue is the frequent mismatch between administrative boundaries at sea (territorial sea, economic exclusive area…) or in coastal zone (region or local government boundaries…) and ecosystem distribution. Furthermore, management articulation and continuity across planning units are pointed out as a major challenge. It concerns management coherence between neighboring planning units, which doesn't always share the same administration and governance, as well as management coherence across planning scales, from national to local scales. Some also noted that, depending on topics or issues concerned, management competences are not always held at the good scales. Subsidiarity principle concerning duty distribution is an

important remaining challenge. Finally, the difference of scale and management context between coastal and offshore areas was emphasized as a point of attention concerning planning process and communication with stakeholders.
Ecosystem services accounting in MSP was then discussed. Every country still faces a major lack of knowledge and valuation methods to provide proper information to inform MSP. An issue is to dissociate the valuation of service flows from ecosystem capacity to provide services. Moreover, the monetary valuation of ecosystem services may lead to the counterproductive conclusion that ecosystem conservation is expensive and not worth when compared to benefit gained.
Finally came up the challenge of communication on EBA complex and multiple principles with stakeholders. This challenge can be addressed via popularization actions such as didactic documents delivery or the organization of communication events. Serious games such as the MSP challenge game developed by Breda University could be a valuable tool to provide stakeholder with insight into interconnected issues that MSP deal with.



Session C - Implementing an adaptive EB-MSP monitoring program (Chair: Elisabetta Manea, CNR-ISMAR; Rapporteur: Camille Assali, OFB)

This session allowed experience sharing about the implementation of adaptive EB-MSP monitoring programs, through a round of presentations from Italy, France, Spain, Greece, and Slovenia. Presentations and discussions highlighted mainly limitations and perspectives of the design and implementation of an appropriate MSP effectiveness monitoring.
Presentations and discussions stressed limitations and perspectives of the design and implementation of an appropriate MSP effectiveness monitoring. Monitoring appeared to be a key tool to ensure the evaluation of progress toward the achievement of management objectives and, within a circular process, to inform the revision and improvement of the plan. Feedbacks from each MSP MED country represented at the session are here summarized.

Italy

In Italy, the MSP monitoring program is under development following a conceptual framework that is built on 5 main steps. Three basin-dedicated maritime spatial plans will be designed, and subject to a mid-term review (along a 10-years lasting). The development of an integrated monitoring program for each of these plans will be conducted in several steps, i.e. identifying strategic and specific objectives as well as the authority in charge, defining macro- and specific indicators that are declined on different spatial and temporal steps, and finally, setting up an integrated monitoring program, including already ongoing monitoring programs.
Four types of primary or ancillary indicators are to be monitored: environmental, socio-economic, governance, pressures. Being transversal sustainability objectives in Italy, meaning all sectoral objectives entail environmental objectives as well, the use of “composed indicators”, with environmental indicators linked to socio-economic ones, is foreseen to provide complete and accurate information.
Within the design of MSP Plans, Italy recognizes synergies with other EU directives (MSFD, WFD, H&BD, CFP). However, to ensure an adaptive MSP, appropriate data must be acquired, available and aggregated at the right scales. This condition is stressed to be crucial to adapt the plan in the right timing. This implies to acquire data on poorly for Mediterranean areas (offshore and deep-sea environments), to accelerate data processing time, and to include other existing data sources (e.g., observatory systems).

France

Comparatively, France has made the specific choice to consider MSP and MSFD in one single/embedded approach, within a strategy document. This strategy document is built upon two (i.e., strategic and operational) components. The operational component entails the monitoring mechanism.

This approach relies on a multi-levels management (four marine sub-regions): while the monitoring framework is common to the four marine sub-regions, the monitoring programme adapts to four different existing situations/visions/action plans. The operational part focusses on (1) coastal activities, uses and public policies, and (2) the state of coastal ecosystems and related pressures (use of descriptors and 14 monitoring programs developed in MSFD).
Once collected, the data is gathered in information systems. Today, metadata is totally available; while data is integrated within the Marine Environment Information System and subject to broadcasting rights.
Among challenges and limitations, France cites the lack of homogeneous, available and complete datasets concerning socio-economics activities. In addition, it remains difficult to isolate and calculate the contribution of all activities in [cumulative] impact assessments. Finally, different expectations from European directives can be complex to deal with, e.g., the (non)-obligation of reporting, which is a real challenge to make information accessible to the public.

Greece and Spain are at the very early stage of the process.

Spain
Spanish waters are divided in five marine sub-regions, and, similarly to previous countries, one plan will be designed for each region. Plans are subject to the SEA, and directly related to EBA. Indicators are associated with the plan's objective; among them, context indicators are directly related to the marine directive (MSFD). Objectives are distinctly defined as sectorial and horizontal objectives (priority), which include the conservation objectives from the MSFD. Effectiveness indicators are not yet developed, but should compile information about new activities following the plan's framework (in direct link with EBA). In Spain, MSP and MSFD are implemented by the same ministry. MSP plans will be reviewed every 6 years according MSFD cycles. The plan is built upon objectives that consider the three aspects: environmental, social, and economic. Spain still faces an information gap towards the identification of socio-economic indicators, and it still needs to define precisely pressures/impacts/risks concepts, in order to design appropriate indicators. Furthermore, the appropriateness of the considered scale is mentioned again (e.g. Murcia case study, addressed within the MSP-Med project).

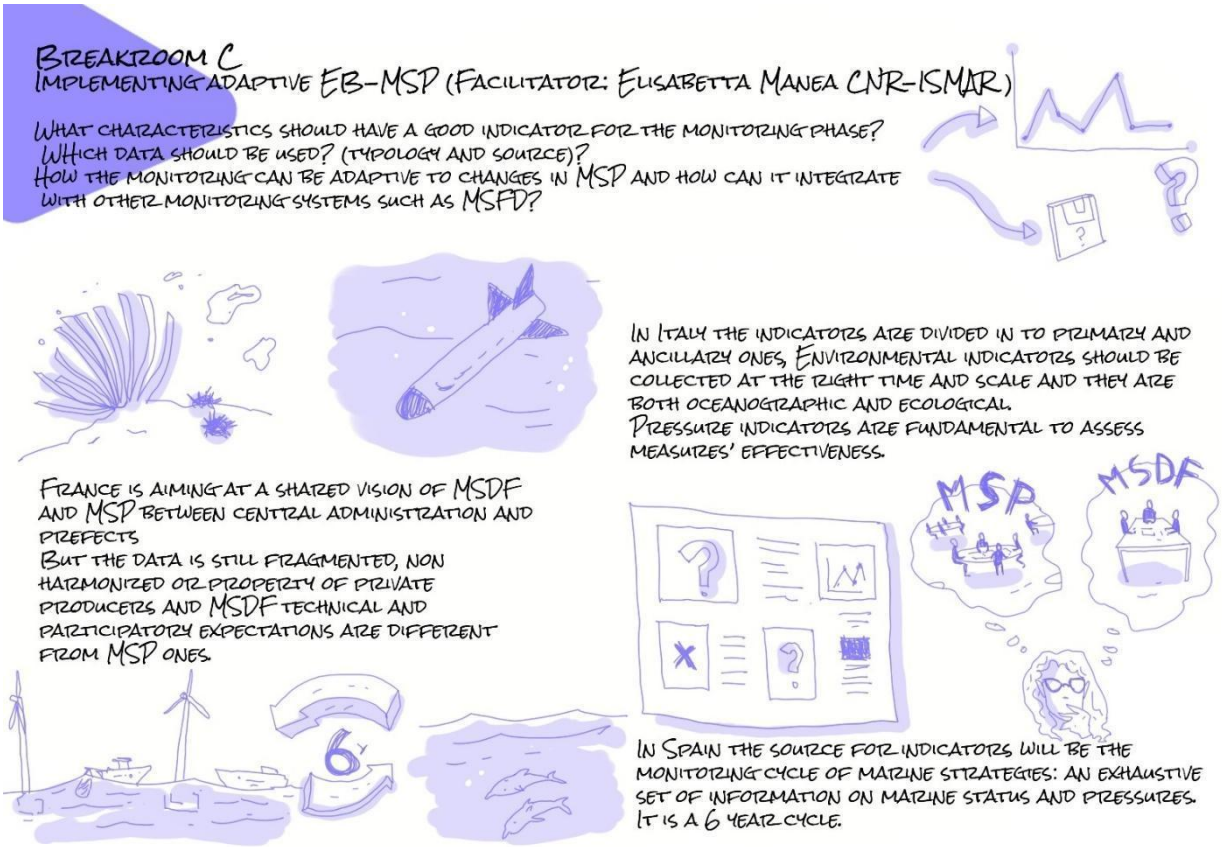
Greece
In Greece, monitoring programs are not yet finalized within the National Spatial Strategy for Maritime Space. The main difficulties remain in the identification of indicators and targets for monitoring performance. Similarly, to other countries, available data is fragmented and lacks harmonization.

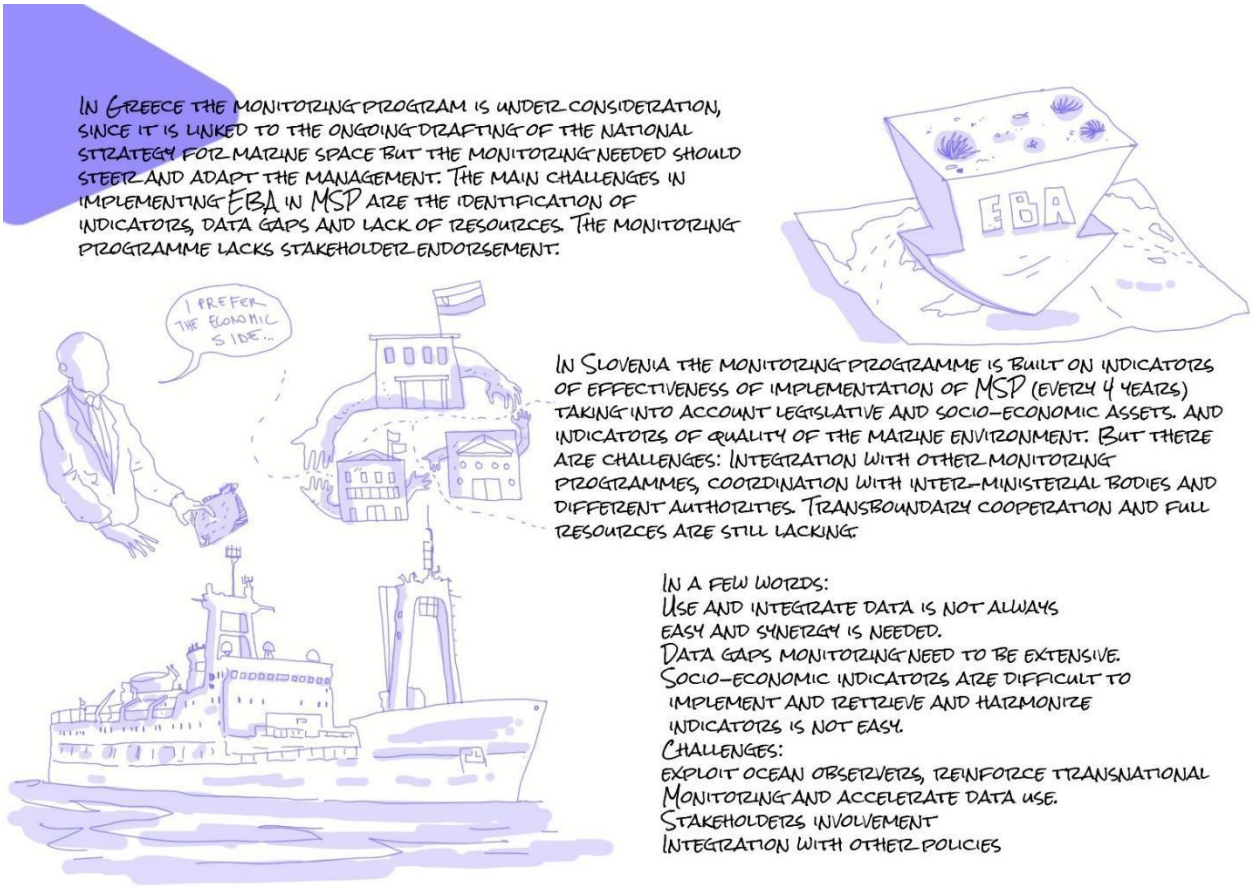
Another important challenge consists in stakeholders' involvement, thought to be critical to ensure the success of the MSP process.

Slovenia

In Slovenia, MSP Plan is also at the draft stage. A special study on monitoring will be prepared in next two years (2022-2024). The implementation of the MSP will be monitored according to (a) indicators of its effectiveness, based on planned actitivites and measures, (b) descriptors of the quality and state of the marine environment. Two important points are raised : 1) MSP should use all existing data available at that time, 2) transboundary cooperation is crucial.

In Slovenia, MSFD monitoring will be integrated within MSP monitoring and national processes, and will support EBA implementation in MSP. MSP and MSFD will share common indicators and descriptors of the state of the marine environment. Additional monitoring programs should be integrated within MSP monitoring phase (e.g. N2000 and MPAs monitoring initiatives). To ensure an adaptive MSP, changes will be incorporated periodically (4-years report).





All participants acknowledge the importance of building homogenized knowledge, monitoring and management practices between countries. Assessing the state of the marine environment as well as the effects of cumulative pressures would be facilitated by the application of a transboundary approach in EB-MSP. Finally, a critical limitation stands in the available resources that can be mobilized in the monitoring process (financial resources, time).

Among all mentioned topics, multi-level governance approach through interactions between public policies lead to successful examples of synergies and perspectives. Limitations and remaining challenges appeared to be related to data characteristics (appropriateness and availability), EB-MSP monitoring design and implementation, and dedicated investment.

The latter topic was raised in terms of both time and financial costs. Data appropriateness was underlined relatively to coherent spatial and temporal scales, harmonized datasets, knowledge gaps, and scarce or heterogeneously distributed data. In connection with previous topic, data availability was identified as a clear difficulty, both in terms of unequal or limited access to the data, and in terms of data processing challenges.

EB-MSP monitoring design appeared to be constrained by indicators definition/choice, especially considering [cumulative] impact assessment. Addressing appropriate spatial scales remains at this stage both a difficulty and challenge.

EB-MSP monitoring implementation is not operational today. Main challenges rely on “third parties” involvement and cooperation (transboundary countries, stakeholder, public).

The table below provides an overview of the main topics addressed and related finding highlighted during the session.

Topic	Main approaches / Best practices / successful examples	Main limitations/difficulties	Main challenges / perspectives
Financial investment		Invest money in monitoring programmes and technologies (IT)	Invest money in monitoring programmes and technologies (IT)
		Resources availability for effective measuring (GR)	
		Resources and time are required (SL)	
		Financial means to support monitoring campaigns (FR)	Financial means to support monitoring campaigns (FR)
Data/indicators appropriateness (quality, quantity, data type)	There is a common will to use existing data (especially data that is produced in the context of MSFD)	Collect environmental data at the right time and with the right spatial coverage (IT)	Collect environmental data at the right time and with the right spatial coverage (IT)
		Lack of harmonized datasets for several fields of socio-economic activities (FR)	Integrating information from participatory sciences (FR)
		Data and knowledge gaps for evaluation at different strategic and spatial levels (GR)	Use marine observatories as a source of data (IT)
		Enlarge monitoring activities in off-shore and deep-sea environments (IT)	Enlarge monitoring activities in off-shore and deep-sea environments (IT)
		H&BD monitoring activities are often absent (IT)	Homogenize monitoring approaches and share knowledge between countries (IT, SL)
		Fragmented information (FR)	Experience sharing for appropriate monitoring of pressures and impacts (FR)
Data availability	Metadata is freely available (FR)	A large set of socio-economic data rely on private producers (FR)	Negotiation to access private data (FR)
		Limits in the use of non-official data, e.g., data from observatory systems and research infrastructures and activities (IT)	Use of non-official data, e.g., data from observatory systems and research infrastructures and activities (IT)
		Variety among broadcasting rights, including regarding public data (FR)	
		Accelerate data processing times to make them available when needed (IT)	Accelerate data processing times to make them available when needed (IT)
Interactions with other public policies	There is a common will to connect MSP and MSFD	MSFD technical, participatory and formal expectations are different from MSP ones (FR)	Make information accessible to the public (FR)
	MSP and MSFD are considered in one single approach, within a strategy document (FR)	Inconsistency in terms of spatial scale between MSFD monitoring and MSP monitoring needs (SP)	Integration with other initiatives/monitoring programmes (MSFD, MEDPOL, B&HD, WFD, ...) (SL)

	Same 6 years cycle of evaluation (SP, FR)		MSP and MSFD will share common indicators and descriptors of the state of the marine environment (SL)
	Recognized synergies with other EU environmental policies (MSFD, HD, BD, CFP, WFD) (IT)		

EB-MSP monitoring design (Technical and conceptual questions)		Identification of indicators and targets (GR)	Identification of indicators and targets (GR)
			Performance monitoring and evaluation results to modify revisions to plans (GR)
		Spatial scale (marine sub-regions) may not always be appropriate for local case study (ex: Murcia, SP)	Taking into account local specific features (SP, FR)
			Dealing with prioritization issues regarding available means (technical, financial,…) (FR)
			Indicators directly linked to EBA objectives (SP)
		Difficulty to measure and calculate impacts and cumulative impacts (FR)	Appropriate indicators must be design to monitor distinctly pressures, impact and risk (SP)

EB-MSP monitoring implementation	(Still at an early stage for several countries - so we don't have examples)		Stakeholders' endorsement (GR, SL)
			Apply a transboundary approach to boost EB-MSP (IT, SL)
			Dealing with public acceptability issues (FR)
			Make information accessible to the public (FR)

6 Discussion and conclusions

Session chairs reported to the audience the outcomes of the respective sessions. The following discussion focused on the importance of planning and prioritizing management measures across borders, to apply and achieve effective transboundary EB-MSP in the Mediterranean. In this perspective, the coordination of national ministries of neighbouring countries is considered fundamental. A representative example is provided by Spain and Italy where the MSP process is tackled through a single national ministry which is in charge to supervise the national MSP process by endorsing national institutions, research institutions and public agencies, which in turn address the technical aspects of the process. In this respect, it was also highlighted the role of European research projects to foster cooperation, enhancing transboundary MSP through the Mediterranean basin. Notably, an international community of experts has been formed through these projects and the next step will be to

apply the knowledge and expertise gathered to support EB-MSP implementation at national level and in the transboundary, cross-border context of the Mediterranean basin. EB-MSP must be implemented in the whole region, not only in EU Member States. Finally, it was remarked that EB-MSP must be the part of the wider framework of integrated ocean management and that, its effective implementation, will be possible only if supported with appropriate financial resources.

7 References

Ansong J., Gissi E. and Calado H. (2017). An approach to ecosystem-based management in maritime spatial planning process. Ocean & Coastal Management, vol. 141, p. 65-81.

Gissi E., Alloncle N., Sala P. (2018), Working groups on Ecosystem Based Approach in MSP, Joint final conference of SUPREME and SIMWESTMED, Methods and Tools : Mixed working groups. Venice, December 12-13, 2018.

Helcom-Vasab (2016) Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea area. 18 p.

IOC-UNESCO (2009) Marine Spatial Planning: a step-by-step approach toward ecosystembased management. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. Paris: Unesco, 99 p.

Katona, S., Polsenberg, J., Lowndes, J., Halpern, B. S., Pacheco, E., Mosher, L., ... & Mori, L. (2017). Navigating the seascape of ocean management: waypoints on the voyage toward sustainable use. Doi: 10.31230/osf.io/79w2d

Katsanevakis, S., Stelzenmüller, V., South, A., Sørensen, T., Jones, P., Kerr, S. Badalamenti, F., Anagnostou, C., Breen, P., Chust, G.,D., Anna, G., Duijn, M., Filatova, T., Fiorentino, F., Hulsman, H., Johnson, K., Karageorgis, A., Kröncke, I., Mirto, S., Pipitone, C., Portelli, S., Qiu, W., Reiss, H., Sakellariou, D., Salomidi, M., van Hoof, L., Vassilopoulou, V., Vega Fernandez, T., Vöge, S., Weber, A., Zenetos, A., ter Hofstede, R., 2011. Ecosystem-based marine spatialmanagement: review of concepts, policies, tools, and critical issues. Ocean Coast. Manag. 54, 807e820.

Kirkfeldt, T. S. (2019). An ocean of concepts: why choosing between ecosystem-based management, ecosystem-based approach and ecosystem approach makes a difference. Marine Policy, 106, 103541.

Levin, P.S., Fogarty, M.J., Murawski, S.A., and Fluharty, D., 2009. Integrated Ecosystem Assessments: Developing the Scientific Basis for Ecosystem-Based Management of the Ocean. PLOS Biology. https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1000014.

Long, R. D., Charles, A. and Stephenson, R.L. (2015) Key principles of marine ecosystembased management. Marine Policy, vol. 57, p. 53-60.

MMO (2014). Practical Framework for Outlining the Integration of the Ecosystem Approach into Marine Planning in England. A report produced for the Marine Management Organisation. 181 p. (MMO Project n° 1048).

Pan Baltic Scope (2019), EBA in MSP – a SEA inclusive handbook, Arndt P., & Schmidtbauer Crona J. (edts), ISBN: 978-3-86987-990-1

Pisces (2013) Guide de mise en oeuvre de l'approche écosystémique dans le contexte de l'application de la directive-cadre stratégie pour le milieu marin. 47 p.

UNEP (2011): Taking Steps toward Marine and Coastal Ecosystem-Based Management - An Introductory Guide. Edited by Agardy, M., Davis, J., Sherwood, K., Vestergaard, O., UNEP, Nairobi.

UNEP/MAP-Convention of Barcelona (2015) Application of the ecosystem approach in the Mediterranean. 8 p. Available at: https://www.rac-spa.org/sites/default/files/ecap/ecap2015_eng.pdf

UNEP/MAP, 2008. Decision IG 17/6: Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment, 15th Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols Almeria (Spain), 15-18 January 2008, UNEP(DEPI)/MEDITERRANEAN IG.17/10.