Supporting maritime spatial Planning in the Eastern Mediterranean (SUPREME)

Develop and propose a conceptual methodology for transboundary MSP aspects

Deliverable C.1.1.3

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Table of contents

Abstract

In the sea flow of elements (including substances, fishes, waste, etc.) is unimpeded, following unpredictable patterns of dispersion and movement, transcending administrative and national boundaries and calling for planning initiatives and considerations on a wider regional or sea basin scale. Considering this nature of the sea, the present deliverable aims at presenting issues challenges related to transboundary MSP consideration, as well as at providing a conceptual methodology on the procedural steps to follow for the development of cross-border MSP, including a common understanding of the Ecosystem-based approach. The reason for this transboundary approach is double: first of all due to the transboundary impacts that Marine Spatial Plans might have and second of all, due to the growing need to undertake cross-border MSP initiatives (engaging countries sharing the same marine region). Given the above, key issues addressed in the present deliverable are the following:

Challenges faced in making transboundary considerations in MSP

According to the international literature there are two kinds of challenges undermining transboundary considerations and initiatives when planning in the sea: institutional and conceptual challenges. However, in the case of the Mediterranean, transboundary considerations and initiatives may also be undermined due to irregular geopolitical conditions.

Human activities and functions with a highly transboundary nature

Such activities and functions are: military operations and exercises; energy infrastructure and networks (oil extraction, cables, pipelines, etc); maritime transportation (shipping); cruise tourism; fishery; Marine Protected Areas (of natural and cultural importance); research

Adopting the Ecosystem Approach in MSP

Adoption of the Ecosystem Approach in MSP, should consider the following conditions:

- Adoption of a more area-based approach (instead of a sectoral one) when planning in the marine space,
- Choosing the right limits (and scale) of the marine management units. In the sea delimitation,
- Ensuring G.E.S. of marine ecosystems and waters within the management units.
- Designation of MPAs (expansion of existing network)

Procedural steps for the development of cross-border MSP: a conceptual methodology

Cross-border MSP (in the sense of MSP involving more than two coastal states in order to jointly manage a cross-border marine area in their common T.W. or EEZ. borders), is no different from MSP practiced within national/marine waters, except for the need to make some extra steps in order to align (where possible) governance procedures and harmonize planning context and approaches in all coastal countries participating in the effort. These preliminary steps to be made include:

Step 1: Establishment of a transnational Committee / transnational framework of cooperation
Step 2: Definition of the transboundary area(s) / management unit(s) to be planned
Step 3: Geo-data management - Creation of a common and compatible geo-data base
Step 4: Definition of common planning and management goals
Step 5: Stakeholders' engagement – establishment of a cross-border network
Step 6: International cooperation regarding human activities having a highly transboundary nature

1. Introduction: defining the working framework

Transboundary and cross-border issues are fundamental for the SUPREME project. As defined by the Grant Agreement, among the scopes of SUPREME are to support Marine Spatial Planning in the E.U. member-states and to enforce cross-border cooperation in the Mediterranean Basin, in MSP matters.

Consideration of transboundary issues in the present project, takes place at two different scales (as defined by the project Grant Agreement):

- the Eastern Mediterranean Basin scale (and more specifically the SUPREME project area, including four countries of the eastern Mediterranean Sea),
- the national scale (focusing on cross-border areas between partner-countries of the SUPREME project).

According to the Grant Agreement, the present deliverable (C.1.1.3), focuses on transboundary aspects and considerations related to MSP, proposes ways to adopt the Ecosystem Approach to MSP and ends with proposing procedural steps for cross-border MSP.

Given the above scope, the deliverable examines transboundary aspects related to MSP, under to different options:

- the transboundary considerations to be made in MSP, given the transboundary impacts that Maritime Spatial Plans might have in other areas of a shared sea (beyond a country's national limits)
- the extra steps to be made in cases of cross-border MSP (involving more than two coastal states), considering the Eco-system Approach,

The objective of the deliverable aims at providing input to be considered in the following parts of the project (and especially in the pilot study areas that need to consider the transboundary nature of the sea).

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2. Challenges in making transboundary considerations in MSP

The sea is a space of a particular nature. Being a liquid/fluid mass (water column), flow of elements (including substances, fishes, waste, etc) is unimpeded, following unpredictable patterns of dispersion and movement, transcending administrative and national boundaries and calling for planning initiatives and considerations on a wider regional or sea basin scale (Gilliland and Laffoley, 2008).

Given this transboundary nature of the sea, cooperation among neighbouring states is needed in order to coordinate the use of the shared marine space and resources that extend across international boundaries, to ensure ecosystem integrity and regulate its exploitation (Brunner 2003;

Mackelworth, 2012). Moreover, transboundary initiatives are also becoming established in environmental fields (Marsden and Warner, 2012), such as nature conservation (Rüter et al., 2014; Vasilijevic et al., 2015) river basin management (Daniel et al., 2013; Wiering and Verwijmeren, 2012) and marine conservation zoning (Agardy, 2010). Transboundary approaches in MSP also reflect on ecological boundaries and dynamics (currents, submarine features, etc.) (Ansong et al. 2017). It considers the transferring of impacts and risks of uses between boundaries (at country, regional, and local level), according to international legislation on environmental impacts (UNCLOS). Connectivity (migratory species, larval dispersal, genetic flow, etc.) is a key ecosystem priority to be included in MSP process (Muñoz et al. 2015; Caldow et al. 2015; Jay 2016), also in relation to the evaluation of effectiveness in conservation planning (i.e. MPA network) (Agardy, 2010).

The necessity of making transboundary considerations and tackling MSP on a transboundary basis has been highlighted by many policy documents; among them those deriving from the EU and the UN (such as the MSP Directive, the Marine Strategy Framework Directive, the Barcelona Convention and its Protocols etc) (Fernandes *et al.*, 2013). At the EU level, a series of initiatives has been undertaken to advance cooperation among states in MSP practices (complying in this way with the MSP Directive too). Beyond EU, non-E.U. countries have also taken measures to introduce to their MSP systems a transboundary approach, in order to achieve compatibilities with neighboring states (Jay et al. 2016). However, adopting a transboundary approach in MSP is still not an easy task. In most countries MSP experiences are still taking place at a sub-national or national scale (Van Tatenhove, 2013), whilst adopting transboundary considerations in MSP is only a task of research project, leading to non-statutory Plans.

According to the existing literature, transboundary considerations in MSP may be challenged and undermined for two reasons (Van Tatenhove, 2017): due to institutional and conceptual challenges and differentiations. However, there are quite enough cases (especially in the eastern Mediterranean Basin), where transboundary considerations face many challenges due to irregular geopolitical conditions among countries sharing a common border in the sea and showing the need to strengthen cooperation.

Institutional challenges (based on the literature review)

Institutional challenges come as a result of the fragmented responsibilities and the different kinds of institutions, policies and regulations existing at a regional sea level (Raakjaer, 2014). In the case of the Mediterranean Basin for example (where more than 20 countries share the same sea basin), beyond international and supranational policy documents (deriving mainly from the EU and the UN), a series of national policies also exist (per Mediterranean country), providing guidelines and regulations up to the territorial waters (or the EEZ, if proclaimed). Additional institutional challenges may also emerge at a sub-national level, if no administrative systems and competencies are defined per country in its marine parts (Jay *et al.*, 2016). In case of non-standard administrative bodies and agencies, decision-making entities may reach a large number, making it difficult to avoid overlapping or conflicting decisions (TDA, 2005; Fernandes *et al.*, 2013*).*

Avoiding overlapping competencies and contradictory policies from fragmented authorities and Institutions (usually having no responsibility for transboundary issues), calls for (Jay *et al.*, 2016; Van Tatenhove, 2017):

- policy convergence and alignment in countries sharing the same sea
- harmonization across competences both at a transnational and a sub-national level
- organizational reforms per coastal country, so that formal and informal transboundary Institutions can contribute to cross-border working and collaboration
- the emergence of network states and appropriate channels of communication, so that authorities from neighboring countries effectively work on matters that have cross-border implications.

Conceptual challenges (based on the literature review)

Conceptual challenges come as a result of differences among countries in terms of approaching Marine Spatial Planning, depending on their planning culture and their institutional context (Van Tatenhove, 2017). For example, in some cases, planning and management of the marine parts of a country is conceptualized through the ICZM approach, whilst in other cases, planning of the marine space is a totally independent task from planning on land. In addition, while some countries are already advanced in MSP implementations, others are not (Flanerry *et al*., 2015).

Moreover, different timeframes, differences in governance procedures as well as differences in objectives with regard to the management and planning of shared seas may also result in severe difficulties in practicing MSP on a transboundary basis.

In order to achieve better harmonization in conceptual matters regarding MSP, countries sharing the same regional sea need to (Schultz-Zehden and Gee, 2013; Flanerry *et al*., 2015; Jay *et al*., 2016):

- better understand neighboring planning systems and context so that eventually they adapt and become more compatible to each other
- reach a common conceptualization of planning issues and goals; i.e. establish clear and common objectives of management and planning in shared seas
- closely cooperate in gathering and exchanging data and relevant information

Some common irregular geopolitical conditions

When geopolitical conflicts exist between neighboring coastal countries, making transboundary considerations in MSP is deeply challenged, leaving little room for transboundary MSP initiatives and practices and for adopting a transboundary approach when planning in the marine space. At sea, conflicting relations among neighboring countries are often translated into disputes regarding the delimitation of common TW or EEZ borders. In cases where no consensus on the proclamation of the EEZ can be achieved, the vital area within which MSP can be practiced is severely reduced. At the same time, shared regional seas, where no consensus has been reached on the outer (marine) limits of each country, usually become terrains where the natural ecosystem is subject to possible gaps in environmental protection, leading to the possible exceeding of carrying capacities, affecting all sides.

3. Human activities and functions with a transboundary nature

The need for a transboundary approach when planning is widely acknowledged as much stronger in the marine space than on land, by many authors (Foley et al., 2010; Zaucha, 2015; Flannery *et al*., 2015). The reason for this need, is due to the transboundary nature of the sea that makes impacts of MSP to transcend administrative/national and ecosystem boundaries. This fact that calls for special considerations in order to ensure coherence of the planning provisions included in plans that are adopted in different marine areas of the same sea.

Adopting a transboundary approach when planning in the sea is imperative in order to:

- ✓ avoid user – user conflicts, and therefore, to ensure viability of marine economic activities
- ✓ avoid overexploitation of marine living and non-living resources (fishes, fossils, etc)
- ✓ avoid habitat fragmentation of (transnational) marine natural ecosystems and achieve efficient preservation of valuable marine ecosystems
- ✓ effectively tackle pollution, deriving from sea activities (and technological disasters related to them) as well as from land-based activities.

Indicative list of key human activities having a highly transboundary nature, are:

- ✓ military operations and exercises
- ✓ energy infrastructure and networks (oil extraction, cables, pipelines, etc.)
- ✓ maritime transportation (shipping)
- ✓ cruise tourism
- ✓ fishery
- ✓ Marine Protected Areas (of natural and cultural importance)
- ✓ research

Given their transboundary nature, all the above human activities may be considered for the development of cross-border (and transnational) cooperation among states sharing the same marine region (in order to define common goals). Tthis cooperation should be achieved through existing networks or structures of MS competent authorities (as recommended in Art.11, par.2, indent b of the MSP Directive).

Table 1, presents key legal issues (affecting sovereign rights and competencies in the marine space of coastal states) related to some of the most important sea uses and functions having a transboundary nature. The table constitutes an adapted version of Fernandes at al., 2013 work.

Table 1: Indicative list of key activities and functions in maritime areas and their legal framework

Navigation: **UNCLOS |** Ships of all States, whether coastal or land-locked enjoy the right of innocent passage through the territorial sea, the Economic Exclusive Zone (EEZ) and the High Seas. **IMO |** Traffic Separation schemes are notified to IMO and form the legal basis for ships' routeing measures in EEZ and on high seas. It is considered the competent international body to provide guidance for establishing special protective measures in defined areas where shipping presents a risk – applying both within and beyond areas of national jurisdiction.
Fisheries: **UNCLOS |** In territorial sea and in EEZ coastal states are empowered to establish fishery zones and determine zones in which fisheries activities are prohibited or restricted. Nationals or third state fishing in the EEZ of coastal state have to comply with the laws and regulations of the coastal state. States have a general duty to co-operate in the conservation and management of fish stocks, which often entails entering into negotiations to agree any necessary conservation measures. **EU - Common Fisheries Policy |** Main regional agreement binding the EU States. EC competence on fisheries leaves almost no room for Member States to unilaterally introduce zones where fishing activities are prohibited or restricted.
Laying Pipelines and Cables: **UNCLOS |** A coastal State cannot in general control the laying by other States of cables and pipelines passing EEZ. In territorial sea more strict control is possible and restriction can be imposed.
Exploitation of Natural Marine Resources (living and non-living): **UNCLOS** | In accordance with UNCLOS, in the territorial water, the coastal States have sovereignty over natural resources (living and non-living) extended through water column, seabed and subsoil. On the EEZ sovereign rights of the state are limited for the purpose of exploring, exploiting, conserving and managing living and non-living natural resources of the water columns and underlying continental shelf. **Directive 94/22/EC** | Regarding the prospection, exploration and production of hydrocarbons EU Directive 94/22/EC of the European Parliament and of the Council of 30 May 1994 grants the right to the Member State to authorize and determine the areas within their territory (considering EEZ and Continental Shelf) to be made available for these activities.
Military activities: **UNCLOS |** Coastal State may only temporarily suspend innocent passage for its own military exercises. Whether military exercises by non-coastal States are allowed within the EEZ of the coastal State still remains an open question.
Other activities: **UNCLOS |** Other specific uses such as production of energy from renewable sources and economical activities such as marine fish farming or raising of marine animals or plants in the ocean is considered within the legal framework provided in UNCLOS as in the territorial sea and in the EEZ the state has the sovereign rights. Marine recreational activities and tourism do not have specific regulation in international law. Although, as it implies a variety of activities some of the legal instruments previously described can be applied.

Source: Fernandes *et al.*, 2013

In the case of the SUPREME project (focusing on the Eastern Mediterranean Basin), transboundary SEA and EIA, including transboundary consultations, are instruments that are expected to be used for the implementation of an MSP plan, to include the significant transboundary environmental effects; Therefore the following transboundary implications should be considered into the MSP process:

- Carrying capacity and cumulative impacts;
- EcAp-based Ecological Objectives (Eos) and related targets;
- LSI aspects;
- Coastal erosion;
- Climate change effects;
- Life cycle analysis

4. Adopting the Ecosystem Approach in MSP

The Ecosystem Approach has been a rather well-known concept among marine biologists since the 1980s. According to ICES (International Council for the Exploration of the Sea), it is defined as "*the comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of goods and services and maintenance of ecosystem integrity*" (ICES, 2003).

Ecosystem Based Marine Spatial Planning (EB-MSP) has been developed and identified as a process potentially able to favour and even ensure the good quality state of the sea in parallel with the human sustainable economic growth (McLeod et al., 2005; Foley et al., 2010; Ansong et al., 2017). Furthermore, EB-MSP is a process that uses the Ecosystem Based Management (EBM), representing a holistic and integrated approach fundamental to achieve social, economic, and ecological objectives thanks to the optimization of the marine space in allocating the different anthropogenic activities (in space and time) with a more rational and scientifically-based ocean management (Gilliland & Laffoley, 2008; Soininen & Hassan; 2015). It turns out to be a multidisciplinary approach that supports the Blue Growth objectives in line with the Marine Strategy Framework Directive (MSFD, EC, 2008; Berg et al. 2015; van Leeuwen et al. 2014; Buhl-Mortensen et al. 2017). In this context, EBM has been declared fundamental to underpin sustainable development, thus pursuing economic, social and ecological objectives (Angsong et al. 2017; Levin and Möllmann, 2017), as for example maintaining and restoring marine biodiversity and habitats ensuring their health and characteristic connectivity. As TMSP has to be considered a key integrated approach that allows the harmonization of the existing governance framework to improve and support EB-MSP (Backer 2011; Flannery et al. 2015), both the approaches should participate together at the achievement of the same objective.

The Ecosystem Approach, has been widely proposed and adopted by most UN and EU documents related to the marine space and MSP (e.g. the ICZM Protocol, the MSP Directive, etc.), as a result of the recent environmental concerns and the need to adapt to the dynamic and transboundary nature of the sea that crosses administrative and national boundaries and calls for planning initiatives on a wider regional or sea basin scale (Gilliland and Laffoley, 2008).

The first references to the Ecosystem Approach (ECAp) are traced back to the Conference of the Parties (COP 5), Decision V / 6, within the Convention on Biological Diversity (CBD). The principle of the ecosystem approach is also based on the formulations of the Code of Conduct for Responsible Fisheries (CCRF, FAO 1995). At European level, the EcAp is mentioned in the MSFD Directive (Marine Strategy Framework Directive) of 2008 (2008/56 / EC), in the Common Fishery Policy (CFP), of 2002 (COM (2002) 186) and in the Maritime Spatial Planning Directive (MSP) of 2014 (2014/89 / EU).

Therefore, the Ecosystem Approach is the instrument for the correct development of the Maritime Spatial Planning, representing the main link between the MSP and the MSFD at the EU level. It basically consists of 2 levels:

1) The strategic level, represented by the appropriate integration and application of the methods and objectives set out in the Marine Strategy Framework Directive (MSFD), which represents the Environmental Pillar of Integrated Maritime Policy and which is therefore the instrument for the interconnection and the interrelation between the various sectorial regulations. In this regard, the definitions of Good Environmental Status and the related environmental targets in accordance with Directive 2008/56 / EC are considered as references.
2) The functional - procedural level, represented by the application of the operational tool of the SEA, as a methodology to concretely define the way in which the Ecosystem approach must be integrated and used for the definition of the MSP plans.

On behalf of the UN, the Ecosystem Approach Roadmap was adopted by the Contracting Parties to the Barcelona Convention in 2008 (Decision, IG. 17/6, COP 15) with the overall objective of achieving/maintaining GES in the Mediterranean Sea and coasts. In this framework, a list of 11 Ecological Objectives has been adopted, and related GES definitions and targets as well as an Integrated Monitoring and Assessment Programme (IMAP) with a list of regionally-agreed IMAP Indicators. The ecosystem approach has been reaffirmed as an overarching principle of the MAP Barcelona Convention and as such it is being integrated into all policies, including the ICZM and MSP. Extensive analysis on Ecosystem Approach and MSP can be found in C 1.1.2

Adopting the Ecosystem Approach in MSP, i.e. practicing MSP within ecosystem boundaries, is usually not only a matter of a single state. Instead, it may probably be a matter of more than two states, highlighting the need for transboundary considerations and cross-border MSP initiatives, involving all countries sharing the same marine region. Through the EcAp, the MSP process is adaptive and evolve through a continuous exercise of socio-cultural-economic-environmental sustainability assessments in order to arrive at an integrated plan that is able to take into account all the aspects at stake.

Therefore, adopting the Ecosystem Approach in MSP, should consider the following conditions:

- **Adoption of a more area-based approach (instead of a sectoral one) when planning in the marine space:** Adopting the Ecosystem Approach in MSP, means that spatial planning in the marine space should no longer be practiced per sector or per economic activity (that has been the common practice up to now). Instead, it should be practiced within ecosystem boundaries (marine regions), so that wiser management of all uses (marine or terrestrial) and of the ecosystems can be achieved.
- **Choosing the right limits (and scale) of the marine management units.** In the sea delimitation of the management units should not only consider the administrative limits or the national (geopolitical) borders of each coastal country. Instead, definition of the management units should also consider the ecosystem boundaries.
- **Ensuring GES of marine ecosystems and waters within the management units.** This means consideration of, at least, the 11 descriptors included in the MSFD (Marine Strategy Framework Directive), also adopted by the Barcelona Convention (IMAP), and the Ecological Objectives adopted by the Barcelona Conventions.
- **Designation of MPAs** (Marine Protected Areas) in order to expand the existing network at sea[1].

[1]The boundaries of such Protected Areas at sea, including respective cross-border impacts of the planned themes, are not at the same time the boundaries/scope of marine spatial plans.

5. Procedural steps for the development of cross-border MSP

Cross-border MSP (in the sense of MSP involving two or more coastal states in order to jointly manage a cross-border marine area in crossing/passing/ their common territorial sea. or EEZ borders), is no different from MSP practiced within national marine waters, except for the need to make some extra (preliminary) steps in order to align (where possible) governance procedures and harmonize planning context and approaches in all coastal countries participating in the effort. These extra and preliminary steps to be made are described below, in correlation with the ordinary spatial planning steps (as described in the planning theory).

Important Note: the present section aims at presenting a conceptual framework/ methodology that would be applicable in every case of cross-border MSP (beyond the SUPREME project).

Step 1: Establishment of a transnational Committee / transnational framework of cooperation[2]

Establishment of a transnational Committee (engaging all levels of administration and government per country) is of paramount importance when practicing MSP on a cross-border basis. In this Committee, governments and administrations of all involved countries would be represented. This step should take into consideration existing networks and structures of MS competent Authorities, as well as institutional and legal frameworks for cooperation and coordination, especially those established under the Regional Seas Conventions and all other relevant international treaties and EU legislation.

Step 2: Definition of the transboundary area(s) / management unit(s) to be planned[3]

Definition of the area to practice cross-border MSP should be carefully considered. Definition of the outer and landward limit should consider administrative and jurisdiction limits, geographical and ecological dimensions of the cross border area, as well as social, cultural, governance and policy variations among states. The area may be delimited by “hard” limits (for administrative reasons) and/or by “softer” limits (embodying diminishing transboundary impacts and other eco-systemic considerations). Hard limits, however, should be the starting point, given that national (and sub-national) authorities and administrations would be responsible for the monitoring the evaluation and the implementation of MSP.

Step 3: Geo-data management - Creation of a compatible geo-data base

At sea, data is most likely to be missing or to be incompatible with each other (when it exists). Therefore in cases of cross-border areas, digital geographical data (deriving from different countries) must comply with common standards for metadata, common vocabulary, data transport formats, quality control methods and flags. At the E.U. level, this compatibility of data is in progress,

[2] The Republic of Croatia, following the inputs of the National Ministry of Construction and Physical Planning, does not support the model proposed in step No1.

[3] The Republic of Croatia, following the inputs of the National Ministry of Construction and Physical Planning **does not support** the model proposed in step No2

after the adoption of the INSPIRE Directive (Infrastructure for Spatial Information in the European Community).

In order to achieve compatibility of geo-data a “common network” should be established, which authorizations will be retained within the scope of advisory operations – the collection and exchange of necessary spatial data, the organization of meetings, all in the sense of coordination activities between the MS and not related to decisions on matters of concern in the sovereign rights and jurisdiction of the MS.

Step 4: Definition of common planning and management goals

Definition of common planning goals and objectives is of prime importance for all sides (States and the E.U.). Setting of such goals and objectives must ensure that resource management will be based on equity and trust, so that ecosystem services keep flowing to the benefit of all sides.

Step 5: Stakeholders’ engagement – establishment of a cross-border network

An engagement strategy is necessary, so that communication channels are encouraged and established at the cross-border management areal. Emphasis should also be put on the engagement of marine regimes (shipping companies, oil extraction companies, etc), to ensure that common objectives will be built on mutual trust. At a secondary level, stakeholders’ engagement may also prove valuable in promoting *citizen science* and in filling knowledge (and data) gaps for the seas.

Step 6: International cooperation regarding human activities having a highly transboundary nature

Beyond taking steps to support TMSP, it is also important that coastal countries sharing a Territorial Sea or EZZ border/boundary (or not) proceed to Contractual Agreements regarding human activities and functions having a highly transboundary nature and risk for pollution and technological disasters. Key activities and functions calling for international cooperation regard among others: maritime transportation, fishery, MPAs, oil extraction installations, etc.

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