

Governance scheme

at National and sub-national levels for
Spatial Planning in relation to

MSP in Greece

UTH and YPEN
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1. Introduction: EU Policy / EU Directive - Greek Law 4546/18 – new considerations

The incorporation of EU Directive 2014/89 into the Greek legal system was effectuated through Law 4546/18 which set the national legal framework for maritime spatial planning in Greece which provides for:

- (a) a National Maritime Spatial Strategy (NMSS), and
- (b) Maritime Spatial Plans-Frameworks (MSFs).

Based on the structure of the spatial planning system of Law 4447/2016 which is in force, the Maritime Spatial Plans of Article 5 of Law 4546/2018 (A' 101) are included functionally in the regional level of spatial planning (second level), which is strategic and are renamed to Marine Spatial Frameworks (after Law 4685/2020)

According to the Law:

The Ministry of the Environment & Energy as the competent authority for the implementation of MSP uses the relevant tools and instruments, including those already available, in accordance with the National Strategy for the Protection and Management of the Marine Environment (Law 3983/2011), the Integrated Maritime Policy and other relevant policies of the European Union with the objective towards a coordinated, integrated and cross-border approach. In the preparation of the national spatial strategy for maritime space and maritime spatial frameworks, existing national policies, regulations and mechanisms in force may be included and exploited, in particular the island policy, provided that they contribute to the achievement of the objectives of the Integrated Maritime Policy.

The Ministry of Environment & Energy is responsible for the preparation and implementation of maritime spatial planning, for monitoring-evaluation and revision of maritime spatial frameworks. In the context of compliance with the minimum requirements for maritime spatial planning (Article 6 of Directive 2014/89/EU), the ecosystem approach and, more generally, the principles of sustainable management, forwards procedures taking due account of the specificities of marine areas, the relevance of existing and future activities and uses, their impact on the environment, natural resources and cultural heritage with a view to the rational and integrated spatial development of activities. Taking into account also land-sea interactions, in the light of environmental, economic, social and cultural parameters, it seeks a harmonious coexistence of all relevant activities and uses ensuring regulation of conflicts that can be caused by the relevant activities and uses, resilience to the effects of climate change and supporting safety issues. In order to

achieve the objective of Maritime Spatial Planning, the Ministry of Environment & Energy ensures consultation procedures- public participation in accordance with the applicable legislation, organizes and uses the best available data and coordinates the process of the required exchange and exploitation of data and information. For these purposes it is necessary to consider the geographical complexity of Greece, the multiple uses of maritime space, the dynamic character and complexity of the marine environment.

At this stage, the specifications for the preparation of the National Strategy for Maritime Space and the specifications for the preparation of maritime spatial Plans-Frameworks are being prepared, while at the same time, on the basis of the strategic objectives of the Directive, the data required for the finalization of the monitoring methodology and the recording of the indicators for the monitoring and evaluation of maritime spatial plans to be selected are recorded.

The specifications for the elaboration of maritime spatial Plans-Frameworks are crucial in view of the fact that for the first time maritime spatial frameworks relating to spatial units which may be sub-regional, regional or interregional in adapted to the country's priorities and geomorphological specificities will be developed.

2. International experience in maritime spatial planning governance

Policies, tools, mechanisms

Maritime spatial planning is structured on the basis of the general approach envisaged (spatial planning), the institutional context (national framework and international guidelines and obligations) as well the particularities of space (geography) and place (issues to be addressed). Therefore, different contexts require adaptation and innovation, so, a “one-size-fits-all” approach to address marine spatial planning issues is not to the best course of action. However, different practices and experiences can provide useful guidance for the application of MSP in addition to guidelines and frameworks. Balancing between biodiversity conservation, sustainable human use of marine resources and the creation of adequate governance frameworks form the basis for planning incorporating management perspectives.

An overview of international experience on MSP shows that there are several issues to consider in MSP

Table 1: Overview of issues to consider

SPATIAL EXTENT		National (0 - 200 N.M) Regional (0 - 12 N.M)	EEZ and territorial waters
SCOPE		The central government has jurisdiction over marine areas	
COMPETENT AUTHORITIES		Which Authority has primary responsibility for MSP National level Regional level Local level	Other stakeholders: Defense Marine transport Environment....
LEGAL IMPACT		Legal form of Maritime spatial plans	Other considerations
PLANNING TOOLS	Strategic	Guidelines for spatial development at sea	Principles Goals, objectives Vision, and spatial policy choices for the management of territorial sea and EEZ.
	Regulatory	Rules and regulations licensing procedures project approval.	<ul style="list-style-type: none"> Regulate activities in the area through a permitting system. Set rules for different activities Rules on how potential conflicting interactions should be addressed.
	.	Spatial delineation for uses and activities	Spatial demarcations for the different uses and activities Identification of: Priority areas Protection/Reservation Activity priority areas
MONITORING AND EVALUATION	Mechanism	Review provisions	Time frame Procedures/process Consultations
CROSS-BORDER COOPERATION	Options	Considerations	International EU other

Table 2: Lessons learned from international experience

Lessons learned from international experience

- Policies based on participatory processes
- Policies can set guiding principles for the future, focusing on aspects such as innovation and ecosystem services, with core principles the naturalness, societal welfare and multi-use
- Maritime Spatial Plans are developed at national and/or regional level setting principles, goals, objectives, a long-term vision, spatial policy choices, management actions and indicators with spatial demarcations for different uses and activities
- An advisory commission or other special body can be established for the consultation process and / or monitoring and implementation of MSP
- Cross sectoral level arrangements to be considered
- Stakeholders engagement takes place in informal and/or formal consultations through working groups, stakeholder meetings organized.
- Online portals can be created to support stakeholders and cross-border collaboration
- Cross-border consultation can be achieved in the framework of regional agreements

Table 3: Policies, tools and mechanisms from international experience

POLICIES	Long - term Vision Policy which guides the development of MSP
	Maritime Agenda, which includes a comprehensive stock-taking and a coherent program aimed at strengthening the competitiveness of the maritime industry whilst giving equal consideration to the goals of economic growth and stringent environmental and nature conservation requirements. Concerns four basic maritime activities, which are maritime industry, shipping, ports and offshore wind energy
	At local level → Coastal Safety Masterplan, which is responsible for coastal flood protection
TOOLS	Offshore Wind Energy Roadmap for the period 2024 to 2030 developed
	Spatial Offshore Grid Plans
	Portals to support planners, stakeholders, and cross-border collaboration
MECHANISMS	Establishment of an advisory committee
	Mechanism to account of consultations
	Bottom-up trajectory to invite a wide range of stakeholders including authorities, research community and business representative for develop policies and long – term visions
	Informal consultations with sectoral stakeholder groups
	Formal consultation in planning forums via the online procedures
	Local and regional authority involvement provisions
	Transnational working groups
	Informal thematic workshops and expert discussions
	Transborder Consultation on maritime spatial planning achieved through written information and several face-to-face meetings
	Stakeholders engagement for the maritime spatial plan take place at various stages, carried out through informal and formal consultations
	Stakeholders: citizens, industry, interest groups, authorities, NGO’s, regional authorities, defense and Coast Guard, academia/science, ...and neighboring states
At regional level, planning concerns the territorial waters, while national level has key responsibilities for MSP	

Table 4: Key elements of the Marine Spatial Planning process (Appiotti, 2014)

Understanding the process as a whole

Framework for assessing progress/outcomes

Setting a vision and clear objectives

- Examine power relationships and governance process
- Identify the strengths and weaknesses in past and current eras of governance
- Tracing how human activities and environmental conditions have changed
- Document how the governance system has responded, or not responded, to key changes
- Identify present and future competing interests
- Identify the issues to be addressed and desired outcomes/vision
- Select and involve key partners for MSP implementation
- Understand capacity needs throughout planning and implementation

Governance challenges

- Reconciling top-down, large scale planning with bottom-up and more localized management
- Driven by data and stakeholder input
- Balancing present and future uses
- Appropriate balance between top-down and bottom up governance
- Identify how different governance structures influence engagement
- Importance of clear objectives that integrate: Strong stakeholder engagement, Best available data, Sound understanding of changing dynamics of environmental, political, socioeconomic dimensions
- Identify which governmental institutions and stakeholders are anticipated to play significant roles in gaining approval for MSP
- Cross-sectoral coordination mechanism is key—balancing authorities is a challenge

Stakeholder engagement

- **Understanding stakeholder perceptions, roles and needs:** Use of stakeholder baselines and stakeholder mapping
- **Organizing effective stakeholder input:** Provide clarity and transparency in decision-making, Create realistic perceptions among stakeholders of their roles and influence in the planning and decision-making process
- **Effective stakeholder communication:** Customization of language towards specific audiences and purposes, Ability to effectively communicate benefits of MSP

Information needs

- **Availability of scientific information:** Not all types of data are available spatially, or in comparable formats - Information is often collected without planning in mind
- **Integrating biological data and human use data:** Multi-sectoral data development and participatory mapping can improve transparency
- **Use of sensitive information:** Demonstrate to information-holders that investment in access to data is worthwhile, Provide opportunities for stakeholder review and verification
- **Understanding how data needs differ based on the stage of MSP process:** Countries just starting MSP have significantly different data concerns than those further along in planning and implementation
- **In the initial stages of the MSP process:** Deciding what data is needed and how is it selected, Determining who should be in charge of MSP information (e.g., should it be held centrally or by individual sectors?), Gathering historical, socioeconomic and cultural data.
- **As the MSP process progresses:** Establishing a protocol on how to combine information held by different stakeholders, Establishing a clearing-house mechanism, Acquiring resources to maintain long-term datasets, Dealing with a large amount of information and selecting which information to use, Incorporating information on new and emerging issues, Deciding which tools are best for individual situations, Linking goals to management actions/technical approaches
- **Moving to MSP implementation:** Defining agreed-upon targets, Recognizing variability in data quality among different sectors and providing support for those sectors with data gaps, Establishing transparency of government data standards, Maintaining financial and human resources

Broader Area relevant projects/programs relating to MSP

According to the European MSP Platform Greece has participated in 54 transnational projects related to MSP. These projects provide valuable experience and essential tools related to MSP governance. The description of the following examples focuses on different aspects of MSP governance including stakeholders’ engagement, participatory planning, monitoring and evaluation, resolving conflicts and exploitation of geospatial tools for coordinated management and transparency.

Table 5: Relevant projects for Greece

Relevant projects for Greece
ADRIPLAN
CAMP
COASTGAP
CoCONET
ΘΑΛ-ΧΩΠ (THAL-CHOR)
MEDTRENDS
MSP Med - Paving the Road to MSP in the Mediterranean
SUPREME
CO-EVOLVE
Ecoast
MARISCA
Protomodea
MUSES
PORTODIMARE
ΘΑΛ-ΧΩΠ 2 (THAL-CHOR 2)
AMAre

ADRIPLAN - ADRIatic Ionian maritime spatial PLANning

Countries		Status	Focal point
Croatia	Slovenia	Completed	Stakeholders and Participation
Greece	Other	2013-2015	
Italy			



Figure 1: ADRIPLAN's focus

ADRIPLAN's overall objective was to analyse and promote a commonly-agreed transboundary Maritime Spatial Planning in the Adriatic-Ionian Region (AIR). ADRIPLAN considers the whole AIR as its study area, with a specific attention to its transnational dimension, but mostly concentrates its analyses and proposals on two Focus Areas: (1) Northern Adriatic Sea; (2) Southern Adriatic/Northern Ionian Sea.

The proposed approach was developed with the support of institutional partners and observers and the involvement of stakeholders of the area and provided recommendations for the evaluation of cross-border MSP, based on an integrated assessment (environmental, legal, administrative, economic and social) and taking into account multiple demands and potentials. It promotes the harmonized implementation under an ecosystem-based approach of the EU legislative framework on marine and maritime issues.

It is divided in several phases, including: pre-planning, vision and objectives definition, analysis and interpretation, design, monitoring and evaluation of the planning outputs and implementations. Cross cutting governance issues, such as stakeholder participation and monitoring of the planning process constitute important elements of the project and take place through the steps of the developed methodology. Stakeholders participation has been achieved by multiple consultation tools, such as questionnaires, workshops and institutional meetings. For monitoring MSP implementation, ADRIPLAN defined a proposal of criteria and indicators. The indicators cover social, economic, environmental and governance aspects, incorporating, thus, an integrated and sustainable approach. The governance set of indicators refer to transboundary issues, governance structures for enhancing coordinated actions among the countries of the macro-region, engaging relevant stakeholders, ensuring dissemination and awareness raising.

Particularly concerning governance matters ADRIPLAN:

- Fully involves relevant regional and governmental bodies and other relevant stakeholders;
- Harmonizes with the emergent MSP systems of other Member States;
- Responds to the maritime policy priorities of relevant Member States;
- Promotes a sound evolution of the legal, administrative and governance framework;
- Recognizes the autonomy of member states in developing MSP and the voluntary nature of cross-border initiatives.

SUPREME - Supporting Maritime Spatial Planning in the Eastern Mediterranean

Countries		Status	Focal point
Croatia	Slovenia	Completed	-Stakeholder engagement
Greece	Other	2013-2015	-Monitoring and Evaluation
Italy			

The general objective of Supreme project was to support the implementation of MSP within their marine waters in the Eastern Mediterranean. The objectives of the project were:

- To inform awareness and understanding of the range of factors and uses potentially impacting on the marine area within the Eastern Mediterranean, their potential cumulative impact on the environment and projected future trends.
- To identify spatial demands for maritime sectors at basin and marine waters scales and measures to reduce conflicts and promote synergies, including multi-use of marine areas, under an ecosystem-based approach.
- To identify and address important data gaps and support the coherence of data analysis across marine area boundaries, promoting data sharing and joint use of data through existing portals (e.g. EMODnet, ADRIPLAN, etc.), with emphasis on transboundary areas and issues.
- To explore the potential spatial requirements for marine conservation; specifically, the challenges around transboundary working.
- To promote mechanisms for transboundary cooperation on MSP implementation, involving all relevant stakeholders in the planning and, in perspective, in the management phase.



Figure 2: SUPREME's pilot areas

- To promote the coherent implementation of MSP and ICZM under the Barcelona Convention Strategies and Protocols and the consistent application of the ecosystem approach, both on regional/sub-regional level.
- To address concretely MSP local and transboundary issues in selected case studies areas

Key Recommendations on stakeholder involvement:

- a. Integrate stakeholders' involvement into the MSP implementation strategy/plan
- b. Identify and map key relevant stakeholders
- c. Initiate communication with stakeholders and establish a stakeholder database
- d. Create a calendar of key events and workshops
- e. Prepare and distribute concept notes for stakeholder workshops
- f. Organise the first Workshop and follow-up on its outcomes and conclusions
- g. Ensure involvement of stakeholders, as appropriate, in the development of the plans
- h. Prepare the final outcome including a list of actions/key elements on MSP implementation
- i. Establish a follow-up and monitoring plan

Key Recommendations on *monitoring and evaluation* include:

- Incorporate monitoring and evaluation considerations into the MSP process from its very beginning.
- Management objectives and expected outcomes should be written in a way that is clear and measurable, either quantitatively or qualitatively, as part of the logical framework analysis
- Focus on performance monitoring and evaluation moves instead of the traditional input–output focused evaluation.
- MSP plans should be evaluated, not only by their outcomes, but for how they improve the understanding of decision makers and stakeholders about present and future problems they face and the opportunities that planning presents to deal with problems in the present to avoid them in the future.
- No single generic evaluation framework fits all purposes. Different evaluation needs require different evaluation approaches—no one approach fits all needs.
- The results framework with indicators, targets and baselines should be linked to a monitoring and evaluation plan.
- The meaning of indicators should be understood by as wide a range of stakeholders as possible.
- The number of indicators should be realistic and proportionate in terms of what can be measured with the given resources, but enough to ensure a comprehensive description of the system.
- Performance monitoring and evaluation should be an iterative process.

- Include a process for communicating results and promoting their utilisation.
- Performance monitoring and evaluation will be successful if progress is being made toward achieving management objectives through the MSP process.
- Stakeholders should endorse the MSP process and its outputs. Performance monitoring and evaluation results are should modify revisions to plans.

Interreg-Med: AMAre - Actions for Marine Protected Areas

Countries		Status	Focal point
France	Malta	Completed	Geospatial tools for coordinated management and transparency
Greece	Spain	2016-2019	
Italy			

The main objectives of AMAre project were:

- To develop shared methodologies and geospatial tools for multiple stressors assessment, coordinated environmental monitoring, multi-criteria analyses and stakeholders' engagement.
- To develop concrete pilot actions and coordinated strategies in selected Marine Protected Areas (MPAs) to solve hot spots of conflicts affecting marine biodiversity and the services it provides. The project involved four MPAs (Sporades, Malta, Balearic Islands and Torre Guaceto).



Figure 3: AMAre's selected MPAs

The expected results were transnational cooperation and regulations, development of coordinated best practices, data access to share information and concrete stakeholder and users' involvement. The final aim is to scale up strategies and recommendations at transnational level adopting an ecosystem-based approach considering the goals of the Marine Strategy Framework Directive (MSFD) across MPAs.

Within the Interreg-MED project AMAre, the AMAre Geoportal was developed in order to provide a spatial database to store, manage and share data on the MPAs involved in the project. The tool combines web maps with graphs, charts, tables, and text to make accessible and re-usable the data relevant for the management of the MPAs in a coordinated manner. The specific objectives of the tool are:

- To store, manage and share spatial data relevant to MPAs management in the Mediterranean.
- To facilitate the assessment and analysis of environmental features and socio-economic activities with potential impact on the marine environment.

- To provide publicly available information on the management framework, monitoring facilities, environmental and socio-economic aspects within different Mediterranean MPAs.

THAL-CHOR 1 - Cross border cooperation for Maritime Spatial Planning Development

Countries	Status	Focal point
Cyprus Greece	Completed 2014-2015	Resolving land-sea conflicts

ΘΑΛ-ΧΩΡ (THAL-CHOR) aimed at developing a methodology for MSP and then using this methodology for pilot application in selected areas in Cyprus (Limassol area) and Greece (Islands of Lesbos and Rhodes). Resolution of spatial conflicts between different uses of the sea, better coordination between stakeholders and strengthening cross-border cooperation were also project's objectives. The following actions took place:

- Stock-taking of human activities at sea and analysis of main features of the marine environment;
- Development of a Web-GIS to display all collected data;
- Overview of the legal framework and recommendations for its improvement;
- Definition of future priorities and analysis of the future state in terms of evolution of existing activities and development of new ones;
- Pilot implementation of MSP in selected areas and drafting of pilot maritime spatial plans;
- Evaluation of the methodology followed for implementing MSP & identification of good practices.

One of the tasks of 'THAL-XOR' was detecting of conflicts. For the aims of the project all the sea and land activities related with MSP planning were collected. The data were geo-referenced and catalogued into a common geo-database. Consequently, a catalogue was carried out to identify potential use compatibilities and conflicts between the different activities. The activities were cross-compared with one another to determine any potential conflict. The comparison was performed based solely to the legal framework and the best practices from other MSP programs. The results of the conflicts were carried out in a GIS environment. The maps produced, can support local stakeholders to identify where the pressure from the different conflicts is located.

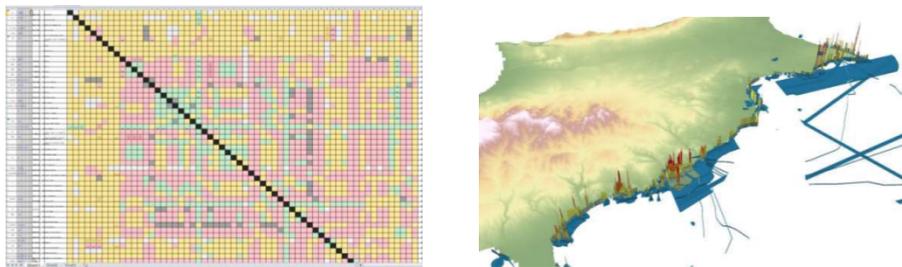


Figure 4: Conflicts between different sea and land activities (in red) (left), Cumulative land-sea conflicts (3D view) (right)

The potential for conflicts between different marine sectors is increasing over time, particularly as developing sectors such as aquaculture and renewable energy grow in significance. ‘Conflict resolution’ raises plenty of benefits. Developing a Web-GIS based tool such as ‘THAL-XOR Web-GIS’ provides solutions on managing potential conflicts and ensuring that the needs of different sectors are addressed in a coordinated way. Moreover, it enables stakeholders and the public easy access to the geospatial data and the results of the analyses. This will assist further the governmental strategic plans to get existing MSP activities, existing and future MSP conflicts and future MSP planning.

COASTGAP – Coastal Governance and Adaptation Policies in the Mediterranean

Countries		Status	Focal point
Croatia	Italy	Completed	-Governance & adaptation policies
Cyprus	Malta	2013-2015	
France	Slovenia		-Cooperative framework of coastal regional administrations
Greece	Spain		

COASTGAP capitalized 12 best practices from 9 projects, to underpin governance and adaptation policies aiming to reduce risk along coastal zones and foster their sustainable development. Based on the results of the capitalization and supported by multi-level agreements, COASTGAP produced the “Joint Action Plan on Med coasts Adaptation to Climate Change” (JAP) aiming to provide an operational and coherent strategy for the 2014-2020 financial period. The JAP identifies a number of initiatives encompassed into the general Macro-Project outlined by the Bologna Charter 2012; i.e. the European regions Charter for the promotion of a common framework for strategic actions aimed at the protection and sustainable development of the Mediterranean coastal areas.

BP1	Guidelines for the environmental impacts evaluation of the coastal protection works and plans	
BP2	"SICELL" Littoral cells management system	
BP3	Bologna Charter 2012	
BP4	Methodology for ICZM Protocol Art.8 "setback zone" implementation	
BP5	Regional Strategic Plan	
BP6	PEGASO SDI and Geoportail for ICZM	
BP7	Risk Model COFLERMap Coastal Flood Erosion Map	
BP8	Integrated Quality Model for the development of sustainable Routes	
BP9	Coastal Observatory	
BP10	DIVA Model	
BP11	WEBCam network	
BP12	Decision Support System (D.S.S.) to determine the best defence planning	

Figure 5: GOASTGAP’s 12 best practices

Table 6: JAP’s Strategic themes and the related Joint Actions to be implemented

Developing knowledge, network-based monitoring and data management system	Sustainable use of strategic resources for the Blue Growth of the Mediterranean coasts	Supporting research, innovation clusters and implementation	Response to challenges driven by climate change
<ul style="list-style-type: none"> • Build a network of coastal observatories • Survey erosion status and flood hazard along the Mediterranean coasts • Individuate & characterise coastal and submarine stocks of sediments suitable for beach nourishment • Build a Mediterranean interoperable Spatial Data Infrastructure 	<ul style="list-style-type: none"> • Promote the sustainable use of the coastal territory, according to ICZM and MSP principles • Promote the sustainable use of coastal and off-shore stocks of sediment 	<ul style="list-style-type: none"> • Foster project-clustering initiatives • Foster innovation in the field of coastal protection and climate change adaptation in the Mediterranean • Interaction with the new EU Research Programme – Horizon 2020 	<ul style="list-style-type: none"> • Supporting the design of structural works for coastal protection and adaptation to climate change • Foster adaptive management solutions and structural works to enhance the resilience of coastal systems • Individuation, access to and efficient use of funding frameworks

3. Key issues and Basic Guidelines for an MSP strategy

Maritime Spatial Planning is considered one of the most important cross-sectoral tools to support the implementation of Integrated Maritime Policy (IMP).

Ensuring the implementation of MSPs in all Member States will promote sustainable development in all maritime sectors. MSP is necessary for reasons of legal certainty, predictability and transparency, which have an effect on reducing costs for investors and operators, promoting investments, growth and employment, within the framework of the Europe 2020 strategy. Among the objectives set by maritime spatial planning is to promote sustainable development through the implementation of an ecosystem approach, the different uses exerted in maritime areas taking into account the transformations caused by climate change, the regulation of conflicts that can be caused by the activities and uses concerned in relation to economic, social and environmental aspects (Martuscelli, 2017).

The Barcelona Convention Protocol 7 on ICZM in the Mediterranean aims to create an integrated framework for the management of coastal zones, including environmental policy, territorial planning, industrial policy and other policies and instruments affecting coastal areas. ICZM intends to improve the economic and social well-being of these sectors and to help develop their full potential and represents a complementary tool for maritime spatial planning.

The identification of long-term MSP priorities requires balancing the three pillars (society, economy and environment) as well as balancing the compensations behind the pursuit of one specific objective over another, given the availability of maritime space. The identification of priorities will include reviewing and complementing national policy priorities, expert advice and stakeholder involvement with balanced representation of all those affected by the pursuit of selected maritime objectives.

Commitments already made at EU or international level in relation to the minimum requirements on which the objectives are selected may contain specific -strictly binding or guiding- agreed objectives. These must be translated into MSP SMART targets for each priority selected.

At least one or more distinct targets in three pillars of importance should be identified:

- Governance objectives for MSP procedures (e.g. consistency with other processes, stakeholder engagement, use of best available data and cooperation with other Member States or third countries)
- Socio-economic objectives aimed at social and economic development, including human well-being and non-commercial values (e.g. quality of life, health and well-being)
- Environmental objectives related to the state of the environment, including ecological components of the ecosystem, such as biodiversity.

The determination of the nature of MSP, its strict or guiding character, will result from the particular characteristics of each case. Key issues to be assessed are: (a) The type of activities located in the marine area (disturbing, non-disturbing, polluting, non-polluting, etc.), (b) the intensity of the activities (intensive, extensive), (c) the relationships of activities (complementary, competitive) and finally, (d) emphasis should be placed on the impact of activities on the environment, and whether the bearing capacity of the system is exceeded or not (Stefani, Tsilimigkas & Gourgiotis, 2016)

Among the objectives set by maritime spatial planning is to promote sustainable development through the implementation of an ecosystems approach, the various uses exerted in maritime areas, taking into account the transformations caused by climate change, the regulation of conflicts that can be caused by the activities and uses concerned, in relation to economic, social and environmental aspects. The implementation of MSP is defined by Directive 2014/89/EU as an adaptive management process, implemented in the light of the Ecosystems Approach.

The process of determining and evaluating performance measurements requires that the ecological and socio-economic objectives of the spatial management plan are clearly defined in advance, so that management actions accurately reflect those objectives. In order to assess the effectiveness of an MSP project, a number of ecological, socio-economic and institutional indicators should be developed and monitored. (Douvere & Ehler, 2011).

The strategic level of the ecosystem approach consists of the adoption of the objectives of the Marine Strategy Framework Directive and the operational level consists of the implementation of the Strategic Environmental Assessment (SEA). SEA is an important tool for integrating environmental parameters in the preparation of MSP projects and in parallel is a standard procedure of monitoring and evaluation for projects, programs and policies.

The Ecosystem Approach through MSP contributes to the maintenance of both healthy ecosystems and the sustainability of uses from human activities leading to integrated management and governance through:

1. Effective governance structure and procedures,
2. Capacity building among stakeholders,
3. Ensuring knowledge to support integrated management

4. Context of MS Plans in Greece at key spatial levels

Based on the legal and policy framework for spatial planning, a number of tools provide various institutional directions and provisions (of strategic and statutory character) for marine and coastal areas (Stefani et al., 2019). MSP and LSI are considered already in our spatial Planning system as several of the key issues given through the general provisions of national and regional spatial planning. Especially, the Spatial Frameworks covering specific productive sectors such as aquaculture, renewable energy sources and industry since 2011 and 2008 respectively, give directions and commitments to the lower spatial planning level and to the licensing permissions including the coastal and marine aspects of each sector and in synergy with other productive sectors or settlements. At a lower spatial level, the Regional Spatial Frameworks give directions for the development of the productive activities and the protection of cultural and physical environment of each region.

Especially the Framework of Spatial Planning for Aquaculture, one of the most productive economic sectors in the country due to purity of coastal waters, ideal oceanographic conditions, temperature, salinity and water renewal, sets guidelines for the promotion of a spatial development model at national level, that ensures the strengthening of the sector with respect to environmental protection. Its aim is the production of multiplier effects at national and regional level. It supports the organized zones for the development of aquaculture, managed in appropriate areas that are represented on a map. This map derived from the assessment of spatial, environmental, economic characteristics, and the existing aquaculture units.

The precise desirable location of the organized zones is designated at a lower spatial level with a Presidential Decree considering specific spatial, environmental and economic criteria. It also designates the accompanying facilities on the continental shelf and defines those that may be located in the public domain coastal strip. However, it recognizes the need for individual location in special cases under spatial prerequisites. As regards the reduction of conflicts between different uses, the framework sets criteria for the compatibility between aquaculture units with other marine and coastal activities.

The spatial framework for Renewable Energy System and especially for wind power installations, aims to:

- define appropriate areas for the development of wind farms based on high wind potential, taken into consideration the spatial and environmental peculiarities and
- establish location rules and criteria for sustainable wind power plants and their harmonious integration into the natural and man-made environment and landscape.

Moreover, there are specific criteria are taken into account for the location of wind farms in sea, as a special category in the framework.

In detail:

The location of wind farms is allowed in all maritime areas of the country that have high wind potential conditions, provided that they are not part of especially prohibition regime or restriction areas

The exclusion zones are:

- the national maritime parks
- the certified passenger shipping routes
- the declared monuments of the world cultural heritage and other monuments of major importance
- the nature conservation and protection areas set out in the provisions of our environmental legislation
- the Wetlands of International Importance (Ramsar Wetlands).

In the Regional Spatial Planning Frameworks that have been revised recently, special mention is given for the development of marine wind farms in two Regions, those of the North Aegean and the Ionian Islands.

Due to our peculiarities of coastal extended zone, insularity and oceanographic conditions of a semi closed area, and the differences in priorities and value chains in regional, subregional or interregional level, it is wiser for achieving sustainable Blue and green Growth to focus on Land Sea Interaction furthermore to sub areas.

The above-mentioned spatial framework for RES is under amendment and the relative for aquaculture, is on ongoing process. It must be mentioned additionally that, at present, the spatial planning legislation is under major reconstruction which probably affects the Maritime spatial planning and creates the need for harmonization.

At the main time, work is in progress for our national maritime spatial planning strategy as well as for the technical specifications for the MSP plans.

5. Land / sea interaction considerations – Competencies and stakeholder involvement

Coastal areas are considered particularly attractive for the development of human activities, particularly those that benefit from land and sea interaction. The sea offers multiple growth opportunities in terms of its natural resources, transport and accessibility, as well as a rich environment that includes important natural ecosystems. The land/sea interaction is strong and is often characterized by a concentration of activities, significant impacts on natural resources and ecosystems as well as conflicts or synergies between activities. The conflict between the accumulation of socio-economic and coastal activities and marine ecosystems has entails for a common approach.

The conflict between the productive activities and the natural-cultural environment requires a holistic management. So far, the avoidance of increased conflict is achieved due to existing commitments. As there is no comprehensive regulation, the commitments of the maritime space, and in particular of the development of productive activities and the protection of the natural and cultural heritage, constitute an important parameter that must be considered for the formation of an MSF framework. More specifically, there are laws and planning frameworks that provide several guidelines and regulations specifically for the protection of natural and cultural heritage as well as competitive activities.

In most cases, such as protected areas, underwater archeological sites, aquaculture, hydrocarbon extraction areas and military drilling sites, site-specific regulations are limited to restricting parallel activities. More specifically, in order to preserve the natural and cultural environment, rules are formulated that prohibit the development of disturbing uses and activities within the institutionalized zones. In the case of extensive uses, in particular fisheries and maritime transport, the rules are different. In the first category, rules concerning the areas of activity, seasonality, methods and tools of fishing vessels are laid down, largely regulating the development framework of the present activity, while in the second, due to international trade and maritime traffic channels, regulated by different frameworks, the rules are summarized in regulations on traffic in ports, domestic island corridors and mooring.

The necessity of taking into account land sea interactions (LSI) is reflected in the 2014 Maritime Spatial Planning Directive, which requires coastal states of the European Union to establish complete coverage of maritime plans, including LSI, in order to promote sustainable and integrated development and management of human activities at sea.

ESPON MSP-LSI project (2019) has indicated the following key points of LSI in MSP:

- LSI involve intricate and constantly shifting interconnections between socio-economic activities both in the sea and on land with natural processes that span the land-sea interface. The experience in both these dimensions is also influenced directly and indirectly by governance arrangements related to marine and terrestrial areas.
- The inherent complexities in defining ‘coastal area’ reveals the potential difficulties in assigning clear governance responsibilities in relation to LSI issues.
- Wider adoption and practice of a ‘one-space’ land/sea view of Territorial Planning should be seen as a key concept in helping to better address LSI and integrating MSP and terrestrial planning.
- Findings from the different aspects of analysis can be brought together to draw out key messages and develop recommendations for appropriate management of LSI for MSP or in land planning activities, which can also exist under a framework of ICM or ICZM.

All the above findings have led to the development of the initiatives of Maritime Spatial Planning (MSP) and Integrated Coastal Zone Management (ICZM). Despite the differences between MSP and ICZM, both concepts share the common target of promoting the sustainable development of human uses. Within this target, social and economic prosperity acquires a fundamental role as, together with environmental protection, they form the three pillars of sustainable development. Therefore, the economic and social environment, in which maritime uses are being developed, should be recognized and evaluated (Niavis, S & Papatheochari, T & Coccossis, H., 2018).

Table 7: Comparative presentation of the principles and structure of MSP and ICZM

Maritime Spatial Planning (MSP)	Integrated Coastal Zone Management (ICZM).
Continuous, participatory and adaptive process	
Social, economic and environmental goals towards sustainable development	
Integration between sectors, levels of government, land-sea, between different authorities and countries	
Long-term approach	
Ten steps (UNESCO-IOC, 2009): 1. Establishing Authority 2. Obtaining Financial Support 3. Organizing the MSP Process	Five steps (UNEP-MAP / PAP-RAC, 2012):

4. Engaging Stakeholders 5. Analyzing Existing Conditions 6. Analyzing Future Conditions 7. Developing the Plan 8. Implementing the Plan 9. Evaluating Performance 10. Adapting the Process	1. Establishment of the authority responsible for implementation of ICZM 2. Analysis of existing and future data 3. Definition of vision 4. Planning for the future 5. Realization of the vision
Implementation by national authorities	Implementation by local authorities
Large scale (international & cross-border cooperation)	Local scale
Marine uses	Coastal uses
Legally binding	Flexible and informal
Three dimensions	Two dimensions

(Niavis, S & Papatheochari, T & Coccossis, H., 2018).

Table 8: Marine and Coastal uses that have a socio-economic impact

Use	Type	
	Sea	Coastal
Direct socio-economic impact		
Fishing	✓	✓
Fish Hatcheries	✓	
Marine Transportation	✓	
Port operations		✓
Tourism & Recreation	✓	✓
Housing		✓
Limestone, Sand & Grave	✓	✓
Oil & Gas Exploration and Production	✓	
Dredging and discharge of materials	✓	
Renewable energy resources	✓	
pipelines and cables	✓	
Agriculture		✓
Industry		✓
Desalination		✓
Indirect socio-economic impact		
Marine-protected areas	✓	✓
Military Zones	✓	✓
Protected areas	✓	✓

(Niavis, S & Papatheochari, T & Coccossis, H., 2018).

6. Policy coordination and monitoring/evaluation issues

Policy coordination

Within the framework of Integrated Maritime Policy, coordination is necessary within Member States by simplifying decision-making procedures, ensuring the legal effectiveness of MSP at national level, cross-border cooperation and consultation, with a view to cohesion of plans in different ecosystems and the drafting of common rules and procedures. In this context, maritime spatial planning is a tool for every level of national and European level governance and requires policy coordination at both national and cross-border level.

Given that the management of maritime areas is complex and involves many levels of institutions, economic operators and other private interests, the European strategy aims at effective cross-border cooperation between Member States in key areas through cooperation mechanisms and the availability of appropriate operational tools such as the European Marine Data and Observations Network for the collection of environmental data and observations on human activities with an impact on seas, the database of socio-economic statistics from Eurostat 52 and the European Atlas of the Seas (Martuscelli, 2017).

The stakeholder consultation in MSP procedures in Greece is crucial, in our ambition for achieving blue growth and good environmental status. The consultation for National Maritime Spatial Strategy (NMSS), is going to take place among firstly the central stakeholder authorities.

The lead stakeholder authority is the Ministry of Environment and Energy with responsibilities for the spatial planning, the protection of the environment, the energy and the underwater mineral resources. Another main stakeholder authority is the Ministry of Maritime Affairs & Insular Policy. At present, cooperation between Ministry of Environment & Energy and Ministry of Maritime Affairs & Insular Policy has been established on the basis of a Memorandum of Cooperation (2020), in order to ensure coordinated and complementary actions for the development and implementation of Maritime Spatial Planning. Given the staff and coordinating role of YPEN in integrated spatial planning at national, regional and local levels with pillars of environmental protection, economic development and territorial cohesion and the fact that most of the business, social and operational actions developed in the maritime area (seagoing shipping, maritime safety, maritime cabotage, security and protection of the marine environment and human life at sea, search and rescue, fisheries control, port and island policy), are the responsibility of

the Ministry of Maritime and Island Policy the cooperation of the two Ministries is of paramount importance for the achievement of the objectives of MSP.

For the purpose of meeting the objectives of the Memorandum of Cooperation, an Inter-Ministerial Committee was set up with the participation of representatives of the two Ministries. The Inter-Ministerial Committee may be assisted by external specialized consultants, scientists, selected by both cooperating Ministries and may be private individuals or representatives of other Ministries, public bodies, scientific or other bodies, invited on a case-by-case basis, to participate in the work of the Interministerial Committee on matters of their expertise.

The Inter-Ministerial Committee has also the possibility to set up working sub-groups from its members or from its members and external specialized consultants. The aim of the Inter-Ministerial Committee is to draw up an Action Plan to be submitted for approval to the two ministries within two (2) months.

Other basic Ministries are the Ministry of Defense, the Ministry of Interior, the Ministry of Development and Investment, the Ministry of Finance, the Ministry of Civil Protection, the Ministry of Cultural Heritage, the Ministry of Rural Development and the Ministry of Tourism.

Furthermore, in the procedure of MSP, the National Council of Spatial Planning will give its opinion. National Council of Spatial planning is a consultation body with stakeholders, consists of key representatives of sectoral productive activities (such as tourism, industry, craft enterprises), representatives from the Economic Chamber of Greece, the Technical Chamber of Greece, from relative associations and selected NGOs.

Monitoring and evaluation

As an adaptive management process, the MSP requires monitoring and evaluation of the effectiveness of spatial and temporal management measures to promote understanding and improve planning and decision-making. It includes exploring alternative ways of addressing the management measures adopted, by monitoring the impact of their implementation, updating the knowledge framework on the basis of information obtained from the process and adaptation of management actions. The ultimate objective of adaptive management must be to achieve an integrated and cost-effective plan (Douvere & Ehler, 2011). It is therefore necessary to integrate the monitoring and evaluation of data and relevant information -which is subject to change over time- into the planning process and integrate these changes flexibly into maritime spatial plans.

Monitoring and evaluation are necessary for adaptive management of marine areas and should cover socio-economic, environmental and administrative aspects. Appropriate

indicators should be established on the basis of the reference frameworks available at global, European, regional, national and local level.

In order to **achieve an assessment**, the evaluation indicators should be identified and integrated into the whole process to ensure at least three criteria (Douvere & Ehler, 2011):

effectiveness (are the spatial temporal management measures producing the anticipated objectives or results?)

efficiency (are these results been produced at the least cost?)

equity (are the costs and benefits of achieving these results equitably distributed among different parts of society?)

From a policy making perspective, the criteria for selecting appropriate indicators for monitoring and evaluation are: effectiveness (in relation to process and objectives), efficiency (adequacy of human, economic, technical, institutional resources), inclusion (stakeholder involvement), transparency (responsibility and dissemination of each phase to all stakeholders), spreading areas and society (territorial and social cohesion)

The monitoring and evaluation process to be carried out for the first time should be as simple as possible in order to:

(a) be comprehensive and easily communicated to stakeholders and the general public, as well as those involved in the process, and

(b) focus on the most essential management issues and problems and to provide more space and time for improvements.

As a procedure, it does not follow the 'one size fits all' hypothesis, as each maritime spatial planning process refers to specific areas with specific characteristics, taking into account the different conditions (legal, institutional, etc.) (Papatheochari, Coccossis, 2016). It is therefore necessary to integrate the monitoring of data and information subject to change over time into the planning process and to integrate these changes into marine spatial planning systems (Martuscelli, 2017).

Identification of performance indicators for evaluation

Indicators provide the means of monitoring and measuring the performance of MSP and relevant management actions in relation to the target objectives pursued. Indicators contribute towards understanding and control of management performance to policy

makers and decision-makers, as well as stakeholders. Each target will have at least one or more indicators to monitor performance in MSP management. The selected SMART indicators will reflect the target objectives, should be quantitative and qualitative in nature following the three pillars mentioned above:

Governance - measuring the performance of MSP processes

Socio-economic - contribution of measure to social and economic development

Environmental/ Environmental - measuring changes and/or trends in the state of the environment, including ecological components of ecosystems, such as biodiversity.

The competent authority for monitoring and revision of maritime spatial plans in Greece, is the Ministry of Environment and Energy.

Given that Strategic Environmental Assessment (SEA) is an important tool for integrating environmental parameters in the preparation of MSP projects and overall in the implementation of the ecosystem-based approach, the SEA and MSP are planned to be implemented simultaneously to ensure that the SEA is in coherence with the plan and that it is integrated into the planning process and used to optimize it. SEA in Greece is drafted on the basis of Article 6 and is made public on the basis of Article 7 of JMD (Joint Ministerial Decision) 107017/28-8-2006.

The competent authority for its examination is section D of the Directorate of Environmental Licensing, Directorate-General for Environmental Policy, Ministry of Environment and Energy.

As defined in Article 12(b) of Law 3986/2011, as amended, during the consultation process, instead of the services and bodies set out in paragraph 4.1 of Article 7 of the above-mentioned JMD, it is the relevant Regional Council which undertakes the review and is also competent for making available to the public, whenever requested, the information and details of the S.E.A. dossier, as transmitted by the competent authority.

S.E.A. is implemented in parallel with the provisions of Directive 2001/42/EC. The objective of Directive 2001/42/EC is to promote sustainability or sustainable development by high-level environmental protection and the integration of environmental issues into the preparation and adoption of plans and programs.

The Strategic Environmental Assessment Study (S.E.A.S.) includes:

- identifying, describing and assessing the potential significant impacts on the environment from the implementation of the project or program, as well as reasonable alternatives, in a comprehensive form, taking into account the objectives and geographical scope of the plan or program;

- the information that may be reasonably required to assess the potential significant impacts on the environment from the implementation of the plan or program, taking into account existing knowledge and assessment methods, the content and level of detail of the plan or program, the stage of its preparation process and the extent to which the environmental impact can be better assessed at different spatial levels in order to avoid reassessment.

To date, the Ministry of Environment and Energy, in the context of the preparation of maritime spatial frameworks, is proceeding to upgrade, update and supplement the Geospatial Database of existing Data, a process that involves the collection of data by public bodies and the creation of Web-GIS. On the basis of Law 4635.2019, Article 51 – Organizational issues of the Ministry of Digital Governance, YAP/F.40.4/1/989-Government Gazette 1301 B' 12.4.2012 – Validation of the Framework for the Provision of EGovernment Services, the inclusion of the Geospatial Database and the Portal for Maritime Spatial Planning (THS) in the Governmental Cloud (G-Cloud) of the GDR has already been co-decided. YPEN retains for its Services the role of Chief of Staff and Content and Services Officer. The Geospatial Portal is planned to be accessible by the general public (not at metadata level) providing all relevant information on environmental conditions and uses in marine areas. It will provide a greater degree of accessibility to more specialized information to stakeholders related to marine use-stakeholders....

The data collected and processed are provided by Public Bodies, in particular:

- Limits (land-sea) / 1. Ministry of Foreign Affairs, 2. Ministry of National Defense, 3. Ministry of Shipping and Island Policy, 4. Hellenic Land Registry S.A.
- Activities-uses / 1. Ministry of Environment and Energy, Ministry of National Defence, / Ministry of Shipping and Island Policy, Department of Infrastructure and Transport, Ministry of Rural Development and Food, Ministry of Culture, Maritime Hydrographic Service, 1. Independent Electricity Transmission Operator (AADE), 2. RAE- Energy Regulatory Authority, Hellenic Mineral Geology and Exploration Authority- U.S.I.M.E.
- Natural, Chemical, Biological Information / HCMR- Hellenic Centre for Marine Research YPEN
- Socio-economic data / 1. Hellenic Statistical Office (AADE), 2. STE (Association of Greek Tourism Enterprises), 3. Ministry of Rural Development & Food, Directorate-General for Fisheries: Hellenic Fishing Fleet, report of the year 2019

Summary

▪ **Coordination between territorial (spatial) planning and MSP**

The National Maritime Spatial Strategy is a policy-making framework while MSPlans-Frameworks refer to regional level, although they do not necessarily correspond to the boundaries of the Greek Administrative Regions. According to the Law 4447/16, Urban (territorial) Plans have to follow the provisions of Regional Spatial (territorial) Planning which have to take into considerations priorities, objectives and guidelines of Special Planning Frameworks. The Ministry of Environment and Energy is the body responsible to prepare both the onshore (territorial) spatial frameworks and plans and MSPs in Greece; it ensures their smooth cooperation in terms of priorities, tools and terminology.

▪ **Tools of implementation for MSPs**

Spatial Development (priority activity areas, infrastructure/special infrastructure, activity regulations and environmental protection tools (such as those envisaged by the Law 1650/86 and the Presidential Decrees related to the Protection of Small Coastal Marine Wetlands and Natura 2000 sea protected areas) as well as environmental assessment may be used for implementing MSPs.

▪ **Geospatial data concerning the maritime space**

Human sea-activities/pressures, require an integrated planning and management approach. The way to achieve this is primarily by identifying, qualifying/quantifying pressures and provide the planners the necessary spatial feedback. This kind of analysis is imperative not only for the implementation of the planning process, but it should also be considered in relevant consultations by all stakeholders in advance, in order to determine and evaluate possible scenarios and their implications.

▪ **Stakeholder Engagement**

The linkage between public administration and civil society during the preparation and implementation of the NMSS and MSPs is a key challenge. The Law 4546/18 aims to activate a wide participatory decision-making process followed by a similar public consultation procedure (according to article 6 of the Law 4048/2012). Key stakeholders may also actively participate in this consultation process through the National Council for Spatial Planning (Law 4447/2016), which is the supreme consultation body on important issues related to both onshore and offshore spatial planning in Greece. In any case, any procedure followed should be based on the principles of equality, equity, transparency and representativeness, in order to substantially enhance the involvement in the preparation, implementation and monitoring of marine spatial planning policies and identify possible synergies.

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