UN environment programme | Mediterranean Action Plan Barcelona Convention | PAP/RAC

Common **Regional** Framework for **Integrated** Coastal Zone Management

Note:

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United Nations Environment Programme / Mediterranean Action Plan
(UNEP/MAP)
Priority Actions Programme Regional Activity Centre (PAP/RAC)
Kraj Sv. Ivana 11
21000 Split
Croatia
E-mail: paprac@paprac.org

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I. Introduction (Artt. 1, 17 and 18)

The ultimate objective of the Protocol on Integrated Coastal Zone Management in the Mediterranean (ICZM Protocol) is to contribute to the vision for the Mediterranean Sea and coast as: "*A healthy Mediterranean with marine and coastal ecosystems that are productive and biologically diverse, contributing to sustainable development for the benefit of present and future generations*". (UNEP/MAP Mid-Term Strategy 2016-2021).

As for Article 1 of the ICZM Protocol, the Contracting Parties (CPs) to the Barcelona Convention "*shall establish a common framework for the integrated management of the Mediterranean coastal zone and take the necessary measures to strengthen regional cooperation for this purpose*" to be implemented with the assistance of UNEP/MAP and its Components, and the overall coordination ensured by PAP/RAC.

Article 17 of the ICZM Protocol on Mediterranean strategy for integrated coastal zone management, states that the CPs "*undertake to cooperate for the promotion of sustainable development and integrated management of coastal zones, taking into account the Mediterranean Strategy for Sustainable Development and complementing it where necessary. To this end, the Parties shall define, with the assistance of the Centre, a common regional framework for integrated coastal zone management in the Mediterranean to be implemented by means of appropriate regional action plans and other operational instruments, as well as their national strategies*".

Article 18, provides that "*each Party shall further strengthen or formulate a national strategy for integrated coastal zone management and coastal implementation plans and programmes consistent with the common regional framework*".

This Common Regional Framework (CRF) is to be considered as the strategic instrument meant to facilitate the implementation of the ICZM Protocol. It shall operate without prejudice to the ICZM Protocol, the provisions of which shall always prevail.

II. Scope of the CRF (Artt. 3 and 8)

The combined Art. 4 of the Barcelona Convention and Artt. 3 and 28 of the ICZM Protocol identify the geographical scope and scale of the CRF inviting CPs, individually or jointly, to take for the Mediterranean Sea area – as defined in Art. 1 of the Barcelona Convention within the geographical coverage as defined by ICZM Protocol – all appropriate measures to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area and to protect and enhance the marine environment and the natural resources in that Area so as to contribute towards its sustainable development and, in particular, to promote the integrated management of coastal zones, taking into account the protection of areas of ecological and landscape interest and the rational use of natural resources, coordinating, where appropriate, bilaterally or multilaterally their national coastal strategies, plans and programmes related to contiguous coastal zones.

ICZM needs to be approached at different geographic scales and administrative levels: at the Mediterranean scale addressing the entire sea basin through cooperation among all riparian states; at the sub-regional scale – where relevant and possible – addressing transboundary issues in sub-regions as defined for the purpose of the Ecosystem Approach (EcAp) roadmap implementation, and seeking synergies with other existing sub-regional strategies and plans; at the national and sub-national (local) scale in line with the regionally agreed principles.

The CRF provides strategic orientations on how the ICZM Protocol is jointly implemented within the geographical coverage between the external limit of the territorial sea of the CPs and the limit of the competent coastal units as defined by the CPS, using coordinated and harmonized approaches.

ICZM is also an essential tool to fulfil the purposes of the Barcelona Convention within the Mediterranean Sea Area as it provides a commonly shared context with specific recommendations focusing on: (a) coherence of policies/strategic documents and orientation of actions; and (b) ways to strengthen integration and regional/sub-regional cooperation, taking also into consideration the land-sea interactions and the transboundary aspects.

The CRF is aimed to provide recommendations and measures to strengthen regional cooperation for:

- Processes: to accelerate achievement of results agreed and outcomes/outputs set out;
- Indicators: essential tools for tracking progress, supporting policy evaluation and informing the public and decision makers;
- Methods and practices: to achieve objectives and the general principles of the ICZM Protocol.

In addition, the 20th Meeting of the Contracting Parties to the Barcelona Convention (COP 20, Tirana, Albania, 2017) adopted the decision IG.23/7 that envisages the introduction of Marine Spatial Planning (MSP) into the system of the Barcelona Convention and its Protocols, implying the development, through this CRF, of appropriate means to include MSP in the implementation of the ICZM Protocol. In that respect, the CRF has two main objectives:

- to introduce MSP in the framework of the Barcelona Convention, and in particular link it to ICZM, considering MSP as the main tool/process for the implementation of ICZM in the marine part of the coastal zone and specifically for planning and managing maritime human activities according to EcAp goals (as specifically addressed by section 3 of the CF);
- to provide a common context to CPs for the implementation of MSP in the Mediterranean Region.

III. Objectives and General Principles of the CRF (Artt. 5-7, 18, 19, 22, 28 and 29)

In order to promote ICZM through the CRF and achieve sustainable development of coastal zones by ensuring that the environment and landscapes are taken into account in harmony with economic, social and cultural development, the following objectives with related general principles are to be envisaged:

a) Use **the ecosystem-based management** to ensure **sustainable development and integrity of the coastal zone, its ecosystems and related services and landscapes**, by:
   - taking into account in an integrated manner all coastal zone elements to respect carrying capacity, address cumulative impacts and prevent and/or reduce negative effects of natural disasters or risks and of development;
   - taking into account land-sea interactions as a complex phenomenon involving the interactions of both, natural processes and human activities, as a criterion for defining areas to be managed and as a parameter in planning processes and procedures;
   - formulating appropriate land/sea use strategies, plans and programmes for activities in the coastal zone, also through appropriate tools, in particular Marine Spatial Planning (MSP) and Strategic Environmental Assessment (SEA);
   - promoting cooperation between and among CPs in Environmental Impact Assessment (EIA) procedures related to activities under their jurisdiction or control, which are likely to have a significant adverse effect on the marine and coastal environment of other CPs or areas beyond the geographical scope of the ICZM Protocol, on the basis of notification, exchange of information and consultation.

b) Address **natural hazards** and the **effects of natural disasters**, in particular **coastal erosion** and **climate change** by:
   - taking into account the commitments to the Paris agreement on climate change, the 2030 Agenda for Sustainable Development to build climate change resilience and the Strategic Programme of the Convention on Biological Diversity (CBD);
   - preparing timely management plans to prevent, reduce and minimize negative impacts to coastal zones;
   - promoting ecosystem approach and /nature-based solutions to maintain or restore the natural capacity of the coast to adapt to changes;
   - assisting in mainstreaming coastal adaptation into appropriate institutional and policy frameworks;
   - participating in awareness raising, stakeholder engagement and capacity building for addressing coastal risks;
   - promoting the use of best practices and best available data, information and tools.

c) Achieve **good governance** among actors involved in and/or related to coastal zones by:
   - ensuring appropriate governance schemes, in particular cross-sectorial and multi-level institutional coordination and proper participation of all stakeholders in a transparent decision-making process;
   - ensuring coherence and complementarity of all strategies, policies, plans, initiatives, planning processes and funding at all levels affecting coastal zones: to this end, further strengthening cooperation among components of the Barcelona Convention system and coordinated efforts, ensuring synergies with other related strategic documents and promoting integration and harmony among coastal environment, relevant socio-economic activities and human communities living in the coastal zones;
   - promoting appropriate coordination between the various authorities competent for both the marine and the land parts of coastal zones in the different administrative services, at all relevant levels;
   - organising the acquisition, exchange and use of the best available relevant information and data based in particular on Shared Environmental Information System (SEIS) principles;
   - promoting consistency and coherence of ICZM at regional and sub-regional level ensuring trans-boundary cooperation where appropriate;
   - ensuring cooperation with all relevant/competent international and regional organizations.

IV. Ecosystem-based Management for Good Environmental Status and Sustainable Development (Artt. 8-15 and 22-24)

The essence of the ecosystem-based management approach is to address the coastal zone as a continuum made of land and sea space, preserving the integrity of its ecosystems and dealing with the processes that occur in them and influence on them in an integrated manner (Fig. 1). This approach aims at ensuring sustainable use of natural resources and quality of life of coastal populations. Ecosystem-based management is inherently based on an integrated approach where the focus is on the ability to understand and address cumulative risks and effects on the natural world arising from human activities.

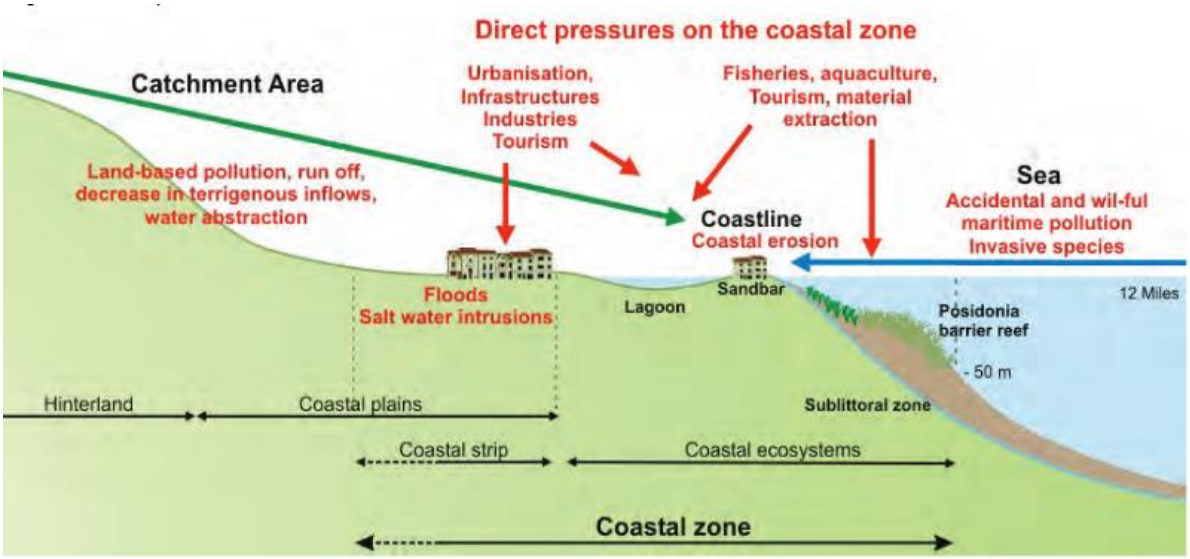

Figure 1: Pressures on the coastal zone (Source: Plan Bleu, 1995)

ICZM has evolved as the most appropriate approach to manage potential conflicts among various sectoral policies (conflicts for space, resources, infrastructures…), as well as between maritime and terrestrial policies by ensuring the integration dimension and the coherent governance of planning and management of the coastal zones and their activities on either land or sea parts. It provides for better coherence, maximizes synergies and increases coordinated implementation of sectoral policies with a view to ensuring the integrity of ecosystems, as well as adequately addressing land-sea interactions (LSI) and ensuring the compatibility of land and sea uses by implementing MSP and clarifying its links with ICZM.

Applying ICZM principles also allows for the integration of environmental protection into spatial planning and economic development i.e. the integration of policies and establishment of frameworks for cooperation among all concerned stakeholders. Their active participation, raised awareness and sufficient capacity are the best guarantees of the needed change of behaviour towards environment: by acting on the source of pollution through the application of the prevention and precautionary principles it is possible to cope with the pollution before it happens, this being the crucial dimension for attaining sustainability. These challenges should be handled by applying the integrated approach to the management of coastal zones that helps control urbanization; preserve the integrity of coastal and marine ecosystems; and guide towards a sustainable use of natural and cultural resources.

IV.1 Reaching Good Environmental Status through ICZM (Artt. 5 and 6)

The objective of reaching Good Environmental Status (GES) of the Mediterranean Sea and Coast has been adopted by UNEP/MAP Barcelona Convention as the ultimate objective to be reached by CPs, which have committed to apply the Ecosystem Approach (EcAp) as an overarching principle.

EcAp can be defined as a holistic approach to land, water and living resources targeting sustainable delivery of ecosystem services in an equitable way. It goes beyond examining single issues, species, or ecosystem functions in isolation. Instead, it recognizes ecological systems for what they are: rich mixes of elements that interact with each other continuously. This is particularly important for coasts and seas, where the nature of water keeps systems and functions highly connected.

Therefore, achieving Ecological Objectives (EOs) and GES requires an integrated approach in order to address combined pressures and cumulative impacts in coastal and marine areas. This approach is actually embedded in the ICZM Protocol, which provides for reaching GES with regard to the targets of all three clusters of EOs: Pollution and eutrophication; Biodiversity and fisheries; and Coast and hydrography. These are all crucial for achieving GES, and tools used by ICZM contribute to a more comprehensive approach looking at the integrity of coastal ecosystems.

Based on the Matrix of interactions between the ICZM Protocol provisions of parts II and IV, EOs and main regional strategic and policy documents contained in Annex I.2 of the Decision IG.23/7 adopted by COP 20, a methodological guidance for reaching GES through ICZM has been proposed in Appendix.

IV.2 Addressing Land-Sea Interactions (Artt. 3, 5, 6, 9 and 22)

Understanding and addressing land-sea interactions (LSI) is crucial to ensure sustainable management and development of coastal areas and coherent planning of land and sea-based activities. Although there is not a single and recognized definition of LSI, they can be defined as "interactions in which land-based natural phenomena or human activities have an influence or an impact on the marine environment, resources and activities and *vice versa* interactions in which marine natural phenomena or human activities have an influence or an impact on the terrestrial environment, resources and activities". As a consequence of the above definition, three main levels of LSI should be taken on board:

- Interactions related to land-sea natural processes. Implication of such processes on coastal management and planning of alternatives for land and marine activities have to be identified and assessed, considering their dynamic nature. At the same time, human activities can interfere with natural processes, impacting on the coastal and marine environment. The analysis of expected impacts of land and marine activities – wthin the SEA framework – should include the evaluation of their effects on LSI natural processes and the potential consequent impacts on natural resources and ecosystem services.
- Interactions among land and sea uses and activities. Almost all maritime uses need support installations on land, while several uses existing mostly on the land part expand their activities to the sea as well. These interactions have to be identified and mapped, assessing their cumulative impacts, benefits and potential conflicts and synergies. Interactions between land and sea activities can extend further beyond the coastal zones, for example in terms of long-distance connections related to transport and energy distribution or fish migration up-stream and stemming need for blue corridors. Although the primary focus is on costs, identification and mapping of those wider connections and assessment of their environmental, social, economic and spatial implications are also important. It is important to note that the Art.9 of the ICZM Protocol requires that CPs "shall accord specific attention to economic activities that require immediate proximity to the sea". This is also one of the general principles of ICZM (Art.6 para g).
- Interactions of planning processes and plans for land and sea areas. It is important to ensure that legal, administrative, consultation and technical processes are coordinated (and hopefully linked) to avoid unnecessary duplications, incoherence, conflicts, waste of resources and/or excessive demand of stakeholders' efforts. The challenge is to plan and manage inshore and offshore activities in harmonized manner considering the functional integrity of the land-sea continuum. This also implies allocation of land space (and related infrastructure and services) to some maritime activities (and/or the allocation of maritime space to some land-based activities). Finally, the achievement of this coherence also requires alignment/integration of the different approaches, methodologies and tools applied respectively on land and at sea (Fig. 2).

LSI need to be addressed at a variety of spatial scales: (i) local scale to deal with specific issues and implement related actions, (ii) sub-national and national scales where strategies and plans can orientate specific LSI-related efforts, (iii) sub-regional where transnational cooperation may produce a common strategy for guiding national LSI efforts and address transboundary issues.
Natural risks and hazards, in particular climate change and coastal erosion, will influence on all three levels of LSI previously defined. The coastal zone is actually on the frontline for these climate challenges. Land-sea natural processes cannot be taken into consideration separately from the changes induced by humans in the nature. Sea level rise, extreme weather events and storm surges are expected to generate additional pressures resulting in alternation of the shoreline and increase of coastal erosion. Sea level rise will also impact the underground as it will amplify the salinization of coastal aquifers due to water extraction and other human activities. The increase of temperature will impact on both, terrestrial and marine ecosystems. Climate change impacts will also affect land and sea activities, for example aggravation of water conditions for tourism. Therefore, planning processes and plans for LSI should necessarily take into account expected climate change by adapting to the increase of uncertainty and to the higher likelihood of natural hazards and risks.

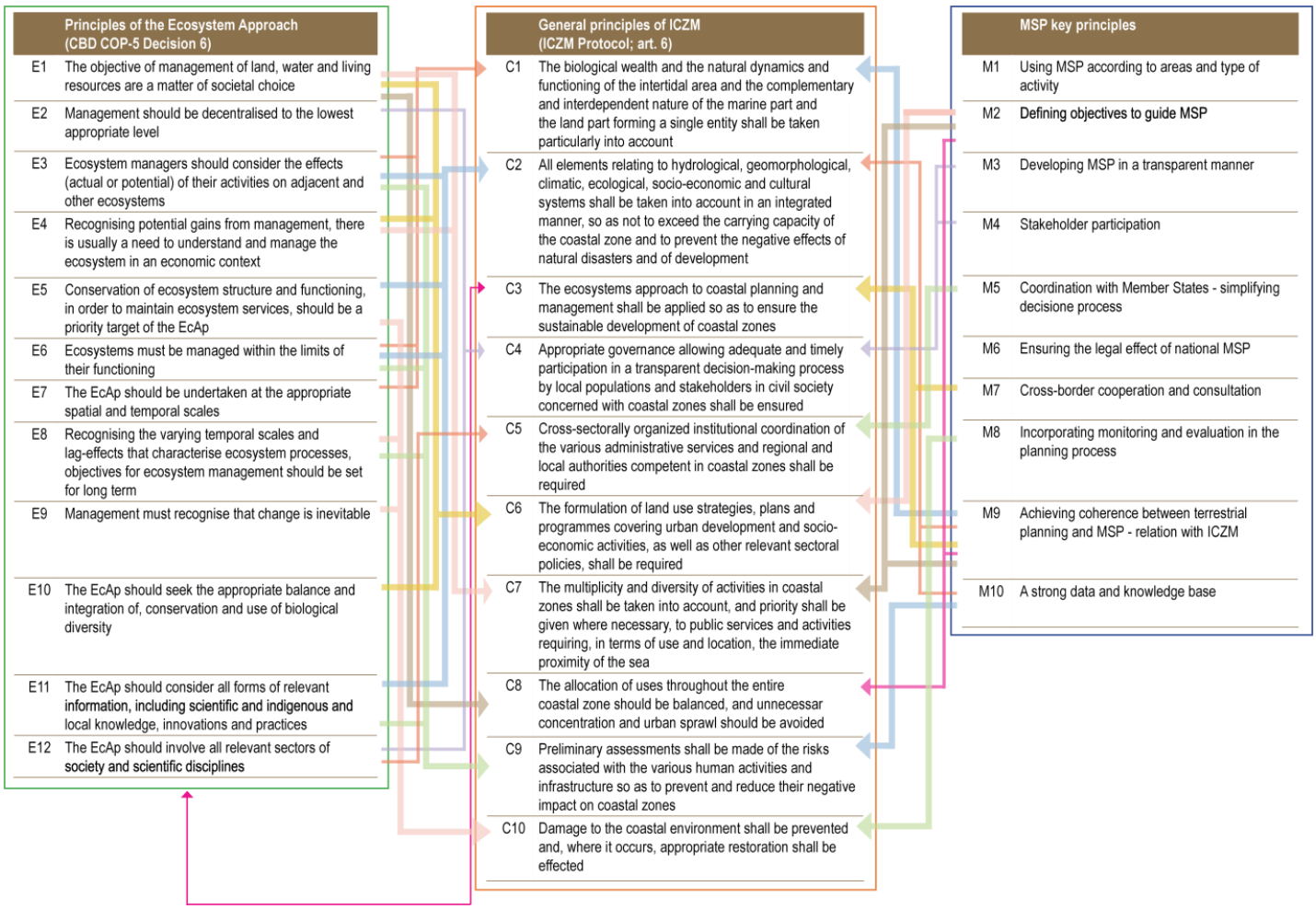

Figure 2: Links between EcAp, MSP and ICZM principles

v. Tools and Instruments to Implement the CRF (Artt. 16-22)

ICZM is a long-term strategic process that implies the availability and proper use of a variety of operational tools and instruments to ensure sustainable use and management of coastal zones, ensuring that needs for human settlement and economic activities minimise the impacts on the natural resources and protect the fragile natural habitats, ecosystems, landscapes and cultural heritage from pollution and other types of degradation including those caused by natural risks and hazards. This refers primarily to the tools and instruments quoted in the ICZM Protocol itself, many of which already have certain "history and tradition" of use by the CPs, while others still need to be developed, explained, tested and verified.

Some of these tools and instruments are of major importance for implementing the ICZM Protocol but also for implementing other important policies and strategies in the Mediterranean coastal zones, in particular those adopted at the sub-regional level. Among these instruments, the following ones are of particular importance and relevance for the implementation of the CRF:

V.1 Monitoring of Environment and Activities (Artt. 8-21 and 25-29)

There is a need to monitor in a consistent way the environment of the coastal zone (both terrestrial and marine) *and* the human activities (coastal or not) that are likely to have an impact on it (individually or cumulatively):

- monitoring of marine *environment* should be based on the Integrated Monitoring and Assessment Programme (IMAP)[1];

[1] Monitoring and assessment of the sea and coast, based on scientific knowledge, are the indispensable basis for the management of human activities, in view of promoting the sustainable use of the seas and coasts and conserving marine ecosystems and their sustainable development. COP 19 in 2016 agreed on the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) in its Decision IG. 22/7 which lays down the principles for an integrated monitoring, which will, for the first time, monitor biodiversity and non-indigenous species, pollution and marine litter, coast and hydrography in an integrated manner. The IMAP implementation is in line with Art. 12 of the Barcelona Convention and several monitoring related provisions under different protocols with the main objective to assess GES. Its backbone are the 27 common indicators as presented in decision IG 22/7: Integrated Monitoring and Assessment Programme.

- monitoring of terrestrial environment should be based on the best available experiences in implementing national monitoring programmes of the status of coastal environment (terrestrial biodiversity, coastal waters, air, soil), that is aligned with relevant UN MEAs, and where appropriate, EEA's requirement, including Directives of European Commission (e.g. Habitat and Bird Directives, Water Framework Directive, etc.);
- monitoring of marine and terrestrial environment should take into account the assessment of anthropogenic pressures (both at source and at sea) of human activities (land and maritime coastal activities) and their impacts that prevent the achievement of good environmental status (GES) of marine environment and environmental protection of terrestrial environment. Management of human activities aimed at reduction of the pressures, including their impacts on landscapes, cultural values, social patterns, has to be based on information collected through monitoring of marine and terrestrial environment, and their assessment as appropriate, including binding implementation of the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA);
- monitoring information should be accessible to all relevant stakeholders.

To this aim and according to Artt. 8-21 and Artt.25-29 of the ICZM Protocol, the CPs are encouraged to accomplish the following with the support of UNEP/MAP and its Components, as appropriate:

- *Use, strengthen and create appropriate mechanisms for regular monitoring and observation of the state and evolution of their coastal zones and the resources and activities they encompass;*
- *Establish or enhance their governance systems, institutions, legislation and planning that may influence coastal zones, taking all necessary means to ensure public access to information;*
- *Cooperate on definition and use of coastal management, resource use and economic activities indicators, taking into account existing ones, to ensure sustainable use of coastal zones and to reduce pressures that exceed their carrying capacity;*
- *Implement appropriate assessments on the use and management of coastal zones and ensure the results are utilized for formulation of adequate policy responses;*
- *Exchange scientific and technical information and experience, data and good practices, enhance provision of scientific and technical assistance through, inter alia, training of scientific, technical and administrative personnel, coordination of research programmes and carrying out of activities of common interest (such as ICZM demonstration projects), within the Mediterranean coastal zone network;*
- *Exchange available results and experiences in implementation of the integrated monitoring and assessment programmes of marine environment with other Regional Seas Conventions and the EEA and ensure exchanges with the European Commission/EU Member States on implementation of the MSFD, MSP and other relevant EU Directives.*

V.2 Environmental Assessments (Artt. 19 and 29)

Environmental assessment i.e. SEA at strategic level for policies, plans and programmes, and EIA at operational level for individual projects and activities, are the frontline tools for the achievement of GES and sustainable development.

The contribution that EIA makes to the development of decision-making is widely acknowledged, and practically all of the Mediterranean countries apply this tool to large-scale development proposals. Scope for further progress exists, particularly in relation to the impact of climate change. Compared to EIA, SEA is still less developed and used although its importance in seeking to achieve better environmental quality through higher decision-making level for policies, strategies, plans and programmes is recognised by all the riparian countries. However, since SEA takes multiple forms and employs diverse methods and procedures, sometimes without an adequate legal framework and institutional set-up, difficulties still arise, particularly for comparability in a transboundary context.

The application of EIA and SEA supports the implementation of ICZM principles (Art. 6 of the ICZM Protocol) including the need to take into account all elements of natural and cultural systems in an integrated manner; the application of the ecosystems approach to spatial planning, preparation of policies and strategies; the timely participation in decision making and ensuring that economic activities minimise the use of natural resources and take into account the needs of future generations. SEA can be introduced through ICZM as an important integral part of the spatial planning process, providing a mechanism for the strategic consideration of environmental effects, assessment of different planning options, and identification and evaluation of mitigation measures, thus ensuring the environmental sustainability.

Through the SEA process plans and policies addressing the coastal zone, whether geographically (e.g. coastal strategies) or thematically (e.g. plans for aquaculture development, tourism), can assist in creating a policy framework that steers development to more appropriate locations. Similarly to EIA, SEA is also an instrument that supports transparency and accountability as it provides an opportunity for the public to participate in the process and be aware of the decisions taken concerning the approved plans and policies.

Both environmental assessment processes seek to identify alternative options and the consideration of cumulative impacts, encouraging policy makers and decision takers to look at different policy and technological options and reflect on future scenarios that may result from approved plans and projects. The management of coastal zones is dependent on the application of similar long-term approaches in order to safeguard healthy ecosystems particularly within a changing climate.

Within a transboundary context, the application of SEA and EIA helps to foster co-operation between neighbouring States as both processes allow for consultations to be carried out when potential significant issues of a transboundary nature are identified through the evaluation process. As a result, whilst respecting national jurisdiction, the SEA and EIA can assist in fostering co-operation so that national plans and policies and projects undertaken have a higher potential to contribute towards regional efforts at safeguarding the Mediterranean.

For these tools to support ICZM it would be ideal to maintain a database of assessments undertaken and reports prepared with a view to monitor the type and degree of development related pressures on the coast; inform new environmental assessments to prevent duplication of efforts particularly where data is already available; and support other initiatives particularly EcAp implementation through the data collected and decisions taken. Such databases may be available at national and regional level, to enhance knowledge at the regional and facilitate transboundary co-operation. No new data bases should be created; instead, the existing ones are to be enhanced owing to close cooperation and contribution of all MAP Components.

In the context of the CRF, the following needs to be stressed:

- SEA forms an important part of the EcAp implementation;
- A transboundary SEA process, including transboundary consultation, should be activated, when appropriate, when a policy, strategy, plan or programme is expected to have significant transboundary environmental effects;[2]
- SEA and EIA should assess impact on both land and sea, consider also mutual impacts of maritime activities on land and terrestrial activities on sea, based on most relevant LSI identified;
- SEA should take into account new and emerging issues in particular climate change and its impacts.

To this aim and according to Artt. 19 and 29 of the ICZM Protocol, the CPs are encouraged to accomplish the following with the support of UNEP/MAP and its Components, as appropriate:

- *Implement environmental assessments, taking into considerations cumulative impacts on the coastal zones and their carrying capacity. These may be based on the use of EcAp EOs and related indicators, as described in the methodology recently developed and tested by PAP/RAC[3]: by using EcAp indicators, the methodology enables assessing the value of marine and coastal natural environment as well as the level of the existing pressures on it. In addition, the methodology allows to identify spatial impacts of those pressures. It also enables the identification of the level of vulnerability of marine and coastal environment to the future (planned) activities by looking at the existing pressures, the extent of expected change and the capacity of the environment to adapt to the change. Such an approach enables identifying most fragile and valuable areas that need to be preserved from future degradation and, therefore, the locations where activities need to be planned carefully. This methodology is presented here as an example and its possible application cannot replace or impact the existing national SEA and EIA processes;*
- *Take on board LSI in environmental assessments (including the transboundary ones), in particular interactions and impacts that can alter the equilibrium of marine and terrestrial areas due to natural processes (such as coastal erosion, flooding, seismic events, saline intrusion…) as well as mutual impacts of maritime activities on land and terrestrial activities on sea that can alter the environmental stability and decrease the resilience of natural systems. Such interactions between land and sea might therefore involve complex interactions among environmental, social, economic and governance elements. Assessing such interactions should be done in the appropriate geographical scope, taking into considerations temporal dynamic of interactions as well;*
- *Acknowledging the complexity of the environmental assessment processes, in particular in transboundary context, adopt as means of cooperation guidelines on the procedures for notification, exchange of information and consultation at all stages, as appropriate, to be developed with the assistance of the Coordinating Unit (CU) and its Components. These guidelines should address the abovementioned issues (GES and related targets, LSI aspects including coastal erosion, cumulative impact and vulnerability assessment, carrying capacity) as well as issues such as climate change effects, life cycle analysis, etc.*

V.3 Coordination of Planning Processes and Governance Mechanisms (Artt. 6, 7, 14, 20, 28 and 29)

The establishment and smooth functioning of a multi-level governance mechanism is fundamental for achieving complex and ambitious goals of ICZM as it sets the scene for efficient management and cooperation. Success will depend on mutual feeding between international- and national-level cooperation frames as well as forging partnerships and linking local-scale initiatives to higher-level policies. Achieving a balance between strategic and local concerns is perhaps one of the most difficult issues in coastal zone management. Finally, a new challenge for

[2] As an example of good practice in transboundary cooperation between neighboring countries, carrying out a SEA of the Framework Plan and Program (FPP) for Exploration and Exploitation of Hydrocarbons in the Adriatic Sea is worth mentioning. The said FPP was developed in order to keep precise track of hydrocarbons exploration and exploitation activities, permit issuing, contract awarding, investor liabilities, imposition of charges and penalties as well as to keep track of the hydrocarbon reserve in the subsoil of the Adriatic Sea. It was produced by Croatian Hydrocarbon Agency together with the accompanying environmental report and, in accordance with the UN/ECE Espoo Convention and the Protocol on SEA to the 1991 UN/ECE Espoo Convention, competent authorities of the Italy, Montenegro and Slovenia were notified of the SEA process, the FPP and accompanying environmental report. In the process of transboundary SEA, Italy, Montenegro and Slovenia forwarded their opinions on both documents, which were amended accordingly.

[3] The methodology was tested in Bokakotorska Bay, Montenegro (http://msp-platform.eu/practices/ecap-base-marine-vulnerability-assessment-basis-msp-montenegro).

all planning initiatives is to adapt to the new, considerably higher level of uncertainties brought by natural hazards, in particular climate change impacts on coastal zones.

To achieve the objectives of ICZM and facilitate integration through effective planning, there is a need for cross-sectorally organised institutional coordination of the various administrative authorities competent in coastal zones, covering both the marine and the land parts. There is also a need to put in place appropriate governance schemes allowing adequate and timely participation in transparent decision-making of local populations and stakeholders concerned.

To this aim and according to Artt. 6d-e, 7, 14, 20, 28 & 29 of the ICZM Protocol, the CPs are encouraged to accomplish the following with the support of UNEP/MAP and its Components, as appropriate:

- *Establish administrative schemes and processes facilitating horizontal (sectoral) and vertical (among different geographic scales and administrative levels) coordination of the ICZM implementation (such as intersectoral coordination bodies, joint working and training groups, etc.), adopt legal forms of promotion/setting out of such processes such as regulations and decrees at the national level or memoranda of agreement at the regional or sub-regional levels, participate in networking for ICZM in order to create the critical mass of people, experience and knowledge for its efficient implementation;*
- *Ensure the introduction and use of appropriate land policy tools in the process of coastal zone planning;*
- *Coordinate as appropriate, national coastal strategies, plans and programmes related to contiguous coastal zones;*
- *Ensure notification, exchange of information and consultation in cases of environmental assessments with transboundary implications, including transboundary environmental assessment, as appropriate;*
- *Ensure stakeholder engagement early in the planning process.*

V.4 Marine Spatial Planning (Artt. 3, 5, 6, 10 and 11)

Spatial planning of the coastal zone is considered an essential instrument of the implementation of the ICZM Protocol. One of the main objective of ICZM is to "facilitate, through the rational planning of activities, the sustainable development of coastal zones by ensuring that the environment and landscapes are taken into account in harmony with economic, social and cultural development" (Art. 5). Planning is recalled also in other articles of the ICZM Protocol, as in the case articles dealing with the protection of wetlands, estuaries and marine habitats (Art. 10) or the protection of coastal landscape (Art. 11).

Although MSP is not expressly mentioned in the ICZM Protocol, the geographical scope of the Protocol and the definition of the coastal zone given in its Art. 3 include both the land and the sea. It follows that planning should be equally applied to both components and that planning of marine space is already taken on board.

MSP is a cross-sectoral coordination and decision-making tool enabling public authorities and stakeholders to apply an integrated, policy-based, transboundary approach to the ecosystem-based regulation, management and protection of marine environment, considering the competition in seas for maritime transportation, oil and gas development, offshore renewable energy, offshore aquaculture, oil and gas mining, fisheries, sand and gravel mining, tourism and recreation, waste disposal and the other issues like marine conservation and military defense issues; and to analyze and allocate the spatial and temporal distribution of human activities in marine areas for achieving ecological, economic and social objectives that have been specified through both technical and political process.

Environmental aspects of MSP focus on the effective resolution of conflicts between maritime uses and preservation of the marine environment. The implementation of MSP by countries provides an opportunity to develop maritime sectors and use ecosystem functions and resources in a sustainable way. Therefore, environmental objectives of MSP can be generally summarized as:

- achieving sustainable use of ecosystem services and ensuring maintenance of ecosystem integrity;
- ensuring timely identification and reduction of cumulative effects of human activities on marine ecosystems;
- allowing conservation and sustainable management of marine environment including the identification and conservation of ecologically or biologically significant marine areas;
- integrating biodiversity objectives into planning process and allocating space for biodiversity and nature conservation;
- developing adequate planning approaches for marine protected areas.

Economic aspects of MSP cover goals and objectives that contribute to the economic return obtained from the use of the marine resources and can be formulated as:

- ensuring sustainable growth of different maritime activities with affecting income and employment;
- ensuring secure environment for long-term investments;
- promoting efficient use of natural resources and reduction of conflicts among incompatible uses and between nature and uses, such as fisheries' relation with nature and, therefore, secure the long-term future of the industries that depend on them;
- ensuring maximum benefits derived from the use of the sea by encouraging compatible uses to be located within the same area and bring the most value;
- enhanced coherence with other planning systems;
- leading to reduced transaction costs for maritime activities.

Socio-spatial aspects of MSP process are also important. The social and cultural dimension of MSP cover goals and objectives that contribute to the well-being of the human population and ensure balanced socio-economic development in marine environment, such as objectives related to:

- supporting the environmental economy through promoting activities that depend on environmental quality such as recreation, fishing and tourism opportunities (diving, wildlife tourism, etc.);
- improving stakeholder involvement and citizen participation in the planning process by establishing a transparent and structured mechanism in which the interests of different sectors can be represented and reconciled and potential conflicts and spatial impacts managed in a coordinated way;
- enhanced legal certainty for all stakeholders in the maritime arena;
- enhanced coordination and simplified decision processes;
- enhanced cross border cooperation, as appropriate;
- preservation of cultural and historical heritage;
- identification and preservation of social and intangible values specific to the region in terms of marine area usage;
- allocation of space for different uses through a comprehensive analysis, thus increasing security for business operations in the marine environment.

Also, MSP is considered as one of the tools to implement the EcAp as a strategic approach towards sustainable development in the region that integrates all of its three components (environmental, social and economic) and guarantee that they are in balance. The relationship between EcAp and MSP is a two-way relation, as the second can contribute to the overall objective of achieving the GES, also through the identification of the appropriate location and intensity of maritime activities and strengthen the related regulatory framework.

The marine component of the coastal zone has traditionally not been affected by the same quantity and variety of pressures as the terrestrial part, with the result that for many years the management tools adopted have been sectoral ones mainly addressing transport, fisheries, infrastructure and environment protection. As a result, in coastal areas where spatial planning has been limited to the landward side, synergies in governance with a view to reduce environmental impacts and user conflicts at sea and along the lands and sea interface continue to be a challenge. Within this framework, MSP based on ecosystem-approach focuses on the sea part where the boundaries are defined according to ecologically significant areas, and it provides integration with the terrestrial part covering coastal area and its hinterland. Where spatial planning is extended to include the sea, regulatory procedures have improved co-ordination amongst the different regulators and also supported the application of tools such as environmental assessments. Measures taken through MSP for data collection and management, environmental monitoring, plan making, policy formulation, decision taking and enforcement, enhance the potential for considering land and sea interactions within an integrated approach, within a given territory.

The context of the specific coastal zone, in terms of existing regulatory frameworks, existing and predicted levels of pressures from human activities and the environmental characteristics usually guide how MSP is introduced. Different options exist where MSP can either be developed as a stand-alone discipline or as an extension to an existing regulatory mechanism ranging from land-use planning, environmental protection, fisheries management or transport management. The ultimate decision should ideally be guided by the aspiration to achieve the strongest co-ordination framework at a national level as possible, to achieve the objectives of the ICZM Protocol.

In this perspective MSP can be considered the main tool/process for the implementation of ICZM in the marine part of the coastal zone and specifically for its sustainable planning and management. Art. 3 of the ICZM Protocol also defines the geographic scope of the operational application of MSP that shall focus on the marine area within the territorial sea of a country. Requirement to take land-sea interactions into account is specified in Art. 6.

To this aim and according to Artt. 3 and 6 of the ICZM Protocol, the CPs are encouraged to accomplish the following with the support of UNEP/MAP and its Components, as appropriate:

- *Better address planning and management issues in the marine part of coastal zone;*
- *Support implementation of ICZM in the marine part of the coastal zone by applying MSP with a strong focus on LSI and in line with general framework of the Barcelona Convention and its Protocols, in particular with regard to:*
  - *reducing marine-based source of pressure affecting the marine environment through spatial efficiency and control of temporal distribution of human activities;*
  - *reducing conflicts between maritime uses and protection of areas with high naturalistic and ecological relevance;*
  - *identifying areas to be protected in order to preserve processes and functions that are essential in achieving the GES;*
  - *identifying environmental hotspot areas at sea where specific measures are necessary;*
  - *identifying elements ensuring connectivity among relevant habitats.*

V.5 Land Policy (Art. 20)

Within the scope of ICZM and taking into account land-sea interactions, it is essential to coordinate both land and marine planning in consultation with all relevant stakeholders.

Land policy is one of the tools to implement land-use planning. It defines rights of ownership, rules and principles on land and the natural resources it contains; legal frameworks on access and usage; validation and transfer of these rights of ownership. Applied to ICZM, land policy contributes to planning land activities, maintain unoccupied natural areas, and facilitate public access to the coast and the sea. It is a relevant tool to limit coastal environment degradation due to urbanization and occupation of coastal areas by human activities development. Furthermore, preserving natural coastal areas by implementing land-use instruments is an efficient and economical solution to mitigate and adapt to climate change impacts.

Land policy is also an efficient tool not only in term of land-use planning but also to protect coastal landscapes, islands and cultural heritage.

As pressures and pollutions on marine environment mainly come from the land, land policy contributes to limit these pressures at the root and to conserve both terrestrial and marine coastal environment. When applying land policy instruments, it is important to take into account land-sea interactions. There are different kinds of land policy instruments and measures. Indicative analyses and good practices on the most specific instruments are detailed below.

Land acquisition is one of the instruments to preserve coastal natural areas. Within the scope of ICZM, it is advisable to facilitate amicable acquisition procedures for the benefit of public or private organizations in charge of the sustainable conservation of coastal areas, by pre-emption, land donation, and expropriation if necessary. The advantage of land acquisition is that it provides a strong and durable protection of a territory. It has to be used in the scope of a local planning strategy accommodating development, population and environment protection.

The main challenges for the implementation of acquisition mechanisms is its funding resources and establishment of efficient administrative and legal procedures. The pre-emptive right can facilitate public land acquisition procedures. It allows public authorities aiming at acquiring sensitive coastal zones with the objective of sustainably managing them to take priority over the acquisition.

Concession is a land policy instrument that allows a land owner to grant the management of a specific site to a beneficiary (the concessionary) in return for usage fees. The beneficiary is in charge of implementing long-term management activities. Concession also enables a State or municipalities to authorize provisionally on their public domain a private occupation, in return for fees. This practice[4] is also a way to raise funds (via the concession fees) that can be reinvested in ICZM activities. This kind of contractual relation also enables to consider a non-permanent occupation on areas potentially vulnerable to immersion or coastal erosion risks, in the perspective of their temporary touristic or economic valorization.

Separation between ownership and right of use is a potential instrument for ICZM land policy: a land owner consents to a loss of a part of the rights he exercises on his land. For example, to renounce to build or to destroy natural or patrimonial elements of the site in exchange of compensations. These deliberate abstentions can also be combined to obligations of actions to ensure the management of the coastal site. There are different kinds of practices for separation of ownership, including easement, which is an obligation imposed to a land owner for the benefit of another land owner that can be applied to ICZM. For example, in order to facilitate the access of public to the coast, an easement can be designed to establish a right of way along the coastline on private properties bordering maritime public domain.

Land Stewardship is a land policy tool that involves landowners and users in the conservation of nature and landscape, with the support of civil society. Through voluntary agreements between land owners/users and land stewardship organizations (also known as land trusts), land stewardship enables to conserve, manage and restore the environment. The stewardship approach is an especially helpful concept in the many instances where sustainable management — rather than absolute protection or preservation — of coastal areas is the objective. In the Mediterranean region this instrument is used for example by the region of Catalonia (Spain) who developed a network for the land stewardship[5]. There are three level of land stewardship agreements between land owner and land stewardship organization: management support agreements; management transfer agreements; and property transfer agreement.

To this aim and according to Art. 20 of the ICZM Protocol, the CPs are encouraged to accomplish the following with the support of UNEP/MAP and its Components, as appropriate:

- *Conduct a diagnosis of sensitive coastal zones threatened by urbanization and climate change on the whole coastal zones in order to identify priority areas to acquire or protect, and design a coastal areas acquisition and protection strategy in addition to land-use planning activities;*
- *Elaborate a land register, or an equivalent land tool, that provides accurate and mapped land property information, and couple it with relevant knowledge on occupation and usage of coast line areas;*

[4] This public domain concession is regularly practiced by the SPNL in Lebanon.

[5] Xarxa de Custodià del Territori (XCT)

- *Apply land policy instruments and mechanisms in coordination with spatial planning, including marine spatial planning, as land policy is an essential tool to limit at the root pressures coming from the land;*
- *Support continuous scientific observation of coastal zones' evolutions, in particular observations and climate change impacts scenarios, in order to support decision-making in coastal planning and development;*
- *Exchange experience and good practices on land policy instruments and mechanisms, in particular through a network of coastal zone management agencies and/or administration.*

V.6 Economic, Financial and Fiscal Instruments (Art. 21)

Sustainable funding of actions reducing pressures affecting the Mediterranean coastal zones is essential to effectively implement sustainable management and achieve a good environmental status in the region. Funds for ICZM are mainly available through national governmental budgets, donors' programmes, voluntary contributions, partnerships with private sectors, and other financial mechanisms (including e.g. specialized environmental funds). Fiscal instruments (including taxes and subsidies) and market mechanisms (payment for ecosystem services, for example) are commonly introduced to address externalities and help achieve environmental protection goals.

Environmental fiscal instruments for coastal zone have two different purposes. Some instruments only have a financial objective; they are created to generate funds for public budgets. In this case, it is recommended that these funds be redistributed to fund ICZM activities. Some other fiscal instruments have a strategic objective to affect stakeholders' practices. They are created to influence economic stakeholders and people's behavior through incentives or dissuasive instruments.

In addition to the establishment of fiscal instruments to generate funds or support stakeholders' change of practice, it is also important to reduce or avoid fiscal instruments and subsidies that have a negative impact on the environment (environmentally harmful instruments). It mainly concerns fiscal and economic incentives aiming at promoting sectoral economic activities on the coastal zones that go against ICZM objectives. For example, fiscal instruments supporting natural areas destruction (subsidies for wetlands drainage). In the process of reforming the environmentally harmful instruments, distributional impacts and trade-offs should be carefully considered.

Regarding taxes generating incomes, there are a few Mediterranean examples of good practices of redistribution towards ICZM actions: the establishment of a tax on building construction work that is redistributed to local public authorities to implement land policies contributing to coastal areas conservation[6], or the allocation of fishing license fees or tourist tax to local authorities' environmental budgets [7]. The decision to allocate incomes generated by a tax to a specific budget is of course a political decision, however ICZM stakeholders can orientate these decisions by identifying relevant actions to fund and fiscal incomes that could be redistributed. Some taxes can also be specifically created to fund coastal and marine conservation. For example, a tax on passengers on board maritime transports going to protected natural areas. The tax is collected by transports companies for the benefit of the public entity managing the protected natural area and is assigned to the preservation of the area[8].

Fiscal incentive can also be established, for example the system of land donations through tax compensation payment schemes (payment in kind), which can help to place land under public ownership, that can be transferred to organizations in charge of their sustainable management[9].

Some fiscal instruments aim at supporting stakeholders in a change of practice in favor of the of coastal areas conservation. For example, relating to changing behaviors, plastic bags tax has been introduced in some Mediterranean countries such as Croatia, Greece, Israel, Malta, Slovenia and Spain[10].

Consideration of ecosystem services: Ecosystem services are the benefits people get from ecosystems without having to pay directly to obtain them. Coastal zones, both the terrestrial and marine part, provide many ecosystem services, that are however threatened by increasing pressures on the environment. The loss of these services would require to develop costly alternatives. It is therefore necessary to raise awareness of the economic value of ecosystem services. Investing now in the natural capital would enable to save money on the long term.

Payments for ecosystem services (PES) consists of paying for the provision of a service: stakeholders are paid provided that an identified ecosystem service is maintained or restored. In the scope of ICZM, PES can be payments made to farmers or landowners who agreed to implement actions to manager their land providing an ecosystem service. Given that payment provides an incentive to land owners and managers, PES are considered as a market mechanism, similar to taxes or subsidies. The aim is to support natural resources conservation with a specific objective (buffer zone for immersion or flooding, blue carbon sink, wetlands for natural water sanitation etc.).

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[6] French example of the Regional Tax on sensitive natural areas.

[7] This example is established in Morocco.

[8] French example of the Tax on maritime passengers going to protected natural areas.

[9] French example of dation in payment.

[10] Surfrider Foundation. Time for Europe to act against plastic bag pollution. 2018. 24p

Use of economic analysis for the assessment of various ICZM policy options, measures and projects: Economic analysis and evaluation tools can support efficient decision-making relating to ICZM policies and projects. The cost-benefit analysis consists in a set of methodologies for economic valuation of the environment. It is used to value the change in ecosystem services caused by a project or a policy. The cost-efficiency analysis compares the cost and efficiency of two alternative strategies to achieve the same objective. In the scope of ICZM, this approach enables to define coastal conservation objectives and to analyze the means to achieve it in the most efficient way. Finally, multi criteria decision analysis is a methodology for supporting complex ICZM decision-making situations with multiple and often conflicting objectives that stakeholders value differently. All these economic analysis and evaluations tools also contribute to raise awareness of ecosystem services values.

To this aim and according to Art. 21 of the ICZM Protocol, the CPs are encouraged to accomplish the following with the support of UNEP/MAP and its Components, as appropriate:

- *Strengthen Mediterranean stakeholders' capacities to identify available resources and programmes, develop financial proposals and monitor allocated funds in an efficient way;*
- *Develop sustainable funding strategies for ICZM implementation at the national and regional scale;*
- *Share information on good practices and results achieved with implementation of economic, financial and fiscal instruments in the region. Instruments that have proved their effectiveness could be considered to be applied in other countries;*
- *Work towards a better redistribution of public revenues for ICZM funding in order to ensure sustainable funding and reduce dependence on external funds. For example, public revenues from public maritime domain usage fees or public properties fees could be allocated in priority to ICZM activities;*
- *Promote the application of relevant economic/ market-based instruments for the ICZM implementation;*
- *Gradually reduce environmentally harmful subsidies while putting in place compensatory measures to address socio-economic losses that might occur;*
- *Strengthen the use of economic analysis for the assessment of various ICZM policy options, to ensure sustainability and efficient decision-making in formulating ICZM plans and strategies;*
- *Strengthen the use of valuation of ecosystem services to raise awareness of the economic value of coastal ecosystem services.*

V.7 Training, Communication and Information (Artt. 14, 15, 25 and 26)

In order to contribute to the effective implementation of ICZM and to achieve a good environmental status in the Mediterranean region, it is important to establish training communication, awareness and research tools within CPs but also at a regional scale. These tools should be aimed at policymakers, economic stakeholders involved in land and marine activities, associations, universities and researchers, civil society.

Trainings should in particular focus on economic benefits of coastal environment conservation, environmental assessment and conflict management. Within these trainings and ICZM tools, it is essential to include components to facilitate the understanding and appropriation of the ICZM Protocol itself by Mediterranean stakeholders. As a legally binding tool, the Protocol is a strong advocacy tool in favor of ICZM that can be used by local stakeholders as an argument when facing criticism on the legitimacy of ICZM local policies.

Regarding research tools and mechanisms, they should support multidisciplinary scientific research on ICZM. The objective is to increase knowledge on ICZM in order to facilitate public and private decision making and to contribute to public information. Public should be involved in ICZM decision-making via public consultation tools.

To this aim and according to Artt. 14, 15, 25 and 26 of the ICZM Protocol, the CPs are encouraged to accomplish the following with the support of UNEP/MAP and its Components, as appropriate:

- *Develop tools and trainings on ICZM good practices for Mediterranean local stakeholders;*
- *Develop tools and trainings on the ICZM Protocol itself to facilitate its appropriation and usage by Mediterranean stakeholders;*
- *Include components on sustainable management of coastal and marine areas in universities relevant programmes to train future ICZM professionals;*
- *Develop mechanisms to support multidisciplinary scientific research on ICZM and on the interactions between human activities, their impacts on coastal areas and innovative solutions to make economic practices more sustainable;*
- *Develop dissemination tools to make scientific research results available to all;*
- *Involve public participation in ICZM plans and programmes and ICZM related decision-making.*

V.8 International Cooperation for the Implementation of the CRF (Artt. 16, 25-28)

The success of ICZM largely rely on the cooperation among CPs supported by international organisations, institutions and fora. Many instruments and tools are already provided or foreseen within the Barcelona Convention system, for which guidance should be provided in particular to enhance synergies among them for the purpose of implementing the ICZM Protocol and the CRF:

a) In the field of monitoring and observation (Art. 16)

- IMAP with GES set as the ultimate environmental goal to be reached by managing anthropogenic pressures on coastal and marine environment in an attempt to ensure sustainability;
- Standardised and harmonised national coastal inventories, as well as reporting on state and evolution of coastal zones;
- Reporting processes on the implementation of the Barcelona Convention and its Protocols;
- Mediterranean coastal zone network including an ICZM Platform as a hub for ICZM-labelled initiatives, CAMP and other projects, information, documentation, as well as a networking device for decision- and policy-makers, practitioners and other ICZM-prone actors at all levels.

b) In the field of ICZM/coastal strategies preparation and implementation (Art. 28)

- Mediterranean Strategy for Sustainable Development (MSSD), which rely on the Barcelona Convention system for its Objective 1 on Ensuring sustainable development in marine and coastal areas and its Strategic Direction 1.1. Strengthen implementation of and compliance with the Protocols of the Barcelona Convention and other regional policy instruments and initiatives supplemented by national approaches;
- Regional strategies, plans and programmes for contiguous coastal zones, which will use SEA and EIA in transboundary context as one of the main tools (Art. 28).

c) In the field of training and research, technical and scientific cooperation (Artt. 25-27)

- MedOpen virtual training course as an excellent way of teaching on ICZM principles, objectives and ways of implementation;
- Info/MAP platform for stocking and exchange of interoperable data and information;
- Cooperation within research projects tailored for the need of multi-sectoral coastal zone management, focused on science-policy interface.

The timely and proactive involvement of international donors is also instrumental to the effective implementation of the above-mentioned activities. The donors should be involved in an early stage to ensure that the activities identified under the CRF will be framed in project proposals which would meet the specific requirements of each funding organization. In the recent past, the Global Environment Facility (GEF) has been active in supporting the ICZM process in the region. This support has been renewed in 2016 through the approval of the "GEF Adriatic" project and of the "Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security" currently under development. The European Commission expressed interest in supporting the ICZM process in coordination with MSP and IMAP. Efforts should be made to inform these and other donor organisations active in the Mediterranean to maximize their support to the CRF.

VI. Implementation of the CRF

A considerable number of sectoral policies and related tools have been developed within the Barcelona Convention system addressing pollution, biodiversity, climate change, socio-economic aspects, marine litter, key economic sectors, etc. the implementation of which contributes to the protection of the coastal zone. The commitment made by the CPs with regard to these policies is supposed to be implemented in a coordinated manner. However, the sectoral approach still prevails in the mind of actors and stakeholders, and integration is seen as an additional burden instead of an added value that increases efficiency and allows the rationalisation of effort, time and money.

Aware of the need to provide a strategic framework for better coherence and efficiency of the Barcelona Convention system, at their 19th Ordinary Meeting (COP19) held in Athens in February 2016 the CPs adopted the UNEP/MAP Mid-Term Strategy 2016-2021 (Decision IG.22/1) as a guiding document aimed at ensuring synergy, harmonisation of efforts and optimisation of the use of resources.

This objective has been fully reflected in the UNEP/MAP biennial Programmes of Work (PoW), in particular through its Cross-cutting Theme 1 on Integrated Coastal Zone Management (ICZM) as *"a transversal policy, with strategic options, plans and management measures, which can integrate and reflect on the same coastal geographic unit (with its terrestrial and marine parts) all thematic policies and horizontal dimensions, encompassing development measures, environmental protection, SCP, adaptation to climate change, etc."*.

Given the definition of the coastal zone in the ICZM Protocol, almost all other Protocols of the BC are related in one or the other way to it. Thus, ICZM can and should provide support to the implementation of several of these Protocols, and therefore the relevant objectives and provisions of these Protocols should be taken into account in all ICZM related activities. In view of maximizing synergies with other policies, ICZM activities should also take into consideration, on an exceptional basis, some technical guidelines adopted by the Contracting Parties, which do not have the same legally binding character as the Protocols

and Regional Plans, but provide guidance and obligations, as it is the case of four guidelines approved in the framework of the Dumping Protocol. At the same time, policy decisions and action plans stemming from the other Protocols should be coherent with the ICZM objectives and complementary to the ICZM ones.

VI.1 Support to CPs by UNEP/MAP Secretariat and its Components

To the aim of enhancing the coastal zone management practice, the UNEP/MAP Secretariat and its Components commit themselves to provide the following specific assistance to the CPs for the implementation of the ICZM Protocol and CRF:

At the Regional / Sub-regional Level

- Enhancing the coherence of the legal and strategic framework for the protection and management of the coastal-marine environment by acceding to, implementing, coordinating and enforcing the instruments that are already in force, as well as adapting them as necessary;
- Providing guidance for consistent and complementary implementation of ICZM and MSP, particularly addressing LSI;
- Tailoring the existing and developing new methods and tools to operationalise the EcAp concepts within ICZM and MSP, such as: guidelines for the implementation of EcAp, cumulative impact assessment, ecosystem service mapping and quantification, identification of blue corridors, etc.;
- Developing additional coastal indicators to complement the existing, predominantly marine-oriented EcAp indicators so as to better reflect the interaction between terrestrial and marine ecosystems, habitats and species, and to reduce pressures of economic activities that exceed the carrying capacity, taking into consideration existing sets of indicators, such as the IMAP, NAPs, MSSD, SCP, and SDG indicators, in view of maximising synergies and facilitating monitoring and reporting. An indicative list of existing indicators that could be used as potential ICZM indicators is provided below:
  1. Length of coastline subject to physical disturbance due to the influence of man-made structures
  2. Land use change
  3. Integrity and diversity of coastal ecosystems, landscapes and their geomorphology are preserved
  4. Ratio of land consumption rate to population growth rate
  5. Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically
  6. Percentage of protected coastal and marine areas [under national jurisdiction];
- Providing guidance for the establishment of standardised and harmonised national coastal inventories, as well as for the reporting on the state and evolution of coastal zones;
- Providing guidance for a timely and proper response to the emerging issues, such as in the case of climate change;
- Harmonising the SEA procedures across the Mediterranean Region and strengthening of national capacities to carry out SEA, including the transboundary context;
- Promoting codes of good practice among public authorities, economic actors and non-governmental organisations;
- Updating and delivery of educational programmes, training and awareness raising on ICZM;
- Boosting the network of ICZM and MSP initiatives, in particular CAMPs and CAMP-like projects.

At the National Level

- Supporting the preparation of National ICZM Strategies based on the Guidelines for National ICZM Strategy[11], to consider and enhance their consistency with the ICZM Protocol, taking also into account national action plans developed in the framework of other BC Protocols and Regional Plans, including those related to land-based sources of pollution, SCP, biodiversity, etc.;
- Supporting the development or updating of National Action Plans (NAPs) in line with the provisions of the relevant Protocols, strategic action plans and regional action plans;
- Supporting the implementation of CAMPs and other ICZM and MSP projects for selected coastal zones.

VI.2 Action Plan for Implementation

The Action Plan (AP) contained in the Table 1 below has been designed to provide concrete support and guidance for joint implementation of the ICZM Protocol through the CRF. The AP has set the year 2027 as target, corresponding to the biennium 2020-21 in which the next 6-year Mid-Term Strategy (MTS) of UNEP/MAP will be prepared and the period covered by the MTS. The AP defines the main outputs to be delivered, associated with estimated costs, key actors and corresponding progress indicators. The resources are indicative, estimated only for the support to be provided by the Barcelona Convention system to the CPs through MTF and other sources mobilised by the system. They do not include the resources that the CPs themselves may mobilise for the purpose of the AP implementation or other external partners that may join forces with the CPs and the BC system.

[11] UNEP/MAP/PAP: Guidelines for the preparation of National ICZM Strategies required by the Integrated Coastal Zone Management (ICZM) Protocol for the Mediterranean. Split, Priority Actions Programme. 2015. http://pap-thecoastcentre.org/pdfs/National%20ICZM%20Guidelines.pdf and http://pap-thecoastcentre.org/pdfs/National%20ICZM%20Guidelines%20FR.pdf

Table 1: Action Plan for Implementation

Outputs	Activities	Key actors	Indicative resources (in 000 €)	Indicative timeline	Progress indicators
Governance framework for ICZM implementation set-up and functional at all levels	Ratification of the ICZM Protocol[12]	CPs with the support of PAP/RAC and CU	50	2020-2025	Number of ratifications; Number of CPs having adopted a National ICZM Strategy; Number of sub-regional strategies prepared; Number of intersectoral bodies established and functional; Number of CPs having established a coastal observatory
	Preparation of National Strategies for ICZM (including MSP and climate action)[13]	CPs with the support of PAP/RAC	750	2020-2027	
	Establishment and functioning of national intersectoral bodies for the implementation of the ICZM Protocol	CPs with the support of PAP/RAC	150	2020-2027	
	Preparation of sub-regional strategies for ICZM (including MSP and climate action)	CPs with the support of PAP/RAC and other sub-regional bodies	1,200	2023-2027	
	Establishment and functioning of sub-regional bodies for the implementation of sub-regional strategies for ICZM (including MSP and climate action)	CPs with the support of PAP/RAC and other sub-regional bodies	250	2023-2027	
	Definition of a mechanism for observing the state and evolution of Mediterranean coastal zones	Plan Bleu and INFO/RAC in collaboration with CPs and other MAP Components	200	2022-2024	
	Strengthening or establishment of national mechanisms for observing the state and evolution of coastal zones	CPs with the support of Plan Bleu and INFO/RAC	200	2022-2027	
Necessary methodological guidance and tools provided to CPs for a consistent and complementary implementation of ICZM and MSP	Providing guidance for consistent and complementary implementation of ICZM and MSP, particularly addressing Land Sea Interactions and adaptation to climate change[14]	PAP/RAC with the support of MEDPOL, REMPEC and SPA/RAC	120	2020-2021	Number of guidelines prepared and adopted by CPs; Number of CPs using the IT platform; Number of indicators agreed
	Preparation of guidelines for respecting carrying capacity of coastal and marine zones	PAP/RAC in collaboration with other MAP Components	200	2022-2024	
	Development of additional coastal indicators to complete EO8, highlighting the interaction between terrestrial and marine ecosystems	PAP/RAC	200	2024-2027	
	Preparation of guidelines for mainstreaming climate change adaptation in National ICZM and MSP Strategies and coastal plans	PAP/RAC in collaboration with other MAP Components	100	2022-2023	
	Preparation of guidelines for the application of ICZM principles and objectives by main coastal and maritime sectors	PAP/RAC in collaboration with other MAP Components	600	2024-2027	
	Design of an interactive IT platform as an operational tool to support the implementation of the CRF[15]	INFO/RAC with the support of PAP/RAC	100	2020-2021	
	Setting-up of a dedicated interactive IT platform to support the implementation of the CRF	INFO/RAC with the support of PAP/RAC	200	2022-2023	
	Updating of the methodological guidance for reaching GES through ICZM	PAP/RAC with the support of MEDPOL and SPA/RAC	100	2023-2025	

[12] Assistance to the CPs in the ratification process is a permanent activity and it is included also in the PoW 2020-2021.
[13] Support to the preparation of National ICZM Strategies in Egypt, Lebanon and Tunisia within GEF MedProgramme is included in the PoW 2020-2021.
[14] Included in the PoW 2020-2021.
[15] Recommended to be included in the PoW 2020-2021.

Outputs	Activities	Key actors	Indicative resources (in 000 €)	Indicative timeline	Progress indicators
	Definition of a set of indicators to be used by coastal observatories[16]	Plan Bleu with the support of PAP/RAC and other MAP Components	200	2020-2021	
ICZM Protocol implemented in practice	Implementation of national and transboundary CAMP and other demonstration projects focusing on the implementation of the ICZM Protocol provisions[17]	CPs with the support of PAP/RAC and other MAP Components, as appropriate	1,000	2020-2027	Number of CAMP projects implemented; Number of pilot projects having tested the CRF methodological guidance; Number of MSP-related projects implemented; Number of sub-regions having produced a specific ICZM vs. EOs matrix
	Testing in practice of the methodological guidance for reaching GES through CRF in pilot sites at sub-national, national and transboundary contexts[18]	CPs with the support of PAP/RAC in collaboration with MEDPOL and SPA/RAC	600	2020-2023	
	Implementation of MSP as a part of the ICZM Protocol implementation, addressing LSI and adaptation to climate change[19]	CPs with the support of PAP/RAC in collaboration with MEDPOL, REMPEC and SPA/RAC	1,000	2020-2027	
	Elaboration of a specific matrix of interactions between ICZM Protocol provisions and EOs for all sub-regions of the Mediterranean	CPs with the support of PAP/RAC in collaboration with MEDPOL and SPA/RAC	600	2023-2025	
Capacities of CPs for the implementation of ICZM and MSP strengthened	Delivering MedOpen Advanced training courses[20]	PAP/RAC	400	2020-2027	Number of training courses organised; Number of trainees
	Inclusion of the MedOpen Advanced training course into the academic curricula[21]	PAP/RAC and CPs' academic institutions	100	2020-2027	
	Organisation of face-to-face training sessions on ICZM and MSP processes and tools (e.g. LSI, SEA, CC adaptation, etc.)[22]	PAP/RAC	400	2020-2027	
Information, communication and awareness of the CPs and other actors enhanced with regard to environmental protection and sustainable development of coastal zones	Organisation of regional celebrations of the Mediterranean Coast Day[23]	PAP/RAC and CPs	400	2020-2027	Number of awareness raising events organised; Number of participants to the events; Number of uploads to the ICZM Platform; Number of participants in the network
	Organisation of national/local Coast Day celebrations[24]	CPs with the support of PAP/RAC	80	2020-2027	
	Continuous upgrading of the ICZM Platform and ICZM projects network[25]	PAP/RAC with the support of INFO/RAC	200	2020-2027	
	Preparation of reports on the state and development of coastal zones (within QSR, SoED, etc.)[26]	PAP/RAC under the guidance of the CU	300	2020-2027	

[16] Recommended to be included in the PoW 2020-2021.
[17] One national and at least one transboundary CAMP included in the PoW 2020-2021.
[18] Testing on voluntary basis included in the PoW 2020-2021.
[19] Included already in the PoW 2020-2021.
[20] One advanced course per year including in 2020 and 2021, included in the respective PoW.
[21] Included in the PoW 2020-2021.
[22] Regional trainings on MSP and SEA included in the 2020-2021 PoW.
[23] Yearly activity since 2007, included in 2020-2021 PoW.
[24] Included in the PoW 2020-2021 as a part of the MAVA project.
[25] Permanent activity, included in the PoW 2020-2021 too.
[26] Included in the PoW 2020-2021.

VII. Evaluation and Assessment of the Implementation of the CRF

The indicators contained in the AP will serve to assess the progress made and will complement the regular reporting by the CPs on the implementation of the Barcelona Convention and its Protocols within the existing reporting format for the ICZM Protocol.

Appendix:
Methodological Guidance for Reaching Good Environmental Status (GES) through ICZM

1. Introduction

The CRF on ICZM, as a strategic instrument meant to facilitate the implementation of the ICZM Protocol, provides guidance mainly for the regional (Mediterranean) and sub-regional (four Mediterranean sub-regions, according to EcAp) levels, based on a flexible approach that can be replicated at lower geographical levels (national, sub-national).

The present methodological guidance aims to support the implementation of the ICZM Protocol, within the CRF, towards the achievement of EcAp Ecological Objectives (EO), in a coordinated and integrated manner with the UNEP/MAP-Barcelona Convention System (thus considering the other Protocols and related key documents), and in light with the relevant international instruments.

The proposed methodological guidance is based on three major phases (Figure 1):

- **Phase A** – Elaboration of a **matrix of interactions** between the EcAp EOs and the economic activities and natural and cultural elements that have great relevance for the coastal areas, according to the content of the ICZM Protocol (hereafter briefly called "elements of the ICZM Protocol").
- **Phase B** – Detailed **analysis of the provisions of the main relevant documents** part of the UNEP/MAP-Barcelona Convention System related to key interactions between EcAp EOs and ICZM elements. The analysis is performed by clusters of EOs: 1. Biodiversity, 2. Fisheries, 3. Coast and Hydrography, 4. Pollution and Litter.
- **Phase C** – Process towards the identification of **operational recommendations to implement the CRF on ICZM** with the aim of contributing to the achievement of EcAp Eos and GES, coherently with other instruments of the Barcelona Convention System.

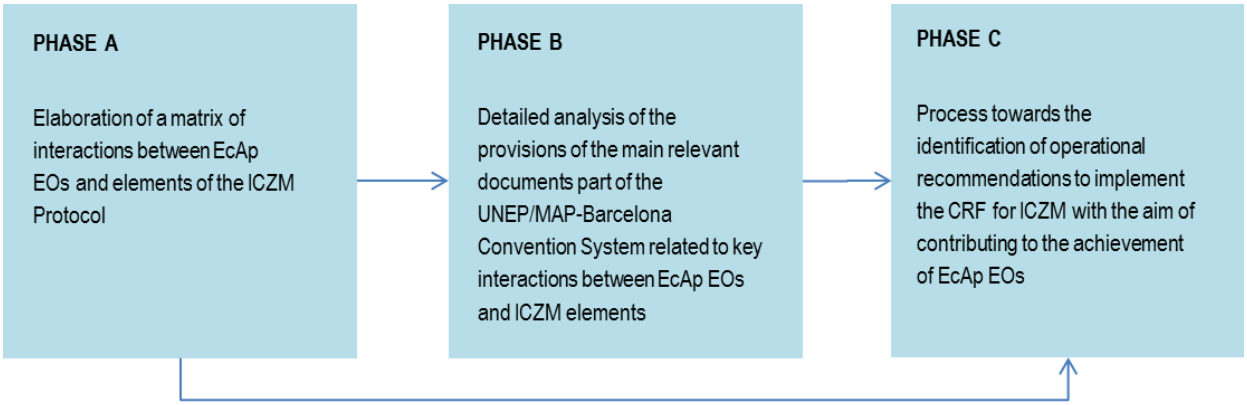

Figure 1: Phases of the methodological guidance.

The present document – with the understanding that is a living document and that Phase C requires further development – therefore proposes a methodology towards the identification of a set of operational recommendations, if needed and as appropriate, which shall be calibrated on the specific considered **geographic** and **temporal** context, as well as on the **cumulative impact integration rules**, and **regularly updated**.

Considering that the CRF on ICZM should be seen and managed as a practical instrument (which operationally interprets the provisions of the ICZM Protocol in an integrated and synergic manner with the UNEP/MAP-Barcelona Convention System and the other connected instruments governing matters related to ICZM, translating it at the regional, sub regional and national levels) **a specific interactive IT platform** should be set up as an operational tool to support the implementation of the process. This IT tool should be coordinated and supported by an existing data information centre and integrated into an existing platform. The platform would provide access to decision makers and relevant institutions to:

- Find and download all relevant material, documentation, data and information;
- Upload the requested information and data;
- Use specially designed tools (e.g. evaluation matrices, indicators, etc.);
- Periodically update the information and data entered.

2. Phase A – Matrix of Interactions

The first Phase of the methodological guidance consists in the elaboration of a matrix of interactions between EcAp EOs and elements of the ICZM Protocol. The proposed matrix is based on the **principle of ecosystem-based management to reach GES**, as well as on the **principles of integration** and **cumulative impact**, and consists on cross-check elements of the ICZM Protocol with the EOs organised in four clusters: 1. Biodiversity, 2. Fisheries, 3. Coast and Hydrography, 4. Pollution and Litter. The matrix is developed and should be directly utilized as an assessment tool supporting decision-making mechanisms at the different levels (regional, sub-regional, national, sub-national): the **identification of the spatial and temporal** (short, medium and long-term) scales is therefore an essential initial step of the overall analysis (from Phase A to Phase C), including the elaboration of the matrix of interactions.

For the analysis at the regional scale (i.e. entire Mediterranean), the matrix contained in the COP20 Decision IG.23/7 was updated and further integrated based on suggestions expressed by the National Focal Points at the meeting held in Split on 26-27 September 2018 and the outcome of the analysis of the key documents considered in Phase B (Figure 2).[27] The matrix is organized as follows.

In the first cell on the top left hand the abbreviated version of the three main objectives of the CRF on ICZM are indicated; namely: (i) Using the ecosystem-based management to ensure sustainable development and integrity of the coastal zone, its ecosystems and related services and landscapes; (ii) Addressing natural hazards and the effects of natural disasters, in particular coastal erosion and climate change; (iii) Achieving good governance.

They are recalled in the matrix to provide a logical link with the overall scope of the CRF on ICZM and the ICZM Protocol, since the beginning of the analysis (Phase A). As described in Phase C, these objectives are also used to frame the formulation of the operational recommendations for the identified key interactions of the matrix.

In the **VERTICAL AXIS**, the **economic activities and the natural (ecosystems) and cultural (landscape, cultural heritage) elements** that have great relevance for the coastal areas, according to the ICZM Protocol, are identified. Such elements are clustered in the three main components which make a continuum throughout the coastal zone (**coastal zone landward, land-sea interface, coastal zone seaward**, plus a specific category referring to **islands**) consistently with what has been developed in the field of ICZM, MSP and LSI. Despite this distinction, the analysis of interactions between EcAp EOs and elements of the ICZM Protocol shall always take in consideration the integrity (interconnections) of the entire coastal zone. Moreover, the considered elements of the ICZM Protocol are distinguished in two categories: "**pressures**" (i.e. activities causing pressure on the coastal and marine environment), which in the matrix are indicated in blue; and "**state"** (components of the environment, i.e. coastal landscapes, coastal forests and woods, cultural heritage, water quality, habitat, etc.) or "**impacts**" (i.e. coastal erosion), which in the matrix are indicated in black.

In the **HORIZONTAL AXIS**, the EcAp EOs are listed and grouped in four clusters identified by different colours. Biodiversity and Fisheries clusters are both in blue, but differentiated with 2 shades of this colour, since they are strongly connected.

Colours of the cells identify the relevance of interactions between EcAp EOs and elements of the ICZM Protocol: red indicates high relevance, yellow moderate relevance, blue low relevance, whereas white is related to absence of interactions. The level of relevance should be evaluated considering the knowledge on both existing interactions and interactions that are expected in the future as a consequence of known strategic programmes and plans.

It shall be noted that the matrix of Figure 2 illustrates the current understanding of interactions among ICZM elements and EOs at the scale of the entire Mediterranean (regional scale). Such evaluation can change in response to the specific dimensional, geographic and temporal conditions considered by the analysis. Therefore, three main aspects should be taken in consideration in any application of the matrix tool:

1. **Dimensional** aspects, referring to the considered scale of analysis, i.e.: regional (entire Mediterranean), sub-regional, national or sub-national level.
2. **Geographic** aspects, referring to the specific characteristic of the area under evaluation. Geographical aspects should be considered along the landward – interface – seaward transect, in order to follow the geographical continuum of the coastal zone (from land to sea; adding islands as a specific component when relevant).
3. **Temporal**, referring to the period of the analysis; this might take in consideration the short, medium or long-term perspective.

Indeed, the matrix is a **dynamic tool** even when the scale and the geographic and temporal dimensions of the analysis are fixed. As

[27] In particular, few lines along the vertical axis have been added: specifically, the element "maritime activities" was split in various lines to properly take care of the heterogeneity and different characteristics of such activities. Minor revisions of the matrix were also introduced based on the outcome of the analysis of the key documents considered in Phase B (see Table 8). Contents of the matrix were double checked with the 2017 Mediterranean Quality Status Report (QSR).

soon as new data, information and knowledge become available, there might be the need to update the matrix evaluation.

The matrix itself can be improved and more detailed depending on the availability of information and the priorities identified: coastal and maritime activities, considered in the provisions of the ICZM Protocol and indicated in the matrix of Figure 1, can be further detailed based on the pressures they generate and the way they affect the ecosystem. Various tools can be used to support the matrix updating and improvement. One of these has been developed by MED POL, based on the well-known DPSIR (Driver-Pressure-State-Impact-Response) approach, which is also recommended for assessment under the umbrella of the UN Environment/MAP-Barcelona Convention System. A brief description of the tool is included in Box 1, while a more detailed illustration is contained in the information document "Example of overall interrelationships between the IMAP and the DPSIR framework applied to the coastal and marine ecosystem" (UNEP/MED WG. 463/Inf.9).

Economic activities and natural and cultural elements of the ICZM Protocol	Objectives of the CRF on ICZM 1. Sustainable Development and Integrity of the coastal zone 2. Addressing natural hazards and the effects of natural disasters 3. Achieving good governance	Ecological Objective (GES/EcAp)	EO1: Biodiversity	EO2: Non-indigenous species	EO6: Sea-floor integrity	EO3: Commercial fish and shellfish	EO4: Food webs	EO7: Hydrographic conditions	EO8: Coastal ecosystems and landscapes	EO5: Eutrophication	EO9: Contaminants	EO10: Marine and coastal litter	EO11: Noise
	LANDWARD												
	Agriculture												
	Industry												
	Utilization of natural resources: mining												
	Urban sprawl												
	Coastal landscapes												
	Coastal forests and woods												
	Cultural heritage												
	INTERFACE												
	Infrastructures: ports, coastal defence and others												
	Energy infrastructures												
	Tourism, sporting, recreational activities												
	Util. of natural resources: desalination plants												
	Wetlands and estuaries												
	Dunes												
	Cultural heritage												
	Coastal erosion												
	SEAWARD												
	Fishing												
	Aquaculture												
	Tourism, sporting, recreational activities												
	Maritime activities: shipping												
	Maritime activities: offshore energy												
	Maritime activities: sand / mineral mining												
	Maritime activities: cables and pipelines												
	Marine habitats and species												
	Cultural heritage												
	ISLAND												
	Cultural heritage												
	Coastal erosion												

Figure 2: Matrix of interactions between elements of the ICZM Protocol and EOs (red = interaction of high relevance; yellow = interactions of moderate relevance; blue = interactions of low relevance; white = not relevant).

Box 1 – Example of a tool for the detailed analysis of interactions between EcAp EOs and elements of the ICZM Protocol

The tool elaborated by MED POL considers that semi-quantitative methodologies – as the scorecards system here considered – are recommended and can be applied when quantitative assessment is not or is only partially feasible. Although these systems are not quantitative, they rely on the best available expert judgment and provide a basis for identifying the interrelation among drivers, pressures, impacts, state and responses. Given the fact that monitoring and assessment scales of IMAP must still to be updated/agreed and tested, the semi-quantitative scorecards methodology is considered useful to address driver-pressure-state-impact assessments of complex processes, such as those occurring in the coastal zone.

According to the proposed scorecard methodology and as illustrated in the template of Table 6, human activities insisting on the coast are categorised as drivers. The template discriminates each activity in specific typologies and for each typology indicate related pressures, affected states and generated impacts. Coherently with the approach used in the matrix of Figure 2, the DPSIR analysis is implemented along the land to sea transect of the coastal zone.

For each chain of elements part of the analysis (Economic Driver > Activity type > Pressure > State > Impacts) the table template provides the link to the related Ecological Objective (EOs) and Common Indicators (CIs) of the Barcelona Convention measurements system (i.e. IMAP) adopted by the Contracting Parties in its decision IG.22/7 at the 19th Ordinary Meeting (COP 19, Athens, Greece, 9-12 February 2016). The added value of the proposed methodology is to provide a clear vision of requirements and responsibilities from the perspective of both the managerial and measurement systems. In particular, the Table 6. details the activity types (originated by main drivers), which are commonly known and aligned with the current IMAP multidimensional measurement system (with their Ecological Objectives and Common Indicators) to address current scenarios of pressures-state-impacts.

The above described approach is then complemented by an Excel tool which can be used for an expert-based evaluation. The structure of the Excel file reflects the content of the template provided in Table 7. In one hand, one of the Excel spreadsheet (Table 7) allows to estimate (in %) how many items (Economic Driver > Activity type > Pressure > State > Impacts) occurring in the coastal zone have the potential to threat it. Experts involved in such evaluation can provide an assessment for each activity type through a 0/1 score: 1 indicates the presence of the potential risk and 0 its absence. The final score is then expressed in percentage, dividing the sum of all scores by the number of scored items (activity types).

On the other hand, a different spreadsheet (Table 8) enables to estimate the magnitude of impacts (in %). For each activity type, experts involved in the evaluation are invited to express a 0 to 3 score: 0 indicates the absence of the impact, while 1, 2 and 3 respectively indicate the presence of an impact with low, moderate and high magnitude. Similarly to the analysis on the occurrence of potential threats, the final score is expressed in percentage and is obtaining dividing the sum of all scores by the maximum theoretical score (equal to the number of scored items x 3). It should be noted, that the proposed tool does not provide an *a priori* definition of the length of the coastal stretch where the same should be applied; this has to be previously defined by the users.

The complete analysis is available in the information document "Example of overall interrelationships between the IMAP and the DPSIR framework applied to the coastal and marine ecosystem" (UNEP/MED WG.463/Inf.9).

3. Phase B – Analysis of the Provisions of the Main Relevant Documents of the UNEP/MAP-Barcelona Convention System

The initial part of Phase B relates to the identification of the most relevant interactions between EcAp EOs and elements of the ICZM Protocol, based on the analysis performed in Phase A. It shall be noted that different approaches and methods can be applied to identify such interactions, which also depends on the specific scale of analysis (regional, sub-regional, national, sub-national). Examples of prioritization methods may include: (i) selection of the elements of the ICZM Protocol with the highest number of red cells in the matrix; or (ii) selection of the elements of the ICZM Protocol with at least a minimum number of red cells in the matrix; etc. Prioritization could also focus on very important interactions among pressure factors (human activities) and EOs (and related status of the environment) strongly and clearly emerging form the analysis of the available information and expert knowledge (e.g. the existence of a specific a very well-known environmental problem in a given context).

The second part of Phase B provides a detailed analysis of the provisions of the main relevant documents part of the UNEP/MAP-Barcelona Convention System related to key interactions between EcAp EOs and the elements of the ICZM Protocol previously identified. For the purpose of this Regional level (entire Mediterranean) assessment key interactions were identified by considering the elements of the ICZM Protocol that shows at least one highly relevant interaction (those in red in the matrix of Figure 2) with one of the EOs. This approach brought to select all the elements of the ICZM Protocol included in the matrix of Phase A for the specific purpose of Phase B analysis at the regional scale

For each of the element of the ICZM Protocol, the analysis has identified the main relevant documents and instruments part of the UNEP/MAP-Barcelona Convention System (Table 1) to be considered and major strategic elements/provisions included in these documents. Table 1 also provides an indication of the grade of priority (1 or 2) of each listed document, as well as the link to the official version of the document. The analysis focused on level 1 documents. Level 2 documents have not been analysed in detail, but these documents have been quoted for some specific ICZM aspects.

As an overarching framework, the main international and EU references on the different considered subjects are also taken into consideration and listed in Table 2. These documents have been considered as a basis to correctly frame the interpretation of the analysed documents of Table 1 – which remain the core of the analysis – being aware that not all the Contracting Parties to the Barcelona Convention are part of them.

Table 3 provide the template that has been used to scan the priority documents listed in Table 1 (specifically those identified by Id n. 1-16). For each of the element of the ICZM Protocol, which is characterised by a relevant interaction with the EOs, the table requires the identification of:

- References to the ICZM Protocol (third column);
- Priority documents listed in Table 1 which are relevant for that specific interaction (fourth column);
- Provisions and guidelines included in each of the documents which assume relevance for the interaction (fifth column).

Reference to more specific documents of level 2 listed in Table 1 is also included, when relevant.

Results of the performed analysis of key documents are reported in Table 5, which is meant **to provide a sort of "manual" to be consulted by users according to their specific focus**.

Finally, it shall be noted that Table 1 includes other two key documents: "EcAp Implementation Roadmap" (id 17) and "Progress Report on the implementation of Decision IG.22/7 on the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP)" (id 18) which are cross-cutting/cross-sector by nature. Therefore, these two documents should support the entire analysis and can be used, together with the results of Phase B, to draft the operational recommendations, coherently with the entire referred system, according to the process of Phase C.

The same process should be followed in applying Phase B analysis at a different spatial scale. Beyond those listed in Table 1 (and in Table 2), other relevant documents and instruments might assume particular relevance at a more detailed scale and should be considered in Phase B.

Table 1: Documents part of the UNEP/MAP-Barcelona Convention System taken into account in Phase B of the analysis, categorized by level of priority (1 or 2)

Id	Document	Priority	Link
	Protocols		
1	Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol)	1	http://www.rac-spa.org/sites/default/files/protocole_aspdb/protocol_eng.pdf
2	Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities (LBS Protocol)	1	http://wedocs.unep.org/bitstream/handle/20.500.11822/7096/Consolidated_LBS96_ENG.pdf?sequence=5&isAllowed=y
3	Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea (Prevention and Emergency Protocol)	1	https://wedocs.unep.org/rest/bitstreams/2190/retrieve
4	Protocol for the protection of the Mediterranean Sea against pollution resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil (Offshore Protocol)	1	https://wedocs.unep.org/rest/bitstreams/2336/retrieve
5	Protocol on the prevention of pollution of the Mediterranean Sea by transboundary movements of hazardous wastes and their disposal (Hazardous Wastes Protocol)	1	https://wedocs.unep.org/rest/bitstreams/2593/retrieve
6	Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea (Dumping Protocol)	1	http://wedocs.unep.org/bitstream/id/53181/95ig6_7_dumping_protocol_eng.pdf
	Regional Strategies		
7	Mediterranean Strategy for Sustainable Development 2016-2025	1	https://planbleu.org/sites/default/files/publications/mssd_2016-2025_final.pdf
8	Strategic Action Programme to address pollution from land-based activities (SAP-MED)	1	
9	Strategic Action Plan for the conservation of marine and coastal biodiversity in the Mediterranean – (SAP BIO (2003):	1	http://sapbio.rac-spa.org/sapbioeng.pdf
	SAP BIO update on climate change (2009)	2	http://www.rac-spa.org/sites/default/files/doc_climate_change/cca_med_adriatic.pdf http://www.rac-spa.org/sites/default/files/doc_climate_change/ccb_north_med_non_adriatic_and_israel.pdf http://www.rac-spa.org/sites/default/files/doc_climate_change/ccc_med_arab.pdf http://www.rac-spa.org/sites/default/files/doc_climate_change/ccd_synthesis.pdf
10	Regional Strategy for the Prevention of and Response to Marine Pollution from Ship (2016-2021)	1	http://www.rempec.org/rempec.asp?theIDS=1_87&theName=ABOUT%20REMPEC&theID=6&daChk=2&pgType=1
	Other Regional Frameworks		
11	Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas (RFCCA)	1	http://wedocs.unep.org/bitstream/id/56761/rccaf_eng.pdf
	Thematic Action Plan (AP)		
12	Sustainable Consumption and Production (SCP) AP	1	https://wedocs.unep.org/bitstream/handle/20.500.11822/20731/unepmap_SCP_AP_eng_web.pdf?sequence=1&isAllowed=y
13	Mediterranean Offshore AP in the framework the "Offshore Protocol"	1	http://www.rempec.org/rempec.asp?theIDS=1_165&theName=ABOUT%20REMPEC&theID=6&daChk=3&pgType=1
14	Mediterranean Strategy on Ships' Ballast Water Management	1	http://www.rempec.org/admin/store/wyswigImg/file/Prevention/Invasive%20species%20and%20ballast%20water/Strategy%20-%20ballast%20water/ANNEX%20II_Decision%2011%20-%20Ballast%20waters.pdf

Id	Document	Priority	Link
19	AP for the management of the Monk Seal	2	AP: http://www.rac-spa.org/sites/default/files/action_plans/monkap.pdf Strategy: http://www.rac-spa.org/sites/default/files/doc_monackus/monk_seal_strategy.pdf
20	AP for the conservation of marine turtles	2	AP: http://www.rac-spa.org/sites/default/files/action_plans/marine_turtles_ap_fr_en.pdf Timetable: http://www.rac-spa.org/sites/default/files/doc_turtles/turtles_timeplan.pdf
21	AP for the conservation of cetaceans	2	http://www.rac-spa.org/sites/default/files/action_plans/ap_cetaceans_en.pdf
22	AP for the conservation of marine vegetation	2	AP: http://www.rac-spa.org/sites/default/files/action_plans/apveg2012en.pdf Timetable: http://www.rac-spa.org/sites/default/files/doc_vegetation/veg_work_program_01_06_2012.pdf
23	AP for the conservation of bird species registered in annex II of the SPA/BD Protocol	2	AP: http://www.rac-spa.org/sites/default/files/action_plans/bird.pdf Timetable: http://www.rac-spa.org/sites/default/files/doc_birds/birds.pdf
24	AP for the conservation of cartilaginous fishes (*Chondrichtyans*) in the Mediterranean Sea	2	http://www.rac-spa.org/sites/default/files/action_plans/elasmo.pdf
25	AP concerning species introduction and invasive species	2	http://www.rac-spa.org/sites/default/files/action_plans/pa_alien_en.pdf
26	AP for the conservation of the coralligenous and other calcareous bio-concretions in the Mediterranean Sea	2	http://www.rac-spa.org/sites/default/files/action_plans/pa_coral_en.pdf
27	AP for the conservation of habitats and species associated with seamounts, underwater caves and canyons, aphotic hard beds and chemo-synthetic phenomena in the Mediterranean Sea	2	http://www.rac-spa.org/sites/default/files/action_plans/dark_habitats_ap.pdf
	Regional Plans (RP) adopted in line with the provisions under the SAP MED		
15	RP on Marine Litter Management in the Mediterranean	1	Decision IG.21/7 – Regional Plan on Marine Litter Management in the Mediterranean in the Framework of Article 15 of the Land Based Sources Protocol Decision IG.22/10 – Implementing the Marine Litter Regional Plan in the Mediterranean
28	RP on the reduction of inputs of Mercury; RP on the reduction of BOD5 in the food sector; on the phasing out of Hexabromodiphenyl ether, Hetabromodiphenyl ether, Tetrabromodiphenyl ether, and Pentabromodiphenil ether; RP on the on the phasing out of lindane and endosulfane; RP on the phasing out of perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride; RP on the elimination of Alpha hexachlorocyclohexane, Betahexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, and Pentachlorobenzene	2	Draft decision IG.20/8 – Regional Plans in the framework of Article 15 of the Land Based Sources and Activities Protocol of the Barcelona Convention
29	RP on the Phasing Out of DDT; RP on the reduction of BOD5 from urban waste water; RP on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, and Toxaphene	2	Decision IG.19/9 "Regional Plan on the phasing out of DDT in the framework of the implementation of Article 15 of the LBS Protocol" Decision IG.19/7 "Regional Plan on the reduction of BOD5 from urban waste water in the framework of the implementation of Article 15 of the LBS Protocol Decision IG.19/8 "Regional Plan on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex and Toxaphene in the framework of the implementation of Article 15 of the LBS Protocol"
	Roadmaps		
16	MPAs Roadmap	1	http://www.rac-spa.org/sites/default/files/action_plans/fdr_en.pdf
17	EcAp Implementation Roadmap	1	Decision IG.20/4 – Implementing MAP ecosystem approach roadmap: Mediterranean Ecological and Operational Objectives, Indicators and Timetable for implementing the ecosystem approach roadmap
	Others		
18	Progress Report on the implementation of Decision IG.22/7 on the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP)	1	

Table 2: Main international and EU references on the subject, to be considered to frame the detailed analysis

Id	For the overarching framework, International and EU level references	
a	UN Convention on the Law of the Sea (UNCLOS)	http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf
b	IMO system (conventions adopted under the auspices of IMO. i.e. MARPOL 73/78, London Convention and London Protocol)	http://www.imo.org Key IMO Conventions International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto and by the Protocol of 1997 (MARPOL) International Convention on Standards of Training, Certification and Watch keeping for Seafarers (STCW) as amended, including the 1995 and 2010 Manila Amendments Other conventions relating to maritime safety and security and ship/port interface Convention on the International Regulations for Preventing Collisions at Sea (COLREG), 1972 Convention on Facilitation of International Maritime Traffic (FAL), 1965 International Convention on Load Lines (LL), 1966 International Convention on Maritime Search and Rescue(SAR), 1979 Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA), 1988, and Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms located on the Continental Shelf (and the 2005 Protocols) International Convention for Safe Containers (CSC), 1972 Convention on the International Maritime Satellite Organization (IMSO C), 1976 The Torremolinos International Convention for the Safety of Fishing Vessels (SFV), 1977, superseded by the 1993 Torremolinos Protocol; Cape Town Agreement of 2012 on the Implementation of the Provisions of the 1993 Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels International Convention on Standards of Training, Certification and Watch keeping for Fishing Vessel Personnel (STCW-F), 1995 Special Trade Passenger Ships Agreement (STP), 1971 and Protocol on Space Requirements for Special Trade Passenger Ships, 1973 Other conventions relating to prevention of marine pollution International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (INTERVENTION), 1969 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (LC), 1972 (and the 1996 London Protocol) International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), 1990 Protocol on Preparedness, Response and Co-operation to pollution Incidents by Hazardous and Noxious Substances, 2000 (OPRC-HNS Protocol) International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS), 2001 International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 Conventions covering liability and compensation International Convention on Civil Liability for Oil Pollution Damage (CLC), 1969 1992 Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND 1992) Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (NUCLEAR), 1971 Athens Convention relating to the Carriage of Passengers and their Luggage by Sea (PAL), 1974 Convention on Limitation of Liability for Maritime Claims(LLMC), 1976 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS), 1996 (and its 2010 Protocol) International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 Nairobi International Convention on the Removal of Wrecks, 2007 Other subjects International Convention on Tonnage Measurement of Ships (TONNAGE), 1969 International Convention on Salvage (SALVAGE), 1989 Convention establishing IMO Convention on the International Maritime Organization

Id	For the overarching framework, International and EU level references	
c	Espoo Convention and Kiev Protocol (SEA/EIA)	http://www.unece.org/fileadmin/DAM/env/eia/Publications/2015/ECE.MP.EIA.21_Convention_on_Environmental_Impact_Assessment.pdf https://www.unece.org/fileadmin/DAM/env/eia/documents/legaltexts/protocolenglish.pdf
d	UNFCCC on climate change	https://unfccc.int Text of the Convention: http://unfccc.int/cop4/conv/conv_002.htm Kyoto Protocol: http://unfccc.int/cop4/resource/docs/cop3/l07a01.pdf
e	UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention)	https://www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf
f	Convention on Biological Diversity	https://www.cbd.int/convention/text/
g	Convention on the Conservation of Migratory Species of Wild Animals (CMS/Bonn Convention)	https://www.cms.int/sites/default/files/instrument/CMS-text.en_.PDF
h	Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)	https://www.coe.int/en/web/conventions/full-list/-/conventions/rms/0900001680078aff
i	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	https://www.cites.org/sites/default/files/eng/disc/CITES-Convention-EN.pdf
j	Conventions and instruments adopted under the auspices of FAO and the General Fisheries Commission for the Mediterranean Strategy	FAO Code of Conduct for Responsible Fisheries (CCRF) http://www.fao.org/3/a-i5450e.pdf http://www.fao.org/3/a-i7340e.pdf
k	EU Natura 2000 Directives (Birds and Habitat)	Birds Directive: http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm Habitat Directive: http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm
l	IMP	EU Integrated Maritime Policy, including the following extended list of documents (to be refined) Progress Report (11.09.2012) and Annex to the Progress Report (11.09.2012) Integrated Maritime Policy work programme (12.03.2012) Regulation (EU) No 1255/2011 of the European Parliament and of the Council of 30 November 2011 establishing a Programme to support the further development of an Integrated Maritime Policy (05.12.2011) Progress Report (15.10.2009) and Annex to the Progress Report listing all actions from the Action Plan (15.10.2009) "Blue Book" – Communication on an Integrated Maritime Policy for the European Union (10.10.2007) Guidelines to Member States on an Integrated Approach to Maritime Policy Communication on the international dimension of the Integrated Maritime Policy
m	EU Water Framework and Flood Directives	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32000L0060 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32007L0060
n	EU Marine Strategy Framework Directive	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0056
o	EU MSP Directive	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0089
p	The Common Fisheries Policy (CFP)	https://ec.europa.eu/fisheries/cfp_en

Table 3: Table template for the analysis of main documents (Table 1) for key interactions related to pressure and state/impacts elements of the ICZM Protocol

Interactions addressing *activities* at stake (**pressure**)

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
Coastal zone Landward	Specify the identified key interaction highlighted in red in the matrix of Figure 2 e.g. Agriculture	Specify the main related relevant provisions of the ICZM Protocol Art., co., lett.	Id. and Name of the relevant documents of Table 1	Brief description of the main relevant related elements.
Land-Sea Interface	Specify the identified key interaction highlighted in red in the matrix of Figure 2. e.g. Infrastructures: Ports, Coastal defence and other Coastal infrastructures	Art., co., lett.	Id. and Name of the relevant documents of Table 1	Brief description of the main relevant related elements.
Coastal zone Seaward	Specify the identified key interaction highlighted in red in the matrix of Figure 2. e.g. fishing	Art., co., lett.	Id. and Name of the relevant documents of Table 1	Brief description of the main relevant related elements.

Interactions related to ***state of*** and ***impacts on*** coastal and marine areas

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
Coastal zone Landward	Specify the identified key interaction highlighted in red in the matrix of Figure 2. e.g. coastal landscapes	Specify the main related relevant provisions of the ICZM Protocol Art., co., lett.	Id. and Name of the relevant documents of Table 1	Brief description of the main relevant related elements
Land-Sea Interface	Specify the identified key interaction highlighted in red in the matrix of Figure 2. e.g. coastal erosion	Art., co., lett.	Id. and Name of the relevant documents of Table 1	Brief description of the main relevant related elements
Coastal zone Seaward	Specify the identified key interaction highlighted in red in the matrix of Figure 2. e.g. marine habitats	Art., co., lett.	Id. and Name of the relevant documents of Table 1	Brief description of the main relevant related elements

4. Phase C – Process towards the Identification of Operational Recommendations

Based on results of Phases A and B, the third Phase (C) of the methodological guidance proposes a process towards the identification of operational recommendations to implement the CRF on ICZM towards the achievement of EcAp EOs. It is worthwhile to remember that the operational recommendations are strictly dependent on the **spatial** (regional, sub-regional, national, sub-national or local) and **temporal** (short, medium and long-term) **scale of analysis,** that shall be identified at the beginning of the methodological process. Moreover, they have to focus on the **elements of the ICZM Protocol which show most relevant interactions with the EcAp EOs** (priority interactions), according to the previous phases and for which policy documents are analysed in Phase B.

Operational recommendations are therefore expected to be developed for each priority interaction and in relation with **the first two main objectives of the CRF on ICZM (**provided the third objective on 'good governance' is cross-cutting the two others):

- Ensure sustainable development and integrity of the coastal zone, its ecosystems and related services and landscapes, in such a way to:
  - address the process through which relevant sectors can ensure sustainable use of natural resources; and
  - improve protection of coastal and marine ecosystems and the preservation of related ecosystem services.
- Address natural hazards and the effects of natural disasters – in particular coastal erosion and other climate-related impacts – thus contributing to reduce, as much as possible, the factors of risks, which can prevent the achievement of the EcAp EOs.

It should be noted that some of the selected elements could be subject to the same or similar recommendations. In this case it is recommended to cluster them, as in the examples of clustering reported in the following Boxes 2 and 3, respectively for coastal and maritime activities and natural and cultural elements considered by the ICZM Protocol.

Operational recommendations can be of different nature and are expected to focus on **assessment and management aspects**. As **governance** aspects are at the core of the ICZM Protocol and the CRF document, each of these operational recommendations should also be considered from a governance point of view for their proper implementation.

Once identified, operational recommendations can be organised in the common template proposed in Table 4. The template should be adapted to different scales, taking into consideration extrapolated lessons from national implementation in order to further develop the operational recommendations at i) national and sub-national level, with the short-term temporal perspective, and ii), regional and sub-regional level, on the long and medium temporal perspective.

The template is organised as follows:

- the first column identifies the priority interaction (or cluster of interactions) for which operational recommendations are developed;
- the second column contains the operational recommendations;
- the third column enables to propose progress indicators to monitor the implementation of each operational recommendations;
- the fourth and fifth columns are used to indicate to which main objective of the CRF for ICZM the proposed recommendation is related to: either one of the two or even both of them can be selected;
- columns from sixth to ninth are used to indicate to which clusters of EOs the proposed recommendation contributes to in terms of GES achievement;
- the tenth column can be used to specify the aspects covered by the identified operational recommendations: assessment (A), management (M) and/or governance (GO).

The proposed template should be finalised based on the results of its application. As mentioned in the introduction of this methodological guidance, the template might be part of an IT platform set up as an operational tool to support the implementation of the entire process; this will simplify its compilation and operational use.

As it is expressly mentioned in the CRF on ICZM main document, it is well-known and commonly acknowledged that coordination and integration (across vertical levels of governance and horizontally among different sectors) as well as stakeholder participation are essential components of the ICZM process. The implementation of all phases of this methodological guidance, and in particular Phase C, therefore, requires the creation or the use of an already shaped mechanisms enabling **stakeholder engagement and improving policies, strategies, plan and practices integration and coordination**. This will enable the co-generation of the operational recommendations and improve their ownership, which is essential for their implementation.

Step-wise approach of all three phases is shown in Figure 3.

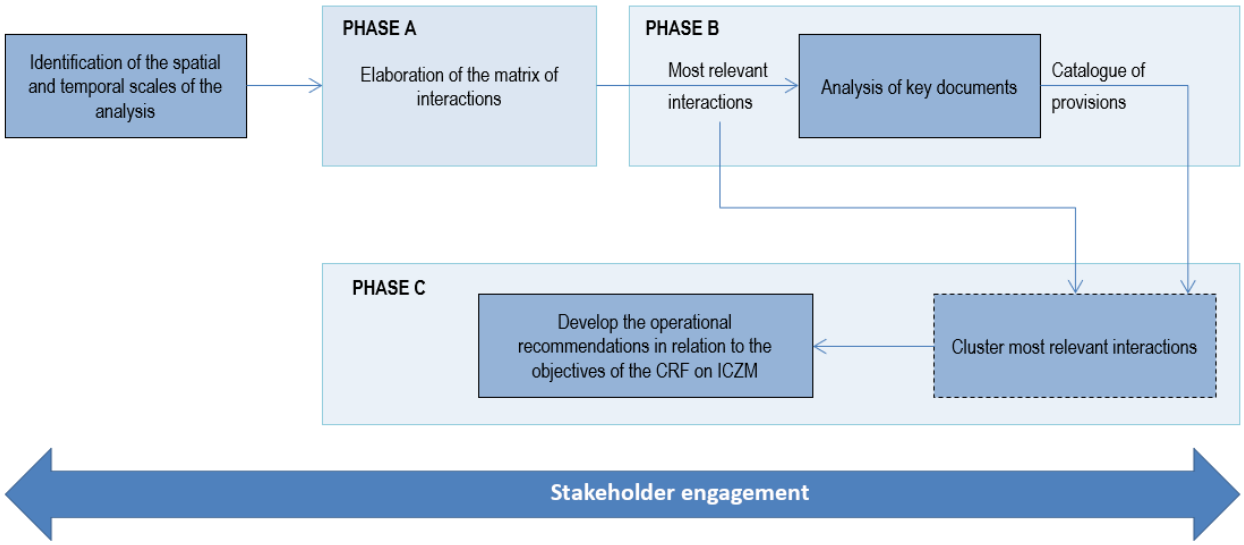

Figure 3: Step-wise process towards development of the operational recommendations

Box 2 – Example of clustering of coastal and maritime activities

Coastal and maritime activities (pressures) considered in the provisions of the ICZM Protocol can be clustered categorised as follows:

Landward activities, which can be further distinguished in:

- Land-based economic activities: (i) agriculture, with particular focus on hazardous substances and nutrients; (ii) industry, with particular focus on hazardous substances; (iii) mining, with particular focus on hazardous substances;
- Urban sprawl: focus on physical degradation (sediment turbidity) and production of wastes, hazardous substances (synthetic) and nutriments.

Activities mainly occurring at the land-sea interface, which are further distinguished in:

- Localised activities: (i) ports, coastal defence and other coastal infrastructures, with particular focus on physical degradation (sediment turbidity, abrasion of habitats) and hazardous substances; (ii) energy infrastructure along the coast, with particular focus on physical degradation and biological perturbation; (iii) desalination plants, with particular focus on biological perturbation;
- Diffuse activities: tourism and recreational activities on the coast. Focus on direct (disturbance, use of biotic resources, etc.) and indirect (increase production of contaminants and marine litter, etc.) impacts on fauna, flora and natural habitats.

Seaward activities, which are further distinguished in:

- Activities based on natural resource: (i) fishing, with particular focus on physical degradation (trawling) and biological perturbation; (ii) marine aquaculture, with particular focus on physical degradation and release of nutrients and hazardous waste.
- Activities based on hard infrastructure and solutions: (i) offshore energy, with particular focus on physical degradation and hazardous substances; (ii) sand extraction and mineral mining, with particular focus on physical degradation and hazardous substance; (iii) marine cables and pipelines, with particular focus on physical degradation and biological perturbation.

Vessel based activities: (i) tourism and recreational activities at the sea (including yachting and cruising), with particular focus on physical abrasion and disturb to fauna; (ii) shipping, with particular focus on noise pollution, waste and hazardous substances, disturb and direct impact (collision) to fauna, biological perturbation (introduction of non-indigenous species).

Box 3 – Example of sub-categories for the major category "Preserving the natural and cultural heritage and addressing risks"

State and impact issues (related to the natural environment and cultural heritage) considered in the provisions of the ICZM Protocol can be further categorised as follows:

- Preservation of biodiversity.
- Preservation of vulnerable ecosystems; the ICZM Protocol mentions the following specific coastal and marine ecosystems: coastal forests and woods, dunes, wetlands and estuaries, marine species and habitats, and islands.
- Preservation of cultural heritage, in particular the archaeological and historical heritage including the underwater cultural heritage.
- Preservation of coastal landscapes
- Improving knowledge on ecosystems, including: inventories, monitoring and observation mechanisms, and networks.
- Addressing risk, including in particular coastal erosion.

Table 4: Template for the identification of the operational recommendations

UNITED NATIONS ENVIRONMENT PROGRAMME MEDITERRANEAN ACTION PLAN									
			Objective of the CRF for ICZM		Clusters of Ecological Objectives				
Priority interactions (or cluster of interactions)	**Operational recommendations**	**Progress indicators**	**Sustainable Development and Integrity of the coastal zone**	**Addressing natural hazards and disasters**	**Biodiversity**	**Fisheries**	**Coast and Hydrography**	**Pollution and Litter**	**Nature of the recommendation**

Table 5: Analysis of main documents of Table 1 for interactions between ICZM issues and EOs (Figure 2).

Interactions addressing *activities* at stake (**pressure**)				
Identified interactions		**Relevant provisions of the ICZM Protocol**	**Relevant legal and policy instruments**	**Related provisions and guidelines**
Coastal zone Landward	Agriculture	Art. 9, co. 1 and 2, lett. a Art. 5, co. 1, lett. c (water use) and Art. 6 Art. 8 Articles 17 and 18; 14, 19 and 27	2. LBS Protocol	Articles 5, 7 and 15: Parties shall elaborate **action plans, programmes and measures** to reduce LBS pollution, with priority to toxic, persistent, liable to bioaccumulation substances. Article 6: point source discharge strictly subjected to authorization and regulation. **Agriculture and animal husbandry** (Annex I) are sectors of activity to be taken into consideration to this regard.
			8. SAP-MED	Chapter 5: **Targets and proposed activities** at regional and national levels for the prevention, reduction and elimination of pollution; to be implemented through NAP (Chapter 10). Section 5.2.5 provides specific targets and actions for (intensive) **agriculture** and aquaculture in relation to **nutrient loads**.
			12. SCP AP	Operational objectives and actions 1 – focused also on agriculture, e.g.: adopt **good agriculture practices** (1.1), **life cycle approach** in food and fisheries processing (1.1), **green financing for sustainable farming** (1.2), information and education **campaigns** (1.3), etc.
			15. RP on Marine Litter	Article 17: Major **agriculture stakeholders** shall be involved in the implement of the regional plan and related actions.
			28. RP on the reduction of inputs of Mercury; RP on the reduction of BOD5 in the food sector; on the phasing out of Hexabromodiphenyl ether, Hetabromodiphenyl ether, Tetrabromodiphenyl ether, and Pentabromodiphenil ether; RP on the on the phasing out of lindane and endosulfane; RP on the phasing out of perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride; RP on the elimination of Alpha hexachlorocyclohexane, Beta hexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, and Pentachlorobenzene. 29. RP on the Phasing Out of DDT; RP on the reduction of BOD5 from urban waste water; RP on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, and Toxaphene.	
			5. Hazardous Wastes Protocol	Article 8: regional cooperation for **clean production method** concerning wastes from production, formulation and use of **biocides and phytopharmaceuticals** (Annex I) in agriculture including land treatment (Annex III).
			1. SPA/BD Protocol	Even with respect to activities such as agriculture, all the necessary measures shall be taken to protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the environmental impact assessment (Art. 17).
			9. SAP BIO	SAP BIO is the **background document of CRF** and EcAp, which provides principles, measures and concrete and coordinated priority actions, relevant targets, objectives, and specific actions at national, transboundary and regional level for the **conservation of the Mediterranean marine and coastal biodiversity**, within the framework of sustainable use and through the implementation of the SPA/BD Protocol. **Objectives**: improving knowledge; management of Marine and Coastal PAs; protection of endangered species and habitats; reinforcement of legislation and capacity building; fund-raising efforts. Among others, endorses concrete and practical actions aiming at promoting bio-conservation-friendly sector policies, procedures and techniques, in particular related to **agriculture.**

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			7. MSSD 2016-2025	**Objective (Obj.) 1 (Sustainable Development Goal-SDG14)**: Ensuring sustainable development in marine and coastal areas. **Strategic Directions (SD)** complemented by national and regional actions: Strengthen implementation of and compliance with the Barcelona System and related; Establish and enforce regulatory mechanisms, including MSP, to prevent and control unsustainable open ocean resource exploitation. **Obj.2 (SDG 2, 15, 6)**: Promoting resource management, food production and food security through sustainable forms of rural development. **SD**: conservation and use of indigenous or traditional plant varieties and domestic animal breeds, valuing traditional knowledge and practices in rural management decisions, access of local producers to distribution channels and markets, including the tourism market. **Obj.4 (SDG 13)**: Addressing climate change as a priority issue for the Mediterranean. **SD**: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector. **Obj.5 (SDG 8 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
			11. RFCCA	Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: vulnerability and **interactions of sectors**, including **agriculture** and forestry, as well as of **water resource management**.
	Industry	Art. 9, co. 1 and 2, lett. a Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 27	2. LBS Protocol	Articles 5, 7 and 15: Parties shall elaborate **action plans, programmes and measures** to reduce LBS pollution, with priority to toxic, persistent, liable to bioaccumulation substances. Article 6: point source discharge strictly subjected to authorization and regulation. **Industry** (Annex I) is one of the sectors of activity to be taken into consideration to this regard.
			8. SAP-MED	Chapter 5: **Targets and proposed activities** at regional and national levels for the prevention, reduction and elimination of pollution, to be implemented through NAP (Chapter 10). Chapter 5.2 focuses on **industry**: (1) substances that are toxic, persistent and liable to bioaccumulation, (2) other heavy metals, (3) organohalogen compounds, (4) radioactive substances, (5) nutrients and suspended solids, (6) hazardous waste.
			12. SCP AP	Operational objectives and actions 2 – focused on goods manufacturing, e.g.: promote **Best Available Technologies** (BAT) and **Best Environmental Practices** (BEPs) (2.1), in particular in waste management, **cost accounting** and market-based instruments (2.2), etc.
			15. RP on Marine Litter	Article 17: Major **industry stakeholders** shall be involved in the implement of the regional plan and related actions. Article 9 Prevention of marine litter – (3g): establish procedures and manufacturing methodologies together with **plastic industry** to minimize the decomposing characteristics of plastics, to reduce micro-plastic.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			28. RP on the reduction of inputs of Mercury; RP on the reduction of BOD5 in the food sector; on the phasing out of Hexabromodiphenyl ether, Hetabromodiphenyl ether, Tetrabromodiphenyl ether, and Pentabromodiphenil ether; RP on the on the phasing out of lindane and endosulfane; RP on the phasing out of perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride; RP on the elimination of Alpha hexachlorocyclohexane, Beta hexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, and Pentachlorobenzene. 29. RP on the Phasing Out of DDT; RP on the reduction of BOD5 from urban waste water; RP on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, and Toxaphene.	
			5. Hazardous wastes Protocol	Article 8: regional cooperation for **clean production method** concerning all **hazardous wastes** (Annex I), all characteristics (Annex II), and all disposal operations listed (Annex III).
			1. SPA/BD Protocol	Even with respect to activities such as industry, all the necessary measures shall be taken to protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the environmental impact assessment (Art. 17).
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas. **SD**: Strengthen implementation of and compliance with the Barcelona System and related; Establish and enforce regulatory mechanisms, including MSP, to prevent and control unsustainable open ocean resource exploitation. **Obj. 5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
	Utilization of specific natural resources: mining	Art. 9, co. 1 and 2, lett. e Articles 5 and 6 Article 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 27	2. LBS Protocol	Articles 5, 7 and 15: Parties shall elaborate **action plans, programmes and measures** to reduce LBS pollution, with priority to toxic, persistent, liable to bioaccumulation substances. Article 6: point source discharge strictly subjected to authorization and regulation. **Mining** (Annex I) is one of the sectors of activity to be taken into consideration to this regard.
			12. SCP AP	Operational objectives and actions identified for good manufacturing (2) and for housing and construction (3) apply also to **mining**, as specified in the introduction.
			28. RP on the reduction of inputs of Mercury; RP on the reduction of BOD5 in the food sector; on the phasing out of Hexabromodiphenyl ether, Hetabromodiphenyl ether, Tetrabromodiphenyl ether, and Pentabromodiphenil ether; RP on the on the phasing out of lindane and endosulfane; RP on the phasing out of perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride; RP on the elimination of Alpha hexachlorocyclohexane, Beta hexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, and Pentachlorobenzene. 29. RP on the Phasing Out of DDT; RP on the reduction of BOD5 from urban waste water; RP on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, and Toxaphene.	
			5. Hazardous wastes Protocol	Article 8: regional cooperation for clean production method concerning residues arising from **industrial waste disposal operations** (Annex I), toxic and ecotoxic (Annex II), and deposit into or onto land (Annex III).

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			1. SPA/BD Protocol	Even with respect to activities such as the utilization of specific natural resources, in particular mining, all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value**. (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			7. MSSD 2016-2025	**Obj. 1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas. **SD**: Strengthen implementation of and compliance with the Barcelona System and related; Establish and enforce regulatory mechanisms, including MSP, to prevent and control unsustainable open ocean resource exploitation. **Obj. 5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
	Urban sprawl	Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 27	8. SAP-MED	Chapter 5: **Targets and proposed activities** at regional and national levels for the prevention, reduction and elimination of pollution, to be implemented through NAP (Chapter 10). Chapter 5.1 focuses on **urban environment**: (1) municipal sewage, (2) urban solid waste, (3) air pollution.
			12. SCP AP	Operational objectives and actions 4 – focused on housing and construction, e.g.: **sustainable coastal urban development and green construction** for efficient use or resources and protection of ecosystems (4.2).
			15. RP on Marine Litter	Article 9 Prevention of marine litter – (1): base urban solid waste management on reduction at source, (4) establish **urban sewer, wastewater treatment plants, and waste management systems** to prevent run-off and riverine inputs of litter.
			28. RP on the reduction of inputs of Mercury; RP on the reduction of BOD5 in the food sector; on the phasing out of Hexabromodiphenyl ether, Hetabromodiphenyl ether, Tetrabromodiphenyl ether, and Pentabromodiphenil ether; RP on the on the phasing out of lindane and endosulfane; RP on the phasing out of perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride; RP on the elimination of Alpha hexachlorocyclohexane, Beta hexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, and Pentachlorobenzene. 29. RP on the Phasing Out of DDT; RP on the reduction of BOD5 from urban waste water; RP on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, and Toxaphene.	
			5. Hazardous wastes Protocol	Article 8: regional cooperation for clean production method concerning **household wastes** (Annex I), infectious and ecotoxic substances (Annex II), surface impoundment and release into water body and into seas/oceans (Annex III).
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas. **SD**: Strengthen implementation of and compliance with the Barcelona System and related; Establish and enforce regulatory mechanisms, including MSP, to prevent and control unsustainable open ocean resource exploitation. **Obj.3 (SDG 11, 7)**: Planning and managing sustainable Mediterranean cities. **SD**: Apply holistic and integrated spatial planning processes; Encourage inclusive urbanization; Enhance urban resilience in order to reduce vulnerability to risks from natural and human-induced hazards; Promote the protection and rehabilitation of historic urban areas; the sustainable waste management; the urban spatial patterns and technological options

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
				that reduce the demand for transportation and stimulate sustainable mobility; the green buildings and reduce ecological footprint of the built environment. **Target**: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries; and substantially reduce waste generation through prevention, reduction, recycling and reuse. **Obj.4 (SDG 13)**: Addressing climate change as a priority issue for the Mediterranean. **SD**: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector. **Obj.6 (SDG 16, 17)**: Improving governance in support of sustainable development. **SD**: Enhance international dialogue and cooperation, including on emergency-preparedness; and the regional capabilities for information management; Promote stakeholder engagement to secure inclusive processes and integrity in decision-making; implementation and compliance with environmental obligations and agreements, including through policy coherence based on inter-ministerial coordination; education and research. **Target**: By 2025, two-thirds of Mediterranean countries have acceded to the Aarhus Convention.
			11. RFCCA	Strategic Direction 1.2 (Promoting adequate institutional and policy frameworks) – Priorities include: risk and impact assessment in relation to climate change prior to **major infrastructure investments** in coastal and marine areas. Strategic Direction 1.5 (Integrating climate adaptation into local plans for the protection and management of areas of special interest) – including **coastal mega-cities** Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: vulnerability and **interactions of sectors**, including **urbanization**.
Land-Sea Interface	Infrastructures: ports, coastal defence and other coastal infrastructures	Art. 9, co. 1 and 2, lett. f Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 27	2. LBS Protocol	Articles 5, 7 and 15: Parties shall elaborate **action plans, programmes and measures** to reduce LBS pollution, with priority to toxic, persistent, liable to bioaccumulation substances. Article 6: point source discharge strictly subjected to authorization and regulation. **Harbour operation** (Annex I) is one of the sectors of activity to be taken into consideration to this regard.
			8. SAP-MED	Harbours are **not expressly mentioned** in the SAP-MED when defining targets and proposed activities. However, harbours can be assimilated to industry (Chapter 5.2). They are also mentioned among **hot-spots** (chapter 11).
			15. RP on Marine Litter	Article 17: Major **maritime sector stakeholders** shall be involved in the implement of the regional plan and related actions. Article 9 Prevention of marine litter – (5): implement means to charge **cost for the use of port reception** facilities and apply **No-Special-Fee system**.
			5. Hazardous wastes Protocol	Article 6 relates to transboundary movement and notification procedures whilst Article 8 encourages regional cooperation for clean production method, and Article 9 condemn illegal traffic. Here are potentially concerned all hazardous wastes **including hydrocarbons** (Annex I), with varied hazardous characteristics (Annex II), and all operations listed in regard to resource recovery, recycling, reclamation, direct reuse or alternative uses.
			3. Prevention and Emergency Protocol	**Port reception facilities** (Article 14) are concerned in meeting the needs of ships: they should be adequate and operate efficiently to limit any impact of discharges to the marine environment.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			10. Strategy on pollution from ships	Under section 4, several **specific objectives** (Nb. 4, 5, 6) are directly related to **ports** including MoU on port State Control (4), provision of reception facilities in ports (5), and delivery of ship-generated wastes (6). This imply that each Contracting Party maintains its mandate to REMPEC (4), enabling the use of adequate reception and facilities at a reasonable fee for garbage, oily wastes, NLS, sewage, ozone-depleting substances and exhaust gas cleaning residues, ballast water and sediments (5), establishing a system of notification to a vessel's next port of call of the status of its on-board retention substances (6).
			14. Strategy on ballast water	In Annex I, two important **port-related 'Action points'** are mentioned: 1) for establishing a solid Port State Control and Compliance Monitoring and Enforcement (CME) system in the Mediterranean region, and 2) for establishing a survey, biological monitoring and risk assessment system for Mediterranean ports under the guidance of REMPEC.
			1. SPA/BD Protocol	Even with respect to infrastructures and the related activities, all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas **Obj.3 (SDG 11, 7)**: Planning and managing sustainable Mediterranean cities. **SD**: Apply holistic and integrated spatial planning processes; Encourage inclusive urbanization; Enhance urban resilience in order to reduce vulnerability to risks from natural and human-induced hazards; Promote the protection and rehabilitation of historic urban areas; the sustainable waste management; the urban spatial patterns and technological options that reduce the demand for transportation and stimulate sustainable mobility; the green buildings and reduce ecological footprint of the built environment. **Target**: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries; and substantially reduce waste generation through prevention, reduction, recycling and reuse. **Obj.4 (SDG 13)**: Addressing climate change as a priority issue for the Mediterranean. **SD**: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector. **Obj.5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			11. RFCCA	Strategic Direction 1.2 (Promoting adequate institutional and policy frameworks) – Priorities include: Integrated approach for the reduction of **non-climate related threats** that undermine the capacities of communities and ecosystems to adapt to climate change, including **damming**. Strategic Direction 1.2 (Promoting adequate institutional and policy frameworks) – Priorities include: risk and impact assessment in relation to climate change prior to **major infrastructure investments** in coastal and marine areas. Strategic Direction 3.1 – Priorities include: avoidance of maladaptive actions and **non-efficient "hard" infrastructures** to low-regret measures to improve climate resilience. Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: vulnerability and **interactions of sectors**, including **key infrastructure** and **transport**.
	Energy infrastructures along the coast	Art. 9, co. 1 and 2, lett. f Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 27	2. LBS Protocol	Articles 5, 7 and 15: Parties shall elaborate **action plans, programmes and measures** to reduce LBS pollution, with priority to toxic, persistent, liable to bioaccumulation substances. Article 6: point source discharge strictly subjected to authorization and regulation. **Energy production** (Annex I) is one of the sectors of activity to be taken into consideration to this regard.
			8. SAP-MED	**Energy production is considered within the industry sector**, for which Chapter 5.2 defines targets and proposed activities at regional and national levels for the prevention, reduction and elimination of pollution (See Industry), to be implemented through NAP (Chapter 10).
			28. RP on the reduction of inputs of Mercury; RP on the reduction of BOD5 in the food sector; on the phasing out of Hexabromodiphenyl ether, Hetabromodiphenyl ether, Tetrabromodiphenyl ether, and Pentabromodiphenil ether; RP on the on the phasing out of lindane and endosulfane; RP on the phasing out of perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride; RP on the elimination of Alpha hexachlorocyclohexane, Beta hexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, and Pentachlorobenzene. 29. RP on the Phasing Out of DDT; RP on the reduction of BOD5 from urban waste water; RP on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, and Toxaphene.	
			1. SPA/BD Protocol	Even with respect to energy infrastructures and the related activities, all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas. **Obj.5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			11. RFCCA	Strategic Direction 1.2 (Promoting adequate institutional and policy frameworks) – Priorities include: risk and impact assessment in relation to climate change prior to **major infrastructure investments** in coastal and marine areas. Strategic Direction 3.1 – Priorities include: avoidance of maladaptive actions and **non-efficient "hard" infrastructures** to low-regret measures to improve climate resilience. Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: vulnerability and **interactions of sectors**, including **energy**.
	Tourism, sporting, recreational activities: Activities along the coast	Art. 9, co. 1 and 2, lett. d Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 27	2. LBS Protocol	Articles 5, 7 and 15: Parties shall elaborate **action plans, programmes and measures** to reduce LBS pollution, with priority to toxic, persistent, liable to bioaccumulation substances. Article 6: point source discharge strictly subjected to authorization and regulation. **Tourism** (Annex I) is one of the sectors of activity to be taken into consideration to this regard.
			8. SAP-MED	In the Mediterranean region, **pollution related to the urban context is exacerbated by tourism**. This sector is considered in chapter 5 which identifies targets and proposed activities at regional and national levels for the prevention, reduction and elimination of pollution (see urban sprawl), to be implemented through NAP (Chapter 10).
			12. SCP AP	Operational objectives and actions 3 – focused on tourism, e.g.: **sustainable tourisms** and network of sustainable destinations (3.1), **diversification** (3.1), **eco-taxes and eco-fees** (3.2), tourism carrying capacity assessment (3.2), etc.
			15. RP on Marine Litter	Article 17: Major **tourism stakeholders** shall be involved in the implement of the regional plan and related actions.
			10. Strategy on pollution from ships	Under section 4, one specific objective (Nb.9) is related to the reduction of **pollution generated by pleasure craft activities**, more particularly (high priority) the implementation of the Guidelines concerning Pleasure Craft Activities and the Protection of the Marine Environment in conjunction with the relevant provisions of the MARPOL Convention and the Regional Plan on Marine Litter Management.
			1. SPA/BD Protocol	Even with respect to activities such as tourism, sporting etc., all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			9. SAP BIO	SAP BIO is the **background document of CRF** and EcAp, which provides principles, measures and concrete and coordinated priority actions, relevant targets, objectives, and specific actions at national, transboundary and regional level for the **conservation of the Mediterranean marine and coastal biodiversity**, within the framework of sustainable use and through the implementation of the SPA/BD Protocol. **Objectives**: improving knowledge; management of Marine and Coastal PAs; protection of endangered species and habitats; reinforcement of legislation and capacity building; fund-raising efforts. Among others, endorses concrete and practical actions aiming at promoting bio-conservation-friendly sector policies, procedures and techniques, in particular related to **tourism.**

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			16. MPAs Roadmap	The Roadmap includes recommended actions fully in line with the EcAp process, with the following main objectives (O): **O.3**: Promote the sharing of environmental and socio-economic benefits of Mediterranean MPAs and the MPAs integration into the broader context of sustainable use of the marine environment and the implementation of the ecosystem and MSP approaches. **Suggested actions**: Promote cross-sectorial policies and mechanisms for integrating the MPA national strategies and policies with other human activity sectors, in particular fisheries and tourism, through the development of appropriate governance frameworks, including the related legal and institutional arrangements. These could include, but will not be limited to, cross-sectorial coordination, MSP legislation, support groups from the business sectors for MPA management, and legal instruments for public-private partnerships.
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas. **SD**: Strengthen implementation of and compliance with the Barcelona System and related; Establish and enforce regulatory mechanisms, including MSP, to prevent and control unsustainable open ocean resource exploitation. **Obj.2 (SDG 2, 15, 6)**: Promoting resource management, food production and food security through sustainable forms of rural development. **SD**: access of local producers to distribution channels and markets, including the tourism market. **Obj.4 (SDG 13)**: Addressing climate change as a priority issue for the Mediterranean. **SD**: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector. **Obj.5 (SDG 8, 9, 12**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
			11. RFCCA	Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: vulnerability and **interactions of sectors**, including **tourism**.
	Utilization of specific natural resources: desalination plants	Art. 9, co. 1 and 2, lett. e Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 27	1. SPA/BD Protocol	Even with respect to the utilization of specific natural resources and the related activities, all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
				Obj.5 (SDG 8, 9, 12: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
Coastal zone Seaward	Fishing	Art 9, co. 1 and 2, lett. b Articles 5 and 6 Art. 8, co. 1 Articles 17 and 18; 14, 19 and 29, 27 and 28	12. SCP AP	Operational objectives and actions 1 – focused also on fisheries, e.g.: **adopt sustainable fishing practices** (1.1), **life cycle approach** in food and fisheries processing (1.1), **green financing** for sustainable fisheries (1.2), information and education **campaigns** (1.3).
			15. RP on Marine Litter	Article 17 – Major **fisheries stakeholders** shall be involved in the implement of the regional plan and related actions. Article 9 Prevention of marine litter – (3e): establishment of deposits, return and restoration system for expandable **polystyrene boxes**; (6) implement the **fishing for litter** practice; (7) implement "**gear marking** to indicate ownership" and "**environmental neutral** upon degradation nets and traps" concepts.
			6. Dumping Protocol	Article 4: Dumping of wastes and other matter from ships and aircraft is prohibited with the exception of those in Article 4.2, which also include **fish waste and organic materials** resulting from the processing of fish and other marine organisms. Their dumping requires **special permit** (Article 5).
			5. Hazardous wastes Protocol	Article 8 encourage regional cooperation for clean production method concerning **waste oils/water, hydrocarbons/water mixtures** (Annex I) of ecotoxic nature (Annex II), and **disposal operations** including release into a water body (port); release into the sea (Annex III).
			13. Offshore AP	Appendix III Indicative Potential Research and Development Topic: **Fisheries**: Short-term and long-term impact of the oil and gas (O&G) industry on Mediterranean fisheries.
			1. SPA/BD Protocol	Even with respect to fishing and the related activities, all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			9. SAP BIO	SAP BIO is the **background document of CRF** and EcAp, which provides principles, measures and concrete and coordinated priority actions, relevant targets, objectives, and specific actions at national, transboundary and regional level for the **conservation of the Mediterranean marine and coastal biodiversity**, within the framework of sustainable use and through the implementation of the SPA/BD Protocol. **Objectives**: improving knowledge; management of Marine and Coastal PAs; protection of endangered species and habitats; reinforcement of legislation and capacity building; fund-raising efforts. Among others, endorses concrete and practical actions aiming at promoting bio-conservation-friendly sector policies, procedures and techniques, in particular related to **fisheries.**
			16. MPAs Roadmap	The Roadmap includes recommended actions fully in line with the EcAp process, with the following main objectives (O):

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
				O.3: Promote the sharing of environmental and socio-economic benefits of Mediterranean MPAs and the MPAs integration into the broader context of sustainable use of the marine environment and the implementation of the ecosystem and MSP approaches. **Suggested actions**: Promote cross-sectorial policies and mechanisms for integrating the MPA national strategies and policies with other human activity sectors, in particular **fisheries** and tourism, through the development of appropriate governance frameworks, including the related legal and institutional arrangements. These could include, but will not be limited to, cross-sectorial coordination, MSP legislation, support groups from the business sectors for MPA management, and legal instruments for public-private partnerships.
			25. AP concerning species introduction and invasive species	
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas. **SD**: Strengthen implementation of and compliance with the Barcelona System and relates; Establish and enforce regulatory mechanisms, including MSP, to prevent and control unsustainable open ocean resource exploitation. **Target**: By 2020, effectively regulate harvesting and end over fishing, IUU fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristic. **Obj.2 (SDG 2, 15, 6)**: Promoting resource management, food production and food security through sustainable forms of rural development. **SD**: conservation and use of indigenous or traditional, domestic animal breeds, valuing traditional knowledge and practices in rural management decisions, access of local producers to distribution channels and markets, including the tourism market. **Obj.4 (SDG 13)**: Addressing climate change as a priority issue for the Mediterranean. **SD**: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector. **Obj.5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
			11. RFCCA	Strategic Direction 1.2 (Promoting adequate institutional and policy frameworks) – Priorities include: Integrated approach for the reduction of **non-climate related threats** that undermine the capacities of communities and ecosystems to adapt to climate change, including **overfishing**. Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: vulnerability and **interactions of sectors**, including **fisheries**.
	Aquaculture	Art 9, co. 1 and 2, lett. b	2. LBS Protocol	Articles 5, 7 and 15: Parties shall elaborate **action plans, programmes and measures** to reduce LBS pollution, with priority to toxic, persistent, liable to bioaccumulation substances. Article 6: point source discharge strictly

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
		Articles 5 and 6 Art. 8, co. 1 Art 23, co. 2 Articles 17 and 18; 14, 19 and 29, 27 and 28		subjected to authorization and regulation. **Aquaculture** (including mariculture?) is a sector of activity to be taken into consideration to this regard.
			8. SAP-MED	Chapter 5: **Targets and proposed activities** at regional and national levels for the prevention, reduction and elimination of pollution. Section 5.2.5 provides specific targets and actions for agriculture and (intensive) aquaculture (including mariculture?) in relation to **nutrient loads,** to be implemented through NAP (Chapter 10).
			12. SCP AP	Operational objectives and actions 1 identified for fisheries apply also to **aquaculture**, as specified in the introduction.
			15. RP on Marine Litter	Article 17 – Major **aquaculture stakeholders** shall be involved in the implement of the regional plan and related actions. Some of article 9 actions on fisheries are also relevant for aquaculture.
			5. Hazardous wastes Protocol	Article 8 encourage regional cooperation for clean production method regarding **waste pharmaceuticals (antibiotics)** (Annex I), of ecotoxic nature (Annex II), released into seas/oceans (Annex III).
			1. SPA/BD Protocol	Even with respect to aquaculture and the related activities, all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			7. MSSD 2016-2025	**Obj.1 (SDG 14):** Ensuring sustainable development in marine and coastal areas **Obj.2 (SDG 2, 15, 6):** Promoting resource management, food production and food security through sustainable forms of rural development. **SD**: conservation and use of indigenous or traditional, domestic animal breeds, valuing traditional knowledge and practices in rural management decisions, access of local producers to distribution channels and markets, including the tourism market. **Obj.4 (SDG 13)**: Addressing climate change as a priority issue for the Mediterranean. **SD**: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector. **Obj.5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
	Tourism, sporting, recreational activities: yachting and cruising	Art. 9, co. 1 and 2, lett. d Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 29, 27 and 28	12. SCP AP	Operational objectives and actions 3 – focused on tourism, e.g.: **sustainable tourisms** and network of sustainable destinations (3.1), **diversification** (3.1), **eco-taxes and eco-fees** (3.2), tourism carrying capacity assessment (3.2), etc.
			15. RP on Marine Litter	Article 17: Major **tourism stakeholders** shall be involved in the implement of the regional plan and related actions.
			6. Dumping Protocol	Article 3: Provision of the Protocol also applies to **yachting and cruising** vessels. Dumping of wastes and other matter is prohibited (See "*Maritime activities: shipping*" for more information).
			10. Strategy on pollution from ships	Under section 4, one specific objective (Nb.9) is related to the **reduction of pollution generated by pleasure craft activitie**s, more particularly (high priority) the implementation of the Guidelines concerning Pleasure Craft Activities and the Protection of the Marine Environment in conjunction with the relevant provisions of the MARPOL Convention and the Regional Plan on Marine Litter Management.
			1. SPA/BD Protocol	Even with respect to tourism, sporting etc., all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			9. SAP BIO	SAP BIO is the **background document of CRF** and EcAp, which provides principles, measures and concrete and coordinated priority actions, relevant targets, objectives, and specific actions at national, transboundary and regional level for the **conservation of the Mediterranean marine and coastal biodiversity**, within the framework of sustainable use and through the implementation of the SPA/BD Protocol. **Objectives**: improving knowledge; management of Marine and Coastal PAs; protection of endangered species and habitats; reinforcement of legislation and capacity building; fund-raising efforts. Among others, endorses concrete and practical actions aiming at promoting bio-conservation-friendly sector policies, procedures and techniques, in particular related to **tourism.**
			16. MPAs Roadmap	The Roadmap includes recommended actions fully in line with the EcAp process, with the following main objectives (O): **O.3**: Promote the sharing of environmental and socio-economic benefits of Mediterranean MPAs and the MPAs integration into the broader context of sustainable use of the marine environment and the implementation of the ecosystem and MSP approaches. **Suggested actions**: Promote cross-sectorial policies and mechanisms for integrating the MPA national strategies and policies with other human activity sectors, in particular fisheries and **tourism**, through the development of appropriate governance frameworks, including the related legal and institutional arrangements. These could include, but will not be limited to, cross-sectorial coordination, MSP legislation, support groups from the business sectors for MPA management, and legal instruments for public-private partnerships.
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas **Obj.4 (SDG 13)**: Addressing climate change as a priority issue for the Mediterranean. **SD**: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
				mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector. **Obj.5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
			11. RCCAF	Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: vulnerability and **interactions of sectors**, including **tourism**.
	Maritime activities: shipping	Art 9, co. 1 and 2, lett. f and g Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 29, 27 and 28	12. SCP AP	Transport is one of the **transversal issues** (chapter 2) considered by the SCP AP and therefore approach by each of the 4 priority areas.
			15. RP on Marine Litter	Article 17 – Major **maritime sector stakeholders** shall be involved in the implement of the regional plan and related actions. See also actions related to ports (article 9).
			6. Dumping Protocol	Article 4: **Dumping of wastes** and other matter from **ships and aircraft is prohibited** with the exception of those in art. 4.2 (dredged material, fish waste and organic materials resulting from the processing of fish, vessels until 31.12.2000, platforms and other man-made structures under specific conditions). Their dumping requires **special permit** (article 5).
			5. Hazardous wastes Protocol	Transboundary movement and notification procedures are described in Article 6, whilst Article 8 encourage regional cooperation for **clean production method, fight against illegal traffic** (Article 9), in regard of potentially all wastes identified (Annex I), with hazardous characteristics listed in Annex II, mainly release into a water body (port) and into seas/oceans (Annex III).
			3. Prevention and Emergency Protocol	Article 7 encourage disseminating and sharing information about new ways in which pollution from ships may be avoided, new measures for **combating pollution**, new developments in monitoring and research programmes, whilst Article 10 give the **operational measures**: any Party shall make the necessary assessments of nature, extent and possible consequences of pollution incident. As regards **emergency measures** (Article 11), necessary steps are to be taken to ensure that ships flying its flag have on board a pollution emergency plan, whilst environmental risks (Article 15) include the assessment of environmental risks of recognized routes used in maritime traffic.
			10. Strategy on pollution from ships	Two specific objectives (Nb. 10 and 11) are directly related to shipping by **reducing the risk of collisions** by establishing Ship's Routeing Systems (10), and by **improving control of maritime traffic** (11). Where necessary, where and when possible, Contracting Parties should propose to IMO additional appropriate Routeing Systems in accordance with international law and through articulated Marine Spatial Plans (MSP) under their jurisdiction (10), and should continuously improve technical cooperation among VTS Centres and exchange information about ships by using AIS in the common surveillance area (11).
			14. Strategy on ballast water	In Annex I, there are two important shipping-related 'Action Points': 1) **ratification by Contracting Parties of the International Convention** for the Control and Management of Ships' ballast water and sediments (BWM Convention), and 2) adoption of **harmonised arrangements for ballast water exchange** in the Mediterranean with support from REMPEC.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			1. SPA/BD Protocol	Even with respect to shipping, all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas. **Obj.5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
			11. RFCCA	Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: vulnerability and **interactions of sectors**, including **transport**.
	Maritime activities: offshore energy (oil and gas, renewables)	Art 9, co. 1 and 2, lett. f and g Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 29, 27 and 28	2. LBS Protocol	Article 4: The Protocol also applies to polluting discharges from **fixed man-made offshore structures** other than those used for exploration and exploitation of mineral resources; to be taken into account in action plans, programmes and measures for the elimination of LBS pollution (Article 5), with priority to toxic, persistent, liable to bioaccumulation substances.
			15. RP on Marine Litter	Article 17: Major **maritime sector stakeholders** shall be involved in the implement of the regional plan and related actions.
			6. Dumping Protocol	Article 3: Provision of the Protocol also applies to **platforms and other man-made structures** at sea and their equipment. Dumping of wastes and other matter from ships and aircraft is in prohibited (See "*Maritime activities: shipping*" for more information).
			5. Hazardous wastes Protocol	Article 8 stipulate regional cooperation for clean production method essentially regarding **waste oils/water, hydrocarbons/water mixtures (**Annex I), of ecotoxic nature (Annex II), through disposal operations like release into a water body (port), release into the sea (Annex III).
			4. Offshore Protocol	**Measures for pollution** (the use, storage and discharge of harmful or noxious substances and materials) resulting from activities concerning exploration and/or exploitation of the resources shall be adopted, using best available, environmentally effective and economically appropriate techniques; required the **removal of installations**, including pipelines, abandoned or disused, taking into account existing guidelines and standards. (Articles 1, 3, 4, 5 and 6, 20; Section III, articles 8-14). Sanctions shall be prescribed to be imposed for breach of obligations (Art 7). **Safety measures** shall be taken with regard to the design, construction, placement, equipment, marking, operation and maintenance of installations, having adequate equipment and devices to prevent and combat accidental pollution and facilitating prompt response to an emergency; the related contingency plans shall be coordinated and established in accordance with guidelines adopted by the competent international organisation and with the provisions of Annex VII of the Offshore Protocol (Articles 15 and 16, Annex VII).

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			13. Offshore AP	The AP aims to develop in conformity with EcAp and its relevant indicators a regional commonly agreed reporting and monitoring. **Specific objective (SO) 1**: To ratify the Offshore Protocol. **SO 2**: To designate CPs' Representatives to participate to the regional governing bodies. **SO 3**: To establish a technical cooperation and CB programme, to cooperate with a view to formulating and implementing programmes of assistance to DCs. **SO 4:** To mobilise resources for the implementation of the AP. **SO 5**: To promote access to information and public participation in decision-making. **SO 6**: To enhance the regional transfer of technology. **SO 7**: To develop and adopt regional offshore standards. In particular: a) EIA regional standards developed based on existing ones; b) Common standards, on the use and discharge of harmful or noxious substances and material, in line with relevant international standards and conventions defining inter alia limits and prohibitions at regional level formulated and adopted; c) Identification of the required modifications of Annex I, II and III and definition of which chemicals should be covered and not covered by such standards and under which conditions; d) Common standards on the disposal of oil and oily mixtures and on the use and disposal of drilling fluids and cutting formulated and adopted, and revision of the limits set in Article 10 of the Offshore Protocol and the prescriptions referred in Annex V of the Protocol; e) The method to be used to analyse the oil content is commonly agreed and adopted; f) Procedures for contingency planning, notification of accidental spills and transboundary pollution established in accordance with the Emergency Protocol; g) Special restrictions or conditions for SPAs defined and adopted; h) Common criteria, rules and procedures for the removal of installations and the related financial aspects adopted; i) Common criteria, rules and procedures for safety measures including health and safety requirements adopted; j) Common minimum standards of qualification for professionals and crews adopted. **SO 8**: To develop and adopt regional offshore guidelines. In particular: ▪ Regional Guidelines: a) on EIA; b) on the use and discharge of harmful or noxious substances and material; c) on the disposal of oil and oily mixtures and the use and disposal drilling fluids and cutting and analytical measurement; d) on removal of installations and the related financial aspects; e) on installation safety measures including health and safety requirements; f) on minimum standards of qualification for professionals and crews; g) on authorisation requirements based on the abovementioned Standards; ▪ A report assessing national, regional and international rules, procedures and practices regarding liability and compensation for loss and damage resulting from the activities dealt with in the Offshore Protocol.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
				SO 9: To establish regional offshore monitoring procedures and programmes, to be developed in line with the EcAp Roadmap and in particular with the Integrated Monitoring and Assessment Programme. **SO 10**: To report on the implementation of the Action Plan.
			1. SPA/BD Protocol	Even with respect to maritime activities such as offshore energy, all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			27. AP for the conservation of habitats and species associated with seamounts, underwater caves and canyons, aphotic hard beds and chemo-synthetic phenomena in the Mediterranean Sea.	
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas. **SD**: Strengthen implementation of and compliance with the Barcelona System and relates; Establish and enforce regulatory mechanisms, including MSP, to prevent and control unsustainable open ocean resource exploitation. **Obj.5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
			11. RFCCA	Strategic Direction 1.2 (Promoting adequate institutional and policy frameworks) – Priorities include: risk and impact assessment in relation to climate change prior to **major infrastructure investments** in coastal and marine areas. Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: vulnerability and **interactions of sectors**, including **energy**.
	Utilization of specific natural resources: sand extraction and mineral mining	Art. 9, co. 1 and 2, lett. e Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 29, 27 and 28	15. RP on Marine Litter	Article 9 Prevention of marine litter – (8): measures to prevent **marine littering from dredging** activities in line with guidelines developed in the frame of the dumping protocol.
			5. Hazardous wastes Protocol	Article 8 stipulate regional cooperation for clean production method regarding **wastes with heavy metals** (Annex I), of ecotoxic nature (Annex II), when release into seas/oceans (Annex III).
			1. SPA/BD Protocol	Even with respect to the utilization of natural resources such as sand extraction and mineral mining, all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			27. AP for the conservation of habitats and species associated with seamounts, underwater caves and canyons, aphotic hard beds and chemo-synthetic phenomena in the Mediterranean Sea.	

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas. **SD**: Strengthen implementation of and compliance with the Barcelona System and relates; Establish and enforce regulatory mechanisms, including MSP, to prevent and control unsustainable open ocean resource exploitation. **Obj.5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
			11. RFCCA	Strategic Direction 1.2 (Promoting adequate institutional and policy frameworks) – Priorities include: Integrated approach for the reduction of **non-climate related threats** that undermine the capacities of communities and ecosystems to adapt to climate change, including **sand mining** (at land?).
	Maritime activities: cables and pipelines	Art. 9, co. 1 and 2, lett. f and g Articles 5 and 6 Art. 8 Art 23, co. 2 Articles 17 and 18; 14, 19 and 29, 27 and 28	4. Offshore Protocol	**Measures for pollution** (the use, storage and discharge of harmful or noxious substances and materials) resulting from activities concerning exploration and/or exploitation of the resources shall be adopted, using best available, environmentally effective and economically appropriate techniques; required the **removal of installations**, including pipelines, abandoned or disused, taking into account existing guidelines and standards. (Articles 1, 3, 4, 5 and 6, 20; Section III, articles 8-14). Sanctions shall be prescribed to be imposed for breach of obligations (Art 7). **Safety measures** shall be taken with regard to the design, construction, placement, equipment, marking, operation and maintenance of installations, having adequate equipment and devices to prevent and combat accidental pollution and facilitating prompt response to an emergency; the related contingency plans shall be coordinated and established in accordance with guidelines adopted by the competent international organisation and with the provisions of Annex VII of the Offshore Protocol (Articles 15 and 16, Annex VII).
			1. SPA/BD Protocol	Even with respect to maritime activities, all the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).
			7. MSSD 2016-2025	**Obj.1 (SDG 14)**: Ensuring sustainable development in marine and coastal areas. **Obj.5 (SDG 8, 9, 12)**: Transition towards a green and blue economy. **SD**: Create green and decent jobs for all; Review the definitions and measurement of development, progress and well-being; Promote sustainable consumption and production patterns; Encourage environmentally-friendly and social innovation; Promote the integration of sustainability principles and criteria into decision-making on public and private investment; Ensure a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities. **Target**: By 2025, the majority of Mediterranean Countries are committed to green or sustainable public procurement programmes.
			27. AP for the conservation of habitats and species associated with seamounts, underwater caves and canyons, aphotic hard beds and chemo-synthetic phenomena in the Mediterranean Sea.	

Interactions related to ***state of*** and ***impacts on*** coastal and marine areas

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
Coastal zone Landward	Coastal landscapes	Art. 11 Articles 5 and 6 Art. 8, co. 1 Art 23 Articles 17 and 18; 14, 19 and 29, 27 and 28	15. RP on Marine Litter	Article 10 – (c) **international coastal clean-up campaigns**; (d) "**Adopt a beach**" and similar practices to enhance awareness. Article 11 – (1) assess state of marine litter and the **impacts** of marine litter on the coastal and marine environment.
			1. SPA/BD Protocol	All the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17). All the necessary **protection measures** shall be taken (Articles 6, 7, 11, 12 and 13, 15 and 16, 18) including continuous monitoring of ecological processes, population dynamics, landscapes, as well as the impacts of human activities (Article 7b).
			7. MSSD 2016-2025	Obj.1 (SDG 14): Ensuring sustainable development in marine and coastal areas Obj.4 (SDG 13): Addressing climate change as a priority issue for the Mediterranean. SD: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector.
	Coastal forests and woods	Art. 10, co. 3	1. SPA/BD Protocol	All the necessary measures shall be taken **to protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17). All the necessary **protection measures** shall be taken (Articles 6, 7, 11, 12 and 13, 15 and 16, 18) including continuous monitoring of ecological processes, population dynamics, landscapes, as well as the impacts of human activities (Article 7b).
Land-Sea Interface	Wetland and estuaries	Art. 10, co. 1 Articles 5 and 6 Art. 8 Articles 17 and 18; 14, 19, 27	8. SAP-MED	In Chapter 5, the SAP-MED identified targets and priorities for the prevention, reduction and elimination of pollution. Chapter 5.3 focuses on physical alteration and destruction of habitats, with the aim of safeguarding ecosystem functions, habitats and species. **ICZM programmes are among proposed activities.**
			12. SCP AP	Introduction – SCP AP addresses **key human activities** (food, fisheries and agriculture; goods manufacturing; tourism; housing and construction) which have impact on the marine and coastal environment; these are main upstream drivers of pollution generation and pressures on ecosystems.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			28. RP on the reduction of inputs of Mercury; RP on the reduction of BOD5 in the food sector; on the phasing out of Hexabromodiphenyl ether, Hetabromodiphenyl ether, Tetrabromodiphenyl ether, and Pentabromodiphenil ether; RP on the on the phasing out of lindane and endosulfane; RP on the phasing out of perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride; RP on the elimination of Alpha hexachlorocyclohexane, Beta hexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, and Pentachlorobenzene. 29. RP on the Phasing Out of DDT; RP on the reduction of BOD5 from urban waste water; RP on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, and Toxaphene.	
			5. Hazardous wastes Protocol 3. Prevention and Emergency Protocol	The 2017 Mediterranean Quality Status Report indicate heavy metal in coastal sediment (riverine inputs and coastal diffuse runoff; urban and industrial areas; shipping and port development), with chronic sources (illicit discharges) from ships (though source from accidents is decreasing). **Monitoring must be developed in heavy populated areas like estuaries and wetlands.**
			1. SPA/BD Protocol	All the necessary measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17). All the necessary **protection measures** shall be taken (Articles 6, 7, 11, 12 and 13, 15 and 16, 18).
			7. MSSD 2016-2025	**Obj.1 (SDG 14):** Ensuring sustainable development in marine and coastal areas. **Obj.4 (SDG 13):** Addressing climate change as a priority issue for the Mediterranean. **SD**: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector.
			11. RFCCA	Introduction – the main objective of the RCCAF is to set a strategic approach to increase the resilience of the **Mediterranean marine and coastal natural** and socio-economic **systems** to climate change. Strategic Direction 1.5 (Integrating climate adaptation into local plans for the protection and management of areas of special interest) – including nature reserve, biodiversity and other **natural hot-spots.** Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: mapping and resilience role of coastal ecosystems, seal level rise and saltwater intrusion affecting groundwater and wetlands.
	Dunes	Art. 10, co. 4 Articles 5 and 6	1. SPA/BD Protocol	All the necessary measures shall be taken to protect, **preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17).

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
				All the necessary **protection measures** shall be taken (Articles 6, 7, 11, 12 and 13, 15 and 16, 18) including continuous monitoring of ecological processes, population dynamics, landscapes, as well as the impacts of human activities (Article 7b).
			9. SAP BIO	SAP BIO is the **background document of CRF** and EcAp, which provides principles, measures and concrete and coordinated priority actions, relevant targets, objectives, and specific actions at national, transboundary and regional level for the **conservation of the Mediterranean marine and coastal biodiversity**, within the framework of sustainable use and through the implementation of the SPA/BD Protocol. **Objectives:** improving knowledge; management of Marine and Coastal PAs; protection of endangered species and habitats; reinforcement of legislation and capacity building; fund-raising efforts. Among others, endorses concrete and practical actions aiming at reducing the causes, modification of conditions (stress reduction), prevention or mitigation of impacts, that are adverse for **biodiversity conservation**; implementing comprehensive joint actions of relevant MAP centres and programmes concerning wider aspects of biodiversity conservation; promoting and implementing participatory actions, programmes and campaigns; information and raising of public awareness concerning **biodiversity conservation**.
	Coastal erosion	Art. 23 Articles 5 and 6 Art. 8 Articles 17 and 18; 14, 19 and 27	7. MSSD 2016-2025	**Obj.1 (SDG 14):** Ensuring sustainable development in marine and coastal areas. **Obj.4 (SDG 13):** Addressing climate change as a priority issue for the Mediterranean. **SD**: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector.
			11. RFCCA	Strategic Direction 1.2 (Promoting adequate institutional and policy frameworks) – Priorities include: integrated approach for the reduction of **non-climate related threats** that undermine the capacities of communities and ecosystems to adapt to climate change, including **sand mining and damming**. Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: patterns affecting **shoreline dynamics**.
Coastal zone Seaward	Marine habitats and species	Art 10, co. 2 Art 16, co. 1 (inventories) Articles 5 and 6 Art. 8 Articles 17 and 18; 14, 19 and 29, 27 and 28	2. LBS Protocol	Potential **impacts on marine ecosystems, habitats and species** (Annex II) shall be taken in consideration when applying the Protocol and in particular when authorizing point source discharge (Article 6).
			8. SAP-MED	In Chapter 5, the SAP-MED identified targets and priorities for the prevention, reduction and elimination of pollution, considering these factors: (i) **degradation of the marine environment**, (ii) **perturbation of the biological diversity**, (iii) land-based origin, (iv) transboundary nature (Chapter 4). Chapter 5.3 focuses on physical alteration and destruction of habitats, with the aim of safeguarding the ecosystem functions, habitats and species. **ICZM programmes are among proposed activities.**
			12. SCP AP	Introduction – SCP AP addresses **key human activities** (food, fisheries and agriculture; goods manufacturing; tourism; housing and construction) which have impact on the marine and coastal environment; these are main upstream drivers of pollution generation and pressures on ecosystems.
			15. RP on Marine Litter	Article 4 – Objective (a): prevent and reduce **marine litter pollution** in the Mediterranean and its impact on ecosystem services, habitats and species.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
				Article 10 – (a) identify **hot spots of marine litter** and implement programmes for their removal; (b) **national marine litter clean-up campaigns**. Article 11 – (1) assess state of marine litter and the **impacts** of marine litter on the coastal and marine environment.
			28. RP on the reduction of inputs of Mercury; RP on the reduction of BOD5 in the food sector; on the phasing out of Hexabromodiphenyl ether, Hetabromodiphenyl ether, Tetrabromodiphenyl ether, and Pentabromodiphenil ether; RP on the on the phasing out of lindane and endosulfane; RP on the phasing out of perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride; RP on the elimination of Alpha hexachlorocyclohexane, Beta hexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, and Pentachlorobenzene. 29. RP on the Phasing Out of DDT; RP on the reduction of BOD5 from urban waste water; RP on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, and Toxaphene.	
			6. Dumping Protocol	Dumping of wastes and other materials is prohibited (Article 4). Dumping (Article 3) is defined as any "**deliberate disposal at sea** of wastes or other matter from ships and aircraft" as well as any "deliberate disposal or storage and burial of wastes or other matter on the **seabed** or in the marine subsoil". Protection of marine habitats is one goal of the Protocol.
			5. Hazardous wastes Protocol 3. Prevention and Emergency Protocol	**Chronic sources** (illicit discharges) from ships whilst source from accidents is decreasing (2017 Mediterranean Quality Status Report).
			10. Strategy on pollution from ships	Under section 4, there are 3 **specific objectives related to habitats and marine life** (Nb. 2, 12, 13) regarding **ships' biofouling** in order to minimize the transfer of invasive aquatic species (2), the identification of **Particularly Sensitive Sea Areas** –PSSA- (12), and the reduction of marine noise caused by ships (13). This imply that the application of the 2011 Guidelines for control and management of ship's biofouling and report to IMO accordingly (2), initiate the process of requesting IMO to enable the designation of PSSAs with support from REMPEC and RAC/SPA (12), and urge designers, shipbuilders, and operators to implement noise mitigation strategies on board their ships.
			14. Strategy on ballast water	Consistent with the requirements and standards of the BWM Convention, this strategy is focused on ship's ballast water control and management in regard to the possible release of '**invasive alien species'**, **meaning** '**harmful aquatic organisms and pathogens'** as defined in Article 1.8 of the 2004 International Convention for the Control and Management of Ships' ballast Water and Sediments (BWM Convention). A first assessment of the strategy was made by REMPEC (REMPEC/WG.41/7, 10 May 2017).
			4. Offshore Protocol	Special measures shall be taken to prevent, abate, combat and control **pollution arising from activities concerning exploration and/or exploitation of the resources**, including special restrictions or conditions when granting authorisations, such as the **EIA** and the elaboration of special **provisions concerning monitoring, removal of installations and prohibition of any discharge**; and intensified exchange of information among operators, the competent authorities, Parties and the Organisation regarding matters which may affect protected areas. (Art 21)
			13. Mediterranean Offshore AP	Appendix III – Indicative Potential Research and Development Topics: EIA on noise generated by offshore activities; marine environment monitoring; response to marine pollution through EIA of multiple in situ burning operations on major oil spills from offshore platforms, EIA of extended use if dispersants on major oil spills from offshore platforms, oil spill monitoring and forecasting modelling, Mediterranean offshore oil spill risk assessment study and tool.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
			1. SPA/BD Protocol	Measures shall be taken to **protect, preserve and manage in a sustainable and environmentally sound way threatened or endangered species of flora and fauna, and areas of particular natural or cultural value** (Art. 3). To this end, some specific tools and process are needed: cooperation; identification and compilation of inventories of the components of biological diversity important for its conservation and sustainable use; adoption of strategies, plans and programmes including the conservation of biological diversity and the sustainable use of marine and coastal biological resources; monitoring the components of biological diversity, identifying processes and categories of activities which have or are likely to have a significant adverse impact on the conservation and sustainable use of biological diversity, and monitoring their effects. (Articles 3, 4 and 5). In the planning process that could significantly affect protected areas, species and their habitats, evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated through the **environmental impact assessment** (Art. 17). **Protection measures** shall be taken, in particular prohibiting the dumping or discharge of wastes and other substances likely directly or indirectly to impair the integrity of the area; regulating the passage of ships and any stopping or anchoring; regulating the introduction of not indigenous species, genetically modified species, and species which are or have been present in the area; regulating or prohibiting any activity of exploration or modification of the soil or the exploitation of the subsoil of the land part, the seabed or its subsoil; regulating the scientific research activity; regulating or prohibiting fishing, hunting, taking of animals and harvesting of plants or their destruction, trade in animals, parts of animals, plants, parts of plants, which originate in the area; regulating and prohibiting any other activity or act likely to harm or disturb the species or that might endanger the state of conservation of the ecosystems or species or might impair the natural or cultural characteristics of the area; adopting any other measure aimed at safeguarding ecological and biological processes and the landscape; adopting planning, management, supervision and monitoring measures, inventories, guidelines and common criteria (Articles 6, 7, 11, 12 and 13, 15 and 16, 18).
			9. SAP BIO	SAP BIO is the **background document of CRF** and EcAp, which provides principles, measures and concrete and coordinated priority actions, relevant targets, objectives, and specific actions at national, transboundary and regional level for the **conservation of the Mediterranean marine and coastal biodiversity**, within the framework of sustainable use and through the implementation of the SPA/BD Protocol. **Objectives:** improving knowledge; management of Marine and Coastal PAs; protection of endangered species and habitats; reinforcement of legislation and capacity building; fund-raising efforts. Among others, endorses concrete and practical actions aiming at reducing the causes, modification of conditions (stress reduction), prevention or mitigation of impacts, that are adverse for **biodiversity conservation**; implementing comprehensive joint actions of relevant MAP centres and programmes concerning wider aspects of **biodiversity conservation**; promoting and implementing participatory actions, programmes and campaigns; information and raising of public awareness concerning **biodiversity conservation**.
			16. MPAs Roadmap	The Roadmap includes recommended actions fully in line with the EcAp process, with the following main objectives (O): **O.1:** Strengthen networks of PAs at national and Mediterranean levels, including in the high seas and in 8 ABNJ, as a contribution to the relevant globally agreed goals and targets. **O.2:** Improve the Mediterranean MPA network through effective and equitable management. **O.3:** Promote the sharing of environmental and socio-economic benefits of Mediterranean MPAs and the MPAs integration into the broader context of sustainable use of the marine environment and the implementation of the ecosystem and MSP approaches.

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
				O.4: Ensure the stability of the Mediterranean MPA network by enhancing their financial sustainability.
			7. MSSD 2016-2025	**Obj.1 (SDG 14):** Ensuring sustainable development in marine and coastal areas. SD: Strengthen implementation of and compliance with the Barcelona System and relates; Establish and enforce regulatory mechanisms, including MSP, to prevent and control unsustainable open ocean resource exploitation. Target: By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on best available scientific information. **Obj.2 (SDG 2, 15, 6):** Promoting resource management, food production and food security through sustainable forms of rural development. **SD**: promotion of networks of ecologically protected areas, enhancing stakeholder awareness on the value of ecosystem services and the implications of biodiversity loss. **Target**: Take urgent and significant action to reduce the degradation and fragmentation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species, and take further action as needed by 2030. **Obj.4 (SDG 13):** Addressing climate change as a priority issue for the Mediterranean. SD: Increase scientific knowledge, raise awareness, develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector.
			11. RFCCA	Introduction – the main objective of the RCCAF is to set a strategic approach to increase the resilience of the **Mediterranean marine and coastal natural** and socio-economic **systems** to climate change. Strategic Direction 1.5 (Integrating climate adaptation into local plans for the protection and management of areas of special interest) – including nature reserve, biodiversity and other **natural hot-spots**. Strategic Direction 4.1 (Understanding vulnerability) – Priorities include: **sensitivity and adaptive capacity of marine species and ecosystems** (including alien species introduction), mapping and resilience role of **marine ecosystems**, vulnerability of **MPAs**.
			19. AP for the management of the Monk Seal 20 AP for the conservation of marine turtles 21 AP for the conservation of cetaceans 22. AP for the conservation of marine vegetation 23. AP for the conservation of bird species registered in annex II of the SPA/BD Protocol 24. AP for the conservation of cartilaginous fishes (*Chondrichtyans*) in the Mediterranean Sea 25. AP concerning species introduction and invasive species 26. AP for the conservation of the coralligenous and other calcareous bio-concretions in the Mediterranean Sea 27. AP for the conservation of habitats and species associated with seamounts, underwater caves and canyons, aphotic hard beds and chemo-synthetic phenomena in the Mediterranean Sea	

Identified interactions		Relevant provisions of the ICZM Protocol	Relevant legal and policy instruments	Related provisions and guidelines
Other elements	Cultural heritage *(from land to sea)*	Art 13, co. 1 and 2 (in situ conservation), co. 3 (underwater cultural heritage) Articles 5 and 6 Art. 8 Articles 17 and 18; 14, 19, 27	--------	Analysed key documents of Table 1 do not contain specific provisions or guidelines related to cultural heritage. Besides being addressed clearly by the ICZM Protocol, the issue is somehow considered in the Barcelona Convention that refers to: "Partnership in social, cultural and human affairs: developing human resources, promoting understanding between cultures and exchanges between civil societies". Additional important references are: (i) the 2001 UNESCO Convention on the protection of the underwater cultural heritage, inviting States to cooperate at the regional level to foster in situ conservation and to prohibit the commercial exploitation of underwater cultural heritage; (ii) the 2003 UNESCO Convention for safeguarding intangible cultural heritage.
	Islands	Art. 12 Articles 5 and 6 Art. 8 Articles 17 and 18; 14, 19, 27	--------	As the Mediterranean includes 162 islands of over 10 km² and almost 4,000 smaller islets, the ICZM Protocol (art. 12) encourages special management and protection of these areas, taking into account their specific characteristics. This does not necessarily imply the development of strategies, plans and programmes particularly focused on these areas, but means that their specific nature must at least be taken into consideration in programme-based instruments. This also implies that all key documents of Table 1 and their provision/guidelines analysed in above lines of the present Table 5 might be relevant (based on site-specific characteristics) for these areas, in particular taking into consideration four key areas for islands: biodiversity, water resources, energy supply, and disaster prevention.

Table 6: Template to frame coastal and maritime activities according to the DPSIR approach and links them to the Barcelona Convention measurements system (MAP/IMAP). Below template include agriculture as an example.

	LANDWARD – INLAND				
Economic Driver		**Pressure**	**State**	**Impact (ES)**	**IMAP EOs CIs**
	Activity type				**Pressure, Impact and State-based indicators**
1) Agriculture	Crops (any)	Hydrological alterations	River diversions	Habitats deterioration	COAST (EO8): cCI25
		Geomorphological changes	Land alteration	Loss of biodiversity Population (species) decreases	COAST (EO8): cCI25
	Land crops	Land use	Land degradation	Soil degradation (contaminated, inert)	COAST (EO8): cCI25
	Wetland crops	Wetlands use	Wetlands degradation	Flooding vulnerability Clean water provision	COAST (EO8): cCI25

	COASTAL AREA				
Economic Driver		**Pressure**	**State**	**Impact (ES)**	**IMAP EOs CIs**
	Activity type				**Pressure, Impact and State-based indicators**
1) Agriculture	Crops (any)	Runoff/River (organochlorinated and other chemicals)	Coastal contamination/ pollution Eutrophication	Habitats deterioration Seafood contamination	BIODIVERSITY (EO1): CI1-CI5 EUTROPHICATION (EO5): CI13-CI14 CONTAMINATION (EO9):CI17, CI18, CI20
	Crops (any)	Runoff (river litter)	Costal litter occurrence (beach, surface and seabed)	Species threaten Natural resources affected Landscape visual impairment	BIODIVERSITY (EO1): CI1-CI5 MARINE LITTER (EO10):CI22, CI, cCI24
	Crops (any)	Seaward sediment flux alterations	Coastal erosion	Coastal surface decrease (beaches, dunes, etc.)	CI16
	Deltaic crops	Delta use	Delta degradation (contaminated, inert)	Exploited resources affected	CI16

	SEAWARD – LAGOONS – ISLANDS – OFFSHORE				
Economic Driver		**Pressure**	**State**	**Impact (ES)**	**IMAP EOs CIs**
	Activity type				**Pressure, Impact and State-based indicators**
1) Agriculture	Crops (effects seaward)	Runoff/River (organochlorinated and other chemicals)	Coastal and offshore contamination/ pollution Eutrophication	Ecosystems deterioration Seafood contamination	BIODIVERSITY (EO1): CI1-CI5 EUTROPHICATION (EO5):CI13-CI14 CONTAMINATION (EO9):CI17, CI18, CI20
	Crops (effects seaward)	Runoff (river litter)	Costal litter occurrence (surface, water column, seabed and deep-sea bed)	Long-lived species threaten Natural resources affected Marine ecosystems deterioration	BIODIVERSITY (EO1): CI1-CI5 MARINE LITTER (EO10):CI22, CI, cCI24
	Crops (effects seaward)	Seaward sediment flux alterations	Subsidence, sediment dynamics	Loss of coastline	CI16
	Crops (harvesting)	Coastal micro- and macro algae harvesting	Habitat alterations	Natural resources affected	N/A

Table 7: Excel spreadsheet for the evaluation of the number of items potentially treating the coastal zone. Below template include agriculture as an example.[28]

ITEM SCORES		Yes (1)			NO (0)									
(choose YES/NO)														
				Overall items (Ecosystem Services) affecting the ICZM (%)					98.3					
	LANDWARD - INLAND				ITEMS SCORE	COASTAL AREA				ITEMS SCORE	SEAWARD - LAGOONS - ISLANDS - OFFSHORE				ITEMS SCORE
Economic (Driver)		Pressure	State	Impact (Ecosystem))	% of total items		Pressure	State	Impact (Ecosystem)	% of total items		Pressure	State	Impact (Ecosystem)	% of total items
	Activity type				100.0	Activity type				98.0	Activity type				97.5
1) Agriculture	Crops (any)	Hydrological alterations	River diversions	Habitats deterioration	1	Crops (any)	Runoff/River (organochlorinated and other chemicals)	Coastal contamination/ pollution Eutrophication	Habitats deterioration seafood contamination	0	Crops (effects seaward)	Runoff/River (organochlorinated and other chemicals)	Coastal and offshore contamination/ pollution Eutrophication	Ecosystems deterioration Seafood contamination	0
	Crops (any)	Geomorphological changes	Land alteration	Loss of biodiversity/ Population (species) decreases	1	Crops (any)	Runoff (river litter)	Costal litter occurrence (beach, surface and seabed)	Species threaten Natural resources affected Landscape visual impairment	1	Crops (effects seaward)	Runoff (river litter)	Costal litter occurrence (surface, water column, seabed and deep-sea bed)	Long-lived species threaten Natural resources affected Marine ecosystems deterioration	1
	Land crops	Land use	Land degradation	Soil degradation (contaminated, inert)	1	Crops (any)	Seaward sediment flux alterations	Coastal erosion	Coastal surface decrease (beaches, dunes, etc.)	1	Crops (effects seaward)	Seaward sediment flux alterations	Subsidence, unsustained costaline	Loss of coastline	1
	Wetland crops	Wetlands use	Wetlands degradation	Flooding vulnerability / Clean water provision	1	Deltaic crops	Delta use	Delta degradation (contaminated, inert)	Exploited resources affected	1	Crops (harvesting)	Coastal micro- and macro algae harvesting	Habitat alterations	Natural resources affected	1

[28] Table 7 and Table 8 represent just the initial parts of longer Excel spreadsheets, which include a complete analysis of the entire set of activities affecting the coast. The percentage scores included in both Tables refer to the entire analysis (i.e. the one contained in the Excel spreadsheets) and are not coherent with the limited information reported as example in such tables. The complete analysis is available in the information document "Coupling of management systems and measurement systems for an operational framework of the ICZM Protocol in the Mediterranean Sea".

Table 8: Excel spreadsheet for the evaluation of the magnitude of impacts. Below template include agriculture as an example.[29]

IMPACT SCORES ESTIMATION (choose 0, 1, 2 or 3 to estimate impact)	None (0)			Low (1)			Moderate (2)			High (3)			
Overall of Pressure-Impact (Ecosystem Services) at the ICZM (%)									**98.3**				

	LANDWARD - INLAND				IMPACT SCORE	COASTAL AREA				IMPACT SCORE	SEAWARD - LAGOONS - ISLANDS - OFFSHORE				IMPACT SCORE
Economic (Driver)		**Pressure**	**State**	**Impact (Ecosystem))**	**% of maximum impact**		**Pressure**	**State**	**Impact (Ecosystem)**	**% of total impacts**		**Pressure**	**State**	**Impact (Ecosystem)**	**% of total impacts**
	Activity type				98.8	**Activity type**				98.7	**Activity type**				97.5
1) Agriculture	Crops (any)	Hydrological alterations	River diversions	Habitats deterioration	2	Crops (any)	Runoff/River (organochlorinated and other chemicals)	Coastal contamination/ pollution Eutrophication	Habitats deterioration seafood contamination	1	Crops (effects seaward)	Runoff/River (organochlorinated and other chemicals)	Coastal and offshore contamination/ pollution Eutrophication	Ecosystems deterioration Seafood contamination	0
	Crops (any)	Geomorphological changes	Land alteration	Loss of biodiversity/ Population (species) decreases	3	Crops (any)	Runoff (river litter)	Costal litter occurrence (beach, surface and seabed)	Species threaten Natural resources affected Landscape visual impairment	3	Crops (effects seaward)	Runoff (river litter)	Costal litter occurrence (surface, water column, seabed and deep-sea bed)	Long-lived species threaten Natural resources affected Marine ecosystems deterioration	3
	Land crops	Land use	Land degradation	Soil degradation (contaminated, inert)	3	Crops (any)	Seaward sediment flux alterations	Coastal erosion	Coastal surface decrease (beaches, dunes, etc.)	3	Crops (effects seaward)	Seaward sediment flux alterations	Subsidence, unsustained costaline	Loss of coastline	3
	Wetland crops	Wetlands use	Wetlands degradation	Flooding vulnerability / Clean water provision	3	Deltaic crops	Delta use	Delta degradation (contaminated, inert)	Exploited resources affected	3	Crops (harvesting)	Coastal micro- and macro algae harvesting	Habitat alterations	Natural resources affected	3

[29] See previous footnote.