

# Coordination of sectoral policies

Background document

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Supporting Implementation of Maritime Spatial Planning  
in the Western Mediterranean region

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## List of Acronyms

BD	Birds Directive
BD	Biological Diversity
BQE	Biological Quality Element
CBD	Convention on Biological Diversity
CFP	Common Fishery Policy
COP	Conference of the Contracting Parties
CP	Contracting Party
EAA	Ecosystem-Based Approach to Aquaculture
EBM	Ecosystem-Based Management
EC	European Commission
EcAp	Ecosystem Approach
EIA	Environmental Impact Assessment
EM	Ecosystem Management
EO	Ecological Objective
EU	European Union
FAO	United Nations Food and Agriculture Organization
FCS	Favourable Conservation Status
GES	Good Environmental Status
HD	Habitats Directive
HELCOM	Helsinki Commission (Baltic marine protection)
ICZM	Integrated Coastal Zone Management
IMP	EU Integrated Maritime Policy
LSI	Land-Sea Interactions
MAP	Mediterranean Action Plan
MPA	Marine protected Area
MS	Member State
MSFD	Marine Strategy Framework Directive
MSP	Marine Spatial Planning
MUSES	Multi-Use In European Seas (Project)
NGO	Non-Governmental Organization
OECMs	Other Effective Area-Based Conservation Measures
RBD	River Basin District
SAC	Special Area of Conservation
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SEA	Strategic Environmental Assessment
SIMWESTMED	Supporting Implementation of Maritime Spatial Planning in the Western Mediterranean region
SPA	Special Protection Area
SPA/RAC	Specially Protected Areas Regional Activity Centre
UN	United Nations
UN Environment	United Nations Environment Programme
UNEP	United Nations Environment Programme
VASAB	Vision and Strategies around the Baltic Sea
WFD	Water Framework Directive

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## Coordination of regional policy instruments relevant for Maritime Spatial Planning

This document reviews the regional policy instruments relevant for the scope of Maritime Spatial Planning (MSP) in the Mediterranean and analyses the possibility for their coordination through the MSP process, **considering the ecosystem approach as the overall structuring framework**. An overview of the ecosystem approach concept is given in chapter 1. Regionally available policies relevant for MSP and their links with the ecosystem approach are analysed in chapter 2. Opportunities for policy integration through MSP, using the ecosystem approach as a framework, are highlighted in chapter 3.



# 1. The ecosystem approach

The term *ecosystem approach* has been used in the academic literature since at least 1957, and its use has increased rapidly in more recent years, particularly since the 1980s<sup>1</sup>. The ecosystem-based approach - as endorsed by the Convention on Biological Diversity (CBD) in 2000 - is a strategy for a holistic, sustainable, and equitable natural resource management, to be implemented through 12 principles. These principles describe the need to manage nature in terms of dynamic ecosystems, while fully engaging with local people.

International instruments, such as the UN Convention on the Law of the Sea, the Johannesburg Plan of Implementation, the Reykjavik Declaration, the Convention on Biological Diversity (CBD) decisions V/6 and VII/11 and other CBD decisions, the FAO guidelines, and the FAO Code of Conduct are principal instruments in laying out the application of the ecosystem approach<sup>2</sup>.

Today, the term is commonly used throughout the research and policy literature on environmental management worldwide. However, multiple meanings have been attached to this term and some other similar terms have been introduced.

## 1.1 Ecosystem-based management

During the 1980s and 1990s for example, the *ecosystem-based management* (EBM) or *ecosystem management* (EM) concepts became increasingly common in the conservation literature<sup>3</sup>. EBM is a form of management of natural resources where ecosystems are seen as complex adaptive systems of which humans are an integral part<sup>4</sup>. The importance of managing ecosystems as a whole is fundamental to EBM and represents a shift away from the traditional focus on components of ecosystems. There are many other aspects of EBM that differ from traditional management, such as:

- it is geographically specified;
- it takes into account ecosystem knowledge and uncertainties;
- it recognizes multiple factors that affect ecosystems and their management;
- it aims to balance diverse societal goals.

Also, due to its complexity and the importance of involving all stakeholders, the implementation of EBM must be incremental and collaborative<sup>5</sup>. The EBM concept has received a good deal of attention in theory<sup>6,7</sup>. It has been particularly influential within the fisheries and marine sector and it has been

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<sup>1</sup> Waylen K. A., Hastings E. J., Banks E. A., Holstead K. L., Irvine R. J. 2014. The need to disentangle key concepts from ecosystem-approach Jargon. *Conservation Biology*, 28 (5): 1215–1224.

<sup>2</sup> Platjouw F. M. 2016. *Environmental law and the ecosystem approach: maintaining ecological integrity through consistency in law*. Routledge. New York.

<sup>3</sup> Waylen K. A., Hastings E. J., Banks E. A., Holstead K. L., Irvine R. J. 2014. The need to disentangle key concepts from ecosystem-approach Jargon. *Conservation Biology*, 28 (5): 1215–1224.

<sup>4</sup> Curtin R. & Prelezo R. 2010. Understanding marine ecosystem based management: a literature review. *Marine Policy* 34: 821–830.

<sup>5</sup> Murawski S. A. 2007. Ten myths concerning ecosystem approaches to marine resource management. *Marine Policy* 31:681–90.

<sup>6</sup> National Research Council 1996. *The Bering Sea Ecosystem*. Washington (DC), National Academy Press..

<sup>7</sup> National Research Council 2006. *Dynamic Changes in Marine Ecosystems: Fishing, Food Webs, and Future Options*. Washington (DC), National Academies Press.

adopted in principle by some entities charged with managing ocean resources<sup>8</sup>: for example, the 1982 Convention on the Conservation of Antarctic Marine Living Resources was the first to integrate an ecosystem-based approach for the protection and management of marine living resources. Notwithstanding this, examples of comprehensive approaches to marine EBM are rare. The dearth of cases most likely reflects incomplete scientific information and the difficulties inherent in implementing large-scale management strategies within the complex natural and socioeconomic systems characteristic of ocean governance<sup>9</sup>.

## 1.2 Ecosystem approach: Key Principles

In 2003, the Conference on Biological Diversity defined the ecosystem approach as the integrated management of land, water and living resources that provides 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 as rich mixes of elements that interact with each other continuously<sup>10</sup>. This is particularly important for coasts and seas, where the nature of water keeps systems and their functioning highly connected.

The ecosystem approach is therefore to be intended as a management approach that requires adaptive management to deal with the complex and dynamic nature of ecosystems and the absence of complete knowledge or understanding of their functioning.

Under the ecosystem approach the following interlinked and complementary ecosystem management principles (the so-called Malawi Principles) are recognized<sup>11</sup>:

- Principle 1: The objectives of management of land, water and living resources are a matter of societal choices.
- Principle 2: Management should be decentralized to the lowest appropriate level.
- Principle 3: Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
- Principle 4: Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem-management programme should:
  - Reduce those market distortions that adversely affect biological diversity;
  - Align incentives to promote biodiversity conservation and sustainable use;
  - Internalize costs and benefits in the given ecosystem to the extent feasible.
- Principle 5: Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.
- Principle 6: Ecosystem must be managed within the limits of their functioning.
- Principle 7: The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.

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<sup>8</sup> National Marine Fisheries Service 1999. Ecosystem-based fishery management. A Report to Congress by the Ecosystem Principles Advisory Panel. <http://www.nmfs.noaa.gov/sfa/EPAPrpt.pdf>

<sup>9</sup> Ruckelshaus M., Klinger T., Knowlton N., DeMaster D. P. 2008. Marine Ecosystem-based Management in Practice: Scientific and Governance Challenges. *BioScience*, 58(1): 53–63.

<sup>10</sup> CBD COP 5 Decision V/6 2003. Ecosystem approach.

<sup>11</sup> *Ibid.*

- Principle 8: Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objectives for ecosystem management should be set for the long term.
- Principle 9: Management must recognize the change is inevitable.
- Principle 10: The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.
- Principle 11: The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
- Principle 12: The ecosystem approach should involve all relevant sectors of society and scientific disciplines.

By comparing the Malawi Principles with the key concepts of EBM we can find similarities and differences<sup>12</sup>. The Principles do not promote a single sectoral or species approach; rather, they encourage decision making that takes into account how ecosystem processes will be affected over space and time (e.g., Principles 3, 7, and 8) and this is consistent with the ideas of EBM. But other Malawi Principles relate to involving and empowering stakeholders (e.g., principles 1, 2, 10, 11, and 12): these principles go beyond the concept of EBM. The Malawi Principles in fact connected the newest ideas about how to manage ecological processes to ideas about the need to involve people and different forms of knowledge in management<sup>13</sup>.

After COP 7, enlightening examples of implementation of the ecosystem approach were sought in order to develop guidance based on examples. A collection of examples of ecosystem approach implementation and outcomes from relevant regional workshops has been made available<sup>14</sup>. Moreover, by the late 2000s, there were calls to review the Malawi Principles<sup>15</sup>. They were associated with concerns that the CBD needed more effective processes to achieve its goals. Further elaboration on ecosystem approach and Guidelines for its implementation were provided in 2003<sup>16</sup>. Overall, it seemed that emphasis and expectations shifted away from the ecosystem approach toward other concepts and initiatives. The Millennium Ecosystem Assessment and the related concept of Ecosystem Services were central among these.

Recently, a further important development under CBD has been the adoption of a revised Strategic Plan for Biodiversity 2011-2020 with its Aichi Targets. The mission of the new plan is to:

- Take the effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication. To ensure this, pressures on biodiversity are reduced, ecosystems are restored, biological resources are sustainably used and benefits arising out of utilization of genetic resources are shared in a fair and equitable manner; adequate issues and values mainstreamed, appropriate policies are effectively implemented and decision-making is based on sound science and the precautionary approach<sup>17</sup>.

<sup>12</sup> Waylen K. A., Hastings E. J., Banks E. A., Holstead K. L., Irvine R. J. 2014. The need to disentangle key concepts from ecosystem-approach Jargon. *Conservation Biology*, 28 (5): 1215–1224.

<sup>13</sup> Ibid.

<sup>14</sup> <http://www.cbd.int/ecosystem/cs.shtml>

<sup>15</sup> Waylen K. A., Hastings E. J., Banks E. A., Holstead K. L., Irvine R. J. 2014. The need to disentangle key concepts from ecosystem-approach Jargon. *Conservation Biology*, 28 (5): 1215–1224.

<sup>16</sup> Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) Ninth Meeting 2003. Recommendation IX/6. Ecosystem approach: further elaboration, guidelines for implementation and relationship with sustainable forest management.

<sup>17</sup> CBD-COP, Conference of the Parties 10. Decisions X/2. Strategic Plan for Biodiversity 2011-2020.

## 1.3 Ecosystem approach implementation in the Mediterranean under UN Environment/MAP (EcAp)

Since its adoption in 2000 by the United Nations Environment Programme (UNEP), the ecosystem approach to the management of human activities is making its way through almost all Regional Sea Convention programmes. In the Mediterranean, the ecosystem approach (EcAp) represents the overarching guiding principle to all policy implementation and development undertaken under the auspices of UN Environment/MAP Barcelona Convention<sup>18</sup>. EcAp is to be integrated in all of its policies and activities as it makes explicit the link between the status of natural resource systems and services they provide, it seeks to maintain the integrity and functioning of ecosystems as a whole, and recognizes that the impacts of human activities are a matter of social choice. It is essentially organized around four themes, reflecting the main deliverables expected from the Contracting Parties:

1. Adoption of regional targets and the establishment of a definition for Healthy Environment;
2. Development of a regional integrated monitoring programme based on indicators and targets;
3. Coupling of integrated assessment with socioeconomic analysis for the Mediterranean ecosystem;
4. Establishment of an assessment cycle through the development of a UN Environment/MAP policy on the assessment of marine and coastal environments<sup>19</sup>.

More specifically, in the context of UN Environment/MAP, EcAp refers to a specific process as the Contracting Parties have committed to implement the ecosystem approach with the ultimate objective of achieving the Good Environmental Status (GES) of the Mediterranean Sea and Coast. This process aims to achieve GES through informed management decisions, based on integrated quantitative assessment and monitoring of the marine and coastal environment of the Mediterranean.

Through Decision IG.17/6 the Contracting Parties to the Barcelona Convention have committed to progressively apply EcAp to the management of human activities with the goal of effecting a real change in the Mediterranean marine and coastal environment. Decision IG.17/6 outlines a roadmap for the implementation of EcAp, consisting of several subsequent steps, such as the development of ecological objectives, operational objectives and respective indicators, the development of GES descriptors and

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<sup>18</sup> Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (amended in 1995). Its seven related legal protocols are:

1. Prevention and elimination of pollution of the Mediterranean Sea from ships and aircraft or incineration at sea (Dumping Protocol) – Adopted 1976 – Amended 1995 – Not yet in force.
2. Protection of the Mediterranean Sea against pollution from land-based sources and activities (LBS Protocol) – Adopted 1980 – Amended 1996 – Entered into force 2008.
3. Protection of the Mediterranean Sea against pollution resulting from the exploration and exploitation of the continental shelf and the seabed and its subsoil (Offshore Protocol) – Adopted 1994 – Entered into force 2011.
4. Specially protected areas and biological diversity in the Mediterranean (SPA & Biodiversity Protocol) – Adopted 1995 – Entered into force 1999.
5. Prevention of pollution of the Mediterranean Sea by transboundary movements of hazardous wastes and their disposal (Hazardous Wastes Protocol) – Adopted 1996 -Entered into force 2008.
6. Cooperation in preventing pollution from ships and, in case of emergency, combating pollution of the Mediterranean Sea (Prevention and Emergency Protocol) – Adopted 2002 – Entered into force 2004.
7. Integrated Coastal Zone Management in the Mediterranean (ICZM Protocol) – Adopted 2008 – Entered into force 2011.

<sup>19</sup> Cinnirella, S., R. Sardà, J. Suárez de Vivero, R. Brennan, A. Barausse, J. Icely, T. Luisetti, D. March, C. Murciano, A. Newton, T. O'Higgins, L. Palmeri, M. Palmieri, P. Raux, S. Rees, J. Albaigés, N. Pirrone, and K. Turner. 2014. Steps toward a shared governance response for achieving Good Environmental Status in the Mediterranean Sea. *Ecology and Society* 19(4): 47.

targets, monitoring programmes, and finally the necessary management measures and programmes to achieve GES.

Decision IG.20/4 on “Implementing the Ecosystem Approach Roadmap”, following up on Decision IG.17/6, validated the work done so far regarding the 11 ecological objectives, operational objectives and indicators for the Mediterranean. It also mandated the Secretariat to prepare an EcAp Monitoring Programme, to determine GES and targets and to prepare an in-depth socio-economic analysis of human activities that impact on, or benefit from, the quality and ecological health of coastal and marine ecosystems. Finally, it asked to integrate EcAp in the overall work of UN Environment/MAP Barcelona Convention and mandated the Secretariat to establish an EcAp governance framework.

As most relevant milestone of the 18<sup>th</sup> Ordinary Meeting of the Contracting Parties (COP 18, 2013), Decision IG.21/3 on the “Ecosystem Approach including adapting definitions of Good Environmental Status (GES) and targets” (the EcAp Decision) expresses the agreement on regionally common targets, lists of indicators to achieve GES in the Mediterranean, and an integrated list of Mediterranean GES, targets and indicators (Table 1).

Table 1: GES and targets adopted by COP18, UNEP(DEPI)/MED IG.21/9 – Decision IG.21/3.  
Source: SPA/RAC site

EO	Indicators	GES definitions	Targets
1. Biodiversity	15	17	30
2. Non-indigenous species	4	4	6
5. Eutrophication	5	5	10
7. Hydrography	5	4	4
8. Coast	3	3	3
9. Pollution	6	6	9
10. Marine litter	3	2	3

A specific timeline was adopted in this EcAp Decision on how to develop and implement an Integrated Mediterranean Monitoring and Assessment Programme by the 19th Meeting of the Contracting Parties, following the 6-year EcAp cycles structure (with second EcAp cycle in the Mediterranean of 2016-2021). It was also agreed, that after the initial phase of implementation of the Integrated Monitoring and Assessment Programme (2016-2019), the draft Integrated Mediterranean Monitoring and Assessment Programme will be reviewed and in case necessary amended, in light of lessons learnt during the first years of its implementation (Figure 1).

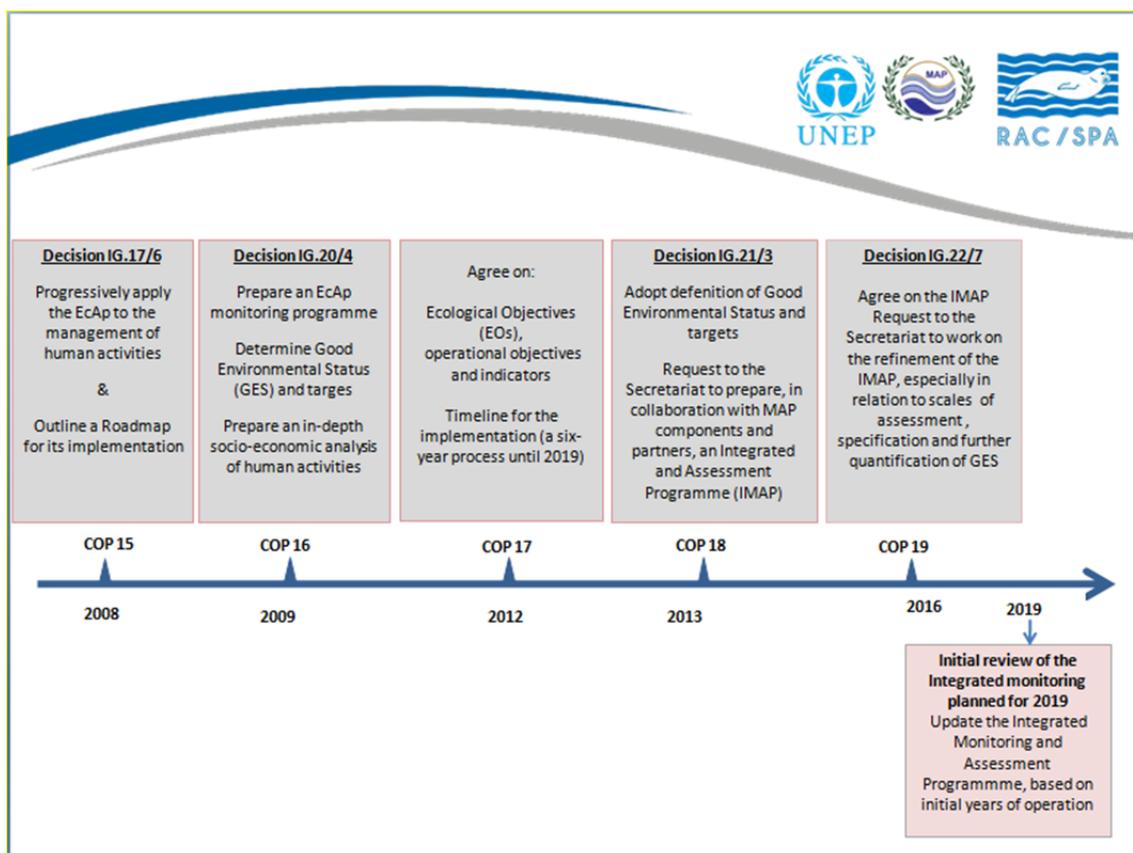


Figure 1: Calendar of the EcAp implementation process (source: SPA/RAC site)

Mainstreaming EcAp into the work of UN Environment/MAP and achieving the GES of the Mediterranean Sea and Coast through the EcAp process have been supported by the EU-funded project entitled “Implementation of the Ecosystem Approach in the Mediterranean by the Contracting Parties in the Context of the Barcelona Convention for the Protection of the Marine Environment and the Coastal region of the Mediterranean and its Protocols” (EcAp-MED project 2012-2015).

Considering its high conceptual framework (the 12 Malawi Principles), and the operative approach (the Ecological Objectives and the Indicators), EcAp represents undoubtedly a powerful and comprehensive framework to ensure sustainable development for the Mediterranean, ensuring the conservation of its marine and coastal ecosystems and of the services they provide.

## 2. Policy instruments relevant for MSP: their links with EcAp

The Maritime Spatial Planning process has been developed within the Integrated Maritime Policy of the European Union as a “cross-cutting policy tool enabling public authorities and stakeholders to apply a coordinated, integrated and trans-boundary approach”<sup>20</sup>. Being cross-sectoral by definition, MSP has also been given the challenge to strongly link with the ecosystem-based approach: in fact, the MSP Directive states that “the application of an ecosystem-based approach will contribute to promoting the sustainable development and growth of the maritime and coastal economies and the sustainable use of marine and coastal resources”<sup>21</sup>. A considerable number of sectoral policies and related tools, developed both by EU and the Barcelona Convention, are available in the Mediterranean, addressing various aspects of the EcAp approach: pollution, biodiversity, socio-economic aspects, marine litter, key economic sectors, etc., whose implementation contributes to the protection of the marine environment and the coastal zone. These policies are relevant for MSP under several perspectives. The main ones are identified and reviewed in the following sub-chapters, highlighting their significance for MSP, their relation with EcAp and their impact on marine and coastal ecosystem and biodiversity. An illustrative diagram is provided in Figure 2. The MSP Directive itself is also considered under this perspective in the first of the following paragraphs.

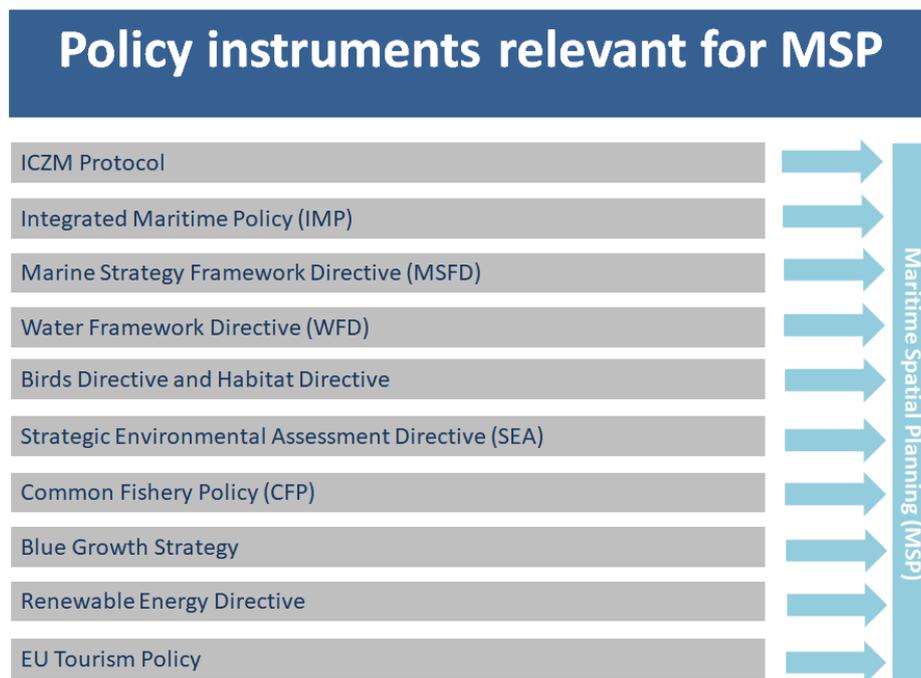


Figure 2: Main sectoral policies relevant for MSP

<sup>20</sup> Directive 2014/89/EU (Preamble 3).

<sup>21</sup> Ibid.

## 2.1 The Ecosystem Approach in the EU MSP Directive

The EU Maritime Spatial Planning Framework Directive (2014/89/EU) aims to set the framework for maritime spatial planning with the objective of promoting the sustainable growth of maritime economies, sustainable development of marine areas and sustainable use of marine resources, applying an ecosystem-based approach, promoting the coexistence of relevant uses and activities and taking into account land-sea interactions. In this sense, the ecosystem-based approach must seek to contribute to the sustainability of development of marine areas, of activities at sea and of uses of marine and coastal resources.

In fact, Article 5 of the MSP Directive defines the objectives of maritime spatial planning as follows:

1. “When establishing and implementing maritime spatial planning, Member States shall consider economic, social and environmental aspects to support sustainable development and growth in the maritime sector, applying an ecosystem-based approach, and to promote the coexistence of relevant activities and uses.
2. Through their maritime spatial plans, Member States shall aim to contribute to the sustainable development of energy sectors at sea, of maritime transport, and of the fisheries and aquaculture sectors, and to the preservation, protection and improvement of the environment, including resilience to climate change impacts. In addition, Member States may pursue other objectives such as the promotion of sustainable tourism and the sustainable extraction of raw materials.
3. This Directive is without prejudice to the competence of Member States to determine how the different objectives are reflected and weighted in their maritime spatial plan or plans.”

In addition, the MSP Directive sets out 10 key principles for MSP seeking to encourage the development of a common approach among Member States. These principles are closely linked to the ecological objectives of the ecosystem-based approach (EcAp) defined by UN Environment/MAP based also on related CBD decisions<sup>22</sup> (Figure 3).

Ways to integrate ecosystem-based approach principles in the MSP process have been proposed, for example, by the experience in the Baltic Sea where the following issues have been identified to be considered when developing MSP<sup>23</sup>:

- Best available Knowledge and Practice: The allocation and development of human uses shall be based on the latest state of knowledge of the ecosystems as such and the practice of safeguarding the components of the marine ecosystem in the best possible way.
- Precaution: A far-sighted, anticipatory and preventive planning shall promote sustainable use in marine areas and shall exclude risks and hazards of human activities on the marine ecosystem.
- Alternative development: Reasonable alternatives shall be developed to find solutions to avoid or reduce negative environmental and other impacts as well as impacts on the ecosystem goods and services.

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<sup>22</sup> Ramieri E., E. Andreoli, A. Fanelli, G. Artico, R. Bertaggia. 2014. Methodological handbook on Maritime Spatial Planning in the Adriatic Sea. Final report of SHAPE project WP4 “Shipping towards maritime spatial planning”.

<sup>23</sup> HELCOM-VASAB. 2016. Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea area.

- Identification of ecosystem services: In order to ensure a socio-economic evaluation of effects and potentials, the ecosystem services provided need to be identified.
- Mitigation: The measures are envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan.
- Relational Understanding: It is necessary to consider various effects on the ecosystem caused by human activities and interactions between human activities and the ecosystem, as well as among various human activities.
- Participation and Communication: All relevant authorities and stakeholders as well as a wider public shall be involved in the planning process at an early stage.
- Subsidiarity and Coherence: Maritime spatial planning with an ecosystem-based approach as an overarching principle shall be carried out at the most appropriate level and shall seek coherence between the different levels.
- Adaptation: The sustainable use of the ecosystem should apply an iterative process including monitoring, reviewing and evaluation of both the process and the outcome.
- In the Mediterranean, the ADRIPLAN methodology<sup>24</sup> provides techniques and methods based on the ecosystem-based approach for practically implementing MSP in the Adriatic-Ionian macro-region.

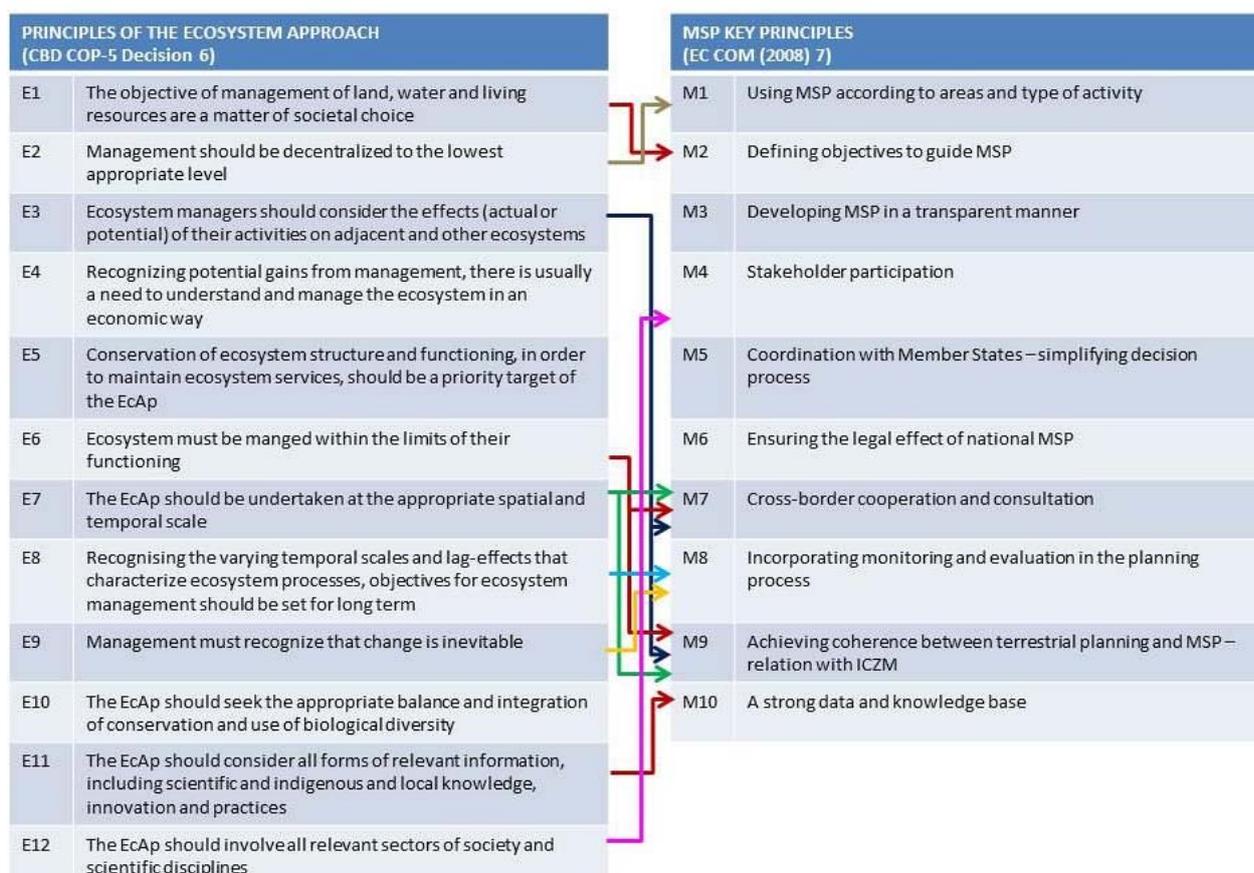


Figure 3: Links between ecosystem approach and MSP principles (redrawn from Ramieri et al. 2014)

<sup>24</sup> <http://msp-platform.eu/practices/adriplan-methodology>

The key elements of the ecosystem-based approach can be also integrated more specifically into strategic environmental assessment (SEA) as part of the planning process. Some of the key elements such as public participation and communication, subsidiarity and coherence, identification of ecosystem services, adaptation and the precautionary principle are applicable to the general planning process. The identification of ecosystem services can provide a new approach to the management of the sea and should contribute to the planning of sea areas as well<sup>25</sup>.

## 2.2 ICZM Protocol under the Barcelona Convention

ICZM is highly relevant for MSP in relation to all those issues related with land-sea interaction (LSI). In fact, when carrying out MSP, it is important to consider the dynamics that occurs between land and sea, and to ensure that spatial planning is conducted in an integrated manner across maritime and terrestrial areas. This is in the interest of both, environmental protection of coastal areas and the effective development of maritime and coastal economies. To take LSI into account when preparing maritime spatial plans is also a minimum requirement of the EU MSP Directive (2014/89/EU). It is recognised that MSP and ICZM should be linked where possible, as they both seek to address the problems of fragmented governance in coastal and marine settings, and have overlapping principles, such as the importance of stakeholder participation. They may therefore work together in addressing issues such as nature conservation, coastal flooding and defence and local economic development<sup>26</sup>.

The uptake of ICZM by EU Member States is encouraged by the EU through a Communication<sup>27</sup> and a Recommendation<sup>28</sup>, where it is defined as a dynamic, multi-disciplinary and iterative process to promote the sustainable management of coastal zones. The need for informed participation and co-operation of all stakeholders is stressed. However, practice varies considerably according to local conditions.

Importantly, for the Mediterranean, a common binding framework for ICZM has been agreed upon within the framework of the Mediterranean Action Plan. In fact, in January 2008, 14 Mediterranean Countries signed the Protocol on Integrated Coastal Zone Management in the Mediterranean - ICZM Protocol (UNEP/MAP/PAP, 2008), in the framework of the Barcelona Convention. To date, eleven countries and the EU have ratified the Protocol; consequently, on the 24<sup>th</sup> of March 2011, the ICZM Protocol entered into force, becoming binding for all Contracting Parties, including EU. In implementing the Protocol, the Parties shall be guided by general principles of integrated coastal zone management, which lay among other on the application of an ecosystem approach.

Concerning the link with the ecosystem approach, the ICZM Protocol underlines EcAp as one of its leading principles. The ICZM Protocol constitutes the ideal instrument to promote and put into practice EcAp in the coastal zones. ICZM provides the MSP process with all the instruments to appropriately accounting for interactions between land and sea, thus conveying the principles of the ecosystem approach, and also the specificities of EcAp under the UN Environment/MAP declaration (Figure 4) Achieving Ecological Objectives (EO) and Good Environmental Status requires an integrated approach in

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<sup>25</sup> HELCOM-VASAB. 2016. Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea area.

<sup>26</sup> Jones H., Kidd S. 2017. Maritime Spatial Planning Conference: Addressing Land-Sea Interactions. St. Julian's Malta, 15 – 16 June 2017. Conference Report, Version of 26 September 2017.  
[http://msp-platform.eu/sites/default/files/20170927\\_conferencereportmalta\\_msp\\_lsi\\_0.pdf](http://msp-platform.eu/sites/default/files/20170927_conferencereportmalta_msp_lsi_0.pdf)

<sup>27</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2000:0547:FIN:EN:PDF>

<sup>28</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002H0413&from=EN>

order to address combined pressures and cumulative impacts in marine and coastal areas. ICZM provides the adequate tools to address these issues in coastal zones and promotes consensus among all parties involved in the use of coastal resources, while MSP does the same for marine areas. They both apply Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) and take into account cumulative impacts that cannot be addressed through sectoral approaches and regulations. Moreover, recently adopted Decision (IG.23/7; 2017) of the Contracting Parties to the Barcelona Convention on implementation of the ICZM Protocol, acknowledges the introduction of 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 and objectives.

The ecosystem-based approach as a concept for the integrated management of MPAs ensures a balance between equitable conservation and sustainable use of coastal and marine resources in order to achieve and maintain the connectivity between the terrestrial and marine side of the coastal area and between MPAs and the surrounding coastal and marine area. Successful integration of ICZM-MSP and MPAs depends on sustained management processes and programmes that will produce perceived benefits and tangible results from the field that contribute to improved quality of life and ecosystem integrity. To this end, ICZM-MSP is a relevant framework to initiate and maintain an open dialogue, involving all the stakeholders, regarding the identification of threats and opportunities affecting the management of MPAs. Ecologically coherent networks of MPAs within ICZM-MSP approach provide a spatial management tool to prioritize biodiversity conservation and ensure maintenance and enhancement of environmental goods and services, which are essential objectives of ICZM and MSP.

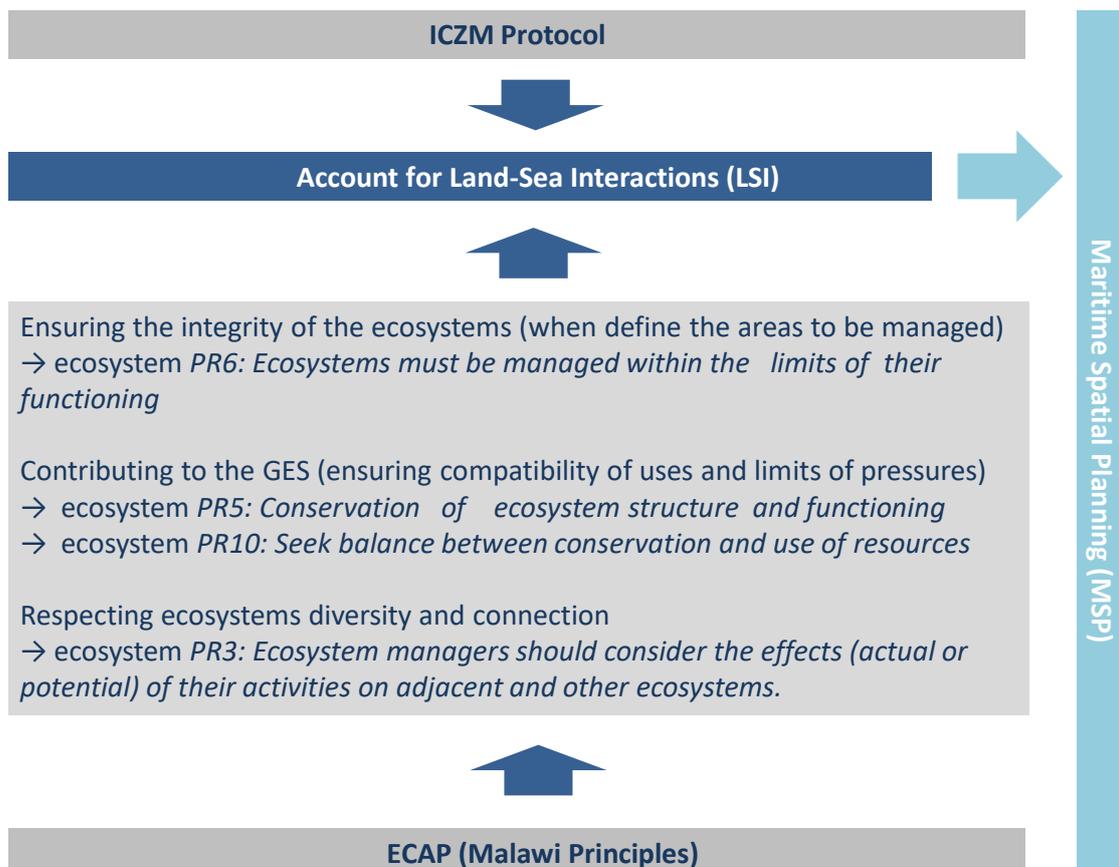


Figure 4: Links between ICZM, ecosystem principles and MSP

EcAp can be reflected in ICZM and MSP at three stages<sup>29</sup>:

- When defining the area to be managed, by ensuring the integrity of ecosystems and the necessary buffer zones and corridors;
- When contributing to GES, by ensuring compatibility of located land and sea uses and limits of allowed pressures, as well as observing the respective GES descriptors and indicators;
- When applying Ecosystem-Based Management (EBM), by respecting ecosystems diversity and connections, evaluating ecosystems services, addressing cumulative impacts, assessing tradeoffs, applying adaptive management, networking and using appropriate tools and measures.

To this end, EcAp indicators already approved by the CPs should be used at the appropriate stages. Since such indicators are more developed for assessing GES, further development of additional (currently missing) indicators would be very useful to increase efficiency.

## 2.3 Ecosystem-based approach implementation in EU seas following the EU MSFD Directive

The most recent EU policy driver for the protection of the marine environment is the Marine Strategy Framework Directive (MSFD), which represents an ecosystem-based approach towards marine management and governance, aiming towards achieving a Good Environmental Status (GES). Together with the Water Framework Directive, the MSFD represents a framework through which other EU sectoral directives can be linked, providing integrated management from the catchment through the coast to open marine ecosystems. The “framework” nature of the MSFD is reflected in the eleven descriptors for determining GES, which cover the most important maritime sectors and their impacts on marine ecosystems<sup>30</sup>.

The MSFD has developed a vision-driven process that uses the ecosystem-based approach to achieve GES within a particular marine region or sub-region. Each individual EU-MS is responsible for its waters and for reaching predefined targets that must be documented according to a well-defined time line. The EC therefore has specific legal tools to control the implementation of MSFD<sup>31</sup>.

The Directive states that marine strategies shall apply an ecosystem-based approach ensuring that the collective pressure of human activities is kept within levels compatible with the achievement of a good environmental status and that the capacity of marine ecosystems to respond to human-induced changes is not compromised, while enabling the sustainable use of marine goods and services by present and future generations. Both programmes of measures and individual measures shall be based on such an ecosystem-based approach.

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<sup>29</sup> Mourmouris A., Le Visage C., Grimes S., Ramieri E. 2016. « The way to a Regional Framework for ICZM in the Mediterranean, 2017-2021. Background Document”, PAP/RAC, Dec. 2016.

<sup>30</sup> Qiun W. & Jones P. J. S. 2013. The emerging policy landscape for marine spatial planning in Europe. *Marine Policy* 39: 182–190.

<sup>31</sup> Cinnirella, S., R. Sardà, J. Suárez de Vivero, R. Brennan, A. Barausse, J. Icely, T. Luisetti, D. March, C. Murciano, A. Newton, T. O'Higgins, L. Palmeri, M. Palmieri, P. Raux, S. Rees, J. Albaigés, N. Pirrone, and K. Turner. 2014. Steps toward a shared governance response for achieving Good Environmental Status in the Mediterranean Sea. *Ecology and Society* 19 (4): 47.

Considering MSFD requirements under MSP seems unavoidable: as reported already above, the MSP Directive in fact clearly states:

1. [...]Maritime spatial planning should apply an ecosystem-based approach as referred to in Article 1(3) of Directive 2008/56/EC with the aim of ensuring that the collective pressure of all activities is kept within levels compatible with the achievement of good environmental status and that the capacity of marine ecosystems to respond to human-induced changes is not compromised, while contributing to the sustainable use of marine goods and services by present and future generations (Preamble 14).
2. When establishing and implementing maritime spatial planning, Member States shall consider economic, social and environmental aspects to support sustainable development and growth in the maritime sector, applying an ecosystem-based approach, and to promote the coexistence of relevant activities and uses (Art. 5-1).

On the other hand, also if the MSFD does not explicitly require MSP, it states that:

1. Programmes of measures established pursuant to this Article shall include spatial protection measures, contributing to coherent and representative networks of marine protected areas, adequately covering the diversity of the constituent ecosystems, such as special areas of conservation pursuant to the Habitats Directive, special protection areas pursuant to the Birds Directive, and marine protected areas as agreed by the Community or Member States concerned in the framework of international or regional agreements to which they are parties (Art. 13-4).
2. Member States are required to develop national programmes taking consideration of ‘spatial and temporal distribution controls’, which are “management measures that influence where and when an activity is allowed to occur”(Annex VI).

A lively debate has taken place during the last years on links and contradictions between the requirements of these two directives. In fact, while MSFD aims mainly at marine environmental protection, MSP promotes sustainable growth and maritime economies. A comprehensive review of this discussion is available<sup>32</sup>. Some authors highlight that both the directives aim to achieving GES<sup>33-34</sup>. Others are convinced that the MSP Directive is likely to increase tensions and conflicts, where Blue Growth (aquaculture, coastal tourism, marine biotechnology, ocean energy and sea bed mining) appear prioritised over the framework nature of the MSFD and achieving GES<sup>35</sup>. The “soft sustainability” of the MSP Directive – where the needs of different maritime sectors are balanced – has been opposed to the “hard” sustainability of the MSFD in which ecosystem conservation is the foundation of the ecosystem-based approach<sup>36</sup>.

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<sup>32</sup> Boyes S. J., Elliott M., Murillas-Maza A., Papadopoulou N., Uyarra, 2016. Is existing legislation fit-for-purpose to achieve Good Environmental Status in European seas? *Marine Pollution Bulletin*, 111 (1–2): 18-32.

<sup>33</sup> Schaefer N., Barale V. 2011. Maritime spatial planning: opportunities & challenges in the framework of the EU integrated maritime policy. *J. Coast. Conserv.*, 15 (2): 237-245.

<sup>34</sup> Maccarrone V., Filiciotto F., Vincenzi G., Mazzola S., Buscaino G. 2015. An Italian proposal on the monitoring of underwater noise: relationship between the EU Marine Strategy Framework Directive (MSFD) and marine spatial planning directive (MSP). *Ocean Coast. Manag.*, 118 (B): 215-224.

<sup>35</sup> Qiu W., Jones P. J. S. 2013. The emerging policy landscape for marine spatial planning in Europe. *Marine Policy* 39: 182-190.

<sup>36</sup> Jones P.J.S., Qiu W., Lieberknecht L.M. 2013. Typology of Conflicts in MESMA Case Studies. MESMA Work Package 6 (Governance). Deliverable 6.1, University College London. (<http://www.mesma.org/>).

Considering the links between MSFD and the ecosystem-based approach, it is well known that the MSFD process and the EcAp under UN Environment/MAP share many commonalities. For example, achieving GES and Healthy Environment which are independent of national jurisdictional waters. Both aim to establish a Programme of Measures by 2015 to achieve their respective goals by 2020. The subregional initial assessment prepared by MAP under the EcAp framework has been directly relevant to Mediterranean EU-MS in their Initial Assessment required under MFSD. Even if MFSD is not applicable to the whole of the Mediterranean, its philosophy and principles could nonetheless be applied to the whole marine Mediterranean domain through the development of a shared vision via MAP. Comparison of MSDF and MAP-EcAp major features is given in Table 2<sup>37</sup>. Both MFSD and MAP are committed to seeking mutual collaboration for the protection of the Mediterranean marine environment. However, there are important differences in the capacity for implementing specific measures or initiatives, with the implementation of such goals driven by different visions and concerns between different jurisdictions.

Table 2: Comparison between EU-Marine Strategy Framework Directive (MSFD) and Mediterranean Action Plan-Ecosystem Approach Strategy (MAP-EcAp) vision, strategic goals, and ecological objectives already defined. With the exception of MAP-EcAp Objective 8 they are almost identical<sup>38</sup>.

EU-MSFD	MAP-EcAp
<b>VISION</b>	
Good Environmental Status (GES)	A healthy Mediterranean with marine and coastal ecosystems that are productive and biologically diverse for the benefit of present and future generations
<b>STRATEGIC GOALS</b>	
(i) to protect more effectively the marine environment across Europe;	(i) to protect, allow recovery and, where practicable, restore the structure and function of marine and coastal ecosystems thus also protecting biodiversity, to achieve and maintain good ecological status and allow for their sustainable use;
(ii) to achieve Good Environmental Status of the EU's marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend;	(ii) to reduce pollution in the marine and coastal environment so as to minimize impacts on and risks to human and/or ecosystem health and/or uses of the sea and the coasts;
(iii) to constitute the vital environmental component of the Union's future maritime policy, designed to achieve the full economic potential of oceans and seas in harmony with the marine environment.	(iii) to prevent, reduce, and manage the vulnerability of the sea and the coasts to risk induced by human activities and natural events (UNEP-MAP 2008).

<sup>37</sup> Cinnirella, S., R. Sardà, J. Suárez de Vivero, R. Brennan, A. Barausse, J. Icely, T. Luisetti, D. March, C. Murciano, A. Newton, T. O'Higgins, L. Palmeri, M. Palmieri, P. Raux, S. Rees, J. Albaigés, N. Pirrone, and K. Turner. 2014. Steps toward a shared governance response for achieving Good Environmental Status in the Mediterranean Sea. *Ecology and Society* 19 (4): 47.

<sup>38</sup> Cinnirella, S., R. Sardà, J. Suárez de Vivero, R. Brennan, A. Barausse, J. Icely, T. Luisetti, D. March, C. Murciano, A. Newton, T. O'Higgins, L. Palmeri, M. Palmieri, P. Raux, S. Rees, J. Albaigés, N. Pirrone, and K. Turner. 2014. Steps toward a shared governance response for achieving Good Environmental Status in the Mediterranean Sea. *Ecology and Society* 19(4): 47. <http://dx.doi.org/10.5751/ES-07065-190447>

EU-MSFD	MAP-EcAp
DESCRIPTOR / OBJECTIVES	ECOLOGICAL OBJECTIVES
1. Biological diversity is maintained. The quality and occurrence of habitats and the distribution conditions.	1. Biological diversity is maintained or enhanced. The quality and occurrence of coastal and marine habitats and the distribution and abundance of coastal and marine species are in line with prevailing physiographic, hydrographic, geographic, and climatic conditions.
2. Non-indigenous species introduced by human activities are at levels that do not adversely alter the ecosystems.	2. Non-indigenous species introduced by human activities are at levels that do not adversely alter the ecosystem.
3. Populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock.	3. Populations of selected commercially exploited fish and shellfish are within biologically safe limits, exhibiting a population age and size distribution that is indicative of a healthy stock.
4. All elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity.	4. Alterations to components of marine food webs caused by resource extraction or human-induced environmental changes do not have long-term adverse effects on food web dynamics and related viability.
5. Human-induced eutrophication is minimized, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algae blooms, and oxygen deficiency in bottom waters.	5. Human-induced eutrophication is prevented, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algal blooms, and oxygen deficiency in bottom waters.
6. Sea-floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded and benthic ecosystems, in particular, are not adversely affected.	6. Sea-floor integrity is maintained, especially in priority benthic habitats.
7. Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems.	7. Alteration of hydrographic conditions does not adversely affect coastal and marine ecosystems.
8. Concentrations of contaminants are at levels not giving rise to pollution effects.	8. The natural dynamics of coastal areas are maintained and coastal ecosystems and landscapes are preserved.
9. Contaminants in fish and other seafood for human consumption levels established by community legislation or other relevant standards.	9. Contaminants cause no significant impact on coastal and marine ecosystems and human health.
10. Properties and quantities of marine litter do not cause harm to the coastal and marine environment.	10. Marine and coastal litter does not adversely affect coastal and marine environments.
11. Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment.	11. Noise from human activities causes no significant impact on marine and coastal ecosystems.

Overall, the ecosystem-based approach is relevant within MSFD at two levels:

1. The strategic level (see Figure 5), represented by the integration and application of the measures and objectives set out in the MSFD, which represents the Integrated Maritime Policy Environmental Pillar and is therefore the interconnection and interrelationship between different sectoral regulations.
2. The functional – procedural level, consisting of the application of the SEA Directive working tools, as a methodology that can concretely articulate the way the ecosystem-based approach needs to be integrated and used to define the MSP plans.

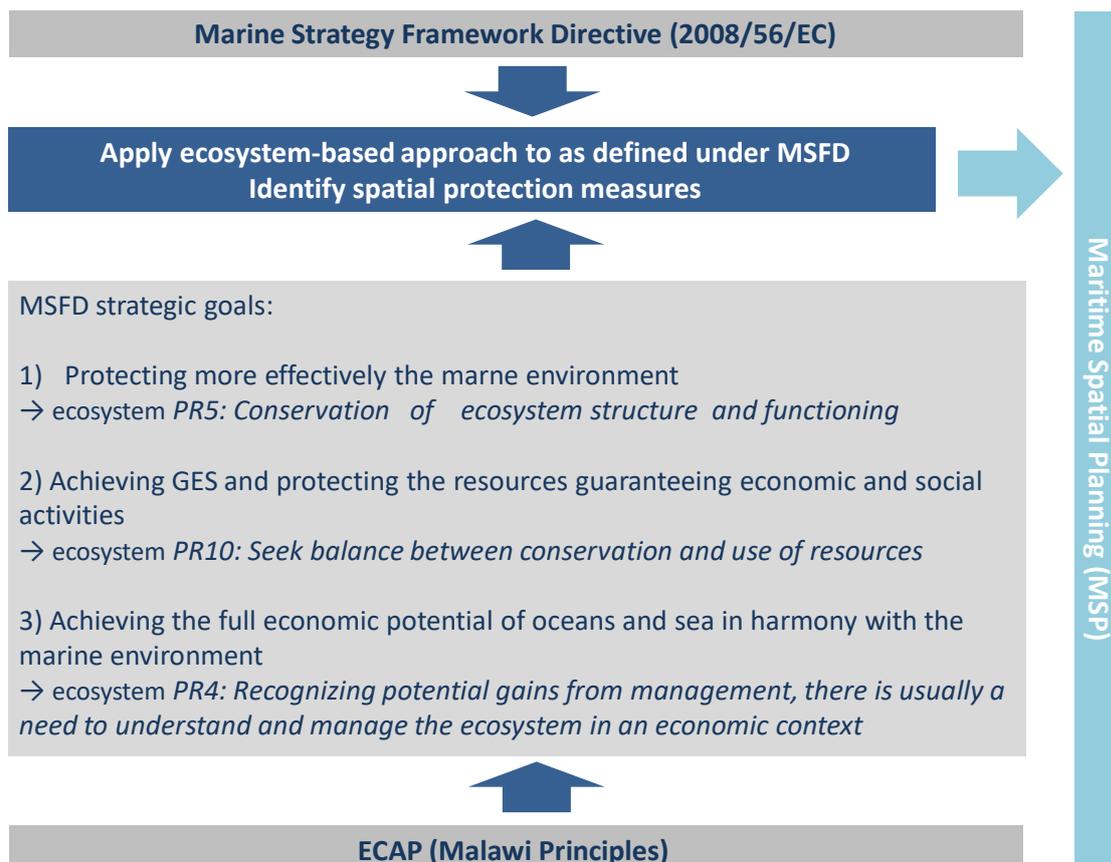


Figure 5: Links between MSFD, ecosystem principles and MSP

## 2.4 Water Framework Directive

The 2000 Water Framework Directive (WFD)<sup>39</sup> adopts a holistic approach to environmental protection and regulation. This Directive calls for a single system of water management based on a river basin (RB), a natural geographical and hydrological unit instead of according to administrative or political boundaries<sup>40</sup>. The Directive requires a high level of protection for all types of waters by a set of deadlines. More specifically, the WFD aims at achieving a Good Ecological Status for all waters by 2015 or, failing that, by 2021 (Art. 4, n. 107). In the WFD the assessment of Ecological Status is primarily based upon several biological quality elements (BQE). These BQE are fish, benthic macro invertebrates, benthic algae and macrophytes, and phytoplankton. In addition, physical-chemical and hydromorphological quality elements are also considered supporting. This means that the assessment also takes into account the quality of the structure and functioning of aquatic ecosystems associated with surface waters, and the physico-chemical nature of the water and sediment, the flow characteristics of the water and physical structure of the water body<sup>41</sup>.

<sup>39</sup> 2000/60/CE.

<sup>40</sup> Platjouw F. M. 2016. Environmental law and the ecosystem approach: maintaining ecological integrity through consistency in law. Routledge. New York.

<sup>41</sup> Ibid.

The WFD is relevant for MSP because it applies to coastal waters that is waters, that have not been designated as transitional waters, extending one nautical mile from a baseline defined by the land points where territorial waters are measured. In addition, the WFD is relevant for MSP in the context of ICZM and LSI. In fact, the WFD deals with the control of sources of polluting pressures affecting all types of waters, including the coastal ones.

Considering the ecosystem-based approach, it is worth noting that the interpretation by WFD and MSFD, respectively, is very different. Under the WFD, the Good Ecological Status is assessed by first splitting up the ecosystem into several BQEs, then by comparing the structure of these individually before combining them and determining the overall condition. The approach is based on the practice that the status of the worst element, used in the assessment, determines the final status<sup>42</sup>. Instead, the MSFD concentrates on a set of 11 descriptors which together summarise the way in which the whole ecosystem functions. The MSFD aims to provide a more holistic, functional approach as it takes the ecosystem and separates it into a set of process-related (functional) objectives and then recombines these to give a holistic approach, ensuring the integrity of the ecosystem.

While the WFD mainly focuses on ecological status, measured by the structure of each of the BQEs and supporting elements, the MSFD takes into account structure, function and processes in marine ecosystems. Hence, the MSFD is potentially a more integrated approach to the management of the European seas, resources and ecosystems, promoting conservation and sustainable use of marine systems<sup>43</sup>.

Considering the links to the ecosystem-based approach (the Malawi Principles)<sup>44</sup> (Figure 6), the WFD acknowledges the need to maintain ecosystems within certain ranges to maintain ecological integrity (Principle 6). Pertaining to the spatial components, the WFD sets the primary management units at the level of hydrological water bodies and the administrative unit at the level of river basin districts (RBDs), including transboundary ones (Principle 7). Overall, the WFD requires the mobilisation of knowledge from different scientific disciplines (e.g. ecology, chemistry, economy) (Principle 12). While the objective of a good ecological status requires adequate attention to ecological needs, socio-economic concerns are considered in several ways (Principle 4). Within the WFD, integrated water management and policy coordination are explicit aims (Principle 2, 7). The WFD integrates several aspects of adaptive management (Principle 9): it is organised around a six-year planning cycle, which includes a thorough evaluation of the success of past implementation; up to three planning cycles (by 2027 at the latest) are allowed to reach the environmental objectives.

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<sup>42</sup> Borja A. et al. 2010. Marine Management – Towards an Integrated Implementation of the European Marine Strategy Framework and the Water Framework Directives. *Marine Pollution Bulletin* 60 (12): 2175.

<sup>43</sup> Holt A. R., Godbold J. A., White P. C. L., Slater A., Pereira E. G. and Solan M. 2011. Mismatches between legislative frameworks and benefits restrict the implementation of the Ecosystem Approach in coastal environments. *Marine Ecology Progress Series*, 434 (213-228).

<sup>44</sup> Links formulated on the basis of the approach described by Rouillard J., Lago M., Abhold K., Röschel L., Kafyeye T., Mattheiß V. Klimmek H. 2018. Protecting aquatic biodiversity in Europe: How much do EU environmental policies support ecosystem-based management? *Ambio*, 47 (1): 15-24.

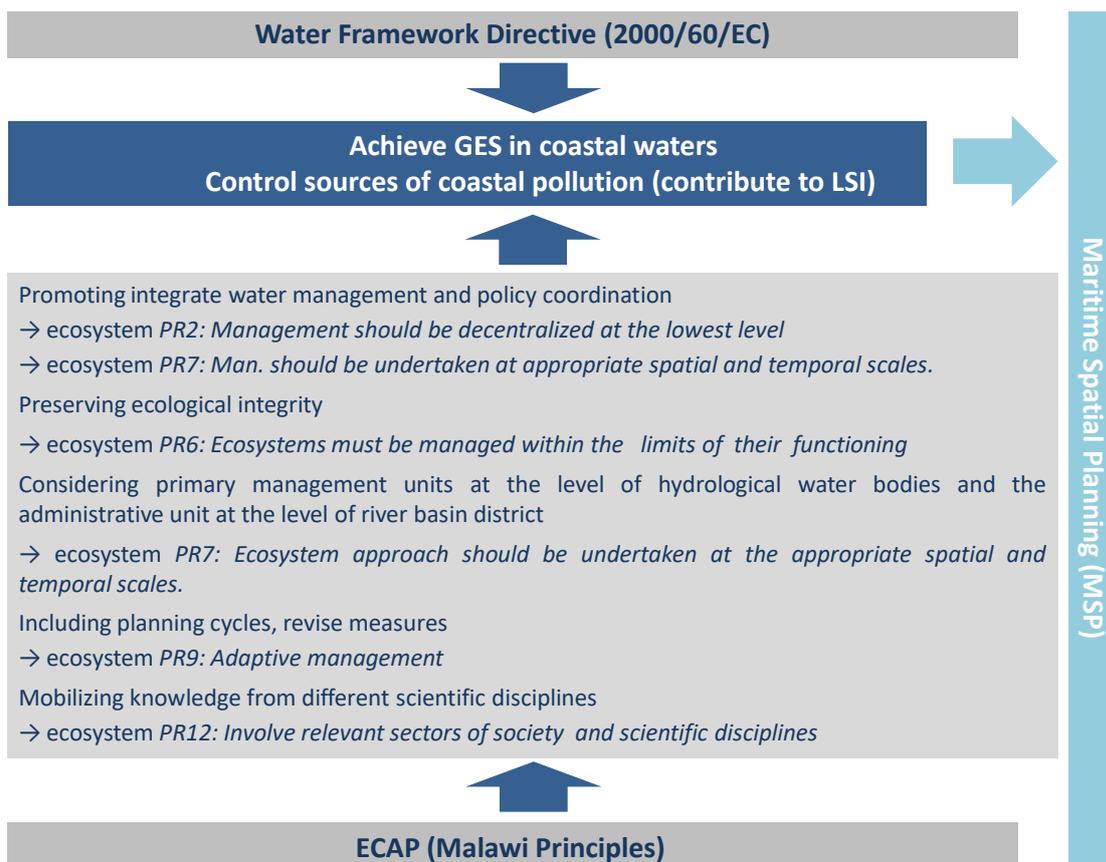


Figure 6: Links between WFD, ecosystem principles and MSP

## 2.5 Birds Directive and Habitat Directive

The most significant policy drivers to MSP include also the Birds (Directive 2009/147/EC) and Habitats Directive (Directive 92/43/EEC). These Directives require EU Member States to designate and protect Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), together known as the Natura 2000 network. Specifically, the aim of the Habitat Directive (HD) is to maintain and restore all habitat types and species of community interest to a Favourable Conservation Status (FCS). FCS describes a situation where a habitat type or species is prospering in both quality and extent and population, and has good prospects to do so in the future. The Birds Directive (BD) focuses on conserving all naturally occurring birds in the wild. The BD calls for measures to protect birds but also to preserve, maintain (prevent deterioration) or re-establish a sufficient diversity and area of habitats for certain bird species. A pre-defined list of habitats and species is set out in the Directives.

The link of these Directives to MSP is through the Natura 2000 network of Marine Protected Areas. MPAs are defined by the Convention on Biological Diversity as “a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives“. MPAs are then designated to protect marine biodiversity under HD and can be complemented by “other effective area-based conservation measures“ (OECMs). OECMs do not necessarily have environmental or biodiversity conservation as their main objective but can nevertheless contribute to the protection of marine ecosystems. The main target of MPAs, and a by product of some OECMs, is to preserve biodiversity

within their boundaries. This is also the objective of the Natura 2000 network, based on the presence of habitats and species of community importance and their distribution patterns.

A clear and strong link between the implementation of HB and BD Directives in the Mediterranean and the MSP process is determined by the present status of Natura 2000 network and other conservation measures in this regional sea. The 1,231 MPAs and OECMs now cover 7.14% of the Mediterranean through a large variety of conservation designations, with national designations accounting for only 1.6% and no-go, no-take or no-fishing zones for 0.04%. Over 72.77% of the protected surface covered is located in the Western Mediterranean. Designations cover 9.79% of European waters mostly due to the Natura 2000 marine network which rarely affords strict restrictive measures. To reach the 10% of protection of the marine space set up by the Aichi Target, an additional 71,900 km<sup>2</sup> (2.86% of the Mediterranean) would need to be placed under strong protection designations that also target currently under-represented features. Since 2012, 391 Natura 2000 sites were designated but just 6 MPAs of national status were established<sup>45</sup>.

HD and BD express many principles in accordance with the ecosystem-based approach and their principles can be related to the Malawi Principles<sup>46</sup> (Figure 7). The measures they have foreseen focus on biodiversity and have the potential to have a positive impact on the whole ecosystem (Principle 5). The Directives also acknowledge the multi-level approach to biodiversity conservation by enabling proportionate and appropriate implementation in each State and at site level (Principle 2). While protecting species across their entire natural range, both Directives support the establishment of a network of protected areas to protect the most vulnerable species and habitat types, commonly called together as Natura 2000. Internationally, the Directives acknowledge that threats to habitats and species are often of a transboundary nature, and explicitly call for cooperation between Member States (Principle 6, 7). At the local level, the Directives encourage the use of management, contractual agreement between the competent authorities and individual landowners (Principle 12). The development of a protection regime for habitats and species, and designation of Natura 2000 sites, is done on scientific grounds and must consider elements of biology, ecosystem functions and structure (Principle 5). Both Directives include nevertheless consideration of social and economic issues (Principle 4), whereby States must provide information on threats and pressures (Art. 12 BD, Art. 17 HD). Measures must take into account economic, social and cultural requirements and regional and local characteristics of the area concerned (Art. 2 HD and BD) (Principle 1)<sup>47</sup>. Lastly, HD and BD also integrate several aspects of adaptive management (Principle 9): HD requires Member States to report progress on the state of conservation every six years. This encourages some cycles of planning and revisions, although not clearly spelled out in both Directives. The HD also stresses the need to go beyond simple management measures to ensure conservation towards preventive and anticipatory approaches to avoid deterioration, which can build adaptive capacity and resilience<sup>48</sup>.

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<sup>45</sup> MEDPAN-RAC/SPA. 2016. The 2016 status of marine protected areas in the Mediterranean. Main findings.

<sup>46</sup> Links formulated on the basis of the approach described by Rouillard J., Lago M., Abhold K., Röschel L., Kafyeye T., Mattheiß V. Klimmek H. 2018. Protecting aquatic biodiversity in Europe: How much do EU environmental policies support ecosystem-based management? *Ambio*, 47 (1): 15-24.

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

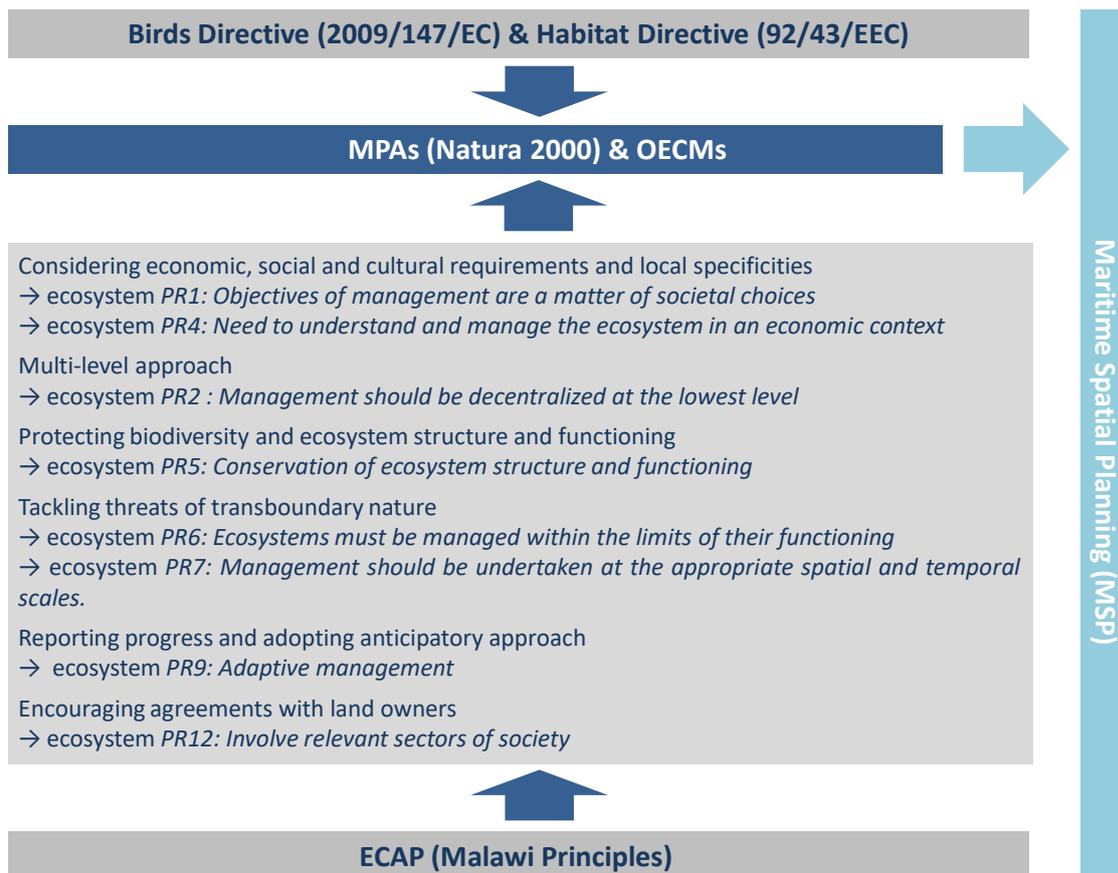


Figure 7: Links between Birds Directive & Habitat Directive, ecosystem principles and MSP

## 2.6 SEA Directive

Strategic Environmental Assessment (SEA) is an important tool for implementing the ecosystem-based approach in maritime spatial planning as it identifies, describes and assesses the likely significant effects on the ecosystem. According to EU law (Directive 2001/42/EC) an SEA has to be carried out before a maritime spatial plan can be approved by the responsible authority in accordance with the criteria set out in this Directive and as required by the MSP Directive. This includes the preparation of an environmental report, the carrying out of public consultations, the taking into account of the environmental report and the results of the consultations in decision-making and the provision of information on the decision<sup>49</sup>.

In addition, for EU Member States, impact assessments of habitats and species (Art. 6 of the Habitats Directive 92/43/EEC) and of bird sanctuaries (Birds Directive 2009/147/EC) are obligatory.

Bases in its core principles, links between SEA and the ecosystem-based approach in the context of MSP can be identified (Figure 8).

<sup>49</sup> HELCOM-VASAB. 2016. Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea area.

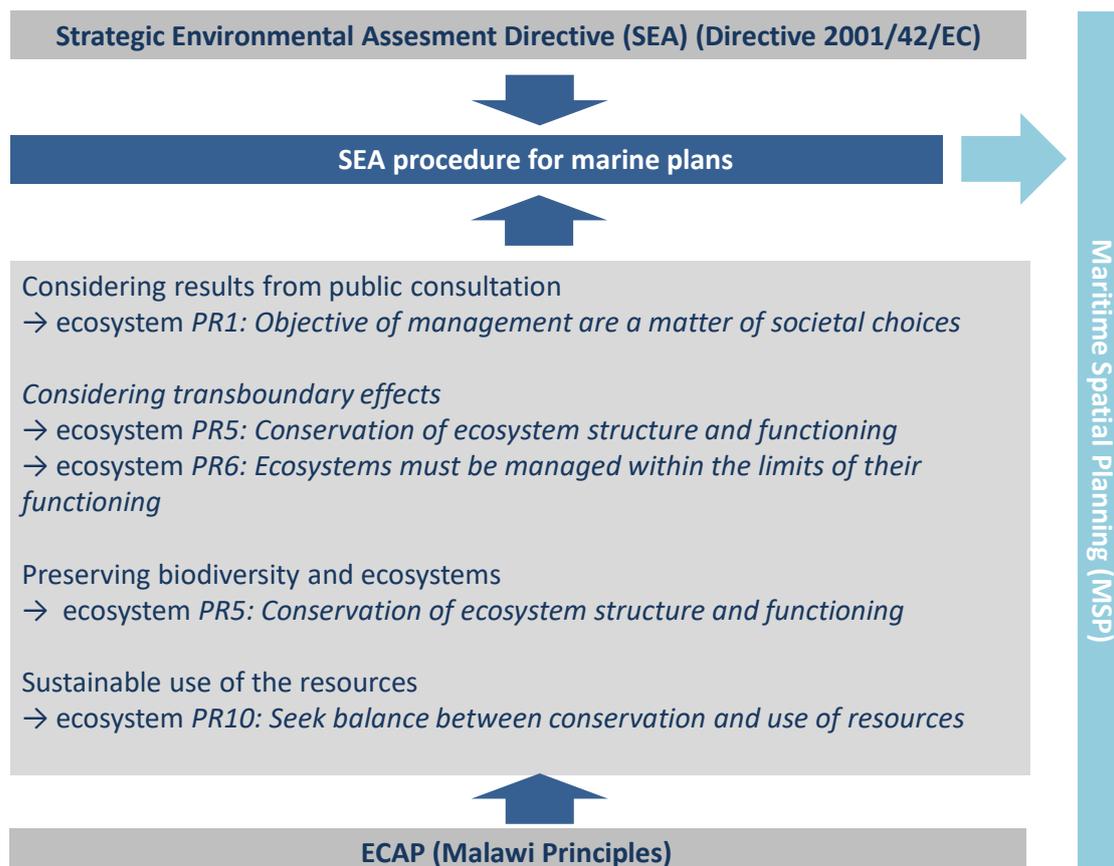


Figure 8: Links between SEA Directive, ecosystem principles and MSP

The SEA Directive also requires that a Member State shall forward a copy of a draft plan or programme and the relevant environmental reports to other Member States, when the plan or programme is likely to have significant transboundary effects on the environment, and shall enter into consultation at the request of other Member States concerning the transboundary effects of implementing the plan or programme. This provision creates incentives for cross-border consultation and cooperation in addressing the transboundary environmental impacts of national marine plans.

## 2.7 Common Fishery Policy

At the European level, the ecosystem-based approach has also appeared within the European Common Fishery Policy (CFP). The 2013 Regulation on the CFP states in Article 2(3):

- *“The CFP shall implement the ecosystem-based approach to fisheries management so as to ensure that negative impacts of fishing activities on the marine ecosystem are minimized, and shall endeavour to ensure that aquaculture and fisheries activities avoid the degradation of the marine environment.”*

The outcomes of the CFP implementation affect MSP in many ways, particularly with regards to protecting Special Areas of Conservation (SACs), Special protection Areas (SPAs) and Marine Protected Areas (MPAs), and achieving GES. Despite various provisions for fisheries restrictions to support environmental conservation and the management of Natura 2000 sites under the CFP, such provisions

are actually very rarely used. Such restrictions under the CFP would be very important as designation of Natura 2000 sites does not have any immediate, direct effect on fisheries management<sup>50</sup>.

The ecosystem approach in fisheries management has been understood by the EU Commission as being about ensuring goods and services from living aquatic resources for present and future generations within meaningful ecological boundaries. The EU Commission emphasizes that such fisheries management will strive to ensure that benefits from living marine resources are high while the direct and indirect impacts of fishing operations on marine ecosystems are low and not detrimental to the future functioning, diversity and integrity of these ecosystems.<sup>51</sup>

An important element of the CFP is the focus on a cross- sectoral approach and coherence with the MSFD and the Habitats Directive:

- *“An ecosystem-based approach to managing the seas cannot and should not be implemented in a specific sector alone, but must be cross-sectoral. The Integrated maritime Policy constitutes the overall framework for integrated action in the maritime field, and its environmental pillar, the MSFD, constitutes the general basis for implementing an ecosystem approach to the marine environment”.*

According to the CFP, fish stocks should be brought up to healthy levels and be maintained in healthy conditions. They should be exploited at maximum sustainable yields level, which can be defined as the highest catch that can be safely taken year after year and which maintains the fish population size at maximum productivity.

In addition, the ecosystem-based approach to marine management implies that multiple and often conflicting interests need to be reconciled in the process. While there may be short-term contradictions between social objectives and the requirement to conduct fisheries within meaningful ecological boundaries, such contradictions largely disappear in the long term because healthy ecosystems are a prerequisite for the continued existence of a fishing industry<sup>52</sup>.

An overview of the main links between CFP and the principles of ecosystem-based approach (Malawi principles) is presented in Figure 9.

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<sup>50</sup> Qiu W., Jones P. J. S. 2013. The emerging policy landscape for marine spatial planning in Europe. *Marine Policy* 39: 182-190.

<sup>51</sup> Platjouw F. M. 2016. *Environmental law and the ecosystem approach: maintaining ecological integrity through consistency in law*. Routledge. New York.

<sup>52</sup> COM(2008)187/F1

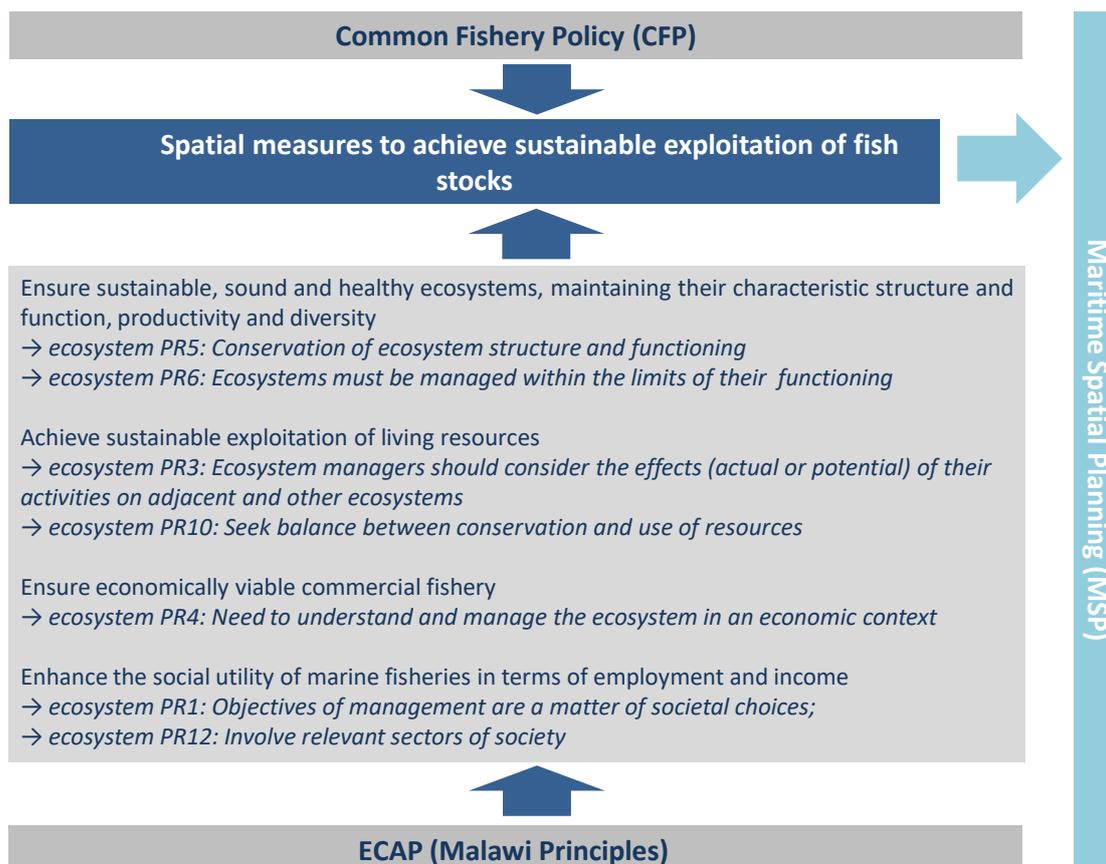


Figure 9: Links between CFP, ecosystem principles and MSP

## 2.8 Blue Growth strategy

Blue Growth is the long-term strategy of the EU to support sustainable growth in the marine and maritime sectors as a whole<sup>53</sup>. Seas and oceans are drivers for the European economy and have great potential for innovation and growth. The Blue Economy represents the maritime contribution to achieving the goals of the Europe 2020: A Strategy for a smart, sustainable and inclusive growth. This new economy of the sea aims to optimize the benefits received from the sustainable development of marine environments<sup>54</sup>. The EU Blue Growth agenda targets the following marine economic sectors: ocean energy, aquaculture, maritime, coastal and cruise tourism, marine mineral resources, and marine biotechnology.

The economic activities under the Blue Growth agenda might impact marine ecosystems, specifically in what concerns Good Environmental Status (GES), meaning that the marine environment is clean, healthy

<sup>53</sup> Communication from the Commission: Blue Growth opportunities for marine and maritime sustainable growth (COM(2012) 494 final).

<sup>54</sup> United Nations Environmental Program (UNEP), Blue Economy: Sharing Success Stories to Inspire Change, UNEP Regional Seas Report and Studies N° 195, 2015. Available online at <https://www.unenvironment.org/resources/publication/blue-economy-sharing-success-stories-inspire-change> (last accessed 16 Sep. 2016).

and productive, as defined in the context of EU policies. Thus, the EU marine-related Directives described above establish a set of environmental targets, and the associated indicators, to be considered when evaluating the status of the EU maritime space. From an ecosystem-based approach point of view, the close interlinkage between Blue Growth activities and the marine ecosystems should be carefully considered, clearly understood and appropriately managed. In fact, there appears to be growing tensions between policies that focus on an ecosystem-based approach (MSFD, Birds/Habitats Directives, etc.) and policies that focus on Blue Growth<sup>55</sup>.

In addition to possible conflicts with regard to the GES of marine ecosystems (difficulties in coupling with the ecosystem-based approach), Blue Growth implementation faces other major challenges: tensions between different maritime sectors, need to accomplish future demands of sea space, difficulties in engaging stakeholders, lack of good local, regional, cross-border governance, necessary for developing blue economy<sup>56</sup>. To couple with this, Blue Growth implementation can rely on several, strong links with MSP. These can help address the Blue Growth challenges by creating a framework for evidence-based and inclusive maritime spatial plans, contributing to reconciles economic needs with other dimensions and demands, including the protection of the environment, the supply of ecosystem services, the interactions between activities and processes occurring at sea and onshore, and cross-border cooperation. Moreover, MSP processes can contribute to raise awareness for the innovation potential of the sea and its role in general for the economy as well as the environment<sup>57</sup>.

In relation with the ecosystem-based approach, the basic concept is that durable maritime economy must rely on a sustainable use of ecosystem services supplied by seas. Figure 10 shows the links between the demand for ecosystem services that are driven by the Blue Growth agenda's economic activities (blue energy, aquaculture, maritime, coastal and cruise tourism, marine mineral resources, and blue biotechnology) and the supply side for these services. Marine ecosystems could be negatively impacted by these economic activities if such activities are not properly regulated and managed, halting marine ecosystems' capacities to provide the demanded ecosystem services<sup>58</sup>.

Marine ecosystem services supply biomass from plants and animals for marine aquaculture, and biomass from all biota for direct use or processing for biotechnology. Both ES and the abiotic outputs from seas and ocean supply energy from algae biomass or from renewable abiotic sources. They also provide interactions with environmental or with physical settings for maritime, coastal and cruise tourism. Abiotic outputs supply abiotic substances, materials and energy as marine mineral resources. However, the capacity for marine ecosystems to supply the required services in a sustainable way requires actions that are regulated by legislation. In this way, human well-being can be linked to GES. Blue Growth thus requires navigating trade-offs between economic, social and environmental aspects underpinned by marine ES<sup>59</sup>.

Links between the Blue Growth Strategy and ECAP (Malawi Principles) are identified in Figure 10 with reference to three of the pillars considered under the Strategy (blue energy production, aquaculture, maritime and coastal tourism).

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<sup>55</sup> Qiu W., Jones P. J. S. 2013. The emerging policy landscape for marine spatial planning in Europe. *Marine Policy* 39: 182-190.

<sup>56</sup> Joint Roadmap to accelerate Maritime/Marine Spatial Planning processes worldwide – 2<sup>nd</sup> International Conference on Marine/Maritime Spatial Planning, 15-17 March 2017, Paris UNESCO. Conference conclusions.

<sup>57</sup> Ibid.

<sup>58</sup> Lillebø A.I., Pita C., Garcia Rodrigues J., Ramos S., Villasante S. 2017. How can marine ecosystem services support the BlueGrowth agenda? *Marine Policy* 81: 132-142.

<sup>59</sup> Ibid.

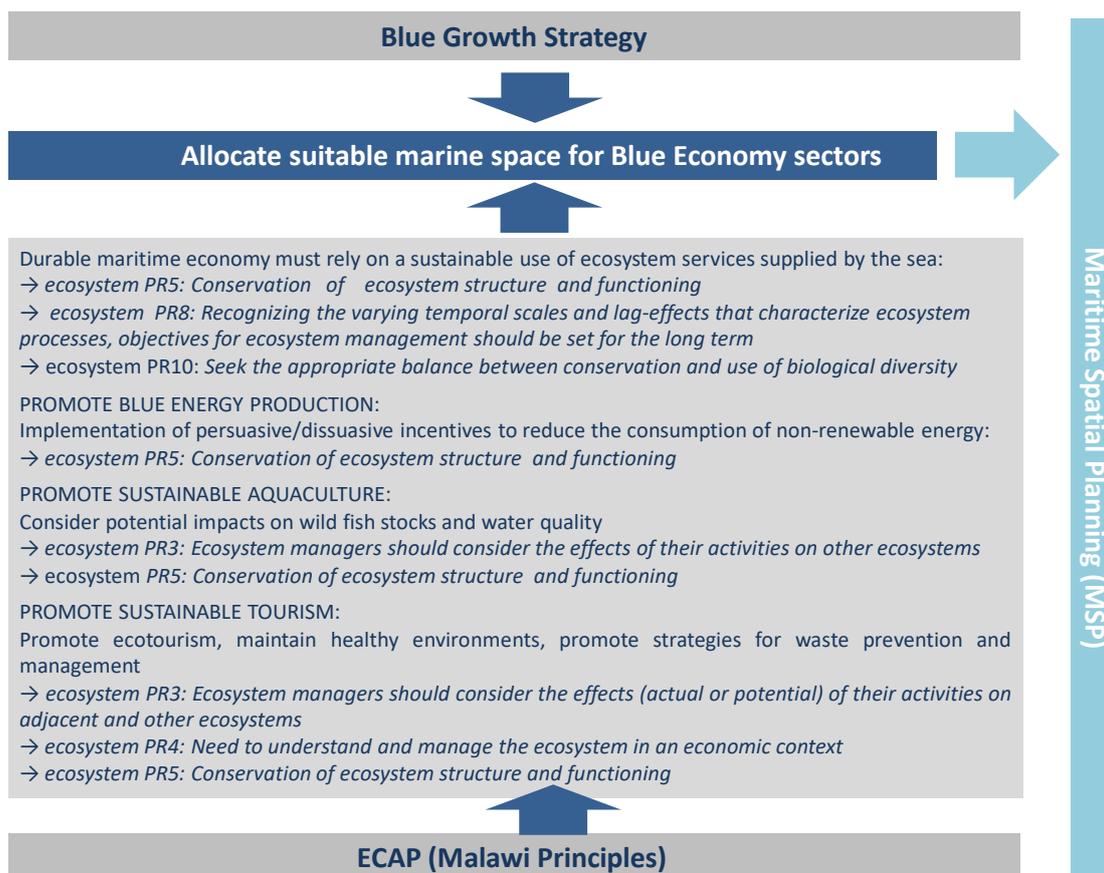


Figure 10: Links between Blue Growth Directive, ecosystem principles and MSP

## 2.9 Renewable Energy Directive

The EU Renewable Energy Directive (Directive 2009/28/EC) is a key component of the EU Climate and Energy Pack adopted in 2008 to contribute to EU's fulfilment of Kyoto Protocol objectives which includes a legally binding obligation to increase the share of renewables to 20% of total energy consumption in the EU by 2020. The Directive was adopted to address this obligation. Under this Directive, Member States are required to meet their national overall target for the share of energy from renewable sources in 2020. Each Member State is also required to adopt a national renewable energy action plan, providing projections for the share of renewable energy consumed in electricity, transport and heating /cooling sectors in 2020. According to the submitted national renewable energy action plans, the EU Member States have planned to install 44.2 GW of offshore wind energy and 2.3 GW of tidal, wave and ocean energy in 2020 (increased from 2.6 and 0.2 GW in 2010), which accounts for 12.2% of total renewable electricity capacity, or 5.2% of total renewable energy (including transport and heating/cooling) in 2020<sup>60</sup>.

As the offshore renewable industry grows, the spatial requirements are having significant effects on other uses of the sea, such as fishing and navigation. There are also potential/on-going tensions between offshore renewable developments and Natura 2000 sites. On the other side, the entry into force of the MSFD and the Renewable Energy Directive have provided a driving force for the designation

<sup>60</sup> Qiu W., Jones P. J. S. 2013. The emerging policy landscape for marine spatial planning in Europe. Marine Policy 39: 182-190.

of MPAs and the development of marine renewable energy, particularly wind farms, across Europe, which may claim extensive marine areas and lead to a “race for space” in the marine environment<sup>61</sup>. Implications of all these factors for MSP are relevant.

## 2.10 Aquaculture strategy

Aquaculture is considered a strategic activity for the EU. The Commission intends to boost the aquaculture sector through the Common Fisheries Policy reform, and in 2013 published the Strategic Guidelines<sup>62</sup> presenting common priorities and general objectives at EU level. In addition, marine aquaculture is recognized as one of the four focus areas identified under the Blue Growth Strategy<sup>63</sup>.

Marine aquaculture is relevant for MSP: a limited access to space is recognized by the Blue Growth Strategy as one of the major factors limiting the development of EU marine aquaculture:

- *“Lack of available maritime space for aquaculture activities, competition in the global market and administrative constraints in particular concerning licensing procedures are amongst the challenges to growth. Sustainable aquaculture must also consider potential impacts on wild fish stocks and water quality. Since the start of the present economic crisis, investment has been limited by the lack of capital.”*

Moreover, the recently published (2016) Commission working document on aquaculture<sup>64</sup> indicates that, *“in situations where there may be competition for space, maritime spatial plans should be used to reduce conflicts between sectors and create synergies between different activities, encourage investment by instilling predictability, transparency and clearer rules, increase coordination between administrations in each country via the use of a single instrument to balance the development of a range of maritime activities, increase cross-border cooperation and protect the environment through the early identification of impacts arising from the multiple use of space. The development of spatial planning for aquaculture is very valuable approach that can integrate the requirements of the WFD and MSFD”*.

An ecosystem-based approach to aquaculture (EAA) has been developed by the FAO<sup>65</sup> as a means to enhance aquaculture production in an environmentally and socially acceptable way that takes account of multiple uses of space, and is compatible with the legal basis defined in the MSFD and the CFP. The EAA should form the basis for development of spatial planning under the ecosystem approach within the EU.

Research is on-going in the EU to provide operative tools to implement an ecosystem-based approach to aquaculture; one example is the on-going H2020 AQUASPACE project<sup>66</sup>.

Links between the EU aquaculture policy and the ecosystem-based approach are highlighted in Figure 11.

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<sup>61</sup> Ibid.

<sup>62</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0229&from=EN>

<sup>63</sup> Communication from the Commission: Blue Growth opportunities for marine and maritime sustainable growth (COM(2012) 494 final).

<sup>64</sup> Commission staff working document. On the application of the Water Framework Directive (WFD) and the Marine Strategy Framework Directive (MSFD) in relation to aquaculture. SWD(2016) 178 final.

<sup>65</sup> Aguilar-Manjarrez, J., Soto, D. & Brummett, R. 2017. Aquaculture zoning, site selection and area management under the ecosystem approach to aquaculture. A handbook. Report ACS18071. Rome, FAO, and World Bank Group, Washington, DC. 62 pp. Includes a USB card containing the full document (395 pp.).

<sup>66</sup> AQUASPACE Ecosystem Approach to making Space for Aquaculture. EU Horizon 2020 project grant No. 633476. Deliverable 5.1 Synthesis of the lessons learned from the development and testing of innovative tools to support ecosystem-based spatial planning to aquaculture. <http://www.aquaspace-h2020.eu/wp-content/uploads/2018/01/Synthesis-of-tool-implementation-in-EAA.pdf>

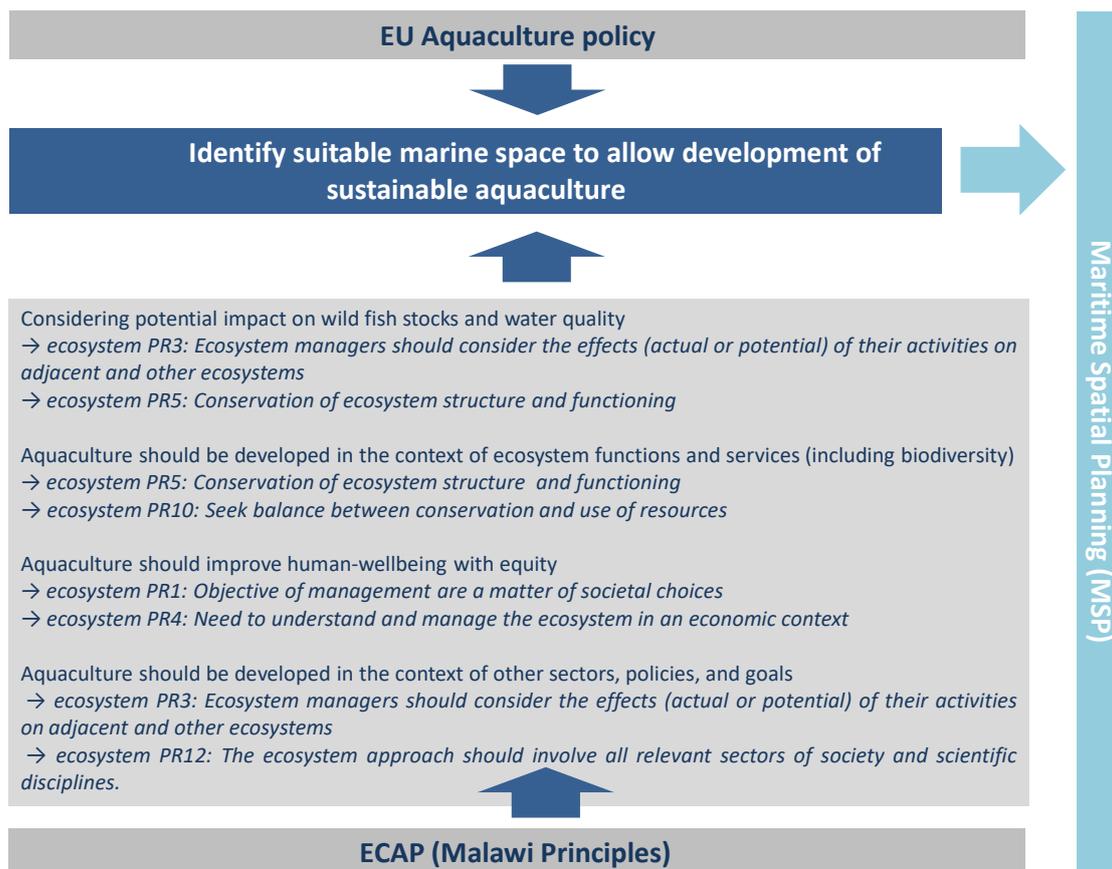


Figure 11: Links between EU aquaculture policy, ecosystem principles and MSP

## 2.11 EU Tourism policy

In June 2010, the European Commission adopted the Communication “Europe, the world’s No. 1 tourist destination – a new political framework for tourism in Europe”<sup>67</sup>. This communication set out a new strategy and action plan for EU tourism. Four priorities for action were identified, introducing the concept of sustainability of tourism related activities:

- To stimulate competitiveness in the European tourism sector;
- To promote the development of sustainable, responsible, and high-quality tourism;
- To consolidate Europe’s image as a collection of sustainable, high-quality destinations;
- To maximise the potential of EU financial policies for developing tourism.

In the Blue Growth strategy, coastal, maritime and cruise tourism are accounted as one of the four focus areas. The quality of marine environment is identified here as needed in order to maintain and enhance the attractiveness of coasts and seas:

- “A healthy environment is fundamental to any form of “blue” tourism and favours the growth potential of new forms of tourism. High quality bathing waters and pristine coastal and marine habitats have a high recreation value. This increases the attractiveness of coastal areas which in turn increases the growth potential of activities such as nautical tourism and sports, and green tourism such as whale watching”.

<sup>67</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0352&from=EN>

Elaborating more on the idea of sustainability of the tourism sector, the Commission presented in 2014 the European Strategy for more Growth and Jobs in Coastal and Maritime Tourism<sup>68</sup> where Integrated Coastal Management and Maritime Spatial Planning are indicated as factors “*helping to ensure sustainable and Green Infrastructure development through smart planning and cooperation between government, public and private partners*”. In addition, the following objectives are set by the Commission:

- Promote ecotourism;
- Promote implementation of the Protocol to the Barcelona Convention on Integrated Coastal Zone Management and the relevant Council Recommendation, and promote Maritime Spatial Planning and Green Infrastructure, to ensure the sustainable development of EU coastal area;
- Promote strategies on waste prevention, management and marine litter to support sustainable coastal and maritime tourism.

Member States, regions, industry and other economic sectors and stakeholders are also invited to implement the ICZM Recommendation and the Protocol.

Despite these indications, coastal and maritime tourism development still poses challenges to MSP and sustainable management of coasts and seas. A significant role of MSP is recognized in organizing and planning coastal and marine tourism activities and especially in ensuring: a) good environmental conditions for the tourism industry to prosper, b) quality of seascapes and coastal landscapes and other resources of importance to tourism, c) adaptation to climate change effects, d) spatial regulations so that coastal and marine space is not overwhelmed by tourism facilities and activities, and e) wise allocation of human uses in the coastal zone so as to avoid conflicts and create synergies among sectors<sup>69</sup>. MSP is also recognized to play a significant role in the organization of tourism development, especially in terms of ensuring/achieving the following environmental conditions:

- Good environmental status of the coastal zone and marine space, so that tourism activities (as well as other economic sectors) that are totally dependent on a healthy ecosystem can prosper and grow;
- Quality seascapes and coastal landscapes, which are resources of vital importance for tourism development;
- Resilience to climate change effects (sea level rise, coastal erosion, etc.) which are mostly threatening to vital spaces for tourism (i.e. the coastal zone)<sup>70</sup>.

At the same time, in terms of spatial organization, MSP can be beneficial to coastal and marine tourism by:

- Providing spatial regulations so that coastal and marine space is not overwhelmed by tourism facilities and activities (tourism resorts, etc.), but has room for other economic sectors to grow and prosper;
- Wisely allocating all types of human uses – and by extension of coastal and marine tourism – in order to avoid conflicts, as well as achieve synergies among economic sectors.

Optimally organizing human activities in spaces undergoing increased pressure and “run-offs” as are the urbanised areas (coastal cities, etc.) and the narrow zone close to both sides of the shoreline<sup>71</sup>.

Links between EU tourism policy, ecosystem principles and MSP are highlighted in Figure 12 that follows.

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<sup>68</sup> COM(2014) 86 final.

<sup>69</sup> Papageorgiou M. 2016. Coastal and marine tourism: A challenging factor in Marine Spatial Planning, *Ocean & Coastal Management*, 129: 44-48.

<sup>70</sup> Ibid.

<sup>71</sup> Ibid.

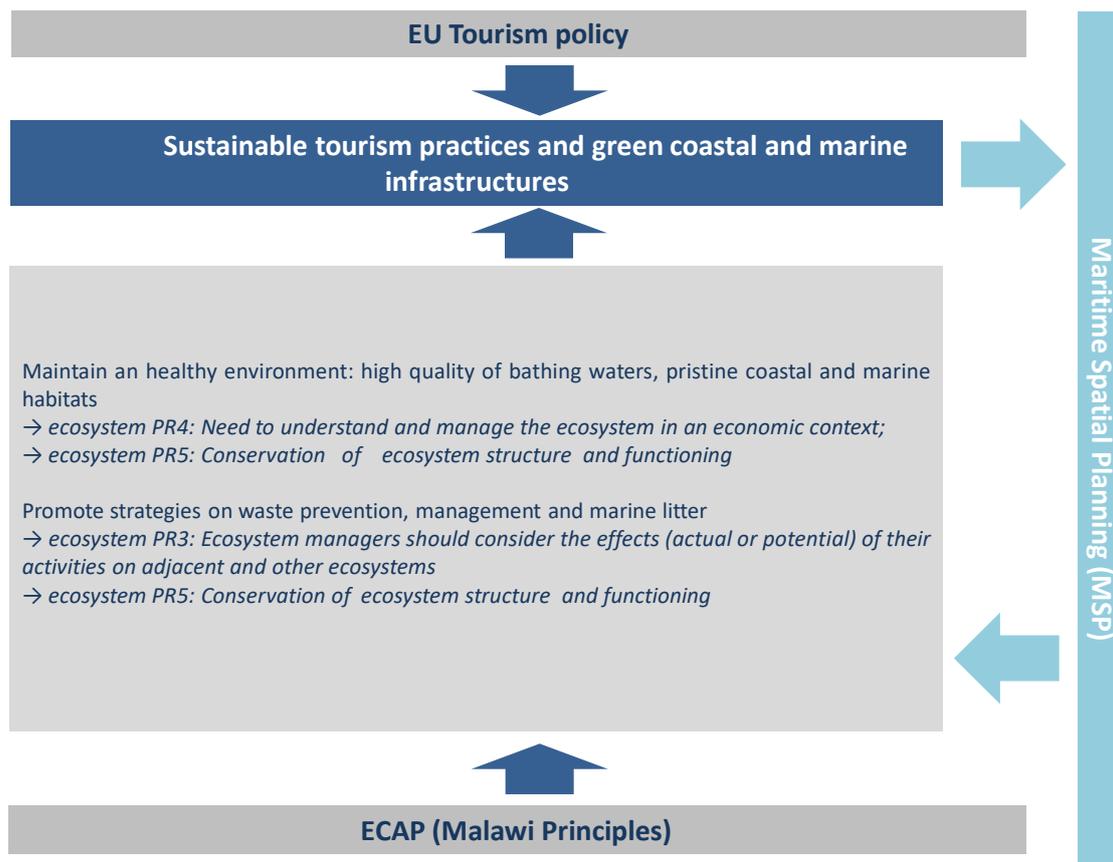


Figure 12: Links between EU tourism policy, ecosystem principles and MSP

## 2.12 Integrated Maritime Policy

The EU Integrated Maritime Policy (IMP) seeks to provide a more coherent approach to maritime issues, with increased coordination between different policy areas. It focuses on issues that do not fall under a single sector-based policy, e.g. “Blue Growth” (economic growth based on different maritime sectors), and issues that require the coordination of different sectors and actors, e.g. marine knowledge. Specifically, it covers the following cross-cutting policies:

- Blue Growth;
- Marine data and knowledge;
- Maritime spatial planning;
- Integrated maritime surveillance;
- Sea basin strategies.

The IMP interacts with most of other EU Directives and regulations that affect the use and management of the marine environment, including those for fisheries, shipping, ports, renewable energy and nature conservation. The MSFD is regarded as being the “environmental pillar” of the IMP, however the MSFD’s relationship with other objectives or “pillars” is not clear. Compared to the MSFD, the IMP clearly places a greater focus on promoting cross-sectoral integration and maritime economic growth<sup>72</sup>.

<sup>72</sup> Qiu W., Jones P. J. S. 2013. The emerging policy landscape for marine spatial planning in Europe. *Marine Policy* 39: 182-190.

The IMP embraces all the objectives established in other marine policies and legislation, including designation of MPAs (Natura 2000 sites), the development of offshore renewable energy and sustainable fisheries. It is stated in the “Blue Book”<sup>73</sup> that competence for decision-making in MSP and ICZM lies with the Member States, and that both instruments “contribute to meeting the commitments deriving from the Thematic Strategy for the Protection of the Marine Environment (MSFD) and provide operators with improved predictability for their planning of future investments”. However, the occurrence of conflict within IMP is to be recognized. For example, a position paper has been produced by a group of NGOs in reaction to the launch of the Blue Growth Strategy<sup>74</sup>.

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<sup>73</sup> “Blue Book” – Communication on an Integrated Maritime Policy for the European Union. COM(2007) 574 final.

<sup>74</sup> European Seas Environmental Cooperation ESEC 2012. Limits to Blue Growth. Joint NGO Position Paper.

### 3. Coordination of regional policies under MSP

The policy framework linked to MSP in the Mediterranean is characterised by a complex array of sectoral policies and directives, exhibiting both synergies and tensions between the different drivers<sup>75</sup>. Following the objectives set out in the MSFD and IMP, MSP must be able to **deliver the ecosystem-based approach**, provide clarity and certainty for future investments in maritime sectors and prevent or reduce conflicts between different uses of sea space through integrated planning. Such an ambition faces the reality that maritime activities in Europe have previously been managed on a strong sectoral basis, and that not all conflicts can be solved just by the introduction of new plans<sup>76</sup>.

However, there is a lot of EU as well as Barcelona Convention policy support for the implementation of ecosystem-based approach and potential to increase synergies between policies with the purpose of delivering the ecosystem-based approach in the Mediterranean. These policy frameworks support several key dimensions of ecosystem-based approach (e.g. ecological integrity, acknowledgement of multiple scales, land-sea interactions, multi-disciplinary knowledge, stakeholder participation, transparency, policy coordination, adaptive management). These commonalities represent opportunities for streamlining and coordinating between different policies<sup>77</sup> that can be capitalized by the MSP process.

Important prerequisite for coordination of sectoral policies under MSP is “establishing” an **ecosystem-based governance setting**, enabling integration of concerns and interests across sectors, between governmental levels and/or between government and stakeholders. As such, it implies adequate knowledge of the implications, requirements and planning criteria for the various individual sectors. Besides the governance aspects, other MSP challenges related to policy and sector integration are due to the following main aspects: integration of environmental policies (in particular MSFD) and Blue Growth; sectoral integration in public policy (e.g. maritime transports, fisheries, tourism, etc.); integration of public, private and voluntary sector activities; integration of stakeholder knowledge, values, interests, critique, etc. in MSP with regard to important procedural aspects (e.g. transparency, legitimacy, power, mobilisation, timing, roles)<sup>78</sup>. It is therefore fundamental to MSP and important to pro-actively resolve spatial conflicts and promote spatial synergies.

Through the governance setting, one of the initial steps towards developing a maritime spatial plan, according to the ecosystem-based approach, is **preparing a vision** on the use of the maritime area in question<sup>79</sup>. In fact, MSP is not only concerned with minimizing conflicts between ongoing activities in a given maritime space, but is designed to take a future-orientated approach to prevent such conflicts occurring in the first place. It is therefore necessary to understand potential future developments in the marine space in question; whether it is economic, technical or ecological, strategic or externally driven, short or long term. Such multi-objective “visions” can be developed through visioning exercises,

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<sup>75</sup> Qiu W., Jones P. J. S. 2013. The emerging policy landscape for marine spatial planning in Europe. *Marine Policy* 39: 182-190.

<sup>76</sup> Ibid.

<sup>77</sup> Platjouw F. M. 2016. *Environmental law and the ecosystem approach: maintaining ecological integrity through consistency in law*. Routledge. New York.

<sup>78</sup> [www.msp-platform.eu/faq/cross-sector-integration](http://www.msp-platform.eu/faq/cross-sector-integration)

<sup>79</sup> Some indications on how MSP can contribute to policy integration have been outlined for the Baltic Sea. More information is available in HELCOM-VASAB 2016. *Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea area*.

scenarios and forecast development processes, or as part of strategic planning, action planning and developing roadmaps. This vision must incorporate both environmental factors and human uses and it needs to be in line with the regional marine strategy. Specifically, a cross-sectoral MSP applying the ecosystem-based approach has to integrate, organize, allocate and create opportunities for human activities and demands in marine areas in such a way that the ecosystem, including all its components, dynamics, limits and ecological functions, is safeguarded and a good environmental status (GES) is not compromised while the different social and economic demands on maritime resources are recognized. This gives a great opportunity to integrate environmental protection policies (such as HD, BD, WFD, MSFD, UN Environment/MAP EcAp), resource management policies (CFP) and economic development policies (Blue Growth Strategy, Aquaculture strategy, Renewable Energy Strategy).

The process of preparing a vision can also provide a basis for a cross-border cooperation for MSP. Developing a transnational vision is particularly useful if, for example, the development of maritime sectors in one country influences maritime development in a bordering country whereby consensus is needed. On the other hand, many sectors require cross-border coherence in planning (e.g. shipping lanes, energy corridors, underwater cables), so developing a joint vision and planning principles can help in this regard. A vision or a strategy can also be an umbrella to better link MSP and coastal zone management objectives as well as territorial development in general, across a specific portion of space<sup>80</sup>. The EU MSP Platform prepared a “Handbook for developing Visions in MSP”<sup>81</sup> which follows a possible decision-making framework, first providing ideas on how some initial decisions can be made including what format, temporal scope, skills and resources could be used for developing a vision. The handbook also suggests concrete steps and elements needed to build a vision process, such as a stakeholder engagement strategy, analysis of future trends through forecasts and scenarios, or visualization and presentation techniques.

In addition to the elements mentioned above, intrinsic **iterative procedure** of MSP process can contribute to policy coordination under the ecosystem-based approach. It starts with general-level discussions on, for example, goals, costs and impacts, and moves into deeper-level discussions as the knowledge increases. Impact assessments might demand more investigations during the planning process and these are done throughout the planning procedure to be able to make sustainable decisions<sup>82</sup>.

The capacity to achieve a real cross-sector coordination is highly dependent on an effective **stakeholder involvement**<sup>83</sup>, aiming at harmonization of stakeholder values and interests as well as integration of knowledge (different types of knowledge: e.g. scientific and local knowledge; sector-specific knowledge and rules). Therefore, the established governance mechanisms should ensure that (among others):

- Governments engage proactively with stakeholders early in the process;
- Stakeholders are assertive and organised to maximise participation opportunities;
- Multi-sector, regional stakeholder forums are established;
- Stakeholders continue to seek new ways to implement voluntary measures to improve sustainability of their activities.

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<sup>80</sup> [www.msp-platform.eu/faq/msp-visions](http://www.msp-platform.eu/faq/msp-visions)

<sup>81</sup> Lukic I., Schultz-Zehden A., and Simone de Grunt L. 2018. Handbook for developing Visions in MSP. Technical Study under the Assistance Mechanism for the Implementation of Maritime Spatial Planning. [www.msp-platform.eu/sites/default/files/20180523\\_handbook\\_final\\_online\\_0.pdf](http://www.msp-platform.eu/sites/default/files/20180523_handbook_final_online_0.pdf)

<sup>82</sup> Ibid.

<sup>83</sup> <http://www.msp-platform.eu/faq/cross-sector-integration>

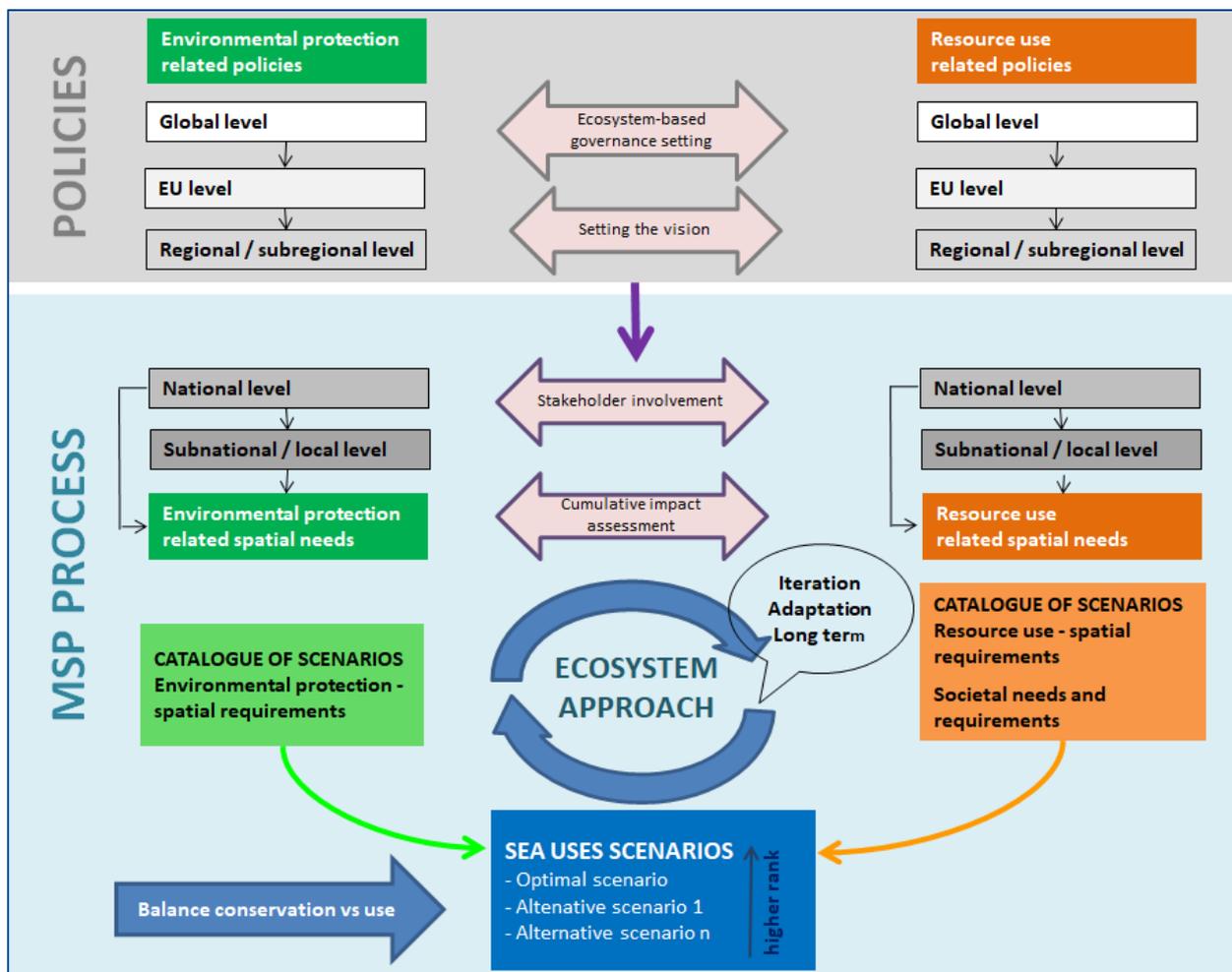


Figure 13: Schematic representation of the proposed path for policies coordination through MSP process, in the framework of the ecosystem-based approach

The elements identified above (ecosystem-based governance settings, visioning process, iterative process, stakeholder engagement) can be considered as components of a unique path towards coordination, through the **policy level** of the MSP process (Figure 13 above). In addition to those, on the **operational, planning level, development of different scenarios** (accommodating compromises between maximum suitability for sea uses and maximum protection of marine resources), evaluation criteria as well as consultation processes can provide pragmatic solutions to specific tensions between economic, ecological and social dimensions in MSP.

There are number of experiences across the EU, dealing with **cross-sector and cross-policy coordination**. For example, the Seanergy 2020<sup>84</sup> project has developed a set of criteria to evaluate the different MSP regimes across the 17 EU Member States. Project results indicated a list of recommended conditions to achieve sector, governance and policy coordination:

- Government authorities and institutions representing different sectors are effectively coordinated;
- Stakeholders involved early in the process of developing a Maritime Spatial Plan;

<sup>84</sup> <http://www.seanergy2020.eu/>

- Information is effectively shared between sectors in a common format;
- Up-to-date maps available on the current and future anticipated use of the maritime zone;
- Legally-binding Maritime Zones (or clearly defined criteria) have been identified that define priority and reserve zones, as well as decision rules for resolving conflicts;
- Identifying alternative spatial solutions that can operatively contribute towards reducing conflicts among sectors, taking into consideration the requirements for marine ecosystem protection and GES maintenance;
- Regular consultations are undertaken as a part of a legally binding review of maritime spatial plans and zones;
- Accompanying sector guidelines exist for minimising conflicts, some actions may be legally binding where appropriate;
- Possibility of compensation mechanisms;
- The role of regional initiatives to support sector conflict management is considered, as many of the issues will also be common to cross-boundary cooperation;
- Availability of experiences on introducing co-use, co-existence, different spatial management options, etc.

The need for a cross-policy coordination has been recently underlined by the results of the MUSES project<sup>85</sup> that elaborated on the concept of **multi-use of the sea** pointing out that cross sectoral synergies can be achieved in practice and at the operational level through the combination of different maritime uses at the same location, thus contributing to the sustainable and efficient use of maritime space and natural resources. The MUSES Multi-Use Action Plan<sup>86</sup> reports about actions and recommendations on what should be done, and by whom to effectively implement multi-use of the sea across the EU sea basins. Among the recommendations indicated, the opportunity to set up or use existing inter-ministerial /sectoral committees in the countries, with representative from different sectors, with a similar structure at regional level was highlighted. The need for integration at the horizontal level, between different sectoral structures and policy topics, and at a vertical level, between different levels of governance and legislative instruments was also underlined.

In conclusion, it is worth noting that, **notwithstanding the need for policy coordination, it is important that the single policy process maintains its own relevance and independence, because MSP cannot comprehend all specific needs and objectives.** In fact, MSP should not be interpreted as an overarching instrument for an upper-level integration of all specific sector objectives, but as a process to harmonise present and future spatial needs at sea, within spatial boundaries domain where different policies meet.

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<sup>85</sup> [muses-project.eu](https://muses-project.eu)

<sup>86</sup> Schultz-Zehden A., Lukic I., Onwona Ansong J., Altvater S., Bamlett R., Barbanti A., Bocci M., Buck, B.H, Calado H., et al. 2018. Ocean Multi-Use Action Plan, MUSES project. Edinburgh. [muses-project.eu/downloads/](https://muses-project.eu/downloads/) (Work package 4 – Action Plan / Ocean Multi-Use Action Plan & Executive Summary).





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PAP/RAC is established in 1977 in Split, Croatia, as a part of the UN Environment Mediterranean Action Plan (UN Environment/ MAP). PAP/RAC’s mandate is to provide assistance to support Mediterranean countries in the implementation of the Barcelona Convention and its Protocols, and in particular of the Protocol on Integrated Coastal Zone Management in the Mediterranean. PAP/RAC is oriented towards carrying out the activities contributing to sustainable development of coastal zones and strengthening capacities for their implementation. Thereby, it co-operates with national, regional and local authorities, as well as with a large number of international organisations and institutions.

Following the emerging need to introduce MSP in the entire Mediterranean Region, the 20<sup>th</sup> Meeting of the Contracting Parties to the Barcelona Convention (COP 20, Tirana, Albania, 2017) adopted the *Conceptual Framework for Marine Spatial Planning*. Therefore, MSP was introduced within the Barcelona Convention System, as the main tool/process for the implementation of ICZM in the marine part of the coastal zone, thus contributing to the balance between environmental, social and economic dimensions of sustainable development.