

## CO-EVOLVE

Promoting the co-evolution of human activities  
and natural systems for the development of  
sustainable coastal and maritime tourism

# Deliverable 3.9.1

## Analysis on existing strategies and measures facing relevant threats to ecosystems

### Activity 3.9

Enabling factors for co-evolution -  
Mediterranean scale:  
Ecosystems Protection

WP3

CNR – ISMAR



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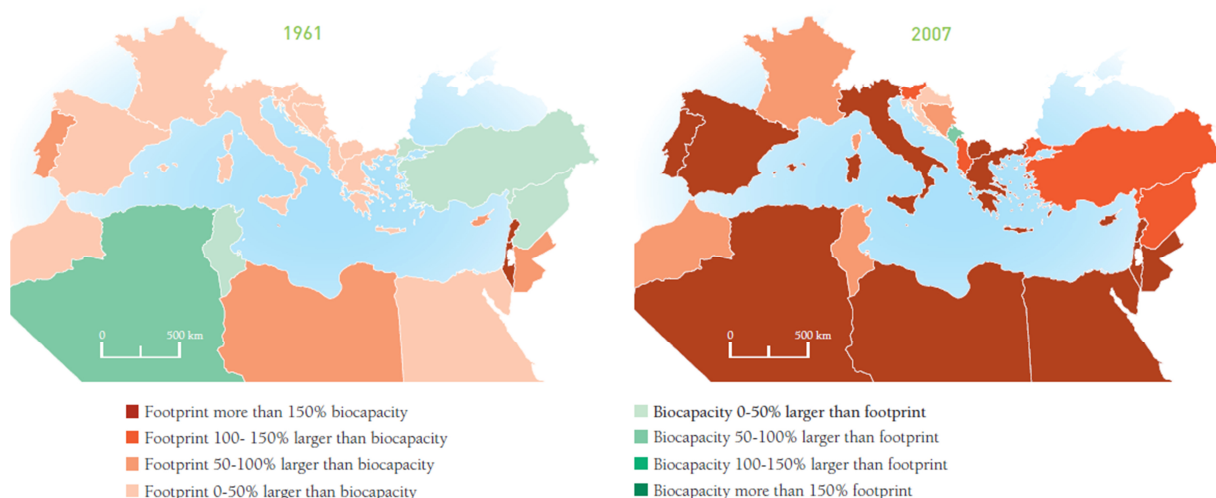
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## 1. Introduction and scope of work

The Mediterranean basin has been identified as one of the 34 world hotspots for biological diversity, it is one of the planet's principal centres of endemism and it represents a remarkable bio-region for its high number of species threatened with extinction. Nevertheless, this region is characterised by rapid human population growth, which generates manifold pressures on the environment, since the leading development and consumption models are not ecologically sustainable. Whereas at the beginning of the 1960s most countries had an ecological footprint that was less than or scarcely greater than their capacity for ecological regeneration of natural resources (Figure 1; Global Footprint Network, 2011), the current situation is much worse, with most of the Mediterranean countries in “ecological deficit”, except for Montenegro.



**Figure 1. Map of the ecological footprint of the Mediterranean countries (from: Moore et al. 2010). Relationship between consumption of natural resources and biological capacity for each country in 1961 and 2007.**

Some habitats of the Mediterranean basin, including the natural habitats of the coastal zones, are very often at the centre of the conflict between economic development and the preservation of the natural heritage. The objective of this report is to describe the state of art of directives, policies, initiatives, measures and recommendations dealing with the coastal environments protection at global, European and Mediterranean level.

After a first overview of the most relevant pieces of legislation and governance instruments, the relationships and gaps among strategies are reported and discussed. Particular attention is given to the relationship between the Marine Strategy Framework Directive and the Ecosystem Approach (EcAp), being these the core of marine policy tools in the Mediterranean Basin. The synergies among pieces of legislation are also explored in connection with the five “destination typologies” of coastal tourism identified in the framework of CO-EVOLVE. The last chapter of this deliverable mainly deals with the implementation of previously described legislation into the national framework of the countries involved in CO-EVOLVE. Furthermore this section summarises the state of art of the marine policy along the non-EU Mediterranean coastline followed by the presentation of a set of projects aimed at enhancing the cooperation between EU and non-EU Mediterranean countries in integrated coastal management.

Information here reported is of high relevance for the analysis of enabling factors mitigating the pressures to coastal and marine ecosystems. Legislation itself is in fact an irreplaceable enabling factor to improve and implement sustainable coastal tourism, also in balance with other uses of natural environments.

## 2. The main policy initiatives at global level

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Specific conventions aiming at protecting valuable habitats and species were established from the '70s onwards:

- The Convention on Biological Diversity (CBD)
- The Convention on Migratory Species (CMS)
- The World Heritage Convention (WHC)
- The Ramsar Convention

### 2.1 The Convention on Biological Diversity (CBD)

The Convention on Biological Diversity was opened for signature during the Rio "Earth Summit" on 5 June 1992 (United Nations Conference on Environment and Development) and entered into force on 29 December 1993. Now, it counts 196 parties (168 signatures).

At the COP10 (10th Conference of Parties, 2010) in Japan, the Nagoya Protocol was adopted which includes the Strategic Plan 2011-2020. The mission of the new plan is to *"take 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 financial resources are provided, capacities are enhanced, biodiversity issues and values mainstreamed, appropriate policies are effectively implemented, and decision-making is based on sound science and the precautionary approach."* The plan indicates 20 biodiversity target (the "Aichi Biodiversity Targets") which are classified into 5 strategic goals:

- A. To address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society
- B. To reduce the direct pressures on biodiversity and promote sustainable use
- C. To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

- D. To enhance the benefits to all from biodiversity and ecosystem services
- E. To enhance implementation through participatory planning, knowledge management and capacity building

According to Target 11 (strategic goal C): 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

## 2.2 The Convention on Migratory Species of Wild Animals (CMS)

The CMS entered into force on 1 November 1983 and represents the only global convention specializing in the conservation of migratory species, their habitats and migration routes. It is a "framework" Convention which provides a global platform for the conservation and sustainable use of migratory animals and their habitats. CMS brings together the States through which migratory animals pass, the Range States, and lays the legal foundation for internationally coordinated conservation measures throughout a migratory range. The convention is focused on lists of species reported in Appendix I and II:

- Appendix I - Endangered species. Migratory species threatened with extinction. CMS Parties are asked to strictly protect these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.
- Appendix II - species in unfavorable conservation status. Migratory species that need or would significantly benefit from international co-operation. In this context, the Convention encourages the Range States to conclude global or regional agreements.

CMS is overseen by the United Nations Environment Programme (UNEP) and has implemented legally binding treaties (called Agreements) and less formal instruments, such as Memoranda of Understanding (MOU), that can be adapted to the requirements of particular regions.

There are currently two CMS MOU relevant to the conservation of species which occur in the Mediterranean Sea.

1. The Memorandum of Understanding on the Conservation of Migratory Sharks (<http://www.cms.int/sharks>) aims to achieve and maintain a favourable conservation status for migratory sharks based on the best available scientific information and taking into account the socio-economic value of these species for the people in various countries. Currently 29 species of sharks are listed in Annex I of the MOU.

The objectives of the Conservation Plan are:

- Improving the understanding of migratory shark populations through research, monitoring and information exchange
- Ensuring that directed and non-directed fisheries for sharks are sustainable
- Ensuring to the extent practicable the protection of critical habitats and migratory corridors and critical life stages of sharks
- Increasing public awareness of threats to sharks and their habitats, and enhance public participation in conservation activities
- Enhancing national, regional and international cooperation

In the Mediterranean Region the MOU has been signed (2014) by Italy, Libya, Egypt and Syria.

In the framework of the MOU, it has been developed the "World's First-Ever Best-Practice Guide for Tourism Operators" (released by Project AWARE Foundation, The Manta Trust and WWF International).

2. The Memorandum of Understanding concerning Conservation Measures for the Slender-billed Curlew, *Numenius tenuirostris* (<http://www.cms.int/slender-billed-curlew/>)

The Slender-billed Curlew is a bird inhabiting, during the non-breeding season, a wide variety of habitats but especially found in large coastal wetland complexes close to the sea.

The MOU has been signed in Mediterranean Region by: Spain, Italy, Croatia, Albania, Greece, Cyprus, Egypt, and Morocco. For each country specific conservation and monitoring actions are requested, as indicated in the Action Plan.

The Mediterranean basin is currently a hotspot for illegal killing and trapping; CMS gave the framework for establishing an Intergovernmental Task Force on Illegal Killing, Taking and Trade of Migratory Birds in the Mediterranean (UNEP/CMS/Resolution 11.16, 05 December 2014). It is the first Pan Mediterranean Task Force to be developed and brings together governmental representatives of CMS Parties around the Mediterranean, including the European Union and other interested parties. In the Programme of Work 2016-2020 four thematic areas are implemented:

- Overarching issues
- Legal and enforcement aspects
- Conservation and monitoring
- Education and public awareness

### *2.3 The World Heritage Convention (WHC)*

The concepts of nature conservation and the preservation of cultural properties are linked together in the World Heritage Convention, subscribed by State Parties in 1972. The Convention recognizes the way in which people interact with nature, and the fundamental need to preserve the balance between the two.

Convention defines the characteristics of natural or cultural sites which can be considered for inscription on the "World Heritage List". The State parties are encouraged to integrate the protection of the cultural and natural heritage into regional planning programs, set up staff and services at their sites, undertake scientific and technical conservation research and adopt measures which give this heritage a function in the day-to-day life of the community. In this way, sites benefit from the elaboration and implementation of a management plans that set out adequate preservation measures and monitoring mechanisms. In support of these, experts offer technical training to the local site management team.

Every six years, the States Parties are invited to submit to the World Heritage Committee a periodic report on the application of the World Heritage Convention, including the state of conservation of the World Heritage properties located on its territories. These reports are crucial as they enable it to assess the conditions of the sites, decide on specific program needs and resolve recurrent problems. They also encourage States Parties to strengthen the appreciation of the public for World Heritage properties and to enhance their protection through educational and information programs.

A key benefit of ratification, particularly for developing countries, is access to the World Heritage Fund. Emergency assistance may also be made available for urgent action to repair damage caused by human-made or natural disasters (List of World Heritage in Danger).

## 2.4 The Ramsar Convention

The Convention on Wetlands of International Importance, called the Ramsar Convention, was adopted in 1971 and came into force in 1975. Since then, almost 90% of UN member states, from all the world's geographic regions, have acceded to become "Contracting Parties". It is an intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.

At the time of joining the Convention, each Contracting Party must designate the wetland site(s) within their territory for inclusion in the List of Wetlands of International Importance (the Ramsar List). These Ramsar Sites, which has a significant value not only for the countries in which they are located, but for humanity as a whole, acquire a new national and international status. There are currently over 2,200 Ramsar Sites around the world (covering over 2.1 million square kilometers).

According to the Convention, the Parties must implement a range of measures to ensure that the ecological character of Ramsar Sites is preserved. Moreover, for all Ramsar Sites specific management plans should be adopted, with appropriate support and funds for implementation and training of staff, and including a monitoring programme with indicators on the Site's ecological character (Resolution 5.7 and Resolution VIII.14).

The effective conservation and management of the Ramsar Site Network is one goal of the Fourth Ramsar Strategic Plan for 2016-2024 (Strategic Goal 2), with the following targets:

- Target 5 - The ecological character of Ramsar sites is maintained or restored, through effective planning and integrated management.
- Target 6 - There is a significant increase in area, numbers and ecological connectivity in the Ramsar Site network, in particular underrepresented types of wetlands including in under-represented ecoregions and Transboundary Sites.
- Target 7 - Sites that are under risk of ecological changes have threats addressed.

The "use" of wetland has also been regulated (Strategic Goal 3 - Wisely using all wetlands), with some specific targets:

- Target 13 - Enhanced sustainability of key sectors such as water, energy, mining, agriculture, tourism, urban development, infrastructure, industry, forestry, aquaculture and fisheries when they affect wetlands, contributing to biodiversity conservation and human livelihoods.

During the 12th Meeting of the Mediterranean Wetlands Committee (MedWet), hosted in Paris from 7 to 10 February 2016, more than 80 actions have been proposed to stop the



degradation of wetlands, to recover wetlands' ecosystems and to facilitate the sustainable use of services and resources provided by wetlands.

MedWet brings together 26 Mediterranean and peri-Mediterranean countries that are Parties to the Convention on Wetlands (Figure 2 and Figure 3). Palestine and a number of organizations and wetland centres are also part of the MedWet Initiative. The MedWet mission is to ensure and support the effective conservation of the functions and values of Mediterranean wetlands and the sustainable use of their resources and services.

MedWet is a community of highly committed institutions and individuals who are dedicated to wetlands: scientists, decision-makers, technicians, academics, public servants and conservationists from all countries. Priorities of MedWet are:

- To assist countries in the full implementation of the Ramsar Convention,
- To renew and consolidate the MedWet partnerships with other actors in the Mediterranean and establish new ones, with a view to developing and implementing significant regional and sub-regional projects;
- To actively participate in the process related to the new Sustainable Development Goals for the period post-2015.



**Figure 2. Distribution of Ramsar sites in Mediterranean Region.**



COUNTRY	N° OF RAMSAR SITES	TOTAL HECTARES COVERED BY THE SITES	THE BIGGEST RAMSAR SITE IN EACH COUNTRY
ALBANIA	4	98,181	Lake Shkodra and River Buna, 49,562 ha. The eastern side of the largest lake in the Balkan Peninsula, shared with Montenegro (Skadarsko Jezero), and the River Buna.
ALGERIA	50	2,991,013	Chott Ech Chergui, 855,500 ha. The 2nd largest chott in N. Africa: an extensive closed depression with permanent and seasonal saline, brackish, and freshwater lakes, pools and hot springs.
BOSNIA AND HERZEGOVINA	3	56,779	Livanjsko Polje: Livno karst field, 45,868 ha. The largest depression in the Dinaric karst and perhaps the largest periodically flooded in the world.
BULGARIA	11	49,873	Belene Islands Complex, 18,330 ha. A complex of one large and nine smaller islands in the Danube, with marshes, seasonally-flooded forests, and agricultural and semi-natural land cut by channels.
CROATIA	5	94,358	Lonjsko polje and Mokro polje including Krapje Dol, 51,218 ha. A vast floodplain on the Sava River, with oak alluvial forest, alder swamp forests, wet meadows and pastures.
CYPRUS	1	1,107	Larnaca Salt Lake. A highly saline seasonal lake and habitat of large numbers of wintering waterbirds.
EGYPT	1	2,171	Akrotiri, designated by the United Kingdom on its Western Sovereign Base Area.
EGYPT	4	415,532	Wadi El Rayan Protected Area, 175,790 ha. Two lakes connected by a swampy channel: the most important habitat for bird species of national, regional and world importance.
FRANCE (including overseas territories)	43	3,557,820	Etangs de la Champagne humide, 255,800 ha (the largest in mainland France). A vast lowland complex of rivers, reservoir lakes, ponds, canals, gravel pits, reedbeds, meadows and alluvial forests.
GREECE	10	163,501	Messolonghi lagoons, 33,687 ha. An extensive complex of brackish coastal lagoons, mudflats, saltmarsh, freshwater marsh, reedbeds, dune systems and patches of riparian forest.
ISRAEL	2	366	Hula Nature Reserve, 300 ha. A human-made wetland from restoration of the drained Hula Lake and swamps.
ITALY	52	60,223	Valli residue del comprensorio di Comacchio (Po river delta), 13,500 ha. The remnants of a complex of coastal lagoons and marshes drained in 1850.
JORDAN	1	7,372	Azraq Oasis. A spring-fed wetland and extensive seasonally-flooded mudflat.
LEBANON	4	1,075	Palm Islands Nature Reserve, 415 ha. A group of three flat islands with associated outcrops and surrounding waters.
LIBYA	2	83	Ain Elzarga, 50 ha. A small natural 'sebkha' or depression with at least one natural connection to the sea, wet all year round but with increasing salinity during summer.
MALTA	2	16	Ghadira, 11 ha. A brackish coastal pool of varying water level and salinity, bordered by dunes.
MONACO	1	23	Réserve sous-marine du Larvotto. Rocky coastal zone to a depth of 10m in the western part; in the eastern part, beaches and artificial protective works, and important seagrass beds.
MONTENEGRO	2	20,150	Skadarsko Jezero, 20,000 ha. A freshwater lake supporting a lush vegetation of various reed, sedge and willow species, shared with Albania.
MOROCCO	24	272,010	Oasis du Tafilalet, 65,000 ha. Comprises a series of oases, the reservoir of the Hassan Ad-Dakhil dam, small rivers, irrigation channels, and lacustrine and marsh areas.
PORTUGAL	31	132,487	Estuário do Sado, 25,588 ha. An estuarine area separated from the sea by dunes, with sand and mudflats exposed at low tide, and vast saltmarshes and reedbeds.
SERBIA	10	63,919	Gornje Podunavlje, 22,480 ha. A marsh complex along 36km of the Danube River, forming a natural unity with the Gemenc (Hungary) and Kopacki Rit (Croatia) Ramsar Sites.
SLOVENIA	3	8,205	Lake Cerknica & its environs, 7,250 ha. The largest and most typical intermittent karst lake in its region.
SPAIN	74	303,090	Doñana, 111,646 ha. A vast coastal marshland complex, separated from the ocean by a dune system, subject to seasonal variations in water level and salinity.
SYRIAN ARAB REPUBLIC	1	10,000	Sabkhat al-Jabbul Nature Reserve. A large saline lake in a semi-arid steppe, and an important staging, wintering and breeding area for large numbers of waterbirds.
THE FYR OF MACEDONIA	2	21,616	Lake Prespa, 18,920 ha. A pliocene lake, important feeding area for Pelicans. The site includes cultivated land, meadows, pastures, reedbeds, and forests.
TUNISIA	40	837,753	Chott El Jerid, 586,187 ha. A vast saline depression characteristic of the northern Sahara. Of special interest are the fossil water aquifers that nourish the oases and some oil reservoirs.
TURKEY	14	184,487	Lake Burdur, 24,800 ha. A closed tectonic lake, one of the deepest in Turkey. The site includes a delta and salt marshes.

Figure 3. Summary of Ramsar Sites in the Mediterranean region (from: MedWet brochure).

Between 1975 and 2005 the Mediterranean Wetlands Observatory (MWO) carried out a study of the evolution of land use in 214 coastal wetlands across 22 Mediterranean countries, in accordance with the methodology adopted in the European Space Agency's (ESA) GlobWetland II Project. This made it possible to provide information on the evolution of the surface area of both natural and artificial wetlands, and thus enabled recommendations on how to preserve them.

Taking into account the evolution observed over the past 30 years in the Mediterranean Basin coastline and the causes of this change, the MWO recommends the following actions:

- Protect existing natural wetland habitats, or restore them if they are degraded.
- Re-naturalise artificial wetland habitats in order to improve the services provided by wetlands and biodiversity.
- Improve the identification of wetlands in each country, raising awareness about them as well as of the services they provide.
- Rethink coastal development to adapt to the foreseeable receding of the shoreline.
- Manage water resources sustainably, rationalising their use in agriculture, taking the needs of ecosystems into account.
- Guarantee the effective, sustainable management of coastal wetlands, setting up mechanisms that allow local populations to generate income.

### ***3. The main policy initiatives and Directives at EU level***

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Only recently the EU has begun to specifically address problems related to the environmental state of its coasts treating these as regional entities. Till the '70s, early European policies targeting the coastal zone were predominantly issue oriented (e.g. water quality). Among them, it's worth mentioning:

- The Quality of Bathing Water Directive (1976, agreed for amendment in 2005)
- The Directive on Quality Required of Shellfish Waters (1979)

Subsequently, environmental legislations embraced a wider vision of the preservation and sustainable management of coastal (and not only) systems, through:

- The Birds Directive
- The Habitats Directive
- The Water Framework Directive
- The Environmental Impact Assessment Directive
- The European Parliament and the Council recommendation concerning the implementation of Integrated Coastal Zone Management in Europe (EU ICZM Recommendation, 2002/413/EC).
- The Marine Strategy Framework Directive

#### ***3.1 The Quality of Bathing Water Directive***

The "new" Bathing Water Directive 2006/7/EC replaces the former Directive 76/160/EC taking into account and reflecting the development in scientific knowledge and managerial experience made in 30 years. It applies to surface waters that can be used for bathing except for swimming pools and spa pools, confined waters subject to treatment or used for therapeutic purposes and confined waters artificially separated from surface water and groundwater.

In particular the 2006-implementation of the bathing Water Directive (which as came into force in early 2008) has included:

- changes concerning better public information; the new Directive ensures timely information of the public during the bathing season, with an obligation for Member States to disseminate actively and promptly information on bathing water quality.
- the introduction of new standards (category 'sufficient', minimum quality threshold that all Member States should attain by the end of the 2015 season at the latest)
- the reduction from 19 to 2 main parameters (intestinal enterococci and *Escherichia coli*).

Moreover, the new directive would address bathing quality management, and integrated with other waters protection directives through the Water Framework Directive as well as the Directives on Urban Wastewater Treatment and on Nitrates Pollution from agricultural sources.

Every year the Commission publishes a summary report on the quality of bathing water, based on the reports that the Member States should submit to it before the start of each bathing season. Reports on individual Member States, the so-called national country reports, are also available online and any citizen can have quick information on the status of a specific bathing spot (Figure 4).

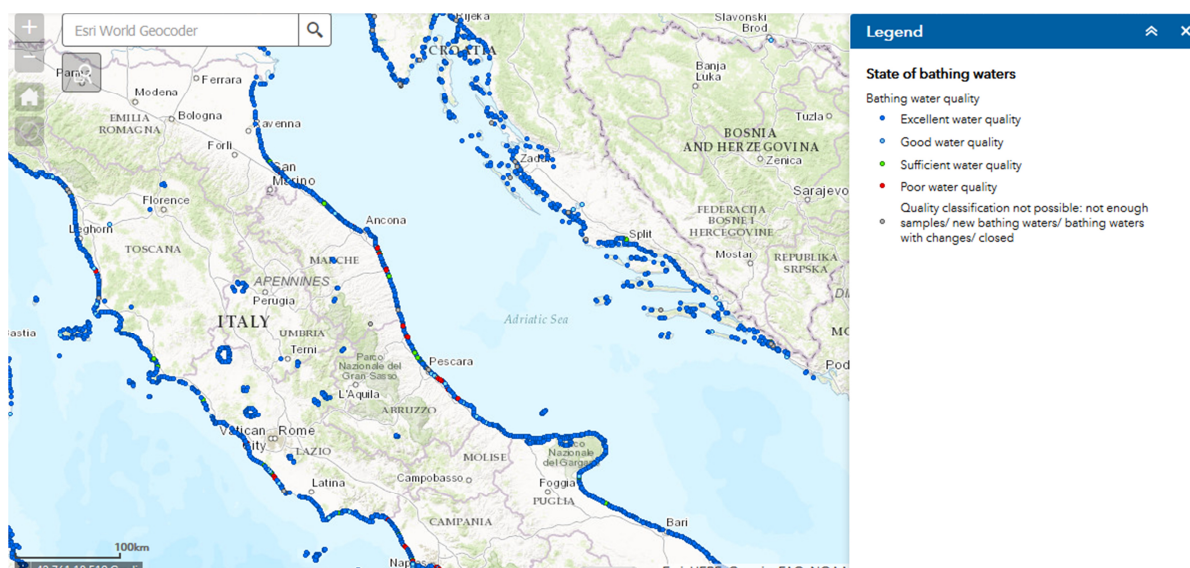


Figure 4. State of bathing water (from: <http://www.eea.europa.eu/themes/water/interactive/bathing/state-of-bathing-waters>); individual bathing water sites (points) are visible and coloured according to the classification of bathing water quality.



### *3.2 The Directive on Environmental Quality of Shellfish Waters*

The Directive 2006/113/EC on the environmental quality of shellfish (bivalve and gastropod molluscs) waters has replaced the Directive 79/923/EEC and has been incorporated into EU countries' national law since 1981.

This Directive concerns the quality of shellfish waters and applies to those coastal and brackish waters designated by the Member States as needing protection or improvement in order to support shellfish life and growth and thus to contribute to the high quality of shellfish products directly edible by man. EU countries are responsible for designating shellfish waters. The list of designated waters may be amended to take into consideration factors not foreseen at the time of designation. The Directive sets physical, chemical and microbiological requirements (pH, temperature, coloration, suspended solids, salinity, dissolved oxygen and the presence or concentration of certain substances) that the designated shellfish waters must either comply with or endeavour to improve.

In February 2009, the "European Communities (Quality of Shellfish Waters) (Amendment) Regulations 2009" was signed (S.I. No. 55/2009). This S.I. amends the 2006 Statutory Instrument by designating additional number of important shellfish growing areas.

### *3.3 The Water Framework Directive*

On the 23rd October 2000, the "Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy" or, in short, the EU Water Framework Directive (or even shorter the WFD) was adopted. The purpose of the Directive is to establish by 2015 a framework for the protection of European waters in order to achieve good qualitative and quantitative status of all water bodies (including marine waters up to one nautical mile from shore) in the European Union Member States. It is a framework in the sense that it prescribes steps to reach the common goal rather than adopting the more traditional limit value approach. These efforts are based on six-year cycles evaluation steps, provided that no deadline extension or exception is invoked. The legislative approach before the WFD, implied that the monitoring and management of single pollutant would lead to an overall improvement in the ecosystem health; in this way it failed to consider the complexity of ecosystems or the interactions and trade-offs at different scales. The main novelty of the WFD is that it offers an integrated and coordinated approach to water management in Europe based on the concept of river basin

planning, not intended as administrative or political boundaries but rather as the natural geographical and hydrological unit defined by the catchment area of the river. Another new aspect is related to the lack of quantitative targets and the introduction of qualitative classes, if we exclude the WFD's explicit obligation that no water bodies should experience deterioration in status from one class to another (Howarth 2009).

### *3.4 The Environmental Impact Assessment Directive*

The Environmental Impact Assessment (EIA) Directive (85/337/EEC) is in force since 1985 and applies to a wide range of defined public and private projects, which are defined in its Annexes I and II. Projects listed in Annex I are considered as having significant effects on the environment and require an EIA (e.g. long-distance railway lines, motorways and express roads, airports with a basic runway length  $\geq 2100$  m, installations for the disposal of hazardous waste, installations for the disposal of non-hazardous waste  $> 100$  tonnes/day, waste water treatment plants  $> 150.000$  p.e.). The projects listed in Annex II are in general those not included in Annex I (railways, roads waste disposal installations, waste water treatment plants), but also other types, such as urban development projects, flood-relief works, changes of Annex I and II existing projects, and so on for which the national authorities of member states have to decide whether an EIA is needed or not. Decisions are taken through a procedure that determines the effects of projects on the basis of thresholds/criteria or a case by case examination. However, the national authorities must take into account the criteria listed in Annex III. In the EIA procedure the developer must provide information on the environmental impact (EIA report – Annex IV) which are acknowledge and discussed between the environmental authorities and the public before the competent authority decides.

Since 1985 the EIA Directive has been amended three times. The Directive 97/11/EC has brought the Directive in line with the UN ECE Espoo Convention on EIA in a transboundary context and has widened its scope by increasing the types of projects covered, and the number of projects requiring mandatory environmental impact assessment (Annex I). It has also provided for new screening arrangements, including new criteria (added to Annex III) for Annex II projects, and established minimum information requirements. The Directive 2003/35/EC was seeking to align the provisions on public participation with the Aarhus Convention on public participation in decision-making and access to justice in environmental

matters. The Directive 2009/31/EC amended the Annexes I and II of the EIA Directive, by adding projects related to the transport, capture and storage of carbon dioxide (CO<sub>2</sub>).

The initial Directive of 1985 and its three amendments have been codified by Directive 2011/92/EU of 13 December 2011. Directive 2011/92/EU has been amended in 2014 by Directive 2014/52/EU.

### *3.5 The EU ICZM Recommendation*

The European Parliament and Council Recommendation concerning the implementation of Integrated Coastal Zone Management in Europe was adopted on 30 May 2002 (2002/413/EC). It lists eight principles defining the essential characteristics of ICZM. The Integrated coastal management aims at coordinating the application of the different policies affecting the coastal zone and related to activities such as nature protection, aquaculture, fisheries, agriculture, industry, off shore wind energy, shipping, tourism, development of infrastructure and mitigation and adaptation to climate change. Its goal is to contribute to sustainable development of coastal zones by the application of an approach that respects the limits of natural resources and ecosystems, the so-called 'ecosystem based approach'. Integrated coastal management covers the full cycle of information collection, planning, decision-making, management and monitoring of implementation. Another important aim is to involve all stakeholders across the different sectors to ensure broad support for the implementation of management strategies. Therefore, integration across sectors and levels of governance, as well as a participatory and knowledge-based approach, are hallmarks of ICZM. Based on these principles, the Recommendation outlines steps which the Member States should take to develop national strategies for ICZM. Given the cross-border nature of many coastal processes, coordination and cooperation with neighbouring countries and in a regional sea context are also encouraged. To support the implementation of the ICZM Recommendation, the Commission nominated an expert group, which held its first meeting on 3 October 2002.

In order to further promote sustainable development of coastal zones, the Commission adopted on the 12th of March 2013 a draft proposal for a Directive establishing a framework for maritime spatial planning and integrated coastal management.

The concrete obligations for Member States in the draft Directive are:

- Member States will be required to establish and implement maritime spatial plans and integrated coastal management strategies.

- Maritime spatial plans should at least map the actual and potential spatial and temporal distribution of maritime activities in marine waters.
- Integrated coastal management strategies should at least contain an inventory of existing measure applied in coastal zones and an analysis of the need for additional actions for the appropriate management of activities in coastal zones.
- The plans and strategies will need to be mutually coordinated, provided they are not integrated, and be reviewed at least every 6 years.
- All relevant stakeholders and authorities should be appropriately consulted on the draft plans and strategies and have access to the results once available.
- Plans and strategies should be based on best available data that should be collected, as far as possible, by making use of existing instruments established under other EU initiatives.
- Member States have to cooperate together and with third countries to ensure that plans and strategies are coherent across coastal zones and marine regions.
- Plans and strategies will need to be subject to applicable procedures in relation to strategic environmental assessments.
- Member States will need to designate the appropriate authorities for the implementation of the Directive and will need to report to the Commission on the implementation of the Directive on a regular basis.

The proposed instrument will require Member States to establish coastal management strategies that build further on the principles and elements set out within the Council Recommendation on Integrated Coastal Zone Management of 2002 and within the Protocol to the Barcelona Convention on Integrated Coastal Zone Management ratified by the EU in 2010. This approach includes the proposal of plans and strategies in accordance with the provisions of Directive 2001/42/EC on strategic environmental assessment. Moreover it will ensure the assessment of the compatibility between economic activities and the protection of natural resources at an early stage as well as risks related to climate change and natural hazards to which coastal areas are extremely vulnerable. This is particularly important as natural resources are often an essential basis for activities such as fishing and aquaculture, which rely on clean seas. Coherent application with maritime spatial planning will improve the sea-land interface planning and management. Some example of applications is, for instance: the connection of off shore wind energy installation with the electricity network on land or the effects of infrastructures for coastlines protection on coastal erosion or the impact



of flooding and human activities in coastal waters such as aquaculture on the protection of marine ecosystems.

The Commission proposal will now be considered by the Council of the European Union and the European Parliament.

### *3.6 The Marine Strategy Framework Directive*

The European Union's (2008/56/EC) Marine Strategy Framework Directive (MSFD) was adopted on 17 June 2008, and came into force on 15 July 2008. It was due to be transposed into national legislation by 15 July 2010 and is the environmental pillar of the European Union's Integrated Maritime Policy. The Marine Directive aims to protect more effectively the marine environment across Europe by achieving and maintaining by 2020 the Good Environmental Status (GES) of the EU marine waters and by protecting the resources on which marine-related economic and social activities depend. To achieve these objectives the Directive establishes European marine regions (the Baltic Sea, the North East Atlantic, the Mediterranean and the Black Sea) on the basis of geographical and environmental criteria. To help Member States interpret what GES means in practice, the Directive sets eleven qualitative descriptors which describe what the environment will look like when GES has been achieved:

1. Biodiversity is maintained
2. Non-indigenous species do not adversely alter the ecosystem
3. The population of commercial fish species is healthy
4. Elements of food webs ensure long-term abundance and reproduction
5. Eutrophication is minimized
6. The sea floor integrity ensures functioning of the ecosystem
7. Permanent alteration of hydrographical conditions does not adversely affect the ecosystem
8. Concentrations of contaminants give no effects
9. Contaminants in seafood are below safe levels
10. Marine litter does not cause harm
11. Introduction of energy (including underwater noise) does not adversely affect the ecosystem

Each Member State is required to develop a Marine Strategy for its marine waters and to use the existing Regional Sea Conventions such as HELCOM, BARCOM and OSPAR when appropriate. Marine Strategies shall apply an ecosystem-based approach to the management of human activities, ensuring that the collective pressure of such 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 enabling the sustainable use of marine goods and services by present and future generations. The Directive applies to all marine waters, seabed and subsoil of areas where Member States have and/or exercise jurisdictional rights, which entail an integral part of different marine regions and sub regions.

### *3.7 The Birds Directive*

The Birds Directive 2009/147/EC is an amendment of the oldest piece of EU legislation on the environment adopted by Member States Directive (Directive 79/409/EEC). The directive aims to protect the 500 wild bird species naturally occurring in the European Union and their habitats. In the Annex I 194 species are listed, which shall be subject of special conservation measures. Member States must designate Special Protection Areas (SPAs) for the species listed and for regularly occurring migratory species, with particularly attention to wetlands. The BD also regulates the practice of hunting. In the Annex II are listed 82 bird species that can be hunted, under a specific regulation (i.e. sustainable hunting). The BD encourages research and any work required as a basis for the protection of bird species listed in Annex V. Member States shall report status and trend in bird populations every three years.

### *3.8 The Habitats Directive*

The Habitats Directive (HD), Council Directive 92/43/EEC of 21 May 1992, aims to ensure the conservation of natural habitats and of wild fauna and flora in the territory of the Member States. The HD defines, on the basis of information of their natural range and conservation status, habitats and species of "Community interest" and, among them, "priority" habitat types and species. Such habitats and species are listed in the Annex I (Natural habitat types of community interest whose conservation requires the designation of special areas of conservation), Annex II (Animal and plant species of community interest whose conservation

requires the designation of special areas of conservation), Annex IV (Animal and plant species of community interest in need of strict protection) and Annex V (Animal and plant species of community interest whose taking in the wild and exploitation may be subject to management measures). The HD define the Sites of Community Importance (SCI), i.e. sites which contributes significantly to the maintenance or restoration at a favourable conservation status of natural habitat types (Annex I) or species (Annex II). Under the HD the Member States designate Special Areas of Conservation (SAC), i.e. the SCI where the necessary conservation measures are applied for the maintenance or restoration, at a favorable conservation status, of the natural habitats and/or the populations of the species for which the site is designated. For the Special Areas of Conservation Member States establish the necessary conservation measures and could involve appropriate management plans specifically designed for the sites.

The HD goes beyond the simple designation of habitat, species, indication of conservation measures and areas. According to Directive's articles 11 and 17, Member States shall undertake surveillance of the conservation status of natural habitats and species and every six years they shall draw up a report on the implementation of the measures taken under this Directive. This report shall include in particular the evaluation of the impact of adopted conservation measures on the conservation status of the natural habitat types (Annex I) and the species (Annex II) and the main results of the surveillance.

### *3.9 The Natura 2000 Network*

The Special Protected Areas (SPAs) designated under the Birds Directive, and the Special Areas of Conservation (SACs) designated under the Habitats Directive form the Natura 2000 network, which represents the "centrepiece of EU nature & biodiversity policy". The aim of Natura 2000 is to assure the long-term survival of Europe's most valuable and threatened species and habitats. The establishment of this network of protected areas also fulfils a Community obligation under the UN Convention on Biological Diversity.

Objectives of Nature2000 are:

- To contribute to the maintenance or restoration of a favourable conservation status for the target habitats (231 different types) and species (covering over 1,200 taxa)

- To adopt the comprehensive set of provisions introduced by the Habitats Directive concerning conservation measures and assessments of impacts for projects likely to have a significant effect on the sites
- To build an 'ecologically coherent' network. The network is ecologically coherent if it includes sufficient sites distributed over a wide geographic area, representing the full range of variation of the habitat types and species, and if the connectivity between the sites of the network is guaranteed

It is the most extensive protected area system worldwide and, since 1995, when the designation process began, the Natura 2000 network has grown (Figure ), today covering 27,312 sites with a total surface area of about 1,147,956 km<sup>2</sup>. The terrestrial component covers 787,606 km<sup>2</sup> (more than 18% of the EU's land surface) and the marine component 360,350 km<sup>2</sup> (estimated at about 6% of the EU marine surface).

The Natura 2000 is not a system of strict nature reserves where all human activities are excluded. Whereas the network will certainly include nature reserves most of the land is likely to continue to be privately owned and the emphasis will be on ensuring that future management is sustainable, both ecologically and economically. The establishment of this network of protected areas also fulfils a Community obligation under the UN Convention on Biological Diversity. Another unique aspect of the Natura 2000 network is the comprehensive set of provisions introduced by the Habitats Directive (Article 6) concerning conservation measures and the assessments of impacts for projects likely to have a significant effect on the sites.

## ***4. The main policy initiatives and measures at Mediterranean scale***

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In this Chapter the two milestones for the preservation of the marine and coastal environment at Mediterranean scale are reported. They are the Barcelona Convention and the Mediterranean implementation of the Ecosystem Approach, which arose within the above mentioned convention.

### ***4.1 The Barcelona Convention***

The Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean is the first Regional Seas Programme adopted under UNEP's umbrella. The 16 Mediterranean countries that signed the convention in 1975 adopted a common Mediterranean Action Plan (MAP). In 1995 MAP was amended (the Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean: MAP Phase II) and today the contracting parties are 22.

The Convention's main objectives are:

- to assess and control marine pollution;
- to ensure sustainable management of natural marine and coastal resources;
- to integrate the environment in social and economic development;
- to protect the marine environment and coastal zones through prevention and reduction of pollution, and as far as possible, elimination of pollution, whether land or sea-based;
- to protect the natural and cultural heritage;
- to strengthen solidarity among Mediterranean coastal States;
- to contribute to the improvement of the quality of life.

One of the key MAP priorities is the depollution of the Mediterranean Sea by 2020. In this context, the Euro-Mediterranean governments aim to tackle the top sources of Mediterranean pollution through the Horizon 2020 initiative.

The Ecosystem Approach is the guiding principle of the MAP Programme and of all policy implementation and development undertaken under the auspices of UNEP/MAP Barcelona Convention, with the ultimate objective of achieving the Good Environmental Status of the Mediterranean Sea and its coasts and the contribution to sustainable development.

Through Decision IG.20/4, eleven ecological objectives have been established:

1. Biodiversity is maintained or enhanced.
2. Non-indigenous species do not adversely alter the ecosystem.
3. Populations of commercially exploited fish and shellfish are within biologically safe limits.
4. Alterations to components of marine food webs do not have long-term adverse effects.
5. Human-induced eutrophication is prevented.
6. Sea-floor integrity is maintained.
7. Alteration of hydrographic conditions does not adversely affect coastal and marine ecosystems.
8. The natural dynamics of coastal areas are maintained and coastal ecosystems and landscapes are preserved.
9. Contaminants cause no significant impact on coastal and marine ecosystems and human health.
10. Marine and coastal litter does not adversely affect coastal and marine ecosystems.
11. Noise from human activities cause no significant on marine and coastal ecosystems.

A total of seven Protocols have been established:

1. Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea (Dumping Protocol), adopted in 1976, in force 1978, amended 1995.
2. Protocol concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and other Harmful Substances in Cases of Emergency (Emergency Protocol, adopted in 1976, in force since 1978), was replaced by the Protocol concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea (Prevention and Emergency Protocol, adopted in 2002, in force since 2004).
3. Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources and Activities (LBS Protocol, adopted in 1980, in force since 1983; amended in 1996, in force since 2008).
4. Protocol Concerning Mediterranean Specially Protected Areas (SPA/BD Protocol, adopted in 1982, in force since 1986) was replaced by the Protocol concerning

Specially Protected Areas and Biological Diversity in the Mediterranean (SPA & Biodiversity Protocol, adopted in 1995, in force since 1999).

5. Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (Offshore Protocol, adopted in 1994, in force since 2011).
6. Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal (Hazardous Wastes Protocol, adopted in 1996, in force since 2008).
7. Protocol on Integrated Coastal Zone Management (ICZM Protocol, adopted in 2008, in force since 2011).

During the implementation of the Barcelona Convention and the related Protocols, the Contracting Parties have adopted specific programmes and measures (Action Plans) on Pollution, Specially Protected Areas and Biological Diversity Protocol, Integrated Coastal Zone Management Protocol, Sustainable Consumption and Production, Climate Change adaptation.

The Coordinating Unit for MAP and the Secretariat to the Barcelona Convention and its Protocols launched the Mid-Term Strategy 2016-2021 (MTS). The MTS strategic themes are:

- Governance
- Land and Sea-Based Pollution
- Biodiversity and Ecosystems
- Land and sea interaction and processes
- Integrated coastal zone management
- Sustainable consumption and production
- Climate change adaptation

Ongoing projects are the Marine litter MED 2016-2019 (regarding the prevention and management of marine litter through the implementation of the Marine Litter Regional Plan) and SEIS 2016-2019 (aiming at the contribution to the reduction of the marine pollution in the Mediterranean by developing a Shared Environmental Information System supporting the regular production and sharing of quality assessed environmental data, indicators and information).



## *4.2 EcAp Med: Mediterranean implementation of the Ecosystem Approach*

In 2008, the Contracting Parties to the Barcelona Convention agreed during the conference of parties - COP15 (Decision IG17/6), on a seven-step roadmap to achieve the Good Environmental Status of the Mediterranean by 2020 and endorsed the use of the Ecosystem Approach (EcAp) as a management tool to address pollution and environmental protection challenges in the region (ARCADIS 2015).

The Ecosystem Approach (EcAp) is the overarching principle of UNEP/MAP with the ultimate aim of identifying and achieving the GES of the Mediterranean Sea. The EcAp key-steps and state of deliverables are as follows:

- Agreement on vision and goals (at COP17);
- Preparation of the Integrated Assessment of the Mediterranean Ecosystem with the contribution of and peer-review by the Contracting Parties (Initial Assessment undertaken, with the outcome of the SoER-MED, endorsed at COP17. Third State of Environment Assessment is foreseen by 2017);
- Adoption of 11 ecological objectives and corresponding 28 operational objectives (COP17) and an integrated list of 61 indicators and GES descriptions (COP18), ensuring synergy with the EU Marine Strategy Framework Directive (EU MSFD);
- Implementation of an Integrated Monitoring System based on the agreed indicators and targets (Integrated Monitoring and Assessment Programme to be agreed by COP19 in 2015, work ongoing);
- Socio-economic assessment to complement the Integrated Assessment of the Mediterranean Ecosystem (presented at EcAp Coordination Group in October 2015);
- Cyclic/periodical assessments of the marine and coastal environment to monitor the implementation of EcAp, assess GES and the effectiveness of programmes of measures (to this aim the EcAp timeline foresees the preparation of periodical quality status reports);
- EcAp programme of measures gap analysis (presented to Parties in 2014, adopted in 2015 at COP19). In 2014 and 2015 within the EcAp process, the MAP Coordinating Unit and the Contracting Parties to the Barcelona Convention have worked towards a more advanced basis for monitoring by focusing on agreed indicators and targets and where possible on baselines/thresholds and considering relevant existing targets and underlying methodologies.



## 5. Relationship and gaps among policy measures and links with coastal tourism

Environmental policies in general and marine policies in particular have different priorities in each EU country and mostly operate at different time scales.

The Mediterranean Sea is characterized by a complex jurisdictional structure (22 coastal States, Figure ) and a wide range of governance instruments: actions taken by individual states, regional initiatives and treaties among States, and international conventions. This Chapter focuses on the points of contact and dissimilarities among MSFD and the other main marine policy tools, and analyses how these relate to the five typologies of coastal tourism identified in CO-EVOLVE.

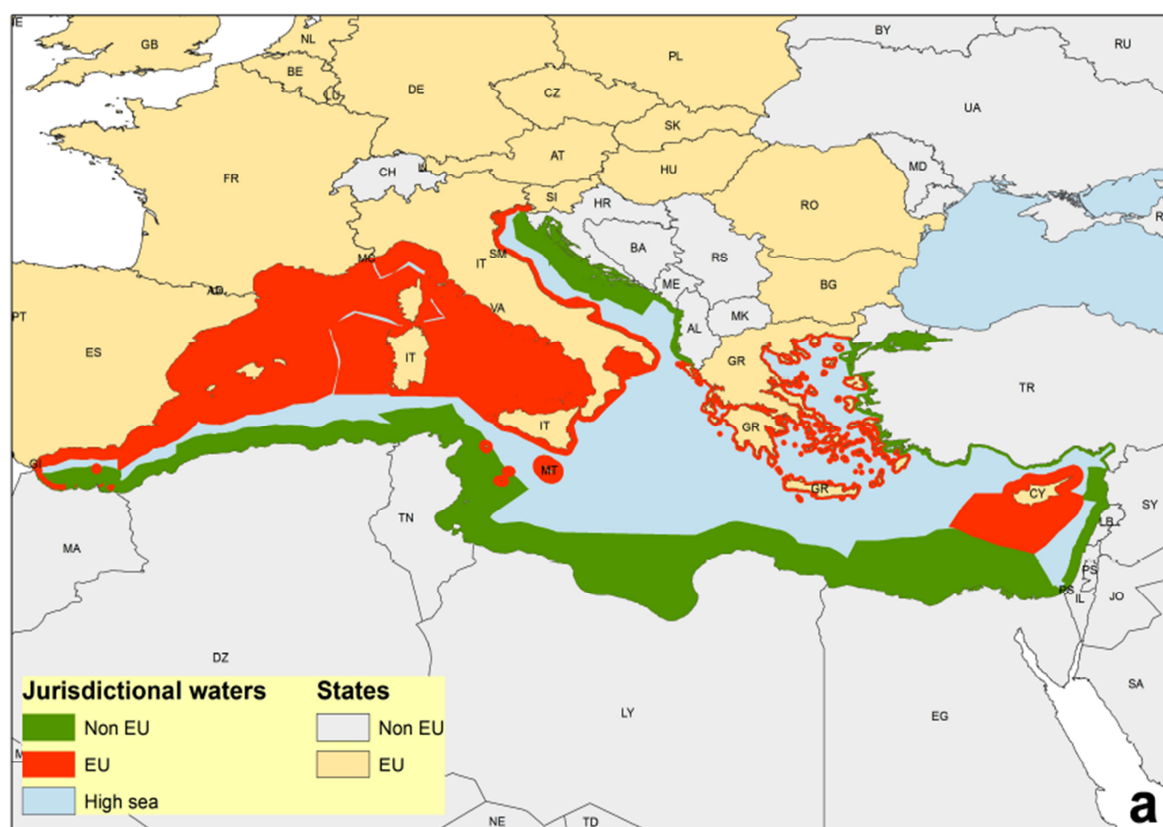


Figure 5. Map of the Mediterranean EU and non-EU countries jurisdictions (from: Cinnirella et al. 2014).

### *5.1 Comparison between MSFD and EcAp and difficulties in following their prescriptions*

As already presented in Chapter 4, currently two main strategies, MSFD and EcAp, are in line with each other in the Mediterranean Sea. They have clear time lines for implementation, similar objectives and aims. Furthermore, the countries that have obligations towards MSFD could use this monitoring information to fulfil the EcAp requirements. MSFD foresees such interrelation: "In that context, Member States shall, as far as possible, build upon relevant existing programmes and activities developed in the framework of structures stemming from international agreements such as Regional Sea Conventions" (Article 6 of MSFD).

Nevertheless, they were affected by some relevant issues (as outlined by Cinnirella et al. 2012):

- The "geopolitical" complexity may affect the achievement of environmental objectives, which is particularly problematic for the high sea (e.g. dispute over water sovereignty among countries). Moreover, there are difficulties in the implementation and compliance with EcAp of non-EU Member States because of limited human resources, and in some instances limited technical or economic capacity. A standardized stepwise process is needed to ensure consistency in the development of management measures to address legislative and regulatory requirements. Furthermore, economic disparity, jurisdictional conflicts, and rapid political changes have contributed to the lack of a shared action toward achieving environmental goals within the region, including the implementation of MSFD.
- Lack of harmonization of monitoring of MSFD indicators, which results in heterogeneous data gathered and difficult to compare between Member States.
- Limited communication between scientists within and between Member States, which has negative effects on both interdisciplinary cooperation and the transfer of relevant scientific information to policy makers.
- Limited involvement of relevant societal sectors (stakeholders) to facilitate the understanding of what a healthy environment actually is and to introduce the necessary measures and actions. Establishing connections between ecosystem change and benefits to human welfare should lead to indicators of greater societal relevance and more proactive approaches to conservation, which may also facilitate MSFD implementation.

- The integrated approaches introduced by MSFD can be effective if the management measures are carried out in combination with effective governance structure.
- Absence of political and public perception of the priorities concerning the quality of the marine domain.

The issues described have not been solved, but they represented the baseline condition why EcAp MED projects have been developed.

Within the Mediterranean Regional Sea Convention (RSC), the Barcelona Convention (UNEP/MAP), only one third of Contracting Parties are EU Members and the diversities of the Mediterranean countries are substantial. To facilitate addressing and applying the important principles and actions of the MSFD to the entire Mediterranean marine region a specific process (EcAp) is being developed within the Convention and should be followed by all Mediterranean countries; its actions and related timing is gradually improving but, at the moment, it is not sufficient for the Mediterranean EU Members to achieve the necessary coordination required by the Directive in due time. In this framework, the Med-EU Member States (MS), where feasible, are organized, on a voluntary base, at the level of sub regions. A few meetings already occurred among Italy, France and Spain for the Western Mediterranean and among Italy, Slovenia and Malta for the Adriatic Sea and the Central Mediterranean. Just recently the European Commission highlighted the need to strengthen the coordination among the Mediterranean EU MS and is trying to facilitate more meetings among these countries. Actions at international level are fundamental to achieve effective cooperation and coordination, therefore the Directive should further enhance the coherence of the Community contribution to all international agreements.

The Community and its MS are parties to the United Nations Convention on the Law of the Sea (Unclos) approved by Council Decision 98/392/EC of 23 March 1998. The obligations of the Community and its MS under those agreements should therefore be taken fully into account in this Directive. In addition to the provisions applicable to the marine waters of the Parties, the Unclos includes general obligations to ensure that activities under the jurisdiction or control of a Party do not cause damage beyond its marine waters, and to avoid that damage or hazards are transferred from one area to another or that one type of pollution is transformed into another. Indeed, the objectives of MSFD (namely protection and preservation of the marine environment, the prevention of its deterioration and where practicable the restoration of that environment in areas where it has been adversely affected) cannot be sufficiently achieved by MS and can therefore, by reason of the scale and effects of the Directive, be better achieved at Community level. The Community may

adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty (Tunesi et al 2013).

The Ecological Objective 8 “Coastal ecosystems and landscapes”, and in particular the Operational Objective 8.2 “Integrity and diversity of coastal ecosystems and landscapes and their geomorphology are preserved” are implemented only in EcAp. Furthermore, the extension, for the Mediterranean, of the spatial coverage to the terrestrial part of the coastal zone represents a completely new approach than other regional initiatives on marine environment and originated by the requirements of the Barcelona Convention, the ICZM and the LBS Protocols.

In conclusion, the MSFD and EcAp processes are running in parallel and despite the differentiated timelines, considerable efforts have been made to ensure a coordinated approach, to avoid overlap and duplication of work and to make best use of available resources. However, the imperative need for enhanced cooperation between and among all involved parties, namely the European Commission, the MS and the MAP Coordinating Unit should be stressed.

## *5.2 MSFD and other environmental policies*

Marine environmental protection under MSFD includes establishment of protected areas, in particular taking in consideration areas already designated or that have to be designated under Habitats Directive 92/43/EEC, Birds Directive 79/409/EEC and under other international or regional agreements to which the European Community or Member States concerned are Parties. Furthermore, establishing such protected areas under MSFD will be an important step towards fulfilling the commitments undertaken at the World Summit on Sustainable Development and in the Convention on Biological Diversity, so to contribute to the creation of coherent and representative networks of such areas.

Other examples of linkage with other Directives on environmental protection are highlighted in the field of water policy. Coastal waters, including their seabed and subsoil, are an integral part of the marine environment, and as such are covered by MSFD, but also the Water Framework Directive (2000/60/EC) already addresses coastal waters protection for some specific points. In order to ensure complementarity while avoiding unnecessary overlaps, those aspects of the environmental status of the marine environment not already addressed

through the Water Framework Directive or other Community legislation, are specifically covered by MSFD (Tunesi et al. 2013).

An assessment of the connections among MSFD and other measures was performed, employing MSFD descriptors. The Table 1 shows where measures under other legislations can contribute to the delivery of MSFD objectives.

### *5.3 Links between policy tools and coastal tourism*

In the framework of the CO-EVOLVE project five dominant types of tourism have been identified in Mediterranean coastal areas: (1) Beach/Maritime tourism, (2) Urban/Cultural tourism, (3) Cruising, (4) Recreational boating (Yachting/Marinas), (5) Nature/Ecotourism (see Deliverable 3.16.1).

For each type of destination sustainable indicators were analysed on the basis of four main topics: (a) Socio-economic, (b) Environmental, (c) Management and optimization of key assets to destination type, (d) Governance. As a result, a list of “destination indicators” was then identified (see Deliverable 3.16.2).

We translated these destination indicators into environmental descriptors for each type of coastal tourism, in order to better join them to the relevant piece of legislation. The Conventions and Directives described in the Chapters 3 and 4 of this report were considered in such assessment. The results are shown in Table 2.

### *5.4 Integration among Nature and other EU Directives*

The Nature Directives, Water Framework Directive (WFD), Nitrates Directive (ND), Ground Water Directive (GWD), and Marine Strategy Framework Directive (MSFD) all aim to achieve healthy aquatic ecosystems. There are differences in the terminology used in the Directives which reflect their different specific focus although their objectives are complementary. For example, the Nature Directives aim to achieve 'favourable conservation status' - or the equivalent - of the listed habitats and species which they seek to protect. The WFD aims to achieve 'Good Status' of rivers, lakes, transitional waters, coastal waters (up to one mile from the shore) and groundwater. Good status includes ecological, chemical and quantitative aspects. The MSFD aims to achieve 'Good Environmental Status' for marine waters. However, guidance from the Commission has helped clarify links between these Directives,

including relevant concepts and terms. Information exchanges between the implementation processes of the three Directives at EU level have become common and a process has been established to periodically bring together the heads of EU and national administrations (Water, Marine, and Nature Directors) to discuss ways to enhance synergies.

Generally respondents to the targeted consultation were positive about synergies with the MSFD, particularly in relation to marine protected areas, although much of this is based on expectation rather than experience due to the relative newness of this Directive. There is also potential to achieve synergies in relation to monitoring and reporting under the MSFD, WFD and Nature Directives, with a view to collecting data once for multiple purposes and reducing administrative burden. The Commission has already launched such an initiative with Member States with a view to streamlining processes under the Directives.

**Table 1. List of legislation contributing to the MSFD objectives for each environmental descriptor apart from “food webs” (modified from DG Environment 2014).**

Descriptor	Related EU legislation
Biological diversity	Habitat Directive (Directive 92/42/EEC) and Bird Directive (Directive 2009/147/EC)
Non-indigenous species	Regulation 708/2007 concerning use of alien and locally absent species in aquaculture; Commission proposal for EU legislation to address invasive alien species and protect biodiversity
Commercial fish & shellfish	CFP (Regulation (EU) 1380/2013) and its related legislations (e.g. Regulation 1967/2006, all technical measures, on fishing efforts)
Eutrophication	Water Framework Directive (directive 2000/60/EC), Urban Waste Water Directive (Directive 91/27/EEC), Nitrate Directive, Nitrate Directive (91/676/EEC), National Emission Ceilings Directive (2001/81/EC)
Sea-floor integrity	Water Framework Directive (Directive 2000/60/EC), Habitats Directive (Directive 92/42/EEC) and Birds Directive (Directive 2009/147/EC), SEA directive (2001/42/EC), EIA Directive(85/337/EEC), Renewable energy directive (85/337/EEC)
Hydrography	Water Framework Directive (Directive 2000/60/EC), SEA directive (2001/42/EC), EIA Directive(85/337/EEC)
Contaminants	Water Framework Directive (Directive 2000/60/EC), Directive on Environmental Quality Standards (Directive 2008/105/EC) as amended by directive 2013/39/EU, Directive on industrial emissions (Directive 2010/75/EU), Chemical legislation including Reach Regulation (Regulation 1907/2006) and biocides Regulation (528/2012), Directive on ship-source pollutions (directive 2009/123/EC), sulphur directive 2012/33, Directive on alternative fuel infrastructure (adoption any day now)
Contaminants in seafood	Seafood legislation: Regulation 188/2006, Regulation 2073/2005, Regulation 178/2002, Regulation 852/2004, Regulation 854/2004, Regulation 853/2004
Litter	Waste Framework Directive (directive 2008/9/EC), Directive on Port Reception Facilities (Directive 2000/59/EC), Urban Waste Water Directive (Directive 91/27/EEC), Directive on ship-source pollutions (directive 2009/123/EC), Bathing directive (DIRECTIVE 2006/7/EC)
Energy, incl. underwater noise	SEA directive (2001/42/EC), EIA Directive(85/337/EEC)



**Table 2. Destination indicators (ref. Deliverable 3.16.2) expressed by descriptors and Conventions/Directives which apply to them. CBD: Convention on Biological Diversity, CMS: Convention on Migratory Species of Wild Animals, WHC: World Heritage Convention, RC: Ramsar Convention, QBW: Quality of Bathing Water Directive, QSW: Directive on Environmental Quality of Shellfish Waters, WFD: Water Framework Directive, EIA: Environmental Impact Assessment Directive, MSFD: Marine Strategy Framework Directive, HD: Habitats Directive, BD: Birds Directive.**

Descriptors related to tourism typologies	Conventions and Directives										
	CBD	CMS	WHC	RC	QBW	QSW	WFD	EIA	MSFD	HD	BD
<b>Beach/Maritime tourism</b>											
Habitat degradation	X	X	X	X				X	X	X	X
Scenery		X	X	X				X			
Touristic population	X	X	X		X	X		X	X		
Water quality				X	X	X	X	X	X		
<b>Urban/Cultural tourism</b>											
Cultural landscape			X								
Touristic facilities			X					X		X	X
<b>Cruising</b>											
Cultural landscape			X								
Infrastructure			X					X	X		
Scenery			X					X			
Waste management			X	X							
Water consumption				X				X			
Water quality				X	X	X	X	X	X		
<b>Recreational boating</b>											
Fishing	X	X		X					X	X	X
Infrastructure			X					X		X	X
Scenery		X	X	X				X			
Touristic population	X	X	X		X	X		X	X		
Waste management			X	X				X	X		
Water quality				X	X	X	X	X	X		
<b>Natural/ Eco-tourism</b>											
Habitat degradation	X	X	X	X				X	X	X	X
Protected areas				X				X		X	X
Rare and protected species	X	X		X						X	X
Scenery		X	X	X				X			
Touristic population	X	X	X		X	X		X	X		
Water quality				X	X	X	X	X	X		



## 6. Implementation of policy measures

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In this section, the main results of the recent “fitness check” of the EU biodiversity policy are described. Second, some paradigmatic examples of implementation of the policy measures described in the previous chapters are reported. They are mostly based on evaluations following the obligations provided by the EU Directives and international conventions, and on agreements that are the results, at national or regional level, of the application of the EU Directives and international conventions. Last, this chapter presents the implementation level of MSFD for some of the countries involved in the CO-EVOLVE project.

### 6.1 The fitness check of EU environmental monitoring

The Birds and Habitats Directives were subjected to a comprehensive policy evaluation under the Regulatory Fitness and Performance Programme (Brussels, 16.12.2016, SWD(2016) 472 final, Commission Staff Working Document: "Fitness Check of the EU Nature Legislation (Birds and Habitats Directives)").

The evaluation focused on different parameters and provided the following results:

- Effectiveness (assess of the extent to which the objectives of the two Directives have been achieved and any significant factors that may have contributed to or inhibited progress towards meeting those objectives). The evaluation showed that the general objectives of the Directives have not yet been met and it is not possible to predict when they will be fully achieved. However, it is clear that the status and trends of bird species as well as other species and habitats protected by the Directives would be significantly worse in their absence and improvements in the status of species and habitats are taking place where there are targeted actions at a sufficient scale.
- Efficiency (evaluates if the costs involved in implementation are reasonable and in proportion to the benefits achieved). The evaluation showed that the Directives do not create barriers to investments that are sustainable and not damage the conservation values of sites. The multiple benefits of the Directives, estimated at € 200-300 billion per year, significantly exceed identified costs.
- Relevance (measure the extent to which the objectives and measures contained within the Nature Directives are consistent with the current needs of EU natural habitats and species of wild fauna and flora, including wild birds). Evidences showed that the Directives continue to be relevant for tackling the key pressures on habitats

and species. Their general and specific objectives remain valid, setting out what is to be achieved and leaving the responsibility for identifying and responding to specific threats to the Member States. Over 1200 species and sub-species as well as 231 habitat types are currently listed under the Habitats Directive. Annexes of both Directives have been amended in several occasions, most recently these were linked to the accession of new Member States. The evidences indicate that the Annexes in their current form provide an adequate level of protection to enable the objectives of the Directives to be met.

- Coherence (evidence the synergies or inconsistencies between the Directives and other EU policies which are expected to work together, such as other EU environmental directives and other EU sectorial policies affecting land and water use and adaptation to climate change). The Nature Directives result to be coherent with each other but there is a continued need to promote implementation solutions that optimise the attainment of their conservation objectives while having full regard to the socio-economic context in which they operate, working with different stakeholder communities. Other environmental directives are consistent and complementary to the Nature Directives, although past experience highlights the need and importance to improve their co-ordination; in particular in regards to monitoring and reporting with a view at collecting data once for multiple purposes and reducing burden. Given the continuing decline of species and habitats associated with agriculture, greater efforts are needed to conserve and enhance biodiversity, through more effective integration with the Common Agricultural Policy (CAP) in order to reach biodiversity objectives. Recent reforms of the CAP and of the Common Fisheries Policy have brought promising changes to the policy framework in terms of improved coherence with the Nature Directives, although more time is needed to confirm results.
- EU added value (evaluate if Directives actions continue to be justified at the EU level and changes can be reasonably attributed to EU intervention). The evaluation showed that the Directives have established a stronger and more consistent basis for protecting nature than existed in Europe before their adoption. EU actions created a consistent, fair and integrated approach to nature conservation and delivery of ecosystem services across the EU, addressing transboundary concerns in line with international obligations and based on the consideration that effective management of natural resources needs to take place across political boundaries. This is of

particular importance as the ranges of many species are dependent on suitable habitats and conditions being present simultaneously in several Member States.

In conclusion, the Fitness Check has found that, in the framework of overall EU biodiversity policies, the Nature Directives fit their purposes; nevertheless, the achievement of their objectives and the realization of their full potential will depend upon their continuous implementation. Improvements are needed in both their effectiveness/efficiency and capacity to promote the working in partnership with different stakeholder communities in the Member States and across the EU, in order to deliver practical results on the ground.

### Status of Marine Sites

A substantial progress has been made over time in the establishment of the Natura 2000 network (Figure ). However, there are still significant differences in its application between the terrestrial and the marine domain. While the establishment of the terrestrial component of the Natura 2000 network is largely complete, there are still important gaps for the marine environment, particularly for the offshore (e.g. more than 18% of the terrestrial environment is covered by N2000 sites vs. about 6% of the marine environments). For these reasons, the addition of new marine sites has been strongly required by the Member States. Despite these, the evaluation shows that the ongoing processes, designation of Sites of Community Importance (SCIs) as Special Areas of Conservation (SACs) and establishment of the necessary conservation measures, for which additional 6 years-monitoring will be allocated, are very insufficient for both terrestrial and marine sites and for nearly all Member States in meeting the deadlines; on the overall the undertaken initiatives are not in line with expectations (Figure 7).

Although the Directives have stimulated a significant increase in research and monitoring activities essential for the implementation of the Natura 2000 network, however in most of the Member States there are still significant knowledge gaps that constrain the efficient and effective improvement of directives. The most frequently mentioned gaps relate to knowledge on the distribution and precise location of protected habitats and species. Such deficiencies have affected the effective implementation and identification of marine Natura 2000 sites.

### Status of threats to coastal and marine ecosystems

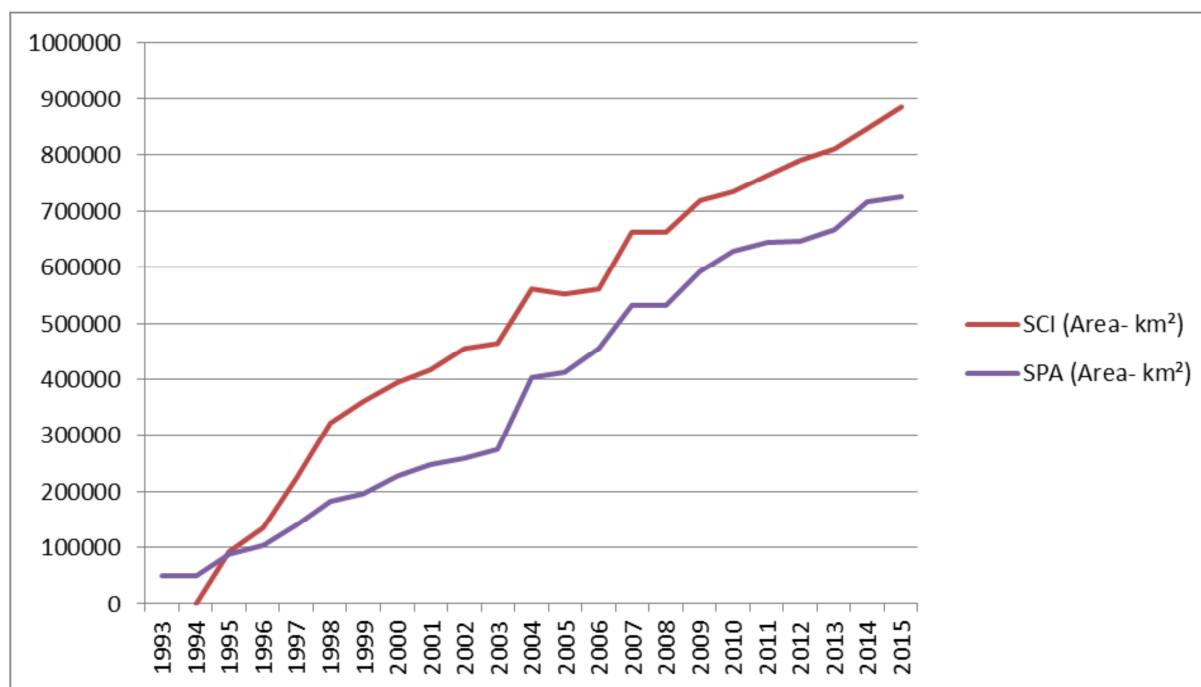
In the marine and coastal environments impacts are mainly from fisheries and from infrastructure development such as ports and harbours. Such pressures existed when the Directives were introduced and nowadays are still relevant.

The establishment of fisheries conservation measures for marine Natura 2000 areas remains challenging due to a lack of scientific data and harmonised approach across the Member States, as well as the potential for conflicts of interest between nature protection objectives and the fisheries sector.

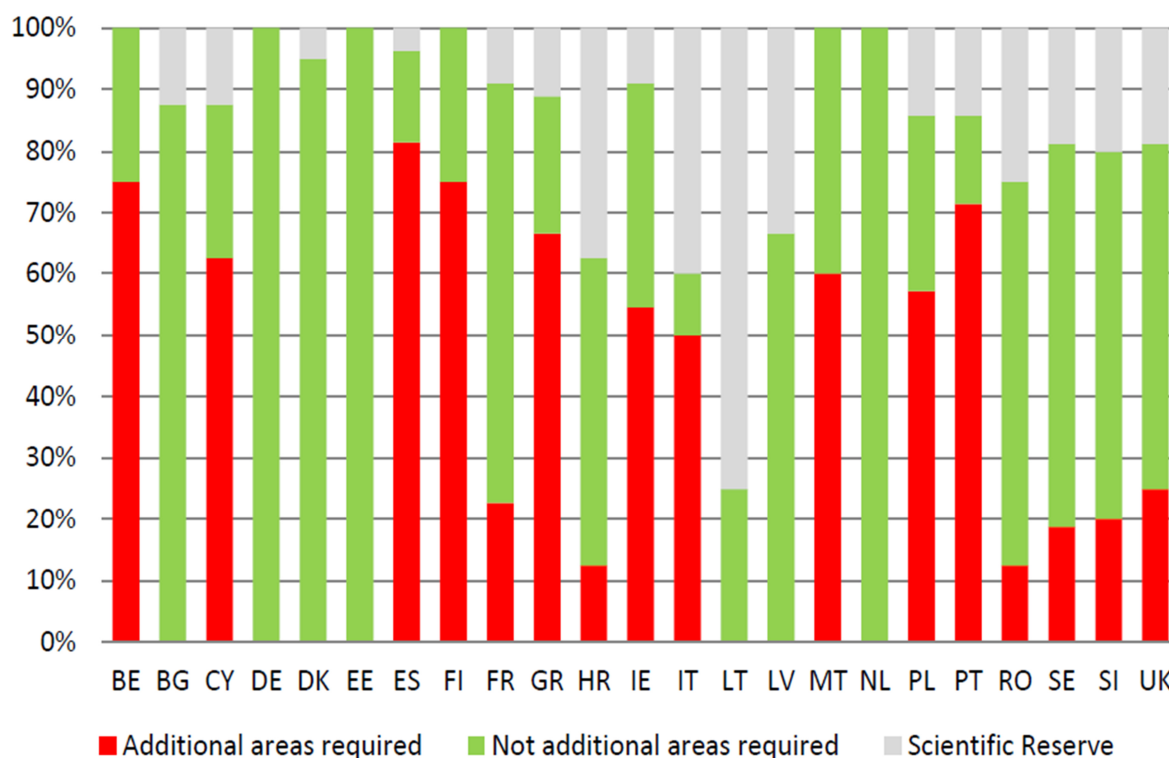
In the last decades a range of potential and actual human threats have emerged such as hunting and recreation. Recreational pressures can be intense at local level, and some species have been shown to be very sensitive to disturbance from recreational activities. Moreover, significant pressures seem to be more associated with the development of tourism-infrastructures and recreation activities in sensitive areas.

A Commission Communication on “The next steps for a sustainable European future” has recognized the Nature Directives relevant to Sustainable Development Goals on 'Marine ecosystems'.

**Figure 6: Cumulative surface area of the Natura 2000 network from 1993 to 2015 (from: COMMISSION STAFF WORKING DOCUMENT, SWD(2016) 472 final)**



**Figure 7: Sufficiency of Marine Sites of Community Importance (from: COMMISSION STAFF WORKING DOCUMENT, SWD(2016) 472 final)**



## 6.2 Implementation of the Ramsar Convention in the Mediterranean

### Morocco National Wetlands Strategy 2015-2024

*“In 2024, Moroccan wetlands are managed in an integrated and sustainable way, ensuring the improvement of their ecological heritage and their ecosystem services”.* With this vision the Morocco National Wetlands Strategy will become a tool for the integrated management and sustainable development of its national territories.

The priority axes of the National Strategy are:

- The inclusion of 30 new Moroccan sites in the List of Wetlands of International Importance (the Ramsar List);
- The implementation of 60 priority integrated wetland restoration action plans;
- The sensibilization of nearly 50,000 people per year through the development of awareness and education-programs for wetlands;

- The development of 4 sustainable value indicators for wetlands: bird watching, artisanal fisheries, integrated aquaculture, and fishing tourism.

The strategy is described in detail in Dakki et al. (2015).

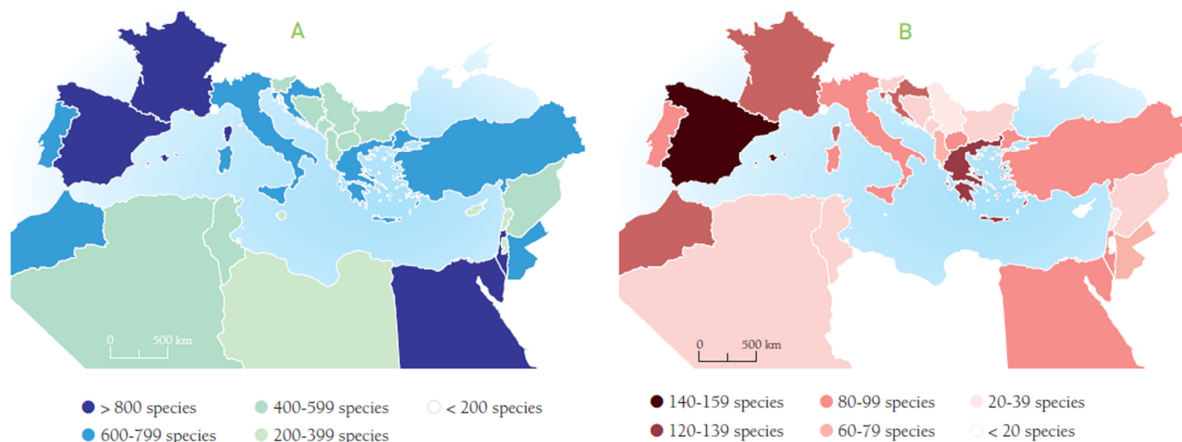
#### Algeria National Wetlands Strategy 2015-2024

This strategy is an instrument to accompany all sectors for the sustainable management of wetlands, contributing to the fight against desertification, adaptation to climate change, mitigation and protection of resources of Algeria. It also aims at preserving the country's wetlands and enhancing their resilience to climate change through ecosystem-based management, enabling them to continue providing ecological goods and services. The strategy is described in detail in Republique Algerienne (2016).

#### Status and trends of species in Mediterranean wetlands

The thematic report of the Mediterranean Wetlands Observatory released in 2012 provides an overview and a discussion on the status and trends of species in Mediterranean wetlands. Out of the 2,983 species living in the basin's wetlands and evaluated by the Red List of the International Union for the Conservation of Nature (IUCN), 896 (one third) are at risk of disappearing completely in the next few decades. In general, the countries with the highest numbers of endemic species also have the highest numbers of threatened species, since most of these species have a restricted range and numerically small populations. In this respect, Spain, Greece, France, Croatia, Morocco, Turkey, Israel and Italy, each of them supporting more than 10% of the wetland endangered species, have a particular responsibility for safeguarding Mediterranean wetland biodiversity ([Figure](#) ).





**Figure 8. Number of wetland species (A), and number of endangered species (B) in each Mediterranean country according to the IUCN Red List.**

The report underlined that most of the species have a worrying conservation status, for example:

- Around 600 species of birds are regularly recorded in Mediterranean countries, of which at least a third depends on wetlands. In some countries half of nesting water bird species is in decline since 1970. The Community Specialisation Index shows that since 1970 the bird communities of Mediterranean wetlands have been increasingly dominated by generalist species, with a corresponding decrease in specialist species.
- Of the 519 species that are native to the Mediterranean Sea (more if the Atlantic, Black Sea, and Red Sea coasts of Mediterranean countries are included), many marine fish species extend into coastal wetlands.

The report also states that within the context of improving the conservation status of wetland species, the following actions are urgently required:

- Tackle the underlying causes of degradation by means of improved governance in the field of environmental conservation, developing better environmental policies, and applying the protection laws already in force.
- Broaden and intensify the application of water quality monitoring in response to the recommendations of the conventions and legislation in force.
- Economise water resources and preserve their quality, particularly by adopting less intensive and water-greedy agricultural practices.

- Ensure that species can migrate to cooler areas and thus escape the effects of climate warming by developing climate change corridors bypassing the human infrastructures that fragment the landscape.
- Accelerate the process of protected area designation to incorporate areas recognised by the scientific community as being important for biodiversity (IBAs, IPAs, and KBAs). Protection efforts need to be directed towards wetlands rich in endangered species: water courses, temporary marshes, damp grasslands and peat bogs, including those with very small surface areas.
- The placing of wetlands under protection needs to be combined with sustainable management and the implementation of conservation programmes. Conservation stakeholders need to play an active part in land-use planning, at both national and local level, in order to be able also to work for unprotected wetlands.
- Develop and improve monitoring and research concerning the biodiversity of wetlands in order to fill the knowledge gaps preventing better management and conservation of sites.

In order to reduce direct pressures on wetland species the following priority actions are recommended by the report:

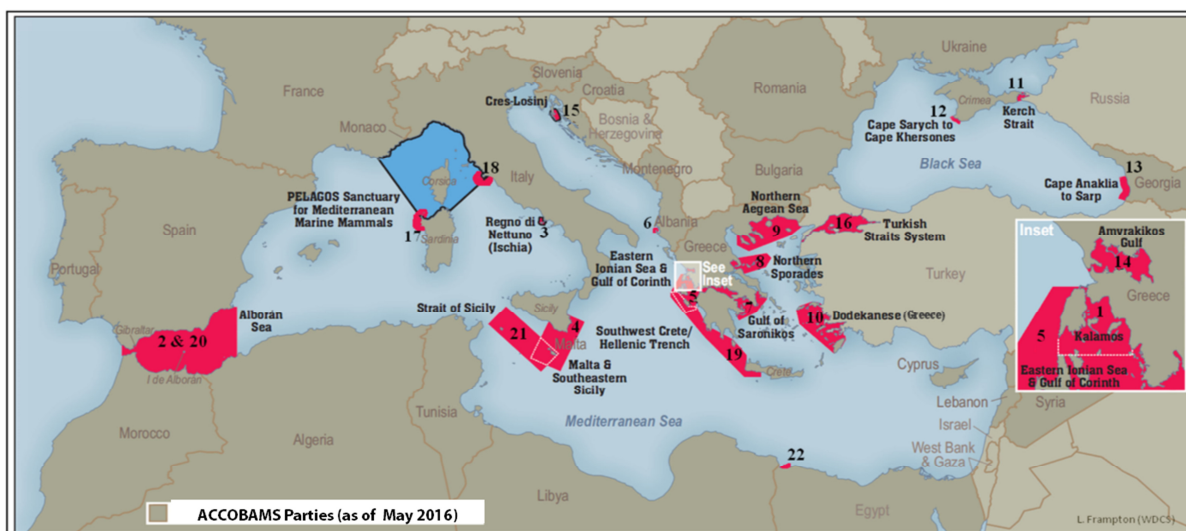
- Reinforce species protection laws and mobilise the financial and human resources required for their application.
- Identify the most damaging invasive species and priority wetlands where action plans need to be set up. Raise awareness among hunting and fishing clubs and the general public concerning the dangers provoked by the introduction of exotic species into natural habitats.
- Manage tourism around coastal wetlands so as to limit the disturbance caused to the most sensitive species (bird colonies, sea turtles, etc.).
- Assess the ecological services provided by the biodiversity of wetlands, the livelihoods to which they can contribute, and thus raise the awareness of local populations and decision-makers concerning methods for sustainably exploiting them.

### 6.3 Agreements at MED scale of the Convention on Migratory Species of Wild Animals

Currently there is one Convention on Migratory Species (CMS) Agreement relevant at MED scale: the ACCOBAMS, which aim is to protect whales, dolphins and porpoises of the Mediterranean Sea, Black Sea and the Contiguous Atlantic Area (<http://www.accobams.org/>). Some of the objectives of the ACCOBAMS Strategy 2014 - 2025 are:

- Objective B.2. The reduction of human pressures on cetaceans, particularly those related to interaction with fisheries, habitat loss and degradation.
- Objective B.5. The enhancement of effective conservation of cetaceans' critical habitats.

The Cetacean Critical Habitats in ACCOBAMS are shown in Figure 9.



**Figure 9. Cetacean Critical Habitats in ACCOBAMS.** 1-10: Areas of special importance for the common dolphin and other cetaceans. 11-13: Areas of special importance for Black Sea cetaceans. 14-18: Areas of special importance for the bottlenose dolphin. 19: Area of special importance for the sperm whale. 21-23: Areas of special importance and diversity for various cetacean species.

Within the ACCOMBAMS area, with aim of reducing the threat represented by impulsive underwater noise for cetaceans, a network of existing deep-sea monitoring stations (Figure 10) has been established.



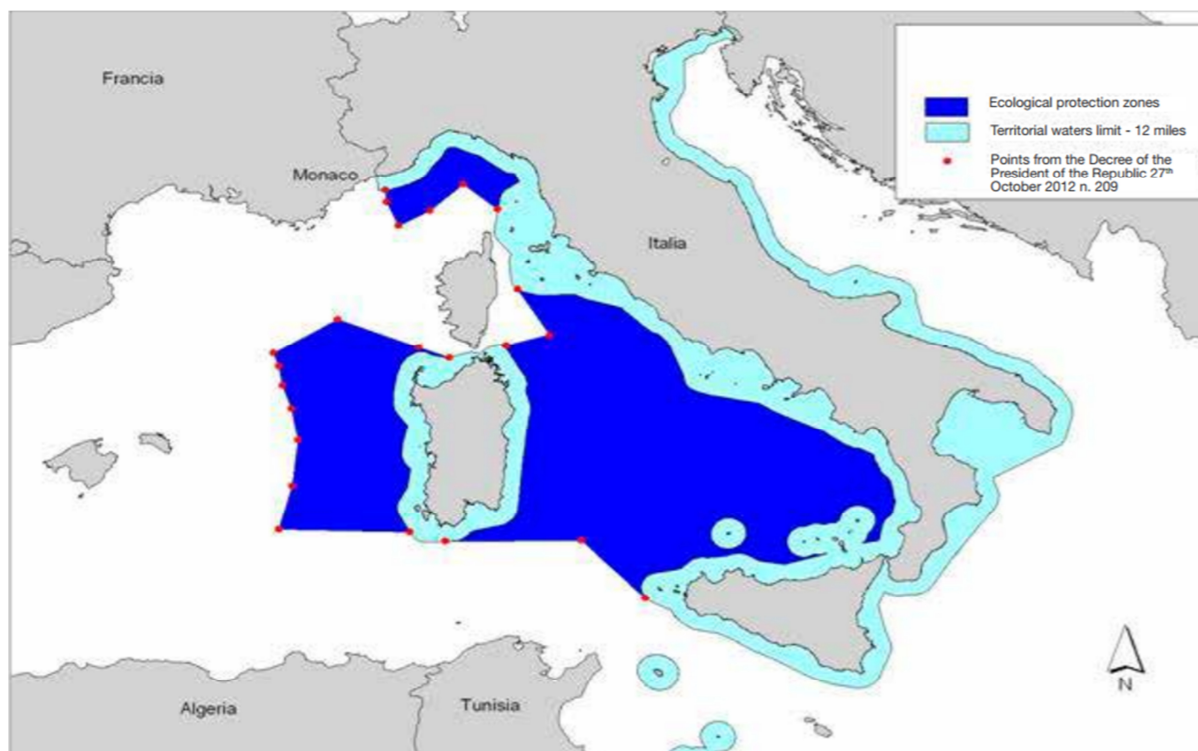
Figure 10. Existing monitoring stations for underwater noise.

#### 6.4 Implementation of MSFD at national level

##### Italy

Italy has transposed the MSFD in its national legislation through the Legislative Decree n. 190 of the 13th October 2010. The Directive promotes the integration of environmental considerations into all relevant policy areas and constitutes the environmental pillar of the future Integrated Maritime Policy (IMP) for the European Union (Tunesi et al., 2008).

Following UNCLOS, Italy recently established with the Decree of President of the Republic n. 209 of the 27th October 2011, an Ecological Protected Zone. This zone includes the Tyrrhenian Sea, the Ligurian Sea and an additional area which extends from the western Sardinia coast up to approximately 200 miles offshore, where National and Community Law applies in relation to prevention and mitigation of all types of marine pollution, biodiversity and marine ecosystems protection, with particular regard to the protection of marine mammals and preservation of cultural heritage found in its sea bed. As a consequence, the MSFD applies also to such Ecological Protected Zone, covering all the Western Mediterranean Sea Basin pertaining to Italy (Figure 11).



**Figure 11. Ecological protection zones according to MSFD in the Tyrrhenian Sea (from Tunesi et al., 2013).**

ISPRA (Istituto Superiore per la Protezione e la Ricerca Ambientale) has been the national institution commissioned by the Environment Ministry for the implementation of the monitoring plan in the context of MSFD. The monitoring Plan is structured in 7 "Programs", each of them including a number of sub-programs which correspond to a specific monitoring action. The sub-programs are identified by the target environment (coastal/offshore, superficial/deep), the gaps of knowledge which should be filled, the aim of the activity and the monitoring strategy. Then, the sub-programs are linked to descriptors of good environmental quality and environmental targets of the MSFD. The selections of the monitoring activities to be addressed have been inspired by three fundamental criteria:

1. The necessity of filling gaps of knowledge on the characteristics, pressures and impacts of Italian marine environment.
2. The connection with environmental targets, the monitoring actions should assess if the status of the marine environment is going towards the good environmental status defined by the MSFD.
3. The existence of monitoring programs already established in the context of other regulations at any scale of application (from regional to international).

The programs are:

Program 1. Plankton, chemical and physical characteristics of the water column, marine litter.

Program 2. Habitats and biodiversity of the marine deep.

Program 3. Fishery.

Program 4. Natural contaminants and organic inputs.

Program 5. Contaminants in the products for human consumption

Program 6. Hydrographical conditions.

Program 7. Underwater noise.

The monitoring plan was launched in 2014.

Three public consultations have been launched since the adoption of the Directive: in 2012 (first evaluation of the marine environment status, collection of proposals for the assessment of the good environmental status and definition of environmental targets), 2014 (monitoring programs) and 2016 (program of measures).

### Spain

In 2012 MSFD environmental objectives and associated indicators were approved for the five Spain's marine sub-regions (LTD/N2K GROUP 2015). This provided the basis for designing the relevant national monitoring programmes while taking into account the existing monitoring work being done under the Water Framework Directive, the Birds and Habitats Directives and the OSPAR and Barcelona Conventions. Particular attention was given in making the monitoring more cost-effective, feasible, informative and well-focused. This was especially important, as the monitoring should have to cover over 1 million km<sup>2</sup> of marine waters under Spanish sovereignty or jurisdiction.

The development of the marine monitoring programmes involved several steps:

- Scientific-technical discussion on indicators.
- Inventory and analysis of existing programmes, and proposals for integrating them into the monitoring programmes of the marine strategies.
- Proposed structure of programmes and sub-programmes, including the design of new monitoring programmes for the gaps identified.
- Discussion with the authorities responsible for monitoring each component, and agreement on the design of the programmes.



Since the early stages of monitoring programmes designs, regional and national administrations and relevant stakeholders participated and contributed to their elaboration. In fact, in Spain, the competences for managing marine waters, surface waters and biodiversity are shared among many different regional and national authorities. The scientific community played a central role in this process. In particular, the Spanish Marine Strategies Group, formed by the Ministry of Agriculture, Food and Environment, the Spanish Institute of Oceanography (IEO) and the Centre for Studies of Ports and Coasts (CEDEX) actively organised various workshops and meetings to bring the relevant experts together around the same table.

One workshop, held in Madrid on 11-12 June 2013, focused on the monitoring of biodiversity descriptors for the marine environment. During the workshop, which was attended by scientists of the IEO, the National Research Council (CSIC), and other research and technological centres, the most appropriate methods to be used in the monitoring programmes of the marine strategies were discussed. One objective was, in particular, to work with already existing monitoring programmes (especially those that had been developed under the Habitats and Birds Directives and WFD in particular), so that the two schemes could be coordinated in the future. The expert group therefore reviewed all the existing programmes which were carried out by the autonomous regions in Spain and identified any gaps in order to complement them with new monitoring stations, methods and parameters complying with the obligations of the MSFD.

Through the various and following workshops a range of indicators, which could be used for monitoring under both the MSFD and the Birds and Habitats Directives were identified.

The preparation of the programmes of measures under MSFD has included an analysis of the existing measures at both the regional and national levels, to determine whether these measures are sufficient to achieve good environmental status of the marine environment by 2020 and to achieve the environmental objectives.

The contents of the programmes of measures of the marine strategies are set in the Spanish Act on the Protection of the Marine Environment (Ley 41/2010). This also requires that the programmes include special protection measures to contribute to the creation of a coherent and representative network of marine protected areas, as well as specific measures to protect, conserve and ensure the recovery of protected species and habitats.

As regards biodiversity, good cooperation is being achieved with relevant policies and initiatives. For instance, a biodiversity expert workshop was held in Madrid in June 2015,

where the measures needed to achieve good environmental status of different components (turtles and marine mammals, seabirds, and benthic habitats) were discussed.

### Croatia

Croatian marine waters are part of the Mediterranean marine region and the Adriatic Sea sub-region. Croatia is party to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention). The Mediterranean Sea region has been identified by the EEA in its 2015-“State of the Environment” report as one of the main climate change hotspots (i.e. one of the most responsive areas to climate changes) due to water scarcity, concentration of economic activities in coastal areas, and reliance on climate-sensitive agriculture. The introduction of invasive alien species presents an important threat in the Mediterranean Sea Region with the number of invasive alien species increasing significantly since 1970. Finally, the unique biodiversity of the Mediterranean Sea Region is also threatened by pollution from land-based sources, such as discharges of excess nutrients and hazardous substances, marine litter, over-fishing, and degradation of critical habitats. The Commission is currently assessing the conformity of Croatian legislation with the MSFD (Commission Staff Working Document 2017c). With regards to specificities of implementation of the MSFD, Croatia has defined GES for all descriptors; however the approach used by Croatia to define GES varies between Descriptors. In some cases it is unclear if GES is actually defined for the Descriptor while other GES definitions are indicated as proposals. It is therefore too early to say whether Croatian waters are in good status as there were weaknesses in identifying what "good environmental status" is in the first place.

Croatia established a monitoring programme of its marine waters in 2014. However it seems that its monitoring programmes for all descriptors need further refinement and development to constitute an appropriate framework to monitor progress towards GES, especially since the monitoring programme will not be adequate to monitor progress towards its targets before 2018 for most descriptors, the date by which the next assessment of Croatia's marine waters is due. However, it is important to note that the monitoring programme has been considered adequate to monitor progress towards GES as of 2014.

### France

In France, the implementation of the MSFD (Commission Staff Working Document 2017b) in the national legislation was materialised by the law of the 12 July 2010, concerning the

national commitment to the environment, called the "loi Grenelle 2" and through the decree No. N011-492 of the 5<sup>th</sup> of May 2011 concerning the creation and implementation of action plans for the marine environment, as provided for by law.

French marine waters are part of two marine regions, the North East Atlantic Ocean and the Mediterranean Sea and of four marine sub-regions: the Celtic Seas, the Greater North Sea, the Bay of Biscay and Iberian Coast, and the Western Mediterranean Sea. France is therefore party to both the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) and to the Convention for the protection of the marine environment of the North-East Atlantic (OSPAR Convention). In the open ocean areas of the Atlantic, the main threats to biodiversity are potentially overfishing, bottom trawling, discards, and pollution resulting from accidents (e.g. oil spills). The Mediterranean Sea region was identified by the EEA in its 2015 State of the Environment report as one of the main climate change hotspots (i.e. one of the most responsive areas to climate change). The biodiversity of the Mediterranean Sea Region is also threatened by pollution from land-based sources such as discharges of excess nutrients and hazardous substances, marine litter, over-fishing, and degradation of critical habitats. The determinations of GES adopted by France are mostly in line with the MSFD. They cover most of the indicators and for some descriptors even more, and EU requirements and standards have been systematically used. However, GES is defined qualitatively and not quantitatively. This choice, combined with a lack of baseline and reference conditions, leads to a general lack of clarity about GES. All pressures and impacts on the marine environment are often not clearly and efficiently covered, which can pose problems in terms of environmental targets definition, of monitoring and of establishing a programme of measures. It is therefore too early to say whether French waters are in good status as there were weaknesses in identifying what "good environmental status" is in the first place. France also established a monitoring programme of its marine waters in 2014. However, this monitoring, except for marine litter and underwater noise, needs further refinement and development to constitute an appropriate framework to monitor progress towards Good Environmental Status and environmental targets. More specifically, non-indigenous species monitoring programme needs to be developed and put in place before 2020. In 2012, the French marine protected areas covered 47,112.4 square kilometres of its marine waters (out of these, 11,668.5 square kilometres are located in the North Sea, 1,693.9 square kilometres are in the Celtic Sea, 20,183.8 square kilometres are in the Bay of Biscay and on Iberian coast and 13,566.2 square kilometres are in the Western Mediterranean Sea). In its reports

on the implementation of the MSFD, the Commission provided guidance to assist France in its implementation of the Marine Strategy Framework Directive.

### Greece

With regard to the specificities of the implementation of the MSFD (Commission Staff Working Document 2017a), there is a lack of clarity in what constitutes GES, as there is no systematic use of the 2010 Commission's Decision criteria and indicators and in most cases no threshold values and baselines are provided. Thus, the criteria for GES were not considered as measurable. It is therefore too early to say whether Greek waters are in good status. Greece has not yet reported on its monitoring programme under the MSFD, therefore no assessment has been carried out, contrary to other Member States, for which the Commission provided guidance in its report assessing monitoring programmes under the MSFD. In 2012, Greek marine protected areas covered 7,413.5 square kilometres of its marine waters (out of these 2,521.6 square kilometres are located in the Ionian and Central Mediterranean Sea, 74.1 square kilometres are in the Adriatic Sea and 4,817.8 square kilometres are in the Aegean and the Levantine Sea).

Regarding Greece the suggested actions from the EU Commission are:

- Continue the work to improve the definitions of GES, through regional cooperation by using the work of the relevant Regional Sea Convention and with the aim to make GES measurable.
- Urgently report and implement the national programme of measures.
- Finalise, implement and report to the Commission the monitoring programme of Greek marine waters as soon as possible.
- Further develop approaches assessing (and quantifying) impacts from the main pressures in order to lead to improved and more conclusive assessment results for the 2018-reporting.

## *6.5 Implementation of measures under the Barcelona Convention for non-EU countries*

Around 120 million of people inhabit the coastal regions of the Southern Mediterranean Countries. They represent, today, 60 per cent of the total population with a growth that has been increased considerably in the last 50 years. This population growth is associated with

the urbanization that has taken place along the coast and most cities of the southern shores, are not being managed sustainably in relation to their carrying capacities and are insufficiently resilient.

In the southern and eastern Mediterranean countries, pressures on ecosystems are strong if compared to the northern part (UNEP/MAP 2016). Main pressure on land and water resources, are: urban sprawl, over-exploitation of forests and overgrazing, desertification processes. These phenomena are exacerbated by climate change, causing increased aridity and extreme events (long periods of drought, devastating floods of land and livestock, large cold spells), with strong socio-economic impacts on farmers. Mediterranean cities are insufficiently resilient in terms of coping with natural and human-made risks and hazards (UNEP/MAP 2016). They are also highly energy-dependent, with low shares of renewable energy used, and their productive capacity in terms of renewable energy, urban agriculture and waste recycling is highly underutilized. In addition, the participation of residents in decision-making on urban matters in many municipalities remains low, as does the level of access to urban services.

In order to evaluate how the existing measures under the Barcelona Convention and its Protocols have been addressed at regional level to achieve the good environmental status of the Mediterranean, a gap analysis (UNEP/MAP 2015) have been produced by the EcAp-MED I Project (Ecosystem Approach Project in the Mediterranean, 2012-2015), which is supported by the United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP). According to this report, in order to ensure further progress in the implementation of the major obligations under the Barcelona Convention, a number of regional policy instruments has been produced and in particular:

- The Strategic Action Programme to Address Pollution from Land-Based Activities (SAP/MED), an action-oriented regional strategy identifying priority target categories of polluting substances and activities to be eliminated or controlled by the Mediterranean countries through a planned timetable (up to the year 2025) in line with obligations of the Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-based Sources and Activities;
- The Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean Region (SAP/BIO), which provides a logical framework for implementing the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

The action plans adopted by non-EU countries are listed in Table 3.

**Table 3: Action Plans adopted by non-EU Mediterranean countries (from UNEP/MAP 2015)**

<b>Algeria</b>	
SAP/MED	Plan d'Action National pour la réduction de la pollution marine due à des activités menées à terre.
SAP/BIO	Action Plan for setting up a network for monitoring of Posidonia oceanica meadows
	Action Plan for setting up a programme to the collect of data on the Monk seal
	Action Plan for reducing fishing activity pressure on coastal area biodiversity hot spots
	Action Plan for inventorying and setting up marine and coastal protected areas in Algeria
<b>Egypt</b>	
SAP/MED	National Action Plan; In the Framework of the Implementation of the SAP to address Pollution in the Mediterranean from Land-Based Activities
SAP/BIO	Bio-resources assessment of Mediterranean coastal waters of Egypt, development of Mediterranean
	Bio-Diversity Database, and public awareness for bio-conservation
	Development and maintenance of the Matruh Nature Conservation Sector (MNCZ)
	Bedouin operated bio-diversity conservation and restoration programme
<b>State of Israel</b>	
SAP/MED	National Action Plan for the reduction of pollution of the Mediterranean sea against land based sources
SAP/BIO	Action Plan for the conservation of marine and coastal birds in Israel
	Action Plan for the conservation of fish along the Israeli coast of Mediterranean
<b>Lebanon</b>	
SAP/MED	Strategic Action Programme and National Action Plan for Lebanon
SAP/BIO	Action Plan for organising awareness campaigns for the Lebanese coastal communities and the public sector
	Action Plan for updating of legislation and development of for marine and coastal conservation
	Action Plan for determining the physical parameters of the Lebanese marine environment
	Action Plan for establishing conservation strategies for coastal habitats
	Action Plan for developing monitoring strategies for coastal and marine biodiversity
	Action Plan for Palm Islands & Tyre Coast Nature Reserves
<b>Libya</b>	
SAP/MED	The National Action Plan for the Libyan Coastal Area
SAP/BIO	Action Plan for the conservation of marine and coastal birds in The State of Libya
	Action Plan on proposed new marine and coastal protected areas and national parks
	Action Plan for the conservation of marine turtles and their habitats in The State of Libya
<b>Malta</b>	
SAP/MED	National Action Plan for the Protection of the Marine Environment from Land-based Activities
SAP/BIO	Action Plans for the conservation of cetaceans in Maltese waters
	Action Plan for estimating the sustainability of grouper fishing in Malta
	Action Plan for the conservation of sharks, rays and skate in the Maltese Islands
	Action Plan for the micro-cartography, mapping and surveillance of the Posidonia oceanica meadows in the Maltese Islands
<b>Morocco</b>	
SAP/MED	Mandat de l'expert national chargé d'élaborer le plan d'action national dans le cadre du PAS
SAP/BIO	Action plan for mapping Morocco's Mediterranean coast
	Action Plan for a research programme on Morocco's Mediterranean Biodiversity
	Action Plan for elaborating programmes and projects on education and awareness, and elaborating a guide to Morocco's endangered species and ecosystems
	Action Plan for improving the national legislation
	Action Plan for making best use of the Mediterranean marine biodiversity
	Action for protecting species threatened by traditional fisheries



Palestinian authority	
SAP/MED	National Action Plan for Reduction of Pollution of Mediterranean from Land Based Sources
Syria	
SAP/MED	National Action Plan for Protection of the Mediterranean Marine Environment from Land-Based Activities in the Syrian Arab Republic
SAP/BIO	Action Plan for the conservation of sea turtles along the Syrian coast
	Action Plan for marine and coastal protected areas
	Action Plan on invasive species and their impacts on marine biodiversity
	Action Plan for determination of physical parameters of national marine waters
Tunisia	
SAP/MED	Programme d'actions stratégiques (PAS) visant à combattre la pollution due à des activités menées à terre ; Plan d'actions national
SAP/BIO	Action Plan for the impact of fishing activity on littoral biodiversity
	Action Plan for a pilot monitoring of Posidonia meadows
	Action Plan for Protecting coralligenous communities
	Action Plan for the co-ordination and training on legal and institutional aspects
	Action Plan for studying invasive species
	Action Plan for establishing Centre for the protection of sea turtles
Turkey	
SAP/MED	National Action Plan for the land based sources for Turkey
SAP/BIO	Conservation of marine turtles in Turkey
	Creation of marine protected areas along the Turkish coasts
	Reducing the negative impacts of detrimental fishing practices (trawl, purse seine, spear fishing, use of explosives) on sensitive ecosystems and on vulnerable species
	Conservation of cetacean species in the Turkish water of the Aegean Mediterranean Sea

González-Riancho et al. (2009) carefully assessed the level of implementation of the Protocol on Integrated Coastal Zone Management (ICZM) in the Mediterranean developing countries, through the analysis of the results of questionnaires filled by the representatives of national agencies related with ICZM. Even if none of the consulted countries have a fully implemented ICZM, the authors identified Algeria, Syria and Tunisia as the most advanced countries concerning the implementation of ICZM and the Egypt as the country with less ICZM implementation. The main detected problems faced by the countries to apply ICZM were: "the availability of funding; the development of a periodically revised "state of the coast" report and a continuous assessment of progress towards sustainability goals; the elaboration and implementation of a sustainable development strategy; the availability of sufficient human resources working on ICZM in the administrations; the existence of an adequate flow of information on ICZM issues between administrations and the availability of scientific and technical information for the population; the automatic initiation of a re-evaluation of ICZM progress."

Figure reports the implementation levels for the considered countries.

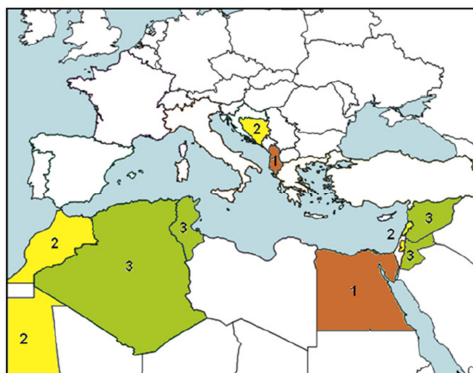


Figure 12. Levels of ICZM implementation in the Mediterranean developing countries: from “low implementation” (number 1) to “high implementation” (number 4) (from González-Riancho et al. 2009).

## 6.6 Projects involving EU and non EU Mediterranean countries

### Sustainability and Tourism in the Mediterranean Project (S&T MED)

S&T MED is a strategic project, implemented in three pilot areas: Sinis and Isola di Mal di Ventre in Italy, Mahdia in Tunisia and Aqaba in Jordan.

The main focus of the project is the recognition of the crucial role played by cultural and biological diversity in the attractiveness and economic development of Mediterranean coastal destinations and the ensuing need to manage this huge heritage in a sustainable manner, respecting local social and cultural values as well as the environment, its ecosystems and associated services.

The S&T Med Project aims at:

- Protecting, valorising and promoting natural and cultural heritage in a systemic way;
- Supporting the development of a sustainable and responsible coastal tourism in the Mediterranean, including through raising capacities and awareness of local administrations, private sector, local communities and tourists;
- Developing shared models and frameworks for joint responses to common challenges in the Mediterranean;
- Increasing tourism’s benefits for local communities and stakeholders.

One of the most relevant features of the S&T Project is to link tourism to scientific knowledge through monitoring and data collection and analysis of the three sites: Mahdia (Tunisia), Sinis (Italy) and Aqaba (Jordan). Beyond its importance for scientific purposes and decision-making, this group of activities will provide tourists with a deeper hint on the hidden features

of the areas they are enjoying proposing an all-out experience, also involving them in observation and reporting activities, so increasing their awareness in terms of values of local ecosystem and its services. The environmental monitoring is included in a Destination Management Organization (DMO) model. DMO is the co-ordinated management of all the elements that make up a destination (attractions, access, marketing, human resources, image and pricing). Preservation of a suitable environment is crucial for the local implementation of the DMO model. The monitoring of the environments, the creation of public awareness on environmental issues and the involvement of tourists in environmental related activities are key aspects for this process. One of the ways to achieve this project aim is the establishment of a transnational Observatory on Sustainable Tourism, combining environmental as well as tourism data and analyses, to promote and protect natural resources of target coastal ecosystems and create innovative tools to promote and monitor sustainable tourism.

#### The Regional - Governance and Knowledge Generation Project (RegGoKo)

RegGoKo, supervised by the World Bank and implemented by Plan Bleu, was launched in 2012 and was closed at the end of 2015. The principal aim of the project was the production of innovative knowledge on environmental issues of Southern Mediterranean countries: Egypt, Lebanon, Morocco, Palestine and Tunisia. The project aimed to: i) develop synergies in the region between existing environmental projects, and ii) tackle the two sides of any efficient public policy: knowledge generation on one hand, and governance.

The project activities were distributed in five work asses:

1. Observation: sustainable development of observatories and environmental indicators, and a mapping project in Tunisia.
2. Evaluation: evaluation of the environmental impact assessment systems in Morocco, Strategic Environmental Assessment (SEA) for the New Water Sector Strategy (NWSS) for Lebanon, socio-economic evaluation of maritime activities in Egypt, Lebanon, Morocco and Tunisia and Training activities in Strategic Environmental and Social Assessment. It also included the activity aiming at supporting industrial pollution abatement in Lebanon.
3. Regulation: legal aspects of the environmental management.
4. Participation: initiatives aimed at reinforcing the involvement of local actors in Morocco and Tunisia.

5. Green economy: a transversal core principle that underlies every effort made in the frame of the ReGoKo project. Other activities were included in this axis: the development of capacity building on environmental assessments and inspection, and assistance provided to government towards an update of its environmental strategy in Egypt; the support to industrial pollution abatement in the stone and marble sector in Palestine. Finally, training on Cost of Environmental Degradation (COED) took place at the regional level.

The conclusions and recommendations for next steps and follow-up actions provided by the RegGoKo project are detailed in the Regional - Governance and Knowledge Generation Project (2015).

#### Mediterranean Environmental Technical Assistance Program (METAP)

METAP is a partnership among the European Union (EU), the European Investment Bank (EIB), the United Nations Development Programme (UNDP), Switzerland, Finland and the World Bank (WB). This project currently provides assistance to thirteen Mediterranean Beneficiary Countries (MBCs): Albania, Algeria, Bosnia-Herzegovina, Croatia, Egypt, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia, Turkey, and West Bank and Gaza. The overall objectives of METAP, as laid down at its inception in 1990, are to: a) strengthen the institutional capacity required to manage environmental issues; b) prepare a strong portfolio of priority environmental projects in order to accelerate and catalyse investment in environmental activities in the region; and c) formulate a set of focused key policy factors affecting the Mediterranean environment.

METAP consisted of four phases from 1990 to 2005. METAP I priorities included integrated water resource management; solid and hazardous waste management; marine oil and chemical pollution prevention and control; and coastal zone management. METAP II focused on programming for water, urban environmental management, institutional development and capacity building. METAP III focused on three themes Capacity Building; Pollution in Hot Spots; and Integrated Water and Coastal Zone Management to assist the beneficiary countries in project preparation and to strengthen their capacity in selected regional environmental management activities.

A detailed evaluation of METAP has been provided by Ennabli & Whitford (2005).

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### Web-pages of projects, strategies and initiatives

European Marine Strategy Framework Directive (external website):

[http://www.coastalwiki.org/wiki/European\\_Marine\\_Strategy\\_Framework\\_Directive](http://www.coastalwiki.org/wiki/European_Marine_Strategy_Framework_Directive)

Bathing Water Directive (EC website):

<http://ec.europa.eu/environment/water/water-bathing/summary.html>

Directive on the environmental quality of shellfish waters (EC website):

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:l28177>

Proposal for a Directive establishing a framework for maritime spatial planning and integrated coastal management (EC website):

[http://ec.europa.eu/environment/iczm/prop\\_iczm.htm](http://ec.europa.eu/environment/iczm/prop_iczm.htm)

Convention on Biological Diversity (official website):

<https://www.cbd.int>

Unesco (official website):

<http://whc.unesco.org/en/convention/>

The Barcelona Convention (official website):

<http://ec.europa.eu/environment/marine/international-cooperation/regional-sea-conventions/barcelona-convention>

Coordinating Unit for the Mediterranean Action Plan Secretariat to the Barcelona Convention (official website):

<http://www.unep.org/unepmap/>

Project AWARE (official website):

<https://www.projectaware.org/>

Regional – Governance & Knowledge Generation Project (official website):

<http://regoko.planbleu.org/en/final-report-project-online>