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MEDITERRANEAN ACTION PLAN

Meeting of the Correspondence Group on GES and Targets
Coast and Hydrography Cluster

Ankara (Turkey), 12-13 March 2013

**Existing targets of relevance for the Mediterranean Sea regarding the following
Ecological Objectives (EO) in the framework of the Ecosystem Approach:
EO7 (Hydrography) and EO8 (Coastal Ecosystems and Landscape)**

Delegates are kindly requested to bring their documents to the meeting

1. Introduction

The ecosystem paradigm has emerged in recent decades as the dominant basis of the integrative approaches to management of natural resources and environment. Major shift occurred in changing the focus from the traditional management efforts organized around particular, sectoral uses resulting in separate governance regimes for each use, to the establishment of inter-sectoral linkages that has led to more coordinated and integrated management approaches. The application of the Ecosystem Approach (EcAp) has thus become a logical outcome of the evolution of environmental and development management efforts in the Mediterranean.

The Ecosystem Approach (EcAp) is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way, as stated by Convention of Biological Diversity. It goes beyond examining single issues, species, or ecosystem functions in isolation. Instead, it recognizes ecological systems for what they are: rich mixes of elements that interact with each other continuously. This understanding is particularly important for coasts and seas, where the nature of water keeps systems and functions connected.

While the application of EcAp involves promotion of many novel concepts and specific approaches, it should also build on existing instruments and on already agreed objectives under the relevant conventions and multilateral agreements. With that in mind, the EcAp Coordination Group recommended during its First Meeting (Athens, 29-30 May 2012) to “prepare an inventory of already identified objectives / targets existing under protocols, strategies, action plans, protected areas and other areas of ecological significance, biennial implementation plans, other treaties, etc. to serve as a foundation for discussion of targets and GES. Priority should be given to what has been agreed under the Barcelona Convention”.

The main value added of the Ecosystems Approach in the context of the Barcelona Convention is a renewed emphasis on implementation and integration that will strengthen our ability to understand and address cumulative risks and effects as well as to better focus our action on priority targets. Simply put, the EcAp brings MAP’s many sectoral analyses and management measures into a single integrated framework which will result in an adaptive management strategy that will be periodically monitored, evaluated and revised through a rigorous 2012-2018 Six-year Management Cycle.

Decisions IG 17/6 “Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment” and IG 20/4 “Implementing MAP ecosystem approach roadmap: Mediterranean Ecological and Operational Objectives, Indicators and Timetable for implementing the ecosystem approach roadmap adopted by the Contracting parties to the Barcelona Convention” respectively in COP 15 (2008) and COP 17 (2012) articulate a systematic process for moving forward towards more effective ecosystems-based management in the Mediterranean. They also contain the agreement reached on the progress achieved and define priorities on the way forward.

The present document presents the targets regarding hydrography (Ecological Objective #7) and coastal ecosystem and landscape (Ecological Objective 8) adopted within the global, regional, European and other multilateral agreements, and other relevant documents as well as results of some projects that have dealt with the issues relevant for this objective. Introduction of this objective is rather novel in the history of efforts to introduce the ecosystem approach in the Mediterranean. However, the complexity of the Mediterranean coastal ecosystem, and interconnected nature of the processes that have influenced the dynamics creating main features of the coastal ecosystem, makes it deserving of the

introduction of these EOs. In the case of hydrography, most of these “targets” are generally broad, partly written as objectives, and partly subject to interpretation by the implementing institutions.

The purpose of the document is to support the discussion of the Correspondence Group on GES and targets – Coast and Hydrography with regards to the Good Environmental Status and target setting under the respective Ecological Objectives.

2. Existing instruments of relevance for EO7-Hydrography

Existing instruments, thus targets related to hydrography included in the following tables were identified through the analysis of the respective documents

2.1. Decision IG.20/4 “Implementing MAP ecosystem approach roadmap: Mediterranean Ecological and Operational Objectives, Indicators and Timetable for implementing the ecosystem approach roadmap Proposed Ecological Objectives” (listed in Annex II)

EO 7 Hydrography

Ecological Objective	Operational Objectives	Indicators
Alteration of hydrographic conditions does not adversely affect coastal and marine ecosystems.	7.1 Impacts to the marine and coastal ecosystem induced by climate variability and/or climate change are minimized	7.1.1 Large scale changes in circulation patterns, temperature, pH, and salinity distribution
		7.1.2 Long term changes in sea level
	7.2 Alterations due to permanent constructions on the coast and watersheds, marine installations and seafloor anchored structures are minimized	7.2.1. Impact on the circulation caused by the presence of structures
		7.2.2 Location and extent of the habitats impacted directly by the alterations and/or the circulation changes induced by them: footprints of impacting structures
		7.2.3 Trends in sediment delivery, especially in major deltaic systems
		7.2.4 Extent of area affected by coastal erosion due to sediment supply alterations
	7.3 Impacts of alterations due to changes in freshwater flow from watersheds, seawater inundation and coastal freatic intrusion, brine input from desalination plants and seawater intake and outlet are minimized	7.3.1. Trends in fresh water/sea water volume delivered to salt marshes, lagoons, estuaries, and deltas; desalination brines in the coastal zone
		7.3.2. Location and extent of the habitats impacted by changes in the circulation and the salinity induced by the alterations
		7.3.3 Changes in key species distribution due to the effects of seawater intake and outlet

2.2. Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) (Text with EEA relevance)

The Marine Strategy Framework Directive aims at the protection, conservation, preservation, and, where possible, the rehabilitation of the marine environment. The general goal is the sustainable utilization of the seas and the protection of the marine environment. The directive provides the legal framework for this goal. Within this framework, the member states should carry out the necessary actions to achieve and maintain a good status of the marine environment by 2020. The directive explicitly also includes the marine habitats within the term “marine environment”.

<p>ANNEX I</p> <p>Qualitative descriptors for determining good environmental status (which can be interpreted as a target)</p>	<p>(6) Sea-floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded and benthic ecosystems, in particular, are not adversely affected.</p> <p>(7) Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems.</p>
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2.3. EU Water Framework Directive, 2000

The EU Water Framework Directive (Directive 2000/60/EC) is a European Union directive which commits European Union member states to achieve good qualitative and quantitative status of all water bodies (including marine waters up to one nautical mile from shore) by 2015. The directive is very general, mainly focuses on water quality, but touches on hydromorphological quality aspects such as river bank structure, river continuity or substrate of the river bed, though not in target related aspects.

<p>§ 1.3. Monitoring and reporting</p>	<p>Member States shall establish surveillance monitoring programmes and provide information. In this regard, “parameters indicative of all hydromorphological quality elements” are particularly mentioned</p>
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2.4. Barcelona Convention for Protection against Pollution in the Mediterranean Sea

The Barcelona Convention of 1976, amended in 1995, and the Protocols drawn up in line with this Convention aim to 'reduce pollution in the Mediterranean Sea and protect and improve the marine environment in the area, thereby to protect and improve the marine and coastal environment in the Mediterranean, whilst promoting regional and national plans contributing to sustainable development.

The ICZM Protocol of the Barcelona Convention, adopted in 2008 and entered into force in 2011, is of particular importance with regards to hydrography. The targets specified in the protocol are on a general level and have to be taken up by national legislations.

PROTOCOL ON INTEGRATED COASTAL ZONE MANAGEMENT IN THE MEDITERRANEAN	
Part I General Provisions	
<i>Article 5</i>	Preservation of the integrity of coastal ecosystems, landscapes and geomorphology
<i>Article 6</i> GENERAL PRINCIPLES OF INTEGRATED COASTAL ZONE MANAGEMENT	<p><i>The article aims at planning aspects with the target that below criteria shall be considered in all relevant legislation:</i></p> <p>Consider the natural dynamics and functioning of the intertidal area and the complementary and interdependent nature of the marine part and the land part forming a single entity.</p> <p>Take into account all elements relating to hydrological, geomorphological, climatic, ecological, socio-economic and cultural systems in an integrated manner, so as not to exceed the carrying capacity of the coastal zone and to prevent the negative effects of natural disasters and of development.</p> <p>A holistic ecosystems approach to coastal planning and management shall be applied so as to ensure the sustainable development of coastal zones.</p> <p>The formulation of land use strategies, plans and programmes covering urban development and socio-economic activities, as well as other relevant sectoral policies, shall be required.</p> <p>The allocation of uses throughout the entire coastal zone should be balanced, and unnecessary concentration and urban sprawl should be avoided.</p> <p>Preliminary assessments shall be made of the risks associated with the various human activities and infrastructure so as to prevent and reduce their negative impact on coastal zones.</p> <p>Damage to the coastal environment shall be prevented and, where it occurs, appropriate restoration shall be effected.</p>
PART II ELEMENTS OF INTEGRATED COASTAL ZONE MANAGEMENT	
<i>Article 8</i> PROTECTION AND SUSTAINABLE USE OF THE COASTAL ZONE	<p>1. In conformity with the objectives and principles set out in Articles 5 and 6 of this Protocol, the Parties shall endeavour to ensure the sustainable use and management of coastal zones in order to preserve the coastal natural habitats, landscapes, natural resources and ecosystems, in compliance with international and regional legal instruments.</p> <p>2. For this purpose, the Parties:</p> <p>(a) Shall establish in coastal zones, as from the highest winter waterline, a zone where construction is not allowed. Taking into account, <i>inter alia</i>, the areas directly and negatively affected by climate change and natural risks, this zone may not be less than 100 meters in width, subject to the provisions of subparagraph (b) below. Stricter national measures determining this width shall continue to apply.</p> <p>3. The Parties shall also endeavour to ensure that their national legal instruments include criteria for sustainable use of the coastal zone. Such criteria, taking into account specific local conditions, shall include, <i>inter alia</i>, the following:</p> <p>(a) identifying and delimiting, outside protected areas, open areas in which</p>

	<p>urban development and other activities are restricted or, where necessary, prohibited;</p> <p>(b) limiting the linear extension of urban development and the creation of new transport infrastructure along the coast;</p> <p>(c) ensuring that environmental concerns are integrated into the rules for the management and use of the public maritime domain;</p> <p>(d) providing for freedom of access by the public to the sea and along the shore;</p> <p>(e) restricting or, where necessary, prohibiting the movement and parking of land vehicles, as well as the movement and anchoring of marine vessels, in fragile natural areas on land or at sea, including beaches and dunes.</p>
<p><i>Article 9</i> ECONOMIC ACTIVITIES</p>	<p>1. In conformity with the objectives and principles set forth in Articles 5 and 6 of this Protocol, and taking into account the relevant provisions of the Barcelona Convention and its Protocols, the Parties shall:</p> <p>(a) accord specific attention to economic activities that require immediate proximity to the sea;</p> <p>(b) ensure that the various economic activities minimize the use of natural resources and take into account the needs of future generations;</p> <p>(c) ensure respect for integrated water resources management and environmentally sound waste management;</p> <p>(d) ensure that the coastal and maritime economy is adapted to the fragile nature of coastal zones and that resources of the sea are protected from pollution;</p> <p>(e) define indicators of the development of economic activities to ensure sustainable use of coastal zones and reduce pressures that exceed their carrying capacity;</p> <p>(f) promote codes of good practice among public authorities, economic actors and non-governmental organizations.</p> <p>2. In addition, with regard to the following economic activities, the Parties agree:</p> <p>(a) Agriculture and industry, to guarantee a high level of protection of the environment in the location and operation of agricultural and industrial activities so as to preserve coastal ecosystems and landscapes and prevent pollution of the sea, water, air and soil;</p> <p>(b) Fishing, (i) to take into account the need to protect fishing areas in development projects; (ii) to ensure that fishing practices are compatible with sustainable use of natural marine resources;</p> <p>(c) Aquaculture, (i) to take into account the need to protect aquaculture and shellfish areas in development projects; (ii) to regulate aquaculture by controlling the use of inputs and waste treatment;</p> <p>(d) Tourism, sporting and recreational activities, (i) to encourage sustainable coastal tourism that preserves coastal ecosystems, natural resources, cultural heritage and landscapes; (ii) to promote specific forms of coastal tourism, including cultural, rural and ecotourism, while respecting the traditions of local populations; (iii) to regulate or, where necessary, prohibit the practice of various sporting and recreational activities, including recreational fishing and shellfish extraction;</p> <p>(e) Utilization of specific natural resources, (i) to subject to prior authorization the excavation and extraction of minerals, including the use of seawater in desalination plants and stone exploitation; (ii) to regulate the extraction of sand, including on the seabed and river sediments or prohibit it where it is likely to adversely affect the equilibrium of coastal ecosystems;</p>

	<p>(iii) to monitor coastal aquifers and dynamic areas of contact or interface between fresh and salt water, which may be adversely affected by the extraction of underground water or by discharges into the natural environment;</p> <p>(f) Infrastructure, energy facilities, ports and maritime works and structures, to subject such infrastructure, facilities, works and structures to authorization so that their negative impact on coastal ecosystems, landscapes and geomorphology is minimized or, where appropriate, compensated by non-financial measures;</p> <p>(g) Maritime activities, to conduct maritime activities in such a manner as to ensure the preservation of coastal ecosystems in conformity with the rules, standards and procedures of the relevant international conventions.</p>
<p><i>Article 10</i> SPECIFIC COASTAL ECOSYSTEMS</p>	<p>The Parties shall take measures to protect the characteristics of certain specific coastal ecosystems, as follows :</p> <p>1. Wetlands and estuaries In addition to the creation of protected areas and with a view to preventing the disappearance of wetlands and estuaries, the Parties shall: (a) take into account in national coastal strategies and coastal plans and programmes and when issuing authorizations, the environmental, economic and social function of wetlands and estuaries; (b) take the necessary measures to regulate or, if necessary, prohibit activities that may have adverse effects on wetlands and estuaries; (c) undertake, to the extent possible, the restoration of degraded coastal wetlands with a view to reactivating their positive role in coastal environmental processes.</p> <p>2. Marine habitats The Parties, recognizing the need to protect marine areas hosting habitats and species of high conservation value, irrespective of their classification as protected areas, shall: (a) adopt measures to ensure the protection and conservation, through legislation, planning and management of marine and coastal areas, in particular of those hosting habitats and species of high conservation value; (b) undertake to promote regional and international cooperation for the implementation of common programmes on the protection of marine habitats.</p> <p>3. Coastal forests and woods The Parties shall adopt measures intended to preserve or develop coastal forests and woods located, in particular, outside specially protected areas.</p> <p>4. Dunes The Parties undertake to preserve and, where possible, rehabilitate in a sustainable manner dunes and bars.</p>
<p><i>Article 11</i> COASTAL LANDSCAPES</p>	<p>1. The Parties, recognizing the specific aesthetic, natural and cultural value of coastal landscapes, irrespective of their classification as protected areas, shall adopt measures to ensure the protection of coastal landscapes through legislation, planning and management.</p> <p>2. The Parties undertake to promote regional and international cooperation in the field of landscape protection, and in particular, the implementation, where appropriate, of joint actions for transboundary coastal landscapes.</p>
<p><i>Article 12</i> ISLANDS</p>	<p>The Parties undertake to accord special protection to islands, including small islands, and for this purpose to:</p> <p>(a) promote environmentally friendly activities in such areas and take special measures to ensure the participation of the inhabitants in the protection of coastal ecosystems based on their local customs and knowledge;</p> <p>(b) take into account the specific characteristics of the island environment and the necessity to ensure interaction among islands in national coastal</p>

	strategies, plans and programmes and management instruments, particularly in the fields of transport, tourism, fishing, waste and water.
PART III INSTRUMENTS FOR INTEGRATED COASTAL ZONE MANAGEMENT	
<i>Article 16</i> MONITORING AND OBSERVATION MECHANISMS AND NETWORKS	<p>1. The Parties shall use and strengthen existing appropriate mechanisms for monitoring and observation, or create new ones if necessary. They shall also prepare and regularly update national inventories of coastal zones which should cover, to the extent possible, information on resources and activities, as well as on institutions, legislation and planning that may influence coastal zones.</p> <p>2. In order to promote exchange of scientific experience, data and good practices, the Parties shall participate, at the appropriate administrative and scientific level, in a Mediterranean coastal zone network, in cooperation with the Organization.</p> <p>3. With a view to facilitating the regular observation of the state and evolution of coastal zones, the Parties shall set out an agreed reference format and process to collect appropriate data in national inventories.</p> <p>4. The Parties shall take all necessary means to ensure public access to the information derived from monitoring and observation mechanisms and networks.</p>
<i>Article 19</i> ENVIRONMENTAL ASSESSMENT	<p>1. Taking into account the fragility of coastal zones, the Parties shall ensure that the process and related studies of environmental impact assessment for public and private projects likely to have significant environmental effects on the coastal zones, and in particular on their ecosystems, take into consideration the specific sensitivity of the environment and the inter-relationships between the marine and terrestrial parts of the coastal zone.</p> <p>2. In accordance with the same criteria, the Parties shall formulate, as appropriate, a strategic environmental assessment of plans and programmes affecting the coastal zone.</p> <p>3. The environmental assessments should take into consideration the cumulative impacts on the coastal zones, paying due attention, <i>inter alia</i>, to their carrying capacities.</p>
<i>Article 20</i> LAND POLICY	<p>1. For the purpose of promoting integrated coastal zone management, reducing economic pressures, maintaining open areas and allowing public access to the sea and along the shore, Parties shall adopt appropriate land policy instruments and measures, including the process of planning.</p> <p>2. To this end, and in order to ensure the sustainable management of public and private land of the coastal zones, Parties may <i>inter alia</i> adopt mechanisms for the acquisition, cession, donation or transfer of land to the public domain and institute easements on properties.</p>
<i>Article 21</i> ECONOMIC, FINANCIAL AND FISCAL INSTRUMENTS	For the implementation of national coastal strategies and coastal plans and programmes, Parties may take appropriate measures to adopt relevant economic, financial and/or fiscal instruments intended to support local, regional and national initiatives for the integrated management of coastal zones.

Part IV RISKS AFFECTING THE COASTAL ZONE	
<i>Article 23</i> COASTAL EROSION	<p>1. In conformity with the objectives and principles set out in Articles 5 and 6 of this Protocol, the Parties, with a view to preventing and mitigating the negative impact of coastal erosion more effectively, undertake to adopt the necessary measures to maintain or restore the natural capacity of the coast to adapt to changes, including those caused by the rise in sea levels.</p> <p>2. The Parties, when considering new activities and works located in the coastal zone including marine structures and coastal defence works, shall take particular account of their negative effects on coastal erosion and the direct and indirect costs that may result. In respect of existing activities and structures, the Parties should adopt measures to minimize their effects on coastal erosion.</p> <p>3. The Parties shall endeavour to anticipate the impacts of coastal erosion through the integrated management of activities, including adoption of special measures for coastal sediments and coastal works.</p> <p>4. The Parties undertake to share scientific data that may improve knowledge on the state, development and impacts of coastal erosion.</p>
<i>Article 24</i> RESPONSE TO NATURAL DISASTERS	<p>1. The Parties undertake to promote international cooperation to respond to natural disasters, and to take all necessary measures to address in a timely manner their effects.</p> <p>2. The Parties undertake to coordinate use of the equipment for detection, warning and communication at their disposal, making use of existing mechanisms and initiatives, to ensure the transmission as rapidly as possible of urgent information concerning major natural disasters. The Parties shall notify the Organization which national authorities are competent to issue and receive such information in the context of relevant international mechanisms.</p> <p>3. The Parties undertake to promote mutual cooperation and cooperation among national, regional and local authorities, non-governmental organizations and other competent organizations for the provision on an urgent basis of humanitarian assistance in response to natural disasters affecting the coastal zones of the Mediterranean Sea.</p>

3 Existing instruments of relevance for Coastal Ecosystems and Landscape

The Ecological Objective (EO) Coastal Ecosystems and Landscape has not been a specific subject of international agreements and/or other legal documents. For that reason, and in order to give as wide perspective on this EO as well as to provide a solid basis for the definition of the Good Environmental Status and setting of the targets, the scope of instruments/potential sources will be somehow expanded and will also include relevant guidelines, strategies, reports and similar, wherever the issue of natural coastal dynamics and coastal landscape has been substantively treated.

3.1. Global framework

No global convention mentions specifically, or deals with the subject of this EC. However, while the **Convention on Wetlands of International Importance especially as Waterfowl Habitat. (Ramsar Convention, 1971)** does not mention the two central issue relevant to this EO (natural dynamics/coastal erosion and coastal landscapes), its COP8 Resolution on

Wetland issues in Integrated Coastal Zone Management (2002), mentions widely the coastal erosion, both in terms of impacts causing the coastal erosion, as well as impacts of coastal erosion on natural habitats. It approaches the issue of coastal erosion primarily from the perspective of human actions, and less so as a natural phenomenon. The importance of ICZM and coast related phenomena, including coastal erosion, for the Ramsar Convention stems out of its definition of wetland which includes areas “with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres” (Article 1.1 of the Convention).

3.2. Decision IG.20/4 “Implementing MAP ecosystem approach roadmap: Mediterranean Ecological and Operational Objectives, Indicators and Timetable for implementing the ecosystem approach roadmap Proposed Ecological Objectives” (listed in Annex II)

EO8 Coastal ecosystems and landscape

Ecological Objective	Operational Objectives	Indicators
The natural dynamics of coastal areas are maintained and coastal ecosystems and landscapes are preserved	8.1 The natural dynamic nature of coastlines is respected and coastal areas are in good condition	8.1.1. Areal extent of coastal erosion and coastline instability
		8.1.2 Changes in sediment dynamics along the coastline
		8.1.3 Areal extent of sandy areas subject to physical disturbance ¹
		8.1.4 Length of coastline subject to physical disturbance due to the influence of manmade structures
	8.2 Integrity and diversity of coastal ecosystems, landscapes and their geomorphology are preserved	8.2.1 Change of land-use ²
		8.2.2 Change of landscape types
		8.2.3 Share of non-fragmented coastal habitats

3.3. Regional (Mediterranean) framework

Revised **Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention, 1995)**, introduced the promotion of sustainable development as one of its major objectives, and extended the territorial scope of its application to coastal regions and, more specifically, to coastal areas. While it does not mention specifically the issues relevant to this EO, implicitly it is concerned with them if we make reference to its territorial scope. Furthermore, one could say that the revised Convention has led to the

¹ Physical disturbance includes beach cleaning by mechanical means, sand mining, beach sand nourishment

² Land-use classes according to the classification by Eurostat-OCDE, 1998:
<http://unstats.un.org/unsd/environment/q2004land.pdf>

development and adoption of the seventh Protocol to the Barcelona Convention - the ICZM Protocol.

The **Protocol on Integrated Coastal Zone Management in the Mediterranean** (entered into force in 2011) invites the Parties to work towards, *inter alia*, the following objectives:

- facilitate, through the rational planning of activities, the sustainable development of coastal zones by ensuring that the environment and landscapes are taken into account in harmony with economic, social and cultural development;
- preserve coastal zones for the benefit of current and future generations;
- ensure preservation of the integrity of coastal ecosystems, landscapes and geomorphology; and
- prevent and/or reduce the effects of natural hazards and in particular of climate change, which can be induced by natural or human activities.

Implementation of the Protocol should follow, *inter alia*, the following principles:

- the biological wealth and the natural dynamics and functioning of the intertidal area and the complementary and interdependent nature of the marine part and the land part forming a single entity shall be taken particularly into account;
- all elements relating to hydrological, geomorphological, climatic, ecological, socio-economic and cultural systems shall be taken into account in an integrated manner, so as not to exceed the carrying capacity of the coastal zone and to prevent the negative effects of natural disasters and of development; and
- preliminary assessments shall be made of the risks associated with the various human activities and infrastructure so as to prevent and reduce their negative impact on coastal zones.

It is important to mention that the Protocol has special articles on coastal landscapes (11) and on coastal erosion (23). The **Action Plan for the implementation of the ICZM Protocol** was adopted at the Seventeenth Meeting of the Contracting Parties to the Barcelona Convention in Paris in 2012. Its overall aim is to strengthen implementation of ICZM policies and projects through priority interventions. The objectives of the Action Plan are to: support the effective implementation of the ICZM Protocol at regional, national and local levels in particular through national strategies and local programmes for ICZM; strengthen the capacities of Contracting Parties to implement the Protocol and use in an effective manner ICZM policies, instruments, tools and processes; and, promoting visibility and implementation of the ICZM Protocol within the region. As such, the Action Plan provides a context to implement the specific actions, including those related to this EO.

3.4. European framework

Majority of international legal documents, dealing with the issue relevant for this EO in the European context, were promoted by the Council of Europe. Also, most of them are dealing with the issue of landscape, and indirectly, with the coastal landscapes.

The **Pan-European Biological and Landscape Diversity Strategy (PEBLDS)** was adopted by the Council of Europe in 1992. It presents an innovative and proactive approach to stop and reverse the degradation of biological and landscape diversity values in Europe. It is innovative, because it addresses all biological and landscape initiatives under one European approach. It is proactive, because it promotes the integration of biological and landscape diversity considerations into social and economic sectors. The Strategy reinforces the implementation of existing measures and identifies additional actions that need to be taken

over the next two decades. The Strategy also provides a framework to promote a consistent approach and common objectives for national and regional action to implement the Convention on Biological Diversity. PEBLDS defines Landscape Diversity as "the formal expression of the numerous relations existing in a given period between the individual or a society and a topographically defined territory, the appearance of which is the result of the action, over time, of natural and human factors and a combination of both.

The **European Landscape Convention** - also known as the Florence Convention, - promotes the protection, management and planning of European landscapes and organizes European co-operation on landscape issues. The convention was adopted in 2000 in Florence by the Council of Europe member states. It is the first international treaty to be exclusively concerned with all dimensions of European landscape.

European Conference of Ministers responsible for Regional Planning (CEMAT), established under the aegis of the Council of Europe, adopted in 2000 the **Guiding Principles for Sustainable Spatial Development of the European Continent**. The document puts landscape in the focus of spatial development and respective planning approaches. It considers landscapes as "...significant part of European heritage and a witness of the past and present relationships between man and his natural and built environments (...). This not only concerns valuable natural landscapes, but applies generally to all types of cultural landscape, especially those that are an essential component of the urban environment."

The European Parliament and the Council adopted in 2002 a **Recommendation on Integrated Coastal Zone Management**, which defines the principles of sound coastal planning and management. These include the need to base planning on sound and shared knowledge, the need to take a long-term and cross-sector perspective, to pro-actively involve stakeholders and the need to take into account both the terrestrial and the marine components of the coastal zone. The text of the Recommendation states "Community coastal zones are further threatened by the effects of climate change, in particular rising sea levels, changes in storm frequency and strength, and increased coastal erosion and flooding." While the Recommendation makes only a scant reference to the coastal erosion, its adoption was important because it opened the way for several projects that have dealt with the issue of the European (and Mediterranean) coastal erosion in much greater detail.

3.5. Other sources

In addition to the above instruments, various organisations prepared a number of documents, which, although having no legal power, could be considered as valuable source of information for defining this EO's targets.

In 1995, the Priority Actions Programme Regional Activity Centre (PAP/RAC) prepared the **Guidelines for Integrated Management of the Marine and Coastal Areas**. While developing a comprehensive coastal management approach based on considering coastal ecosystems in their entirety, which essentially led to the development and adoption of the ICZM Protocol, the document is very thorough in putting the coastal landscape and coastal erosion in the centre of coastal zone and the relevant management approach. Following the implementation of the ICZM approach in the Mediterranean, PAP/RAC prepared a document **Coastal Erosion Management in the Mediterranean: An Overview** (2002), which is the only known presentation of the issue covering the entire Mediterranean region. Similarly, in 2011 PAP/RAC published the document **Landscape Management Methodologies: Synthesis Report of Thematic Studies**, which gives an overview of management efforts in the region to protect and develop coastal landscapes.

Two Mediterranean-specific reports, published in recent years, have paid specific attention to the issue of coastal erosion and coastal landscape: **A Sustainable Future for the**

Mediterranean: The Blue Plan's Environment and Development Outlook (2005), and **State of the Mediterranean Marine and Coastal Environment** (2012). At the European level, the European Environment Agency (EEA) has in recent years published 2 coastal zone related reports. The report **Priority issues in the Mediterranean environment** (2005) analysed the habitat construction and physical alteration of the coastline, which may cause coastal erosion. The report **The changing faces of Europe's coastal areas** (2006) offers the pan European perspective with a special snapshot on the coastal dynamics and risk based on the results of the **EUROSION** project.

3.6. Inventory of existing targets in relation to Coastal Ecosystem and Landscape

The targets included in the following table were identified through the analysis of documents adopted within the framework of the international agreements and instruments as well as other relevant sources presented in the Section 2 above. Most of these documents provide for measures without setting qualitative or quantitative targets.

Instrument		Target
Territorial Framework	Document	
Global	Ramsar	The 2002 Resolution on ICZM emphasizes the role of coastal erosion in coastal zones, either when it is caused by human alterations of the coast or by a climate change. A set of guiding principles invites countries to increase efforts to implement ICZM, which will, <i>inter alia</i> , help reduce negative impacts of coastal erosion. Neither specific targets nor dates were given.
Regional (Mediterranean)	ICZM Protocol	Coastal landscape: <ul style="list-style-type: none"> • promote regional and international cooperation for landscape protection • implement joint actions for transboundary coastal landscapes • adopt measures to preserve or develop coastal forests and woods, and preserve and rehabilitate dunes and bars
		Coastal erosion: <ul style="list-style-type: none"> • implement the 100 m setback rule • adopt necessary measures to maintain or restore natural capacity of the coast to adapt to changes, including those caused by sea level rise • when considering new activities, take in consideration negative impacts of coastal erosion and minimize its effects • adopt special measures for coastal sediments and coastal works • share scientific data on coastal erosion
	Action Plan for ICZM	The Action Plan is very specific in proposing measures to improve the implementation of ICZM, and integration of sectoral issues, including protection of the coastline and coastal landscapes in ICZM, but is not specific in giving targets on these two issues to be achieved until 2020.

European	PEBLDS	<p>In next 20 years, i.e. from 1996 to 2016:</p> <ul style="list-style-type: none"> • threats to Europe's biological and landscape diversity are reduced substantially, or where possible removed • resilience of European biological and landscape diversity is increased • ecological coherence of Europe as a whole is strengthened
	European Landscape Convention	<p>To promote landscape protection, management and planning, and to organize European co-operation on landscape issues. Each Party should do the following:</p> <ul style="list-style-type: none"> • recognize landscapes in law as an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity; • establish and implement landscape policies aimed at landscape protection, management and planning; • establish procedures for the participation of the general public, local and regional authorities, and other parties with an interest in the definition and implementation of the landscape policies; • integrate landscape into its regional and town planning policies and in its cultural, environmental, agricultural, social and economic policies, as well as in any other policies with possible direct or indirect impact on landscape.
	CEMAT	<ul style="list-style-type: none"> • integration of landscape development into spatial planning as well as into sectoral policies such as those related to the economy, agriculture, infrastructure and urban development, culture, environment, social development, which all have direct or indirect effects on the development of landscapes; • examination and general assessment of landscapes, the analysis of their characteristics, of their ecosystems and of the forces and pressures transforming them; the definition and use of landscape quality objectives; • implementation of integrated policies aimed at simultaneously protecting, managing and planning landscapes; • the consideration of landscape development in international programmes; • stronger cross-border, transnational and interregional co-operation in the fields of landscape development, exchange of experience and research projects involving in

		<p>particular local and regional authorities;</p> <ul style="list-style-type: none"> • the strengthening of the awareness of people, private organizations and territorial authorities of the value of landscapes, their economic significance, their evolution and the possibilities of conserving and improving them; • stronger integration of landscape development into training programmes in various disciplines, and interdisciplinary training programmes.
	EU ICZM Recommendation	<p>National ICZM strategies should be formulated taking in consideration, <i>inter alia</i>, the following:</p> <ul style="list-style-type: none"> • a broad overall perspective (thematic and geographic), which will take into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas • working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound in the long run
Other	ICAM Guidelines	<ul style="list-style-type: none"> • identify where resources can be harnessed without causing degradation or depletion; • renew or rehabilitate damaged resources for traditional or new uses; • guide the level of uses or intervention so as not to exceed the carrying capacity of the resource base; • ensure the integrity of coastal ecosystems' biodiversity; • ensure that the rate of loss does not exceed the rate of replenishment; • reduce risks to vulnerable resources; • respect natural dynamic coastal processes, encouraging beneficial ones and preventing adverse interferences;
	Coastal Erosion Management in the Mediterranean	<p>Wise land use planning in the coastal zone that incorporates buffer areas for erosion, expected within a certain time frame is an essential strategy</p>
	Blue Plan	<ul style="list-style-type: none"> • commit to preventive measures to reduce an increasing vulnerability to natural risks • improve ICZM • promote well adapted risk-resistant construction and avoid excessive artificial land cover along shorelines • increase the relative percentage of protected areas
	SoMMCER	<p>Coastal development and sprawl, driven by urban and touristic development, leading to fragmentation, degradation and loss of habitats and landscapes, including the destabilization and erosion of the shoreline</p>

	EUROSION	<ul style="list-style-type: none"> • Restoring the sediment balance and providing space for coastal processes • Internalize coastal erosion cost and risk in planning and investment decisions • Make responses to coastal erosion accountable • Strengthen the knowledge base of coastal erosion management and planning
	CONSCIENCE	<ul style="list-style-type: none"> • Management plans for coastal erosion should be based on the principle of working with natural processes. • Coastal erosion policies be formulated at national level, both for the short (event) and long (climate change) time scale • Promoting the designation of strategic sediment reservoirs in marine planning • Promoting the use of setback lines in urban areas Promoting a consistent approach to the monitoring of coastal erosion, which will require cooperation between adjoining coastal states