

Annex III

The Indicator Core Set

DRAFT

Project coordination
Universitat Autònoma de Barcelona
UAB / Spain

Contact
Dra. Françoise Breton
E-mail: francoise.breton@uab.cat
Phone: +34 93 581 35 49



Policy objective¹

Policy objective ¹	N. ²	Indicator	Description	ICZM Protocol referring article	UNEP-MAP Ecological objectives ³
Preserve the wealth of natural capital in coastal zone	1 (1)	Distributional pattern of certain marine and coastal habitats under the Specially Protected Areas (SPA) Protocol	This indicator helps to describe the presence of relevant habitats according to the SPA Protocol of the Barcelona Convention. The indicator refers to Art. 4 of the SPA Protocol that addresses the coastal and marine ecosystems endangered or relevant because of scientific, aesthetic, cultural or educational interest. The area should fulfill at least one of the criteria of art. 8.2 (importance for conserving biodiversity, containing ecosystems specific to the Mediterranean area or endangered species, relevant because of scientific, aesthetic, cultural or educational interest).	6 (general principles of ICZM) a,b,c, 8 (protection and sustainable use of the coastal zone), 10 (specific coastal ecosystem),11 (coastal landscape),12 (islands) ,13 (cultural heritage)	1.4.1 Potential / observed distributional range of certain coastal and marine habitats listed under SPA protocol 1.4.2 Distributional pattern of certain coastal and marine habitats listed under SPA protocol
	2 (3)	State of the main commercial fish stocks by species and sea area	This indicator helps measuring changes in fish stock in order to identify human pressure on aquatic environment and plan fishing intensity	9 (economic activities)2b(fishing)	
	3 (4)	Effective management of protected areas: share of coastal and marine habitats and species listed under international agreements (SPA protocol) that are in good condition (favorable, unfavorable etc.)	This indicators help to describe the level of protection of relevant ecosystems that include specific species. The referring species are listed in the Annex II (endangered or threatened species) and Annex III (species whose exploitation is regulated) of the SPA Protocol	6 (general principles of ICZM) a,b,c, 8 (protection and sustainable use of the coastal zone), 10 (specific coastal ecosystem),11 (coastal landscape),12 (islands) ,13 (cultural heritage)	1.4.3 Condition of the habitat defining species and communities

¹ Reference to the ICZM protocol- art.6 general objectives of ICZM

² In parenthesis the referring number of the complete indicator list available on the PEGASO Intranet

³Reference to the UNEP(DEPI)/MED WG 363/7/Corr.1 Draft decision on implementing MAP Ecosystem Approach roadmap: Mediterranean Ecological and Operational Objectives, Indicators and Timetable for implementing the ecosystem approach roadmap

Policy objective	N.	Indicator	Description	ICZM Protocol referring article	UNEP-MAP Ecological indicators
To formulate land-use strategies, plans, and programmes covering all coastal and marine uses	4 (15)	A governance system and legal instrument in support of Marine Spatial Planning is in place. (Yes / No)	This indicator gives description of the presence of institutions or agencies in charge of the development and implementation of marine spatial planning strategies by means of suitable legal instruments	6 (general principles of ICZM) f, 18 (national coastal strategies, plans and programmes), 20 (land policy)	
	5 (18)	There are spatial development plans which include the coastal zone but do not treat it as a distinct and separate entity.	This indicator helps to determine whether the coastal area is addressed with specific planning tool	6 (general principles of ICZM) f, 18 (national coastal strategies, plans and programmes), 20 (land policy)	
To give priority to public services and activities requiring the proximity to the sea, and to take into account the specific characteristics of the coastal zones when deciding about coastal uses	6 (19)	Economic production per sector (turnover)	The indicator is a description of the relative importance of one sector of the marine economy relative to another sector (generally in comparison to their relative importance to the total economy of the management area).	9 (economic activities), 9.1e	
	7 (20)	Employment structure	This indicator gives a description of the employment by economic activity, employment status and place of work	9 (economic activities)	
	8 (21)	Percentage of economic activities area in the coastal area	this indicators gives an idea of the intensity of the coastal activity	9 (economic activities)	
	9 (22)	Value added per sector	This indicator reflects the creation of wealth of each coastal sector.	9 (economic activities)	
	10 (37)	Land use flows: The area of new developments and its share on previously developed and undeveloped land in the coastal zone	This indicator describes the trend of the coastal land use during time helping to understand if, where and how urban sprawl occurred.	6 (general principles of ICZM)h	8.2.1 Change of land-use

Policy objective	N.	Indicator	Description	ICZM Protocol referring article	UNEP-MAP Ecological indicators
To have a balanced use of coastal zone, and avoid urban sprawl	11 (38)	Area of built-up space in the coastal zone (both the emerged and submerged area of the coastal zone)	This indicator gives a description of the coastal area subject to the construction of facilities and infrastructures.	6 (general principles of ICZM) e; 9(economic activities) f	
	12 (39)	Water efficiency index	This index allows the monitoring of progress in terms of the water saved as a result of demand management by reducing loss and wastage during both the transport and use of water. It is subdivided into total and sectoral efficiency (drinking water, agriculture and industry).	9.1.c (economic activities)	
	13 (41)	Changes in size, density, and proportion of the population living on the coast	This indicator describes the trend of population flow and number in the coastal zone compared to the inland.	6 (general principles of ICZM)h	
To perform Environmental Impact Assessment for human activities and infrastructures	14 (44)	Bathing water quality	This indicator gives a description of the quality of the bathing water according to specific parameters.	16 (monitoring activities and observation mechanism and network), 19 (environmental assessment)	
	15 (46)	Number of hypoxia events or extent of hypoxic areas	This indicator gives information about the occurrence of oxygen depletion in coastal waters due to events like eutrophication.	16 (monitoring activities and observation mechanism and network), 19 (environmental assessment)	
	16 (52)	Trends in the amount of litter washed ashore and/or deposited on coastline	This indicator can give a description of the quality of the shore depending on the presence of litter.	9 (economic activities) c (waste management)	10.1.1 Trends in the amount of litter washed ashore and/or deposited on coastlines, including analysis of its composition, spatial distribution and, where possible, source

Policy objective	N.	Indicator	Description	ICZM Protocol referring article	UNEP-MAP Ecological indicators
To prevent damage to coastal environment, and appropriate restoration if damage already occurred	17 (58)	Areal extent of coastal erosion and coastal instability	This indicator can give a description of the vulnerability of the coastal zone to events that can cause erosion and instability of the coastline.	6 (general principles of ICZM), 23 (erosion)	
	18 (61)	Areal extent of sandy areas subject to physical disturbance (beach cleaning by mechanical means, sand mining and beach sand nourishment)	This indicator gives a description of the coastal area subject to physical disturbance caused by human activities.	9 (economic activities) e	
	19 (62)	Risk assessment: economic assets at risk of storm surges and coastal flooding (considering sea level rise scenario's and return periods of storm surges)	This indicator gives information about the economic assets under risk of natural extreme events.	6j (general principles of ICZM) 22 (natural hazards), 23 (coastal erosion), 24 (response to national disasters)	
	20 (63)	Risk assessment: biological diversity (habitats/species) at risk of storm surges and coastal flooding (considering sea level rise scenario's and return periods of storm surges)	This indicator gives information about the natural resources under risk of natural extreme events	6 (general principles of ICZM) 22 (natural hazards), 23 (coastal erosion), 24 (response to national disasters)	



21 (64)	Risk assessment: Population living in the at risk area of storm surges and coastal flooding (considering sea level rise scenario's and return periods of storm surges)	This indicator gives information about the population possibly harmed by risk of natural extreme events	6 (general principles of ICZM) 22 (natural hazards), 23 (coastal erosion), 24 (response to national disasters)	
22 (65)	Productive and protected areas lost due to siltation, saltwater intrusion	This indicator helps to check if there is a loss in productivity or biodiversity due to specific sea water impacts in coastal zones	6 (general principles of ICZM) 22 (natural hazards), 23 (coastal erosion), 24 (response to national disasters)	
23 (66)	Sea surface temperature	This indicator gives a description of the trend of the sea surface temperature	6j (general principles of ICZM) 22 (natural hazards), 23 (coastal erosion), 24 (response to national disasters)	
24 (67)	Sea Level rise (including SLR relative to land cfr land subsidence)	This indicator gives information about the local sea level rise resulting from local subsidence and the level of the sea	6j (general principles of ICZM) 22 (natural hazards), 23 (coastal erosion), 24 (response to national disasters)	

The ICZM protocol articles considered in the core indicators are listed below (the non considered articles are in red). The overall PEGASO task 4.1 considers the ICZM Protocol article 27 EXCHANGE OF INFORMATION AND ACTIVITIES OF COMMON INTEREST, in particular the comma 2(a) “define coastal management indicators, taking into account existing ones, and cooperate in the use of such indicators”.

<i>Article 6</i>	GENERAL PRINCIPLES OF INTEGRATED COASTAL ZONE MANAGEMENT
<i>Article 7</i>	COORDINATION
<i>Article 8</i>	PROTECTION AND SUSTAINABLE USE OF THE COASTAL ZONE
<i>Article 9</i>	ECONOMIC ACTIVITIES
<i>Article 10</i>	SPECIFIC COASTAL ECOSYSTEMS
<i>Article 11</i>	COASTAL LANDSCAPES
<i>Article 12</i>	ISLANDS
<i>Article 13</i>	CULTURAL HERITAGE
<i>Article 14</i>	PARTICIPATION
<i>Article 15</i>	AWARENESS-RAISING, TRAINING, EDUCATION AND RESEARCH
<i>Article 16</i>	MONITORING AND OBSERVATION MECHANISMS AND NETWORKS
<i>Article 17</i>	MEDITERRANEAN STRATEGY FOR INTEGRATED COASTAL ZONE MANAGEMENT
<i>Article 18</i>	NATIONAL COASTAL STRATEGIES, PLANS AND PROGRAMMES
<i>Article 19</i>	ENVIRONMENTAL ASSESSMENT
<i>Article 20</i>	LAND POLICY
<i>Article 21</i>	ECONOMIC, FINANCIAL AND FISCAL INSTRUMENTS
<i>Article 22</i>	NATURAL HAZARDS
<i>Article 23</i>	COASTAL EROSION
<i>Article 24</i>	RESPONSE TO NATURAL DISASTERS
<i>Article 25</i>	TRAINING AND RESEARCH
<i>Article 26</i>	SCIENTIFIC AND TECHNICAL ASSISTANCE
<i>Article 27</i>	EXCHANGE OF INFORMATION AND ACTIVITIES OF COMMON INTEREST
<i>Article 28</i>	TRANSBOUNDARY COOPERATION
<i>Article 29</i>	TRANSBOUNDARY ENVIRONMENTAL ASSESSMENT