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**MEDITERRANEAN ACTION PLAN**

Integrated Correspondence Groups of GES and Targets Meeting

Athens (Greece), 17-19 February 2014

**Secretariat Analysis on Common Indicators**



**TABLE I: Summary of Secretariat Analysis on common indicators**

<b>Operational objective</b>	<b>Common Indicator</b>	<b>GES</b>	<b>Targets</b>	<b>Similar indicators from other Regional Seas Conventions</b>
<b>1.4. Key coastal and marine habitats are not being lost</b>	1.4.1 Potential/observed distributional range of certain coastal and marine habitats listed under SPA protocol <sup>1</sup>	The habitat is present in all its natural distributional range. <sup>2</sup>	<b>State</b> The ratio Natural / observed distributional range tends to 1  <b>Pressure</b> Decrease in the main human causes of the habitat decline	OSPAR has the following priority indicator: "Physical damage of predominant and special habitats"  HELCOM has "Extent and distribution of benthic biotopes" and "Cumulative impact on benthic biotopes" as pre-core indicators.  "Trends in critical habitat extent and condition" is included in RSCAP draft coordinated set of indicators.
	1.4.3 Condition of the habitat-defining species and communities	The population size and density of the habitat-defining species, and species composition of the community, are within reference conditions ensuring the long term maintenance of the Habitat <sup>3</sup>	<b>State</b> No human induced significant deviation of population abundance and density from reference conditions <sup>4</sup>  The species composition shows a positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats)	OSPAR has the following priority indicator: "Typical species composition of benthic habitats" as well as the common indicator "Multi-metric indices" for benthic habitat  HELCOM has "State of the soft-bottom macrofauna communities" and "Population structure of long-lived macrozoobenthic species" as core indicators
<b>1.1 Species distribution is maintained (of selected marine mammals, seabirds, marine reptiles, marine macroalga, zoobentho, fish)</b>	1.1.1 Distributional range  (Marine mammals)	<u>Monk Seal:</u> Monk Seal is present along recorded Mediterranean coasts with suitable habitats for the species.	<u>Monk Seal:</u> The distribution of Monk Seal remains stable or expanding and the species is recolonizing areas with suitable habitats.  <b>Pressure/Response:</b> Human activities <sup>5</sup> having the potential to exclude marine mammals from their	OSPAR has "distributional range of grey and harbour seal haul-out sites and breeding colonies"  and "distributional range of cetaceans species regularly present", as core indicators

<sup>1</sup> The RAC/SPA Rabat meeting of the biodiversity and fisheries cluster of July 2013 proposed that this indicator should refer to natural distributional range instead of potential distributional range.

<sup>2</sup> The natural distributional range should be defined by COP19.

<sup>3</sup> Baseline to be determined by COP19.

<sup>4</sup> Reference conditions should be defined by COP19 for the habitats to be considered under EO1.

<sup>5</sup> Seismic surveys, marine noise generating activities, fishing, maritime traffic, etc.

Operational objective	Common Indicator	GES	Targets	Similar indicators from other Regional Seas Conventions
			<p>natural habitat within their range area or to damage their habitat are regulated and controlled.</p> <p>Conservation measures implemented for the zones of importance for cetaceans</p> <p>Fisheries management measures that strongly mitigate the risk of incidental taking of monk seals and cetaceans during fishing operations are implemented.</p>	<p>HELCOM “has distribution of marine mammals as core indicator”</p>
	<p>1.1.1 Distributional range  (seabirds)</p>	<p>The species continues to occur in all their Mediterranean natural habitat</p>	<p><b>State</b> No significant shrinkage in the population distribution in the Mediterranean in all indicator species, and for colonial-breeding seabirds (i.e., most species in the Mediterranean): New colonies are established and the population is encouraged to spread among several alternative breeding sites<sup>6</sup>.</p>	
	<p>1.1.1 Distributional range  (marine reptiles)</p>	<p>The species continues to occur in all its natural range in the Mediterranean, including nesting, mating, feeding, wintering and development (where different to those of adults) sites.</p>	<p><b>State</b> Marine turtle distribution is not significantly affected by human activities</p> <p>Marine turtles continue to nest in all known nesting sites</p> <p><b>Pressure/Response</b> Protection of known marine turtle nesting, mating, foraging, wintering and</p>	

<sup>6</sup> This is recommended by the conservation plans of some taxa (Audouin’s G, Lesser-crested T).

Operational objective	Common Indicator	GES	Targets	Similar indicators from other Regional Seas Conventions
			development sites. Human activities <sup>7</sup> having the potential to exclude marine turtles from their range area are regulated and controlled.  The potential impact of climate change is assessed.	
<b>1.2 Population size of selected species is maintained (of marine mammals, seabirds, marine reptiles, marine macroalga, zoobenthos, fish )</b>	1.2.1 Population abundance  (marine mammals)	The species population has abundance levels allowing to qualify to Least Concern Category of IUCN. <sup>8</sup>	<b>State</b> Populations recover towards natural levels.	This is a OSPAR indicator that is a priority indicator: "Abundance at the relevant temporal scale of cetacean species regular present" and "Abundance of grey and harbour seal at haul out sites and within breeding colonies"  Also HELCOM core indicator: "Population growth rates, abundance and distribution of marine mammals",
	1.2.1 Population abundance  (seabirds)	The species population has abundance levels allowing to qualify to Least Concern Category of IUCN. <sup>9</sup>	No human induced decrease in population abundance. Population recovers towards natural levels where depleted.  The total number of individuals is sparse enough in different spots.	OSPARs priority indicator is "Species-specific trends in relative abundance of non-breeding and breeding marine bird species"  HELCOM has "Abundance of waterbirds in the wintering and breeding seasons" as core indicators.
	1.2.1 Population abundance (marine reptiles)	The population size allows to achieve and maintain a favourable conservation status taking into account all-life stages of the population	<b>State</b> No human induced decrease in population abundance.  Population recovers towards natural levels where depleted.	None, but because marine reptiles don't play an important role in OSPAR and HELCOM areas. However, similar targets exist for marine mammals.

<sup>7</sup> Uncontrolled use of turtle nesting sites, fishing, maritime traffic, etc.

<sup>8</sup> A taxon is Least Concern when it has been evaluated and does not qualify for "Critically Endangered", "Endangered", "Vulnerable" or "Near Threatened".

<sup>9</sup> A taxon is Least Concern when it has been evaluated and does not qualify for "Critically Endangered", "Endangered", "Vulnerable" or "Near Threatened".

Operational objective	Common Indicator	GES	Targets	Similar indicators from other Regional Seas Conventions
<p><b>1.3 Population condition of selected species is maintained (of marine mammals, seabirds, marine reptiles, marine macroalga, zoobenthos, fish )</b></p>	<p>1.3.1 Population demographic characteristics (e.g. body size or age class structure, sex ratio, fecundity rates, survival/mortality rates)</p> <p>(Marine mammals)</p>	<p><u>Cetaceans:</u> Species populations are in good condition: Low human induced mortality<sup>10</sup>, balanced sex ratio and no decline in calf production</p> <p><u>Monk Seal:</u> Species populations are in good condition: Low human induced mortality, appropriate pupping seasonality, high annual pup production, balanced reproductive rate and sex ratio</p>	<p><b>State</b> Decreasing trends in human induced mortality.</p> <p><b>Pressure/Response</b> <u>Cetaceans:</u> Appropriate measure implemented to mitigate incidental catch, prey depletion and other human induced mortality</p> <p><u>Monk Seal:</u> Appropriate measures implemented to mitigate direct killing and incidental catches and to preclude habitat destruction.</p>	<p>OSPAR has “Harbour seal and Grey seal pup production” as core indicator and “numbers of individuals within species being bycaught in relation to population”</p> <p>HELCOM has “pregnancy rates of marine mammals”, and “number of drowned mammals in fishing gear” among core set of biodiversity indicators.</p>
	<p>1.3.1 Population demographic characteristics (e.g. body size or age class structure, sex ratio, fecundity rates, survival/mortality rates)</p> <p>(Seabirds)</p>	<p>Species populations are in good conditions: Natural levels of breeding success &amp; acceptable levels of survival of young and adult birds.</p>	<p>Populations of all taxa, particularly those with IUCN threatened status are maintained long term following the indication of population models.</p> <p>Incidental catch mortality is at negligible levels, particularly for species with IUCN threatened status.</p>	<p>OSPAR has “Breeding success/failure of marine birds” and annual breeding success of kittiwake” as priority indicators</p> <p>Also</p> <p>“Mortality of marine birds from fishing (by-catch) and aquaculture”</p> <p>HELCOM has “White tailed eagle productivity” and “number of drowned water birds in fishing gear” among core set of biodiversity indicators</p>
	<p>1.3.1 Population demographic characteristics (e.g. body size or age class structure, sex ratio, fecundity rates, survival/mortality rates)</p>	<p>Low mortality induced by incidental catch<sup>11</sup>,</p> <p>Favourable sex ratio and no decline in hatching rates</p>	<p><b>Response</b> Measures to mitigate incidental catches of marine turtles implemented.</p>	

<sup>10</sup> Baseline data are required by COP19

<sup>11</sup> Baseline data are required by COP 19

Operational objective	Common Indicator	GES	Targets	Similar indicators from other Regional Seas Conventions
	(Marine Reptiles)			
<b>2.1 Invasive non-indigenous species introductions are minimized</b>	2.1.1, 2.2.2 combined. "Trends in abundance, temporal occurrence and spatial distribution in the wild of non-indigenous species, particularly invasive non-indigenous species, notably in risk areas, in relation to the main vectors and pathways of spreading of such species" <sup>12</sup>	Introduction, abundance and spread of NIS linked to human activities are minimised, in particular for potential IAS	<p><b>State</b> The number of species and abundance of IAS introduced as a result of human activities is reduced.</p> <p><b>Pressure/Response</b> Improved management of the main human related pathways and vectors of NIS introduction (Mediterranean Strategy for the management of ballast waters, Aquaculture early warning systems, etc.) Action plans developed to address high risk NIS, should they appear in the Mediterranean.</p>	<p>OSPAR has the following as priority indicator: "Rate of new introduction of NIS (per defined period)"</p> <p>HELCOM has "Trends in arrival of new non-indigenous species" as core indicator.</p>
<b>5.1 Human introduction of nutrients in the marine environment is not conducive to eutrophication</b>	5.1.1 Concentration of key nutrients in the water column	Concentrations of nutrients in the euphotic layer are in line with prevailing physiographic, geographic and climate conditions	<p><b>State</b> Reference nutrients concentrations according to the local hydrological, chemical and morphological characteristics of the un-impacted marine region<sup>13</sup></p> <p>Decreasing trend of nutrients concentrations in water column of human impacted areas, statistically defined</p>	<p>OSPAR has the following common indicator: "Winter nutrient concentrations"</p> <p>HELCOM has "Winter surface concentrations of nutrients" as core target</p>
			<p><b>Pressure</b></p> <ol style="list-style-type: none"> <li>1. Reduction of BOD emissions from land based sources</li> <li>2. Reduction of nutrients emissions from land based sources</li> </ol>	

<sup>12</sup> Experience has shown that 2.1.1 and 2.1.2 may need to be merged in the future.

<sup>13</sup> Thresholds to be set, subject to decision of Contracting Parties by COP19.

Operational objective	Common Indicator	GES	Targets	Similar indicators from other Regional Seas Conventions
<b>5.2 Direct effects of nutrient over-enrichment are prevented</b>	5.2.1 Chlorophyll-a concentration in the water column	Natural levels of algal biomass in line with prevailing physiographic, geographic and weather conditions <sup>14</sup>	<b>State</b> 1. Chl-a concentrations in high-risk areas below thresholds <sup>15</sup> 2. Decreasing trend in chl-a concentrations in high risk areas affected by human activities	OSPAR has following common indicator: "Chlorophyll concentration"  HELCOM has "Chlorophyll a concentration" as core indicator. "Chlorophyll a concentration as an indicator of phytoplankton biomass" is included in RSCAP draft coordinated set of indicators.
<b>7.2 Alterations due to permanent constructions on the coast and watersheds, marine installations and seafloor anchored structures are minimized</b>	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	Negative impacts due to new structures are minimal with no influence on the larger scale coastal and marine system	Planning of new structures takes into account all possible mitigation measures in order to minimize the impact on coastal and marine ecosystem and its services integrity and cultural/historic assets. Where possible, promote ecosystem health.	OSPAR has "Spatial extent of habitats affected" as a candidate indicator.
<b>8.1 The natural dynamic nature of coastlines is respected and coastal areas are in good condition</b>	8.1.4 Length of coastline subject to physical disturbance due to the influence of manmade structures	Physical disturbance to sandy coastal areas induced by human activities should be minimized	Negative impacts of human activities on sandy coastal areas are minimized through appropriate management measures	RSCAP has "Percentage built up coastline" included in its draft coordinated set of indicators.
<b>9.1 Concentration of priority<sup>16</sup> contaminants is kept within acceptable limits and does not increase</b>	9.1.1 Concentration of key harmful contaminants <sup>17</sup> in biota, sediment or water	Level of pollution is below a determined threshold defined for the area and species	<b>State</b> Concentrations of specific contaminants below EACs or below reference concentrations <sup>18</sup>  No deterioration trend in contaminants	All conventions include pollution.  OSPAR has metal (Hg, Cd, Pb) concentrations in biota and sediments, PCB concentrations in biota and sediments, PAH concentrations in sediments, PBDE concentrations in biota

<sup>14</sup> Thresholds to be determined by COP19.

<sup>15</sup> Thresholds to be set in the future, feasibility to be addressed, subject to decision of Contracting Parties by COP19.

<sup>16</sup> Priority contaminants as listed under the Barcelona Convention and LBS Protocol.

<sup>17</sup> Use for further work on reference conditions ERL for sediments taking into account specifics of the Mediterranean.

<sup>18</sup> Thresholds to be set by COP19.



Operational objective	Common Indicator	GES	Targets	Similar indicators from other Regional Seas Conventions
			<p>concentrations in sediment and biota from human impacted areas, statistically defined.</p> <p><b>Pressure</b> Reduction of contaminants emissions from land based sources<sup>19</sup></p>	and sediments
<b>9.2 Effects of released contaminants are minimized</b>	9.2.1 Level of pollution effects of key contaminants where a cause and effect relationship has been established	Concentrations of contaminants are not giving rise to pollution effects.	<b>State</b> Contaminants effects below threshold <sup>20</sup>	OSPAR uses fish and mussels in a series of biomarkers, and "Imposex/intersex" as common indicator.
<b>9.3 Acute pollution events are prevented and their impacts are minimized</b>	9.3.1 Occurrence, origin (where possible), extent of significant acute pollution events (e.g. slicks from oil, oil products and hazardous substances) and their impact on biota affected by this pollution	Occurrence of acute pollution events are reduced to the minimum.	<p><b>State</b> Decreasing trend in the occurrences of acute pollution events.</p> <p><b>Pressure</b> Decreasing trend in the operational releases of oil and other contaminants from coastal, maritime and off-shore activities.</p>	
<b>9.4 Levels of known harmful contaminants in major types of seafood do not exceed established standards</b>	9.4.1 Actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels in commonly	Concentrations of contaminants are within the regulatory limits for consumption by humans	<b>State</b> Concentrations of contaminants are within the regulatory limits set by legislation	

<sup>19</sup> Reduction programmes are already in place through the Protocols of the Barcelona Convention and the Marine Litter Regional Strategy.

<sup>20</sup> Thresholds to be set by COP19.

Operational objective	Common Indicator	GES	Targets	Similar indicators from other Regional Seas Conventions
	consumed seafood <sup>21</sup>			
<b>9.5 Water quality in bathing waters and other recreational areas does not undermine human health</b>	9.5.1 Percentage of intestinal enterococci concentration measurements within established standards	Concentrations of intestinal enterococci are within established standards	<b>State</b> Increasing trend in the percentage of intestinal enterococci concentration measurements within established standards	
<b>10.1 The impacts related to properties and quantities of marine litter in the marine and coastal environment are minimized<sup>22</sup></b>	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	Number/amount of marine litter items on the coastline do not have negative impacts on human health, marine life and ecosystem services	<b>State</b> Decreasing trend in the number of/amount of marine litter (items) deposited on the coast	OSPAR common indicator: "Beach litter".  RSCAP has "Quantification of beach litter items" in its coordinated set of indicators.
<b>10.2 Impacts of litter on marine life are controlled to the maximum extent practicable</b>	10.1.2 Trends in amounts of litter in the water column, including micro-plastics, and on the seafloor	Number/amount of marine litter items in the water surface and the seafloor do not have negative impacts on human health, marine life, ecosystem services and do not create risk to navigation	<b>State</b> Decreasing trend in the number/amount of marine litter items in the water surface and the seafloor	

<sup>21</sup> Traceability of the origin of seafood sampled should be ensured.

<sup>22</sup> Baseline is needed to be developed in line with the Marine Litter Regional Plan by COP19