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Final Report of the Informal Online Working Group on Coast and Hydrography

Draft Report of the Informal Online Working Group on Coast and Hydrography

In accordance with the decision taken at the Integrated Correspondence Group on Monitoring and Assessment Meeting (Integrated CORMON) held in Athens (30 March – 1 April 2015), an informal on line expert group on Coast and Hydrography was established by the contracting parties with the volunteer leadership of France, with support from the Secretariat.

Based on the specific recommendations of the ECAP Correspondence Group on Monitoring (**CORMON**) Coast and Hydrography, on Ecological Objectives 7 and 8 (UNEP(DEPI)/MED WG.411/Inf.5), and on the specific Terms of References of the Coast and Hydrography Working Group, the experts aimed to:

- Further enhance the Main elements of the Integrated Monitoring and Assessment Programme;
- Give expert input into the development of a Hydrographical Guidance on how to reflect changes in hydrographical conditions in relevant assessments (such as Environmental Impact Assessments);
- Discuss and give recommendation on the candidate common indicator on Land use change in the Initial Phase of the Integrated Monitoring and Assessment Programme;
- Prepare a report on key findings, recommendations of the Coast and Hydrography online Working Group to the 5th EcAp Coordination Group.

The following points are reflecting the key discussions and recommendations formed by the Coast and Hydrography Working Group.

Recommendations on draft IMAP Decision and on draft Integrated Monitoring and Assessment Programme

EO7: Alteration of hydrographical conditions

The Coast and Hydrography Group proposes that for the common indicator 9 (Location and extent of the habitats impacted directly by hydrographic alterations, EO7), the existing structures should be also considered, as they alter hydrographical conditions. Instead of considering a baseline in the (very) near future, the baseline could be the 80's (baseline already chosen for land claim).

Concerning the physical characteristics to be monitored, the Group propose to add temperature and salinity to the existing list, as these characteristics allow assessing local alteration of hydrographical conditions due to changes in effluents by industrial processes.

In part 1.3 Evaluation of impacts, the sentence "Changes in bottom shear stress, *due to the consequences on changes* on sediment re-suspension and nutrient enrichment, is a good example of modifications of the dynamic environment of the seabed with effect on biota development" has been modified in "Changes in bottom shear stress, *inducing changes* on sediment re-suspension and nutrient enrichment, is a good example of modifications of the dynamic environment of the seabed with effect on biota development" to be correct.

EO8: Coastal ecosystems and landscapes

Common indicator 10: Length of coastline subject to physical disturbance due to the influence of man-made structures

In part 1 Introduction, the Group underline the absence of the indicator 8.1.3 (beach nourishment measures) in the UNEP (depi)/MED IG 21.9.

In the same part of the document, concerning the indicators related to EO8, the Group agrees that these indicators have no precedent in other regional ecosystem approach or framework directive. However, the Group points out that works on the development of indicators close to EO8 are in progress in some countries (for instance Spain and France).

Following the decision taken in the Integrated CORMON of April in Athens, the Group reminds that "gabions" must be removed from the Tab 1 of point 1.1.

In table 1 of point 1.2 (Evaluation of impacts), the fact that Aeolian transport patterns can be impacted by hard coastal defences must be added.

Concerning the common indicator 10 (Length of coastline subject to physical disturbance due to the influence of manmade structures), some guidelines and methodologies have been proposed by the Group. These elements are presented in the next table.

Common Indicator description (including parameters, matrix)	**Guidelines, Methodologies, QA/QC available**	**Initial phase of IMAP**
Common Indicator 10 (COP18 Indicator 8.1.4) **Length of coastline subject to physical disturbance due to the influence of manmade structures** Impact indicator Key Parameters: i. Length of manmade coastline (e.g. km) ii. Total surface area reclaimed (ha) iii. Length of sandy coastline influenced by manmade structures	MSSD, indicator[1] nº23: "Share of artificialised coastline" <u>i. Length of manmade coastline:</u> Mapping of human structures along the coastline (linear or area representation). Measuring the dimensions of the structures along the coast (their length for longitudinal ones, their width for transversal ones, projection of their length on the coastline for nor connected to shore ones when they are part of the 100 meter area on sea side) Dimensions of the structures can be assessed by satellite data or aerial photos (mainly for their length) and by field measurements (for their width (groins), or submerged and buried structures for instance) <u>ii. Total surface area reclaimed</u> Mapping of manmade areas currently on land which were submerged areas before the 80's. Assessing the coastline position previous to land claim or the coastline position of the 80's. Once this initial coastline position is known (before land claim), the land claim area is the area between this initial and the present coastline. This area could be expressed by depth reclaimed	Establish baseline (as done for land claim, the baseline could be the 80's for the 3 parameters)

	(surface between 0 and -10 m; surface between -10 and -20 m, for instance) to link it with the kind of marine habitats lost. Position of the initial coastline can be assessed using: • Reliable historical maps • Old documents (pictures, photos, post card, plans,) • Design plans for recent structures • Satellite or aerial images prior to the landclaim with sufficient precision <u>iii. Length of sandy coastline influenced by manmade structures.</u> This parameter is linked to the parameter 8.1.1. (Length of coastal erosion and/or instability) as structures can modify the natural erosion/accretion rate. Mapping of coastline around structures where its evolution (erosion/accretion) or shape (slope, curvature…) is modified by the presence of structures. Depending on the cases (hydrodynamic conditions, kind of structures and time since installation, sediment supply), this length can be assessed around the considered structure: • by analyzing the shape of the present position of the coastline, using satellite or aerial photos (increase of erosion/accretion in the upstream/downstream of the littoral drift) • using topo-bathymetric data around the structure showing non natural evolution/state of the coast.	

<u>Candidate common indicator 19: Land use change</u>

Concerning this candidate indicator, the Group suggests that guidelines and methodologies should be proposed following the draft "Monitoring and assessment methodological guidance on land use change" and the results of the pilot site in Adriatic.

Development of a Hydrographical Guidance on how to reflect changes in hydrographical conditions in relevant assessments

The "Guidance Document on how to reflect changes in hydrographical conditions in relevant assessments" will be sent to the Group by August 7 (after the writing of this report). Comments will be done by the Group to be sent to the Secretariat by August 14.

Discussion and recommendation on the candidate common indicator on Land use change

Concerning this indicator, two documents have been sent to the Group by the Secretariat: the "Monitoring and assessment methodological guidance on land use change" and the final report of the pilot site in Adriatic.

This indicator is interesting as it allows an assessment of urbanization density along the coast and its evolutionary trends in time (assessment of areas that changed from non-artificial to artificial between 2 data sets).So it allows identifying hot spots where urbanization is higher.

But given the resolution of the data used and the width of bands and elevation considered for the analysis, this indicator concerns overall more terrestrial habitats than marine habitats (in fact, the more interesting zone concerning marine habitats is the zone <300 m or 0.3 to 1 km and the spatial resolution of data seems too weak to study correctly that zone (see point 2.3.5 limitations to the proposed approach in the pilot project on the Adriatic document).

This indicator can be a first step but lots of links are missing to define GES, between what happens on land and the consequences on sea. It is important to identify highly urbanized areas but it is not sufficient. For instance, perhaps a marine habitat close to coast is more impacted by pollution due to a small city with bad water treatment than to a bigger city with good sewage treatment plants.

Definitely, this indicator is interesting for land management purpose, but is not adequate to define GES for marine environment.