



UNITED
NATIONS

EP

UNEP(DEPI)/MED WG.427/Inf.10



UNITED NATIONS
ENVIRONMENT PROGRAMME
MEDITERRANEAN ACTION PLAN

12 October 2016
Original: English

Meeting of the Ecosystem Approach Correspondence Group on Pollution Monitoring

Marseille, France, 19-21 October 2016

Agenda item 3 Implementation of the Integrated Monitoring and Assessment Programme

Good Practices for developing Monitoring Assessment Scales in Europe.

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Good Practices for developing Monitoring Assessment Scales for the marine environment in Europe

Draft paper- October 2016

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1. MSFD Experience on Assessment Scales

Under the 2012 MSFD initial assessment reporting (Art 8, 9 and 10), member states (MS) were asked to provide geographic areas/ assessment areas as polygon GIS files¹.

The purpose of these assessment areas were to clearly define the geographic areas to which the different elements of their reports for the initial assessment applied.

The recommendation for assessment areas was for them to be defined for:

- a. The entire waters of the MS
- b. MS marine waters of each relevant MSFD region
- c. MS marine waters of each relevant MSFD subregion
- d. Additionally, assessment areas can include subdivisions as formally defined by MS and
- e. Other assessment areas (informally defined by MS). These should be nested within the region/subregions being reported on

The reporting guideline suggested that WFD water bodies or types could be used as MSFD assessment areas in areas where the MSFD area and WFD coastal waters overlap.

The reported assessment areas resulting from the 2012 reporting on geographical areas showed heterogeneous approaches used by MS. Some MS made assessment areas that were a simple division of their marine waters into MSFD regions and subregions. Some countries made separate assessment units inside coastal waters (WFD) in addition. Finally, some countries reported assessment areas specific for specified topics of reporting, leading to a large amount of assessment areas (more than 100 in the case of Italy). The large number of assessment units allows detailed reporting specific for the theme, but may cause difficulties in producing coherent assessment maps when comparing with the reporting from other countries or even for results.

¹ European Commission. 2012. Guidance for 2012 reporting under the Marine Strategy Framework Directive, using the MSFD database tool. Version 1.0. DG Environment, Brussels. pp 164

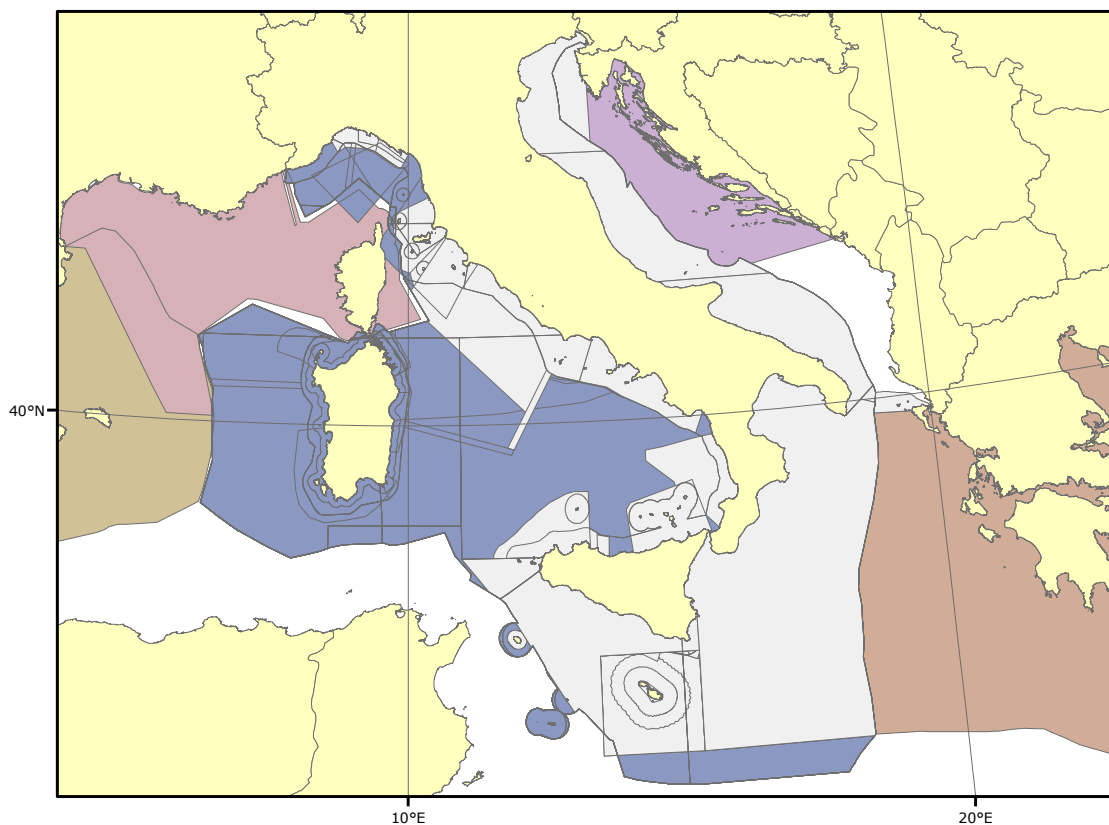


Figure 1. MSFD Assessment areas of Italy and Malta

The revision of the Commission Decision on MSFD GES criteria², laying down criteria and methodological standards on good environmental status specifications and standardized methods for monitoring and assessment, has also brought in the importance of geographical scales. Together with defining assessment criteria elements, threshold values and other methodological standards, this should ensure consistency and allow for comparisons between marine regions and subregions of the extent to which good environmental status is being achieved. The Decision document states that threshold values should be set at appropriate geographic scales to respect the different biotic and abiotic characteristics of the regions, subregions and subdivisions.

In an annex in the Commission Decision, criteria elements, criteria and methodological standards including needed assessment scales are laid out for each descriptor criteria element. Generally, assessments should be carried out within each region or subregion, but the relevant assessment scales include WFD coastal waters, territorial waters, subdivisions or member state marine waters as part of a region or subregion. The assessment area type, depends on descriptor and descriptor elements.

As an example, for descriptor 8 (“Concentrations of contaminants are at levels not giving rise to pollution effects”), within coastal and territorial waters, assessment scales should be used as under the WFD. Beyond territorial waters, subdivisions of the region or subregion should be used, divided by national boundaries where needed.

Likewise, for descriptor 5 (“human-induced eutrophication is minimised, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algae blooms and oxygen deficiency in bottom waters”) coastal waters are included as under WFD. Beyond coastal waters,

² CTTEE_14-2016-03 (document not yet approved)

subdivisions of the region or subregion should be used, divided by national boundaries where needed.

In the case of criteria under descriptor 3 (“populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock”), the assessment scale should include specific aggregations of ICES Areas, GFCM geographical sub-areas and FAO demarcation for the Macaronesian biogeographic region. This is an example of the limitation set by other regulation as these are referred to as appropriate scientific bodies in Article 26 of Regulation (EU) No 1380/2013.

2. OSPAR and HELCOM reporting/assessment units

To avoid the issues mentioned above, a more consistent and harmonised approach to spatial units is required.

In a regional level, HELCOM and OSPAR are working towards a nested approach for assessment and reporting scales. Even though their implementation is slightly different the general concept is similar. For the OSPAR Area there are 5 levels of reporting units³, levels 0 to 4:

- 0) The entire OSPAR area
- 1) Division of the OSPAR area in 5 regions
- 2) Division of OSPAR regions into a subset of OSPAR regions (incl. MSFD regions/subregions)
- 3) Further division into zone of coastal influence and offshore zone
- 4) Further division of zone of coastal influence into an amalgam of WFD units

HELCOM is using a similar delineation with 4 scale levels⁴ for the Baltic Sea to be used for regional monitoring and assessment purposes.

- 1) The entire HELCOM area
- 2) Division of the Baltic Sea into 17 sub-basins
- 3) Further division into coastal and off-shore areas
- 4) Further division of the coastal areas by WFD water types or water bodies

Figure 2 shows a map of the HELCOM sub-basins divided into offshore areas and coastal areas per country (EEZ). Note that the 4th level of the HELCOM assessment units are not identical with WFD coastal water bodies. The 4th level of the HELCOM assessment units are based on WFD water bodies or WFD water types and there are generally fewer (and larger) polygons comparing with the WFD water bodies. Note also that the HELCOM sub-basins and the WFD water bodies or types are not aligned. As a consequence, the 4th level of the HELCOM assessment units are not fully nested within the 3rd level coastal areas. In some cases, one 4th level coastal unit spatially exist in more than one HELCOM sub-basin.

The same alignment issue exists between OSPAR regions/subregions and the WFD coastal and transitional water bodies. The WFD water bodies are defined as being inside WFD river basin districts and national boundaries but the OSPAR regions and subregions are defined differently. This has been

³ OSPAR Reporting units guideline –

<http://www.ospar.org/work-areas/cross-cutting-issues/intermediate-assessment-2017-resources>

⁴ HELCOM Monitoring and Assessment Strategy –

<http://helcom.fi/Documents/Action%20areas/Monitoring%20and%20assessment/Monitoring%20and%20assessment%20strategy/Monitoring%20and%20assessment%20strategy.pdf>

solved in the 4th level WFD unit amalgam, by splitting the WFD water bodies by OSPAR regions/subregions. The result are fully nested level 4 reporting units.



Figure 2 Map of HELCOM sub-basins divided into 17 offshore areas and 42 coastal areas (Level 3)

3. MSFD reporting in 2018

In 2018, an update of the initial assessments, together with the definition of GES and targets, has to be reported. In that context, the EEA/ETC-ICM is giving support to the European Commission for the preparation of such exercise. Based on the examples of reporting/assessment units of OSPAR and HELCOM, a similar approach will be suggested to Member States for MSFD reporting units. In any case, the reporting units would be preferably agreed at the Regional level, and ideally they would be made available prior the reporting, so that the reporting system can make use of them.

A working paper will be presented in WG DIKE meeting (7th December, Brussels), where the state of the art regarding the assessment/reporting units will be described, as well as a suggested approach, based on the following levels:

- a) MSFD Regions (Baltic Sea, North-east Atlantic Ocean, Mediterranean Sea and Black Sea)
- b) MSFD Subregions/subdivisions
- c) Further division into
 - Coastal waters per WFD river basin district
 - Territorial waters (excl. coastal waters) per MSFD region/subregion/subdivision
 - Beyond territorial waters per MSFD region/subregion/subdivision
- d) Coastal water-bodies (as reported under WFD)

Figure 3 shows the MSFD regions, MSFD regions/subregions/divisions, territorial waters per MSFD subregions and Coastal waters per WFD river basin district. Note that the suggested approach inherits a similar alignment issue with WFD as has been explained for OSPAR and HELCOM reporting/assessment scales above. The WFD river basin districts and coastal water bodies are not naturally aligned with the MSFD regions/subregions/subdivisions. This can be overcome by splitting WFD coastal water bodies and riverbasin districts in cases where they are located in more than one MSFD region/subregion/subdivision, as has been done with the OSPAR reporting units. Or it can be accepted that the WFD units are not fully nested with the MSFD units, this is similar to the way HELCOM have implemented their 4th level WFD waterbodies or water types as not being fully nested in the coastal parts of their HELCOM sub-basins.

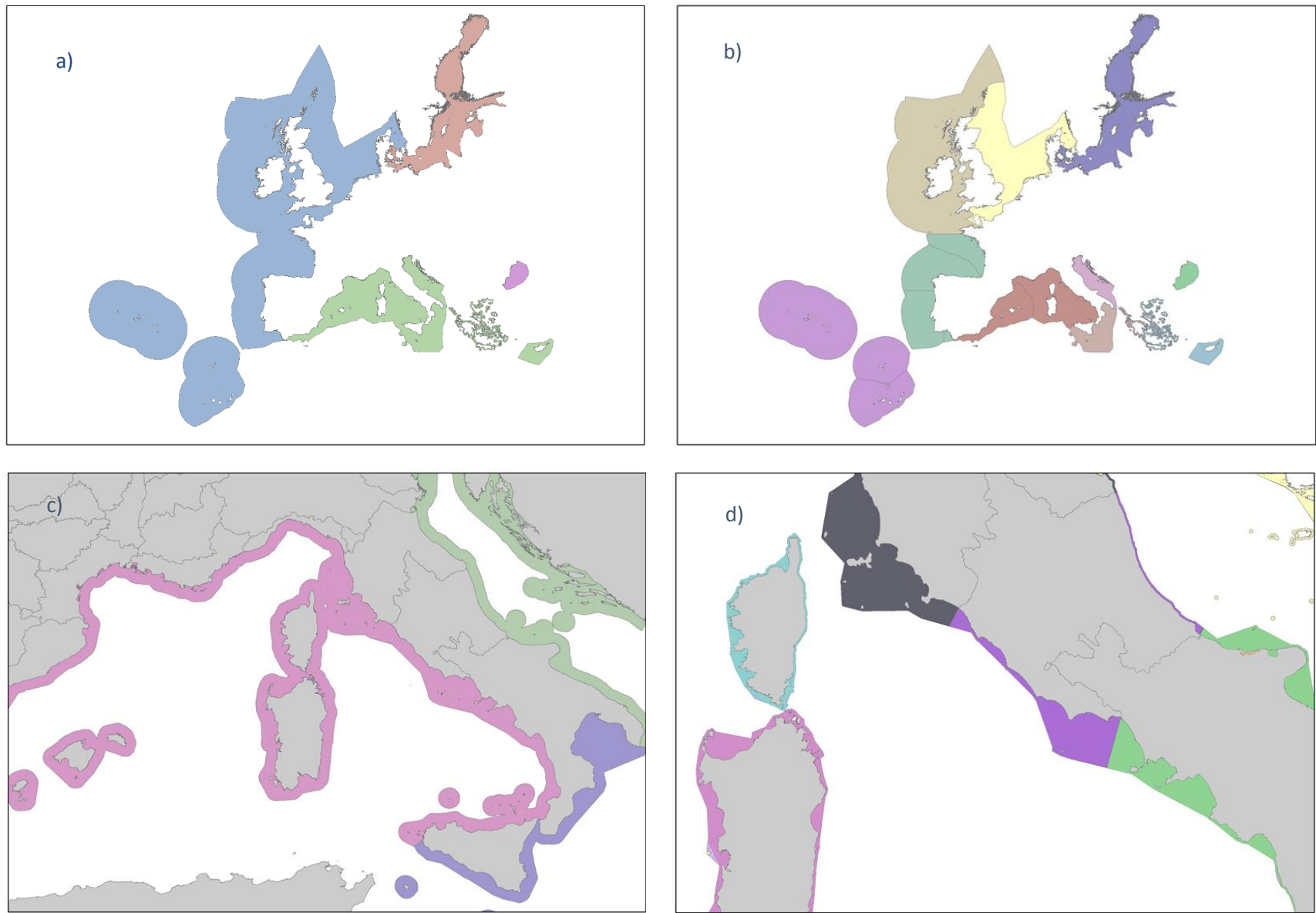


Figure 3 a) MSFD regions; b) MSFD regions/subregions/subdivisions; c) Territorial waters per MSFD subregions; d) Coastal waters per WFD river basin district