



Baltic Marine Environment Protection Commission

Project for the development of the second holistic
assessment of the Baltic Sea

HOLAS II 1-2014

Helsinki, Finland, 16-17 December 2014

Document title	MSFD CIS document on possible revision of MSFD Annex III
Code	3-2
Category	INF
Agenda Item	3- Activities and projects to feed into HOLAS II
Submission date	10.12.2014
Submitted by	Secretariat
Reference	

Background

The 2nd HELCOM holistic assessment should be developed so that it can serve as a regional “roof report” that can be used by Contracting Parties also being EU Member States as part of the reporting obligations under MSFD Articles 8, 9 and 10 in 2018.

MSFD Articles 8, 9 and 10 require consideration of the characteristics and pressures and impacts listed in tables 1 and 2 of Annex III to the Directive. Annex III is currently being reviewed resulting in a possible revision.

This document contains a draft MSFD CIS document on the revision of MSFD Annex III (GES_12-2014-04) distributed at the WG-GES meeting held 20-21 October 2014. The document will be updated by January 2015.

Action required

The Meeting is invited to

- take note that MSFD Annex III is being reviewed and that revisions will be proposed.



Marine Strategy Framework Directive (MSFD)

Common Implementation Strategy

12th meeting of the Working Group on Good Environmental Status (WG GES)

20 October 2014, 11.00-18:00

21 October 2014, 9.00-17:00

Maison des Associations Internationales (MAI), Rue Washington 40, B-1050 Brussels

Agenda item:	6b
Document:	GES_12-2014-04
Title:	Towards a possible revision of MSFD Annex III
Prepared by:	DG Environment
Date prepared:	25/09/2014
Background:	<p>The MSFD Committee provided a mandate for the review and possible revision of the 2010 Decision on GES criteria and methodological standards, together with Annex III of the MSFD. Whilst this review has been overseen by WG GES and its Drafting Group, the considerations relating to a possible revision of MSFD Annex III is linked also to reporting systems and the underlying standardized lists of ecosystem components, pressures and uses and activities.</p> <p>This paper was also brought to the attention of WG DIKE (29-30 September 2014).</p>

WG GES is invited to:

- a. Take note of the preliminary considerations in the review of MSFD Annex III;
- b. Comment on the analysis of pressures and uses and activities across the different policies and the desirability of having an agreed read across between them;
- c. Comment on the proposed list of these topics which could be a basis for a revised Annex III and for future assessment and reporting (especially of MSFD Article 8);
- d. Give guidance on further considerations for work on this review.

Towards a possible revision of MSFD Annex III

1 BACKGROUND

In November 2013, the MSFD Committee agreed a mandate for the review and possible revision of the GES Decision on criteria and methodological standards (Decision 2010/477/EU) and of MSFD Annex III¹.

This review is being led by the WG GES via its Drafting Group, with technical support from the Joint Research Centre and ICES who are reviewing the criteria and methodological standards for each of the GES Descriptors.

Regarding the review of Annex III, the Committee mandate states the following:

1. *Define role of Annex III*
 - a. Elements for assessment (Art. 8) with regard to GES (Art 9);
 - b. Elements for monitoring (Art 11) - supportive for the purpose of assessment (e.g. temperature, salinity);
 - c. Define whether the elements are of indicative nature (as relevant to MS waters) and whether generic or specific (e.g. 'hazardous substances' or 'specified list of Priority substances').
2. *Content of Tables 1 and 2*
 - a. Distinguish better between State and Pressure lists (e.g. chemicals, NIS from Table 1 as pressures);
 - b. Define the need for current 'additional' texts, the need for some elements (e.g. features and characteristics) and possible need for new elements;
 - c. Define relationship to art 8, 9, and 10.
 - d. Explore the possibility to introduce new standards, criteria and indicators for cumulative effects.
3. *Consider the need for a Table of human activities, to provide a framework for the collection of information and/or monitoring with respect to Art. 8.1c and Art. 11.*

The review of MSFD Annex III is needed to compliment the review of the GES Decision. Annex III forms a key part of the implementation of Articles 8, 9 and 10, where it provides indicative lists of features and characteristics of the marine environment and of pressures and impacts upon it. However, its relationship to the Annex I descriptors and to the GES criteria was not made explicit in the directive or in the 2010 Decision. The 2011 CSWP², however, established relationships between the three elements, but could provide only a partial answer due to their inherent content. The present review therefore offers an opportunity to further clarify these relationships and thus support future implementation.

¹ [Review of GES Decision 2010/477/EU and MSFD Annex III: approach and outline for the process.](#)

² [Commission Staff Working Paper SEC\(2011\)1255.pdf](#)

This paper aims to:

- a. provide an analysis of the current content of Annex III;
- b. outline the role of Annex III within the overall architecture of Directive;
- c. describe an analysis of [ecosystem components], pressures, uses and activities across relevant marine policies, leading to a proposed restructuring and updating of the lists of these features as a basis for revision of Annex III.

2 ANALYSIS OF CURRENT ANNEX III

2.1 References to and role of Annex III in the Directive

Specific references to Annex III in the Directive are as follows (emphasis added):

- a. **Article 8 – initial assessment**
 - i. analysis of the essential features and characteristics, and current environmental status of those waters, based on the **indicative lists** of elements in Table 1
 - ii. analysis of the predominant pressures and impacts, including human activity, based on the **indicative lists of elements** in Table 2
- b. **Article 9 – determination of GES**
 - i. take into account the **indicative lists of elements** set out in Table 1
 - ii. take into account the pressures or impacts of human activities in each marine region or subregion, having regard to the **indicative lists** set out in Table 2
- c. **Article 10 – environmental targets**
 - i. taking into account the **indicative lists** of pressures and impacts set out in Table 2
- d. **Article 11 – monitoring programmes**
 - i. on the basis of the **indicative lists of elements** set out in Annex III
 - ii. Annex V.1 - in accordance with Annex III
 - iii. Annex V.12 - Need to address, as part of the initial assessment provided for in Article 8, the **relevant elements listed** in Annex III including their natural variability

From the above, it can be concluded that:

- a. MSFD Annex III is intended to provide lists of 'elements' for features of marine waters, and for pressures, impacts and human activities affecting these features;
- b. these elements are to be used for the initial assessment (Art. 8), for determining GES (Art. 9), for setting environmental targets (Art. 10) and for establishing monitoring programmes (Art. 11);
- c. these elements are indicative, which means they may not all be relevant to every marine (sub)region and Member State and that there could be additional elements which are not listed.

2.2 Nature of current content of Annex III

Annex III currently comprises two tables.

Table 1 of Characteristics includes:

- a. An indicative list of physical, chemical and biological (species, habitats) 'state' elements
- b. Some additional 'pressure' elements (chemicals, NIS, pCO₂-acidification)
- c. Criteria for selection of specific elements (e.g. 'recognised under Community legislation', subject to intense pressures')
- d. Additional details on how to treat some elements (description, mapping, annual/seasonal variability)

Table 2 of Pressures and Impacts includes:

- a. An indicative list of 'pressure' elements (coarse/fine typology)
- b. Selected examples of relevant human activities for most pressures
- c. One mention of 'impacts' ('impact on the seabed of commercial fishing, boating, anchoring'), but gives few types of impact.

It can be concluded that the content of tables 1 and 2 could be improved to better separate the issues of pressure and state, and also to more clearly relate the indicative lists to the Annex I Descriptors and to the elements of Article 8. In addition any revision of the GES Decision should be clearly linked to the content of Annex III. The title of Table 1 (Characteristics) has also caused confusion in relation to the texts of Article 8(1a) and Article 9(1).

3 OUTLINE OF A REVISED ANNEX III

3.1 Role of Annex III in the MSFD architecture

As an essential part of the review of the Decision and MSFD Annex III, the Common Understanding document³ addressing MSFD Articles 8, 9 and 10 on the Initial Assessment, the determination of GES and the setting of environmental targets is also being revised. This has included work to clarify the roles and relationships of different parts of the Directive in defining GES, including that of Annex III, and the relationship between Article 9 on GES and Article 10 on environmental targets. Developing a common understanding of these relationships is an essential precursor to the reviews of the GES Decision and of Annex III, as these reviews can then be clearly developed within the context of the overall architecture of the Directive and with complementary and coordinated content.

³ [Common Understanding of MSFD Art.8-9-10 - November 2011.](#)

The definition of GES, and subsequent assessment of whether it has been achieved or maintained, is a core part of the MSFD implementation process. The definition of GES is progressively refined from its high-level definition in Art. 3(5) through to the (sub)regionally-specific definitions (determinations) of Art. 9(1), via the Descriptors of Annex I, the elements of Annex III and the criteria and methodological standards of Art. 9(3). The role of Annex III (and the criteria and methodological standards of Art. 9(3)) within this overall architecture is illustrated, with a worked example, in Figure 1.

Determining Good Environmental Status

MSFD provision	Role/contents	Applied example
Art. 3 (5) GES definition	Goal	GES by 2020: “the environmental status of marine waters where ...”
Annex I GES descriptor	Quality objective	D1: “Biological diversity is maintained. The quality and occurrence of ...”
Annex III GES elements	Assessment elements	Birds, mammals , reptiles, fish, seabed habitats, pelagic habitats
Art. 9(3) GES criteria and methodological standards	<p>EU-wide minimum requirements:</p> <p>Criteria:</p> <ol style="list-style-type: none"> Assessment elements Assessment parameters/units Reference levels (baseline and GES boundary values) <p>Methodological standards:</p> <ol style="list-style-type: none"> Assessment tools and procedures Assessment scale (generic) <p>OR</p> <p>Normative/qualitative definition of “good” environmental status</p>	<p>Example: Mammals</p> <ol style="list-style-type: none"> List of mammal functional groups (e.g. seals, small cetaceans) Distribution, population size, health condition Reference condition and acceptable deviation values (cf FCS target levels of Habitats Directive) FCS aggregation procedures/methods Cetaceans at subregional scale; seals at subdivision scale (nested approach)
Art. 9(1) Determination of GES	<p>Sub(regional) requirements by MS:</p> <ol style="list-style-type: none"> Further specify criteria and methodological standards (e.g. RSC region/subregion-specific assessment elements, common indicators and assessment tools) Additional characteristics for region/subregion 	<p>Example: North-East Atlantic</p> <ol style="list-style-type: none"> Harbour seal, grey seal OSPAR common indicators: <ul style="list-style-type: none"> M-1 Distribution of seals M-3 Abundance of seals M-5 Seal pup production OSPAR-defined subdivisions of subregions (nested approach)

Art. 11(4) – Specifications and standardised methods for monitoring and assessment: e.g. EU-wide minimum requirements for spatial and temporal resolution of monitoring, monitoring methods (sampling, analysis, QA/QC), scaling, aggregation rules

Figure 1: Relationship of MSFD provisions for determining GES. The specificity of the requirements increase from Art. 3(5) through to Art. 9(1) MSFD. The generic role outlined in the central column is applied and worked through as an example for Descriptor 1 and the feature “Mammals” in the right-hand column.

Proposed role for Annex III, having regard to the references to Annex III in the Directive:

- To provide elements for assessment (Art. 8) with regard to GES (Art 9);
- To provide additional elements for monitoring (Art 11), which are complimentary to assessment (e.g. temperature, salinity);
- To provide elements for consideration when setting targets (Art. 10).

The relevance of these elements will vary by region and Member State (i.e. elements need to be present in Member State's waters, and would not be addressed if they do not occur in a particular region/subregion/MS marine Waters).

From the proposed architecture of the Directive (Figure 1) it is necessary to also ensure the elements in Annex III can be clearly related to the Descriptors of Annex I and to the (revised) Decision of Article 9(3). In this context, the elements provided in Annex III need to be generic/high level and generally applicable across Europe, on the basis that more specific elements can be provided in the (revised) Decision and via the determinations of GES under Article 9(1).

3.2 Proposed outline content of Annex III

Based on the proposed role of Annex III in the overall architecture of the MSFD, and its links to Articles 8, 9, 10 and 11, it is proposed that the existing Tables 1 and 2 be clarified to more clearly relate to state characteristics (table 1) and to pressures (table 2), and for these to clearly linked with the Annex I descriptors and revised Decision criteria.

To guide the assessments on uses and activities of marine waters due under Article 8.1c and associated monitoring (Art. 11), it is recommended that a new table be added. In line with the nature of the other two tables, this would include an indicative list of elements, defined at quite broad level, to provide a level of consistency in how the uses and activities are assessed.

The tables of characteristics (Table 1) and pressures and impacts (table 2) should more clearly distinguish between the lists of State and Pressure (e.g. moving chemicals and non-indigenous species from Table 1 to Table 2 as pressures).

There is a need to review the current 'additional' texts and decide if it would better sit in associated guidance document, or be deleted. The need for some existing elements (e.g. features and characteristics) or for new elements needs review.

4 REVISING ANNEX III TABLES

The Tables in Annex III provide the indicative elements to be used in relation to Articles 8, 9 10 and 11. These lists of elements (or typologies) could be updated, in the light of clarifying the use of Annex III within the overall architecture of the Directive and from practical experiences in their use to date (for reporting under Articles 8, 9, 10 and 11 in 2012 and 2014). Further, it is helpful to also consider the relationship to other reporting systems if synergies can be made to make better use of data.

4.1 Table 2 – Pressures and impacts

The possible revision of Annex III Table 2 offers an opportunity to check the list of pressures provided in relation to pressure typologies used in related policies. This can help to make more effective use of data and information collected under other policies and promote synergies in implementation, for example, via measures based on the same pressure terminology. To this end, the following pressure typologies were reviewed, leading to a correlation of the typologies and a proposed 'common typology' (see Excel file embedded in Annex 1):

- a. MSFD Annex III Table 2 (2008)
- b. WFD – 2014 reporting guidance

- c. Habitats Directive – 2011 reference list
- d. OSPAR – 2014 JAMP
- e. HELCOM – Initial holistic assessment 2010 (HOLAS)
- f. Standardised lists of pressures for use within the Barcelona Convention/UNEP-MAP and the Bucharest Convention were not available.

The analysis revealed that:

- a. The term 'pressure' is not always used consistently and can, for example, include elements that are better defined as activities and impacts;
- b. The lists of pressures used under MSFD, OSPAR and HELCOM are quite similar;
- c. The list of pressures under WFD is shorter but generally compatible (except for its approach to point-source and diffuse inputs in relation to nutrient enrichment and hazardous substances) with each coupled to specific uses and activities;
- d. The list used for the Habitats Directive is very extensive and contains many elements which are better considered as uses and activities, climate-related changes and other impacts, and natural processes.

From this, it is important to clarify what constitutes a pressure in the context of MSFD so that any revision of the list of pressures is conceptually sound. This issue is further discussed in detail in a paper on cross-cutting issues for the review which will be presented to WG GES in October 2014. From this a proposed definition of a pressure has been developed, building upon the definition in the 2011 Common Understanding document:

Anthropogenic pressure = an input, alteration or extraction of physical, chemical or biological elements, properties or functions of the natural environment which results directly from human activities

Based on the analysis and proposed definition, a 'common typology' of pressures has been developed (Table 1), which is provided in two levels of detail (pressure theme, specific pressure). The pressure categories are based on whether they relate to adding something to the environment, taking something out of the environment, or change what is already there; this approach is used to organise the pressures within each theme (physical, chemical, biological) in a consistent way. The pressures are correlated with the pressures in use in the main policies relevant for MSFD (Annex 1). The typology is considered more widely applicable (i.e. could equally be applied in terrestrial, freshwater and atmospheric contexts).

Table 1: Common typology of pressures on the natural (marine) environment resulting from anthropogenic activities.

Pressures	
Physical	Alteration of sea-floor/water body morphology
	Change of sea-floor substrate
	Disturbance/damage to sea-floor
	Extraction of sea-floor and subsoil minerals (e.g. sand, gravel, rock, oil, gas)
Hydrological	Water discharges (with/without contaminants)

Pressures	
	Water movement changes
	Water extraction
Energy	Input of sound
	Input of electromagnetic & seismic waves
	Input of heat
	Input of light
Chemicals and other pollutants	Nutrient enrichment (N, P, organic matter)
	Input of contaminants (synthetic substances, non-synthetic substances, radionuclides) - diffuse sources, point sources, acute events
	Input of CO ₂ and other greenhouse gases
	Input of litter (solid waste matter)
Biological	Removal of species (targeted, non-targeted)
	Injury/death to species
	Disturbance of species
	Translocation of (native) species
	Introduction of genetically modified species
	Introduction or spread of non-indigenous species
	Introduction of microbial pathogens
Cultivation/artificialisation of natural habitat	

Further considerations in developing a revised MSFD Annex III Table 2:

- a. **The list of pressures in Table 1 is comprehensive:** consideration is needed on whether to include the full list into a revised Annex III or whether to be more selective. Whilst all pressures have some relevance to the marine environment (and used in one of the policies reviewed) they are clearly very different in the scale of their importance. There is thus a need to provide guidance on its use to reflect its 'indicative' nature: e.g.
 - i. Pressure is specified in a Descriptor – must assess
 - ii. Pressure is significant in the country/region – recommend assessment
 - iii. Pressure is minor – assess if necessary
- b. **'Input of contaminants' is a very general/broad category:** does it need subdividing for practical application (e.g. Metals, pesticides, PAHs, organics, hydrocarbons, etc)?
- c. **The current Table 2 gives very few 'impacts':** is it helpful to add an indicative list e.g. change in substrate, chemical characteristics, habitat of species, community composition, species behaviour, etc, etc.? (see worksheet 'pressure-impact framework' in Annex 1 for examples).
- d. **The current Table 2 gives example activities:** should these be retained?

4.2 Table 1 – Characteristics

Outline provided here – TO BE FURTHER DEVELOPED

- a. **Proposed content:** Generic set of elements (ecosystem components) to be assessed and/or monitored. These can be further specified under Art. 9(3) Decision and Art. 9(1). Table 2 provides an outline structure.

- b. **Indicative set of characteristics/ features/ properties of these elements:** Linked to impacts of Table 2.
- c. **Move some topics to Table 2:** pCO₂, marine acidification, NIS, Chemicals.
- d. **Remove topics that add little value:** ‘habitats in areas which merit a particular reference’, ‘features or characteristics typical of region’.

Table 2: Outline structure for a revised Annex III Table 1 and links to more specific elements in a revised Decision and as specified by Member States under Article 9(1).

Annex I	Annex III		Art. 9(3) Decision	Art. 9(1) (sub)regional GES
Descriptors	Main component	Generic elements	Specific elements	Specific elements
D1, D4	Highly mobile species	Birds, mammals, reptiles, fish, cephalopods	Specific types (e.g. commercial, top predators, listed) relating to descriptor needs Functional groups (2012 functional group list needs review)	Specified species, groups of species or habitat types for region/ subregion
D1, D4	Water column habitats	Predominant habitats listed in Habitats Directive and International agreements Physical and chemical elements (T, S, etc)	Specific types (Predominant habitat list of 2012 reviewed) relating to descriptor needs	
D1, D6	Seabed habitats			
D1, D4	Ecosystem		Types of structure and functions	Specific attributes

Further considerations in developing a revised MSFD Annex III Table 1:

- a. **Keep list of elements generic and high level:** Further specification via Decision and Art. 9(1).
- b. **Review 2012 lists of functional groups and predominant habitat types:** Limited use in 2012 assessments, but provide basis for categorising the very broad ‘biodiversity’ descriptor D1. Predominant seabed habitats can be equated to ‘substrate types’ of D6 – single assessment.
- c. **Ecosystems:** Not proposed to provide a typology (equate to subdivisions of (sub)regions, i.e. assessment areas?), but could provide characteristics (of structure and function).

4.3 Possible Table 3 – Uses and activities

MSFD Annex III currently does not provide an indicative list of uses and activities which can be used in the socio-economic assessments required under Article 8(1c). However a working list of uses and activities was developed for the 2012 reporting exercise.

As was done for pressures, the use of activity categories across the following policies has been reviewed (see Excel file embedded in Annex 1) in order to develop a harmonised list that can be correlated to each of the policies:

- a. MSFD Annex III Table 2 (2008)
- b. WFD – 2014 reporting guidance
- c. Habitats Directive – 2011 reference list
- d. OSPAR – 2014 JAMP
- e. ODEMM (FP7 project, Kosse et al. 2011)
- f. Standardised lists of pressures for use within HELCOM, the Barcelona Convention/UNEP-MAP and the Bucharest Convention were not available.

From the analysis, a common typology has been developed which accommodates all of the above and which could provide the basis for a possible new Annex III Table 3 (Table 3).

Table 3: Typology of uses and activities relevant to the marine environment.

Theme	Activity	Sub-activity
Landscape restructuring	Land claim (permanent changes)	
	Canalisation and other watercourse modifications	Canalisation Culverting Causeways
	Coastal defence and flood protection	Sea walls Breakwaters Groynes
		Flood protection
	Landscaping (semi-permanent changes)	Dredging (for navigation purposes)
Beach replenishment/ nourishment		
Man-made structures (incl. construction phase)	Urban developments	Urban discharges and waste disposal
	Industrial developments	Industry discharges & waste disposal
	Transport infrastructure	
	Tourism/leisure infrastructure	Land-based structures
		Sea-based structures (piers, harbours, marinas, slipways)
	Ports and other coastal constructions	Ports
	Offshore marine infrastructure (including associated with mineral and energy extraction)	
Cables & pipelines		
Extraction of non-living resources	Extraction of oil and gas	
	Extraction of sand and gravel	
	Extraction of rock & minerals	
	Extraction of salt	
	Extraction of water	
Extraction of energy	Renewable energy generation (wind, wave & tidal power)	Wind energy production
		Tidal energy production
		Wave energy production
	Non-renewable energy generation	Fossil fuel energy production
Nuclear energy production		

Theme	Activity	Sub-activity
Extraction of living resources	Fish & shellfish harvesting (professional, recreational)	Potting/ creeling
		Netting
		Demersal long lining
		Pelagic long lining
		Benthic trawling
		Pelagic trawling
		Demersal seining
		Purse seining
		Benthic dredging
		Suction/ hydraulic dredging
		Leisure fishing
		Hand collecting (shellfish)
	Marine plant harvesting	Machine collection (fucoids, kelp)
		Dredging (maerl)
		Hand collecting (seaweed)
Hunting and collecting for non-food purposes	Hunting	
	Harvesting/ collecting eggs	
	Collecting (curios)	
	Bait digging	
Cultivation of living resources	Aquaculture	Fin-fish mariculture
		Seaweed culture
		Shellfish mariculture
Agriculture		
Forestry		
Uses of environment and infrastructure	Transport - shipping	
	Transport - air	
	Tourism and recreation	Boating, yachting
		Beach use
		Water sports (surface)
		Scuba diving
		Wildlife watching
	Research and survey	
	Military use	Military - waste disposal (munitions)
	Waste disposal	Solid waste disposal, incl. dredge material
Carbon sequestration		

Further considerations in developing an MSFD Annex III Table 3:

- a. **Keep list of activities generic and high level:** e.g. just use the theme and activity list (not the sub-activity list).
- b. **Further develop links to other reporting processes to ensure synergies of typology and data collection:** e.g. data collection under the MSP Directive, EMODnet Human Activities, Eurostat (NACE lists).

5 CONCLUSION

The role of Annex III is proposed as follows:

- a. To provide an indicative list of elements for assessment (state, pressure), linked explicitly to the descriptors and the criteria in a revised Decision, as outlined in Figure 2;
- b. To provide additional pressures (and impacts) (where not explicitly referred to in a descriptor) that should be considered, where appropriate, under MSFD Art. 8.1b assessments;
- c. To provide an indicative list of uses and activities to be considered, where relevant, under MSFD Art. 8.1c assessments.

The review of typologies of pressures and activities which are in use for related EU Directives and in the Regional Sea Conventions has helped to develop consolidated lists of these elements for consideration as updated parts of MSFD Annex III.

Based on initial feedback on this initial analysis of the role and content of Annex III, it will be further developed, ensuring it links effectively with MSFD Annex I and with proposals for a revised GES Decision.

DRAFT

Annex: Analysis of pressures and activities in use in marine-relevant Directives and Regional Sea Conventions

The detailed analysis is provided in the embedded Excel file.



1407_MSFDassessm
entframework_Pressu

DRAFT