

COMPARISON OF METHODOLOGICAL APPROACHES FOR THE ASSESSMENT OF CONTAMINANTS IN THE SOUTHERN EUROPEAN SEAS: MSFD AND REGIONAL SEA CONVENTIONS

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MSFD (2008/56/EC)

Marine Strategy Framework Directive

Subject matter

1. This Directive establishes a framework within which Member States shall take the necessary measures to achieve or maintain **Good Environmental Status (GES)** in the marine environment by the year **2020** at the latest.

http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm

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MSFD (2008/56/EC)

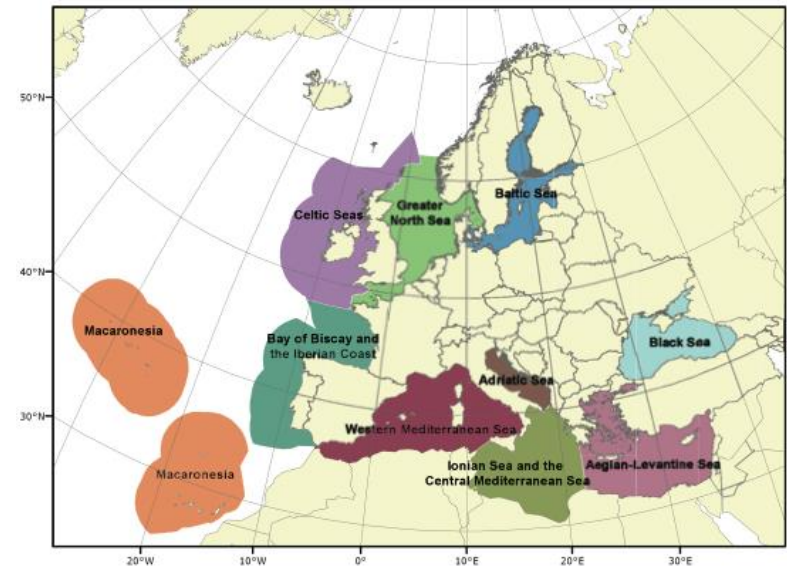
Marine Strategy Framework Directive

- 22 Member States + recent new Member (Croatia)
- 4 Marine Regions: Mediterranean Sea, Black Sea, Baltic Sea, North East Atlantic Ocean
- 11 Descriptors for assessment of GES
- COM DEC 2010/447/EU – Criteria and Indicators for assessment of GES

Implementation Process



Marine Sub-regions



MSFD (2008/56/EC)

Marine Strategy Framework Directive

Implementation Process



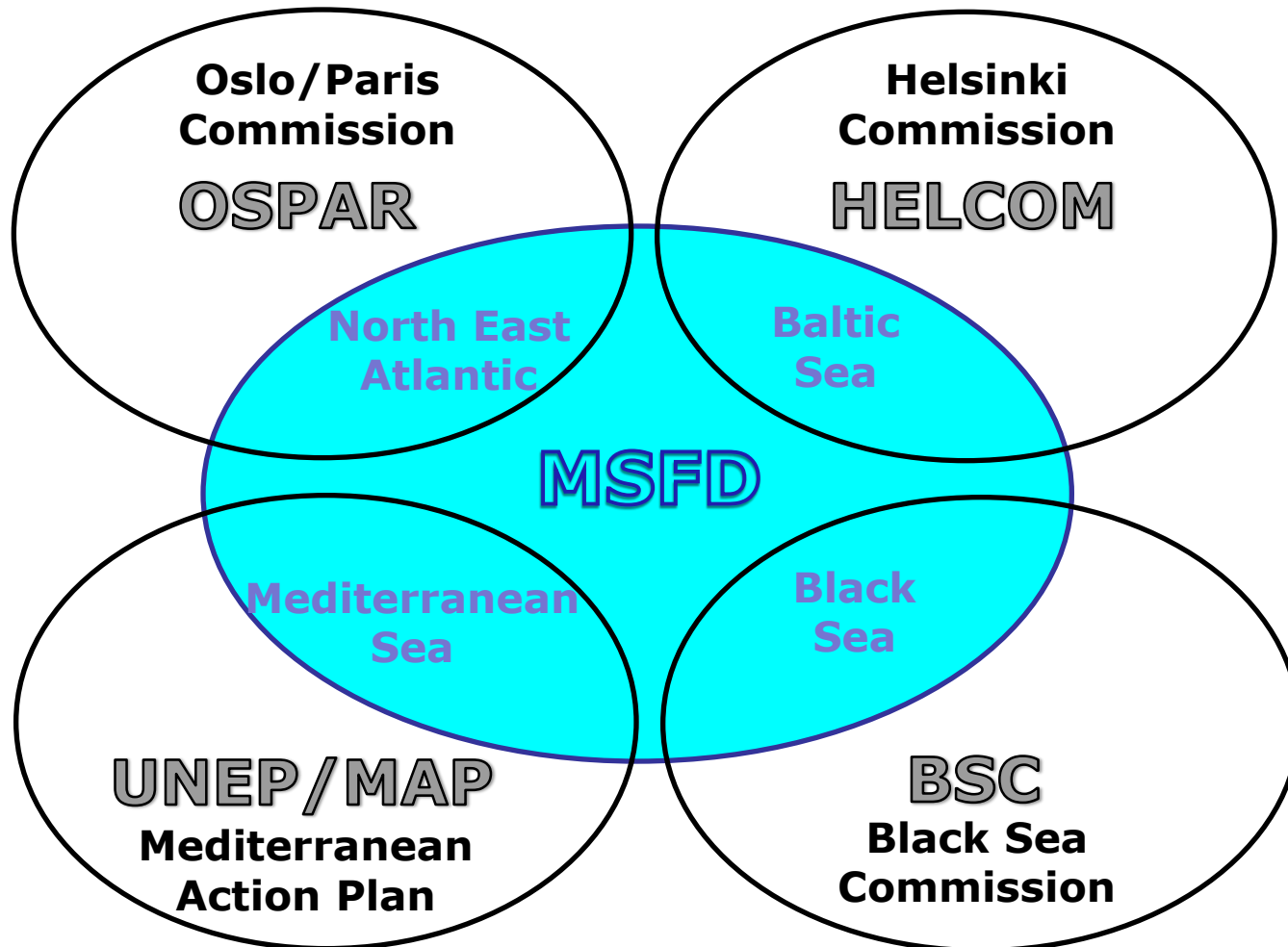
- Art.8. Initial assessment of the current environmental status
- Art.9. Determination of What is Good Environmental Status (GES)
- Art.10. Identification of environmental targets and associated indicators

MSFD (2008/56/EC)

MSFD and third countries (text example):

“(13) By reason of the **transboundary nature of the marine environment**, Member States should cooperate to ensure the coordinated development of marine strategies for each marine region or subregion. Since marine regions or subregions are shared both with other Member States and with third countries, Member States should make every effort to ensure **close coordination with all Member States and third countries concerned**. Where practical and appropriate, existing institutional structures established in marine regions or subregions, in particular **Regional Sea Conventions**, should be used to ensure such coordination.”

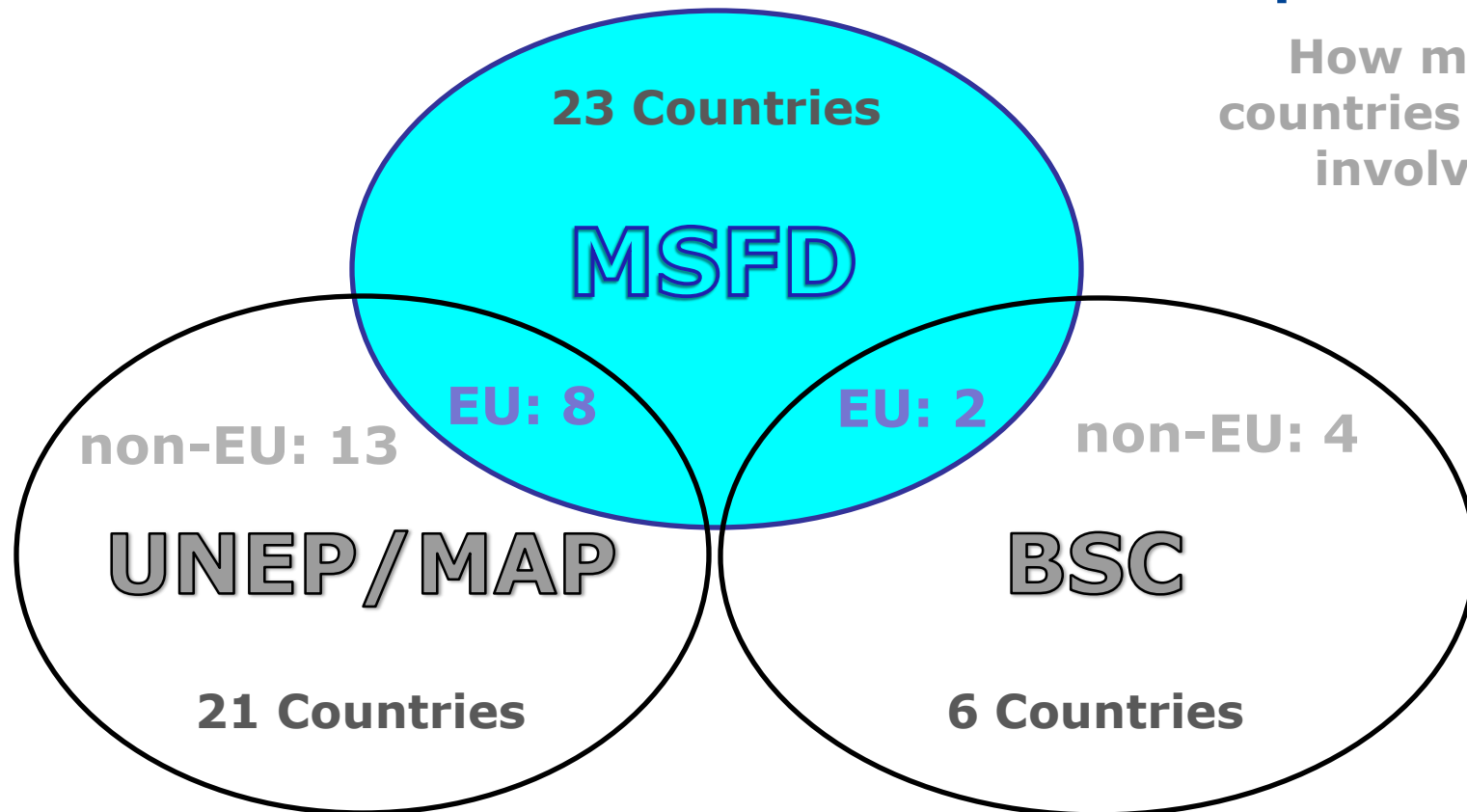
MSFD and Regional Sea Conventions



MSFD and Regional Sea Conventions

South European Seas

How many
countries are
involved?

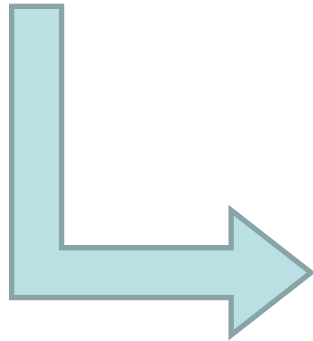


<http://www.unepmap.org/>

<http://www.blacksea-commission.org/>

MSFD and Regional Sea Conventions

- Marine protection includes many transboundary issues (e.g., pollution, oil spills, litter, eutrophication, fisheries...)
- Marine ecosystems with similar vulnerability will require Equal level of protection



There is need for close collaboration and coordination among Marine Policy Frameworks

PERSEUS FP7 Project

Policy-oriented marine Environmental Research for the Southern European Seas

- To assess the impact of natural and human-derived pressures on marine ecosystems in Southern European Seas (SES)
- Based on the objectives and principles of the MSFD (2008/56/EC)
- 21 Countries, 53 Partners, more than 300 Scientists, 4 years project

PERSEUS WP5 Main Objective

“Identify, develop and promote tools and methods to assess environmental status across the Mediterranean and the Black Sea basins with emphasis on non-EU countries, in accordance with the principles and objectives of the MSFD”



<http://www.perseus-net.eu/site/content.php>

MSFD / MAP / BSC – Basic Comparison

MSFD

- Descriptors, Criteria and indicators
- 11 Descriptors

UNEP/MAP

- Ecological Objectives, Operational Objectives and indicators
- 11 Ecological Objectives
- MED/POL Programme for the Assessment and Control of Marine Pollution

BSC

- 4 Ecosystem Quality Objectives. Strategic Action Plan (BS SAP, 2009)
- Currently updating the Black Sea Integrated Monitoring and Assessment Plan (BSMAP) for 2013-2018

MSFD – Assessment of Chemical contaminants

Descriptor	Criteria	Indicators
D8 - Concentrations of contaminants are at levels not giving rise to pollution effects	8.1 Concentration of contaminants	8.1.1 Concentration of the contaminants mentioned above, measured in the relevant matrix in a way that ensures comparability with the assessments under Directive 2000/60/EC (WFD)
	8.2 Effects of contaminants	8.2.1 Levels of pollution effects on the ecosystem components concerned, having regard to the selected biological processes and taxonomic groups where a cause/effect relationship has been established and needs to be monitored
		8.2.2 Occurrence, origin (where possible), extent of significant acute pollution events and their impact on biota physically affected by this pollution
D9 - Contaminants in fish and other seafood for human consumption do not exceed levels established by Community legislation or other relevant standards	9.1 Levels, number and frequency of contaminants	9.1.1 Actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels
		9.1.2 Frequency of regulatory levels being exceeded

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:232:0014:0024:EN:PDF>

UNEP/MAP – Assessment of Chemical contaminants

Ecological Objective	Operational Objectives	Indicators
EO 9 Contaminants cause no significant impact on coastal and marine ecosystems and human health	9.1 Concentration of priority contaminants is kept within acceptable limits and does not increase	9.1.1 Concentration of key harmful contaminants in biota, sediment or water
	9.2 Effects of released contaminants are minimized	9.2.1 Level of pollution effects of key contaminants where a cause and effect relationship has been established
	9.3 Acute pollution events are prevented and their impacts are minimized	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
	9.4 Levels of known harmful contaminants in major types of seafood do not exceed established standards	9.4.1 Actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels in commonly consumed seafood
		9.4.2 Frequency that regulatory levels of contaminants are exceeded
	9.5 Water quality in bathing waters and other recreational areas does not undermine human health	9.5.1 Percentage of intestinal enterococci concentration measurements within established standards
		9.5.2 Occurrence of Harmful Algal Blooms within bathing and recreational areas

BSC – Assessment of Chemical contaminants

Ecosystem Quality Objectives	Ecosystem Quality Objectives subdivision	Intended to deal with MSFD Descriptors
EcoQO 4 - Contaminants cause no significant impact on coastal and marine ecosystems and human health	Eco QO 4a - Reduce pollutants originating from land based sources, including atmospheric emissions	D8 (contaminants) D9 (contaminants in seafood) D10 (Marine Litter) D11 (Underwater Noise)
	EcoQO 4b - Reduce pollutants originating from shipping activities and offshore installations	D8 (Contaminants)

Black Sea Integrated Monitoring and Assessment Program (BSIMAP)

- BSC is elaborating the update of the BSIMAP for 2013-2018
- BSIMAP main approaches will be harmonized with MSFD

MSFD / MAP / BSC – Assessment of Chemical Contaminants

	Concentration of Contaminants	Acute Pollution Events	Contaminants in seafood
MSFD	Yes. Comparability with WFD (2000/60/EC). Different matrices (water, sediment, biota). Substances (1)	Yes	Yes
UNEP/MAP	Yes. Different matrices (water, sediment, biota). Substances (2)	Yes	Yes
BSC	Yes. List of mandatory and optional substances (3)	Yes	Yes

1. WFD priority substances, RBSP, other marine specific substances...(to be done)
2. Priority contaminants as listed under the Barcelona Convention and LBS Protocol
3. List of BlackSea-specific priority pollutants

PERSEUS outlook!!

Works under WP5 - Basin-wide promotion of MSFD principles

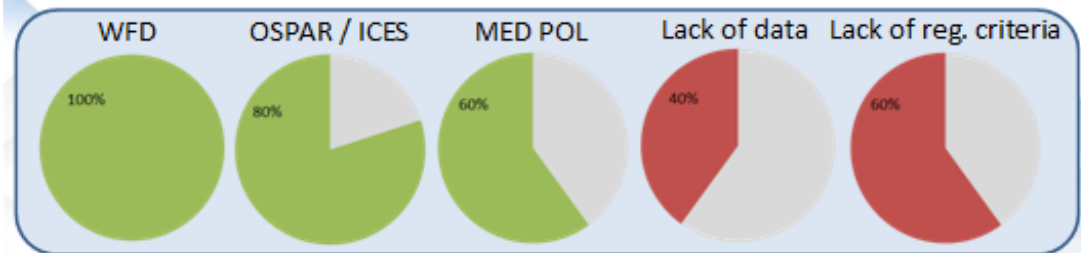
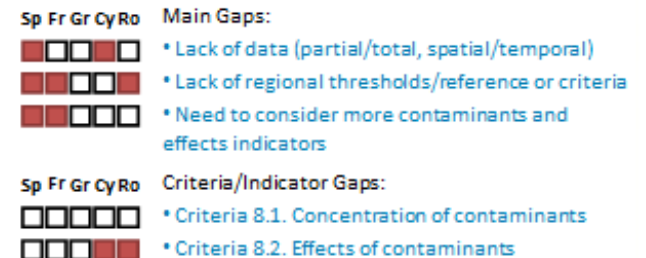
- Findings from MSFD Initial Assessments Analysis - SES EU countries

Environmental status assessment methodologies: Mediterranean and Black Sea regions (5 countries)



Descriptor 8

Concentrations of contaminants are at levels not giving rise to pollution effects.



WP5 - Approaches used for MSFD environmental status assessments

PERSEUS outlook!!

Works under WP5 - Basin-wide promotion of MSFD principles

- Findings from MSFD Initial Assessments Analysis - SES EU countries:
 - Different international assessment frameworks were used by EU members
 - Harmonization efforts are needed
 - Spatial limitation to coastal areas
 - Limited number of substances are being considered
 - Lack of regional thresholds or reference levels (e.g., sediments, biota)

PERSEUS outlook!!

Works under WP5 - Basin-wide promotion of MSFD principles

MSFD / MAP / BSC – Assessment of Contaminants

- Main approaches seem to be fairly harmonized, but there is still a lot of work to be done
- Harmonization denotes making approaches compatible, comparable and coherent
- Further collaboration, communication, information exchange and coordination is needed for harmonization at technical levels:
 - Selection of substances
 - Selection of matrices for assessment
 - Establishment of Thresholds
 - Monitoring Strategies: periodicity, sampling grid planning...

**THANKS
FOR YOUR
ATTENTION**



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