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Main messages from the Initial Assessment and targets for the Good Environmental Status in Latvian waters

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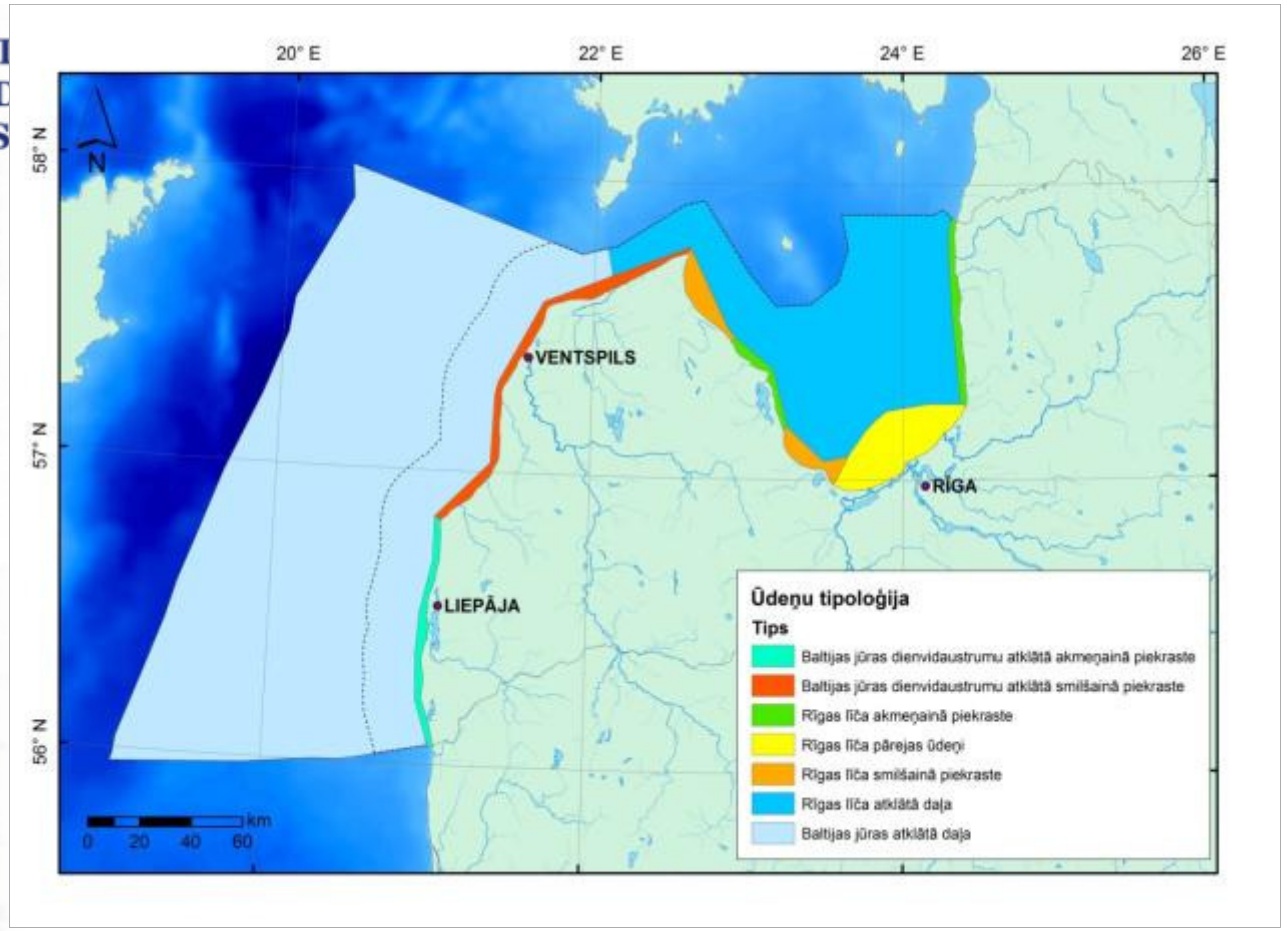

- Stony coast of the south eastern Baltic Sea open part
- Sandy bottom of the south eastern Baltic Sea open part
- GoR moderately open sandy coast
- GoR moderately open stony coast
- GoR transitional waters
- GoR central part
- Baltic Sea open part (territorial + EEZ)

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The structure of initial assessment

- Part A – Description of status of marine environment (MSFD Article 8.1(a), (b), and Annex III)
- Part B – Socioeconomic analysis (MSFD Article 8.1 (c))
- Part C – Criteria, indicators of GES (MSFD Annex IV)
- Part D – Target values and evaluation of actual status (MSFD Annex IV).

The main conclusions/most interesting findings from Initial Assessments

- Initial Assessment is based on existing information only, so no surprises and no new conclussions:
  - Initial Assessment confirmed that Baltic Sea environment is not in good shape,
- At the same time, Initial Assessment revealed internal discrepancy of assessment scheme – Descriptor D9 (contaminants in food) has very high values, preset by EC regulations, while Descriptor D8 (contaminant concentrations are such that does not cause adverse impact), when completely elaborated, will most likely have much lover contaminant values as targets than D9.
- This way D9 might show that environment has reached GES while D8 will show that it is still non-GES by using the same concentration levels.

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Identified problems concerning the status of marine area

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- The main problems are:
  - Lack of scientific knovledge (including methods that are needed to assess status)
  - Lack of data
  - And lack of observation methods

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Information gaps

Chapter (MSFD Annex III)	Fulfillment (we have/required)
Physical and chemical characteristic	8/13
Types of habitats	2/2
Biological characteristics	7/9
Other characteristics	2/2
Physical loss	1/2
Physical damage	0/3
Other physical disturbances	0/2
Disturbances in hydrological processes	0/2
Pollution by hazardous substances	2/3
Systematic or/and deliberate discharge of substances	0/1
Eutrophication	2/2
Biological disturbances	1/3

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Descriptor targets (Part C)

- We used descriptor GES definition as given in MSFD Annex I as general GES target
- And we used indicators to set numerical GES targets to reach general target. Numerical targets used were mostly those elaborated in HELCOM or during WFD intercalibration.

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Descriptor 1: Biological diversity

2010/477/EU Comission criteria 1.6. Habitat condition	Com. Indicator Condition of the typical species and communities (1.6.1)	
	Latvian indicator Soft-bottom macrozoobenthos index BQI	
	Type	GES targets
	Stony coast of the Baltic SE Open	4
	Sandy bottom of the Baltic SE Open	4
	GoR moderatly open sandy coast	4
	GoR moderatly open stony coast	4
	GoR transitional	4
	GoR central	4.5
	Baltic Sea open- territorial+ EEZ	Not applicable

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Descriptor 3: Population of commercial fish / shell fish

2010/477/EU Comission criteria 1.3. **Population condition**	Com. Indicator Population demographic characteristics (1.3.1)	
	Latvian indicator **Fishing mortality (Fmsy)**	
	Type	GES targets
	Gulf of Riga	Herring of the GoR 0.35
	Open Baltic	Herring of the Central Baltic 0.16
		Sprat 0.35
		Eastern Baltic cod 0.30

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Descriptor 3: Population of commercial fish / shell fish

<table>
<tr><td rowspan="4">2010/477/EU
Comission criteria 3.2.
Reproductive capacity of the stock</td><td colspan="2">Com. Indicator
Spawning Stock Biomass (SSB)
(3.2.1)</td></tr>
<tr><td colspan="2">Latvian indicator
Spawning Stock Biomass (SSB)</td></tr>
<tr><td>Type</td><td>GES targets</td></tr>
<tr><td colspan="2">Herring of the GoR
60 (B_{pa})</td></tr>
</table>

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Descriptor 4: Elements of marine food webs

2010/477/EU Comission criteria 4.3. Abundance/distribution of key trophic groups/species	Com. Indicator Abundance trends of functionally important selected groups/species (4.3.1)	
	Latvian indicator Zooplankton mean size – stock biomass	
	Type	GES targets
	Gulf of Riga	Under development
	Baltic Sea open part	Under development

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Descriptor 5: Eutrophication

	Com. Indicator Nutrients concentration in the water column (5.1.1)		
2010/477/EU Comission criteria 5.1. Nutrients levels	**Latvian indicator** **DIN, DIP winter concentrations**		
	Type	GES targets	
		DIN (µmol/l)	DIP (µmol/l)
	Stony coast of the Baltic SE Open	8	0.6
	Sandy bottom of the Baltic SE Open	8	0.6
	GoR moderatly open sandy coast	11	0.75
	GoR moderatly open stony coast	11	0.75
	GoR transitional	14	0.75
	GoR central	11	0.9
	Baltic Sea open- territorial+ EEZ	3.8	0.38

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Descriptor 5: Eutrophication

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2010/477/EU Comission criteria 5.2. Direct effects of nutrient enrichment	**Com. Indicator Chlorophyll concentration in the water column (5.2.1)**	
	Latvian indicator Summer chl *a* concentrations	
	Type	GES targets (µg/l)
	Stony coast of the Baltic SE Open	1.6
	Sandy bottom of the Baltic SE Open	1.6
	GoR moderatly open sandy coast	2.7
	GoR moderatly open stony coast	2.7
	GoR transitional	5.8
	GoR central	2.7
	Baltic Sea open- territorial+ EEZ	1.8

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Descriptor 5: Eutrophication

Comission criteria 5.2. Direct effects of nutrient enrichment	**Com. Indicator Chlorophyll concentration in the water column (5.2.1)**	
	Latvian indicator Biomass of summer phytoplankton	
	Type	GES targets (mg m-3)
	Stony coast of the Baltic SE Open	320
	Sandy bottom of the Baltic SE Open	320
	GoR moderatly open sandy coast	380
	GoR moderatly open stony coast	380
	GoR transitional	430
	GoR central	290
	Baltic Sea open- territorial+ EEZ	320

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Descriptor 5: Eutrophication

Comission criteria 5.2. Direct effects of nutrient enrichment	**Com. Indicator** **Water transparency related to increase in suspended algae, where relevant (5.2.2)**	
	Latvian indicator **Secchi depth**	
	Type	GES targets (m)
	Stony coast of the Baltic SE Open	4.5
	Sandy bottom of the Baltic SE Open	4.5
	GoR moderatly open sandy coast	4
	GoR moderatly open stony coast	4
	GoR transitional	4
	GoR central	4
	Baltic Sea open- territorial+ EEZ	7

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Descriptor 5: Eutrophication

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<table>
<tr><td rowspan="5">2010/477/EU Comission criteria 5.3. Indirect effects of nutrient enrichment</td><td colspan="2">Com. Indicator
Abundance of perennial seaweeds and seagrasses (e.g. fucoids, eelgrass and Neptune grass) adversely impacted by decrease in water transparency (5.3.1)</td></tr>
<tr><td colspan="2">Latvian indicator
Lower depth distribution limit of total macrovegetation</td></tr>
<tr><td>Type</td><td>GES targets (m)</td></tr>
<tr><td>GoR moderatly open stony coast</td><td>8</td></tr>
<tr><td>Stony coast of the Baltic SE Open</td><td>10</td></tr>
<tr><td colspan="2">Additional indicator for Latvia
Benthic quality index BQI for sotf-bottom macrofauna</td></tr>
</table>

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What are costs related to degradation of the marine environment?

- The information that is currently available is insufficient to carry out proper assessment of costs related to degradation,
- Therefore, in Initial Assessment (Part B) tentative assessment was possible only for few “ecosystem services”

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Thank you!

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