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Monitoring programme: Biodiversity - Seabed habitats, , Hydrographic changes

Programme topic: Seabed habitat distribution and extent

## SUB-PROGRAMME: SEABED HABITAT PHYSICAL CHARACTERISTICS

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### REGIONAL COORDINATION

The monitoring of this sub-programme is: **under development.**

### PURPOSE OF MONITORING (Q4K)

Follow up of progress towards:

<b>Baltic Sea Action Plan (BSAP)</b>	Segments	Biodiversity
	Ecological objectives	Natural distribution and occurrence of plants and animals
<b>Marine strategy framework directive (MSFD)</b>	Monitoring Programmes	D1 Biodiversity
		D6 Seabed habitats

**Other relevant legislation (Q8a)** Habitats Directive  
Water Framework Directive

### Assessment of: (Q4k)

State/Impacts **X** spatial distribution

Pressures

Human activities causing the pressures

Effectiveness of measures

### Scale of data aggregation for assessments: (Q10a)

HELCOM assessment unit Level 1: Baltic Sea **X**

HELCOM assessment unit Level 2: Subbasin

HELCOM assessment unit Level 3: Subbasins with coastal and offshore division

HELCOM assessment unit Level 4: Subbasins with coastal WFD division

Other: Continuous map **X**

## MONITORING CONCEPTS TABLE

Coordination	Elements <a href="#">Q9a</a> ( <a href="#">Q5c</a> )	Parameter <a href="#">Q9a</a> ( <a href="#">Q5c</a> )	Method <a href="#">Q9c</a> , <a href="#">Q9d</a>	QA/QC <a href="#">Q9e</a> , <a href="#">9f</a>	Frequency <a href="#">Q9h</a> , <a href="#">9i</a>	Spatial resolution <a href="#">Q9g</a> , <a href="#">9i</a>	Link to HELCOM core indicators	Link to MSFD GES characteristics <a href="#">Q5b</a>	Spatial scope <a href="#">Q4i</a>	Monitoring started <a href="#">Q4h</a>	CPs monitoring
National	Bathymetry	Bathymetric depth	National	National	As needed	Entire sea area	Supporting parameter	7 Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems	EEZ		All HELCOM Contracting Parties

National	Topography and substrate	Physical feature of habitat (e.g. sediment characteristics, topographic structure)	National	National	As needed	Entire sea area	Supporting parameter	6.1 Physical damage, having regard to substrate characteristics 7.1 Spatial characterization of permanent alterations	EEZ	All HELCOM Contracting Parties
National	Temperature		National	National	Monthly	Station-based covering coastal and offshore waters and sub-basins	Supporting parameter		EEZ	All HELCOM Contracting Parties
National	Salinity	Salinity	National	National	Monthly	Station-based covering coastal and offshore waters and sub-basins	Supporting parameter	7 Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems	EEZ	All HELCOM Contracting Parties

## Brief description of monitoring

Full description in [HELCOM COMBINE manual](#). Detailed information on monitoring frequency and spatial resolution has not yet been collected from all countries but will be added.

<b>Element / parameter</b>	Bathymetry, topography and substrate
<b>Method</b>	Topography, substrate and bathymetry are surveyed regularly by authorities, and at least in Finland and Sweden, not considered as part of environmental monitoring. The information is used to support environmental monitoring and assessment activities.
<b>QA/QC</b>	National
<b>Frequency</b>	-

<b>Spatial Scope</b>	All sub-basins.
<b>Spatial resolution</b>	100% coverage

## ASSESSMENT REQUIREMENTS

### Monitoring requirements and gaps

Monitoring is to be carried out to fulfill assessment requirements of HELCOM ecological objectives that are specified through HELCOM core indicators. The requirements on monitoring can include number of stations, the sampling frequency and replication.

<b>Monitoring requirements</b>	Monitoring requires baseline mapping of the physical characteristics of the seabed (substrate, grain size, topography, bathymetry, salinity regime, temperature regime). This should be periodically monitored in order to improve the baseline maps but also to notice changes. Common methods/guidelines needed.
<b>Gaps</b>	Seabed physical characteristics are mapped for the entire Baltic Sea, but the level of detail and reliable resolution are not adequate for all areas. As the seabed mapping methods improve, the baseline maps are expected to improve. Benthic salinity and temperature monitoring is done alongside the monitoring for macrofauna and macrophytes and is mainly station-based. Common methods and guidelines needed.

### Adequacy for assessment of GES (Q5d)

Monitoring should provide adequate data and information to enable the periodic assessment of environmental status, and distance from and progress towards GES as required by MSFD under Article 9 and 11.

<b>Adequate data?</b>	No
<b>Established methods for assessment?</b>	Yes, but needs improvement to achieve reliable resolution.
<b>Adequate understanding of GES?</b>	No
<b>Adequate capacity to perform assessments?</b>	No

## Assessment of natural variability (Q5e)

Baseline mapping still needed.

### DATA PROVIDERS AND ACCESS

<b>Data access point</b>	National databases
<b>Data type (Q10c)</b>	Unprocessed/raw data, processed datasets, data products
<b>Data availability (Q10c)</b>	By request
<b>Data access (Q10c)</b>	-
<b>INSPIRE standard (Q10c)</b>	Habitats and biotopes
<b>When will data become available? (Q10c)</b>	-
<b>Data update frequency (Q10c)</b>	As needed; Seabed mapping for topography and substrate are done more or less continuously but the work is slow and it takes time to cover large sea areas.
<b>Describe how the data and information from the programme will be made accessible to the EC/EEA</b>	-
<b>Contact points in the Contracting parties</b>	Contact point to national monitoring programmes will be added
<b>Has the data been used in HELCOM assessments?</b>	-

### REFERENCES

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