

Unvegetated epifaunal communities on Baltic infralittoral coarse sediment

Summary

This habitat occurs in all the Baltic Sea sub-basins although some of the associated biotopes have a more limited distribution. It is a benthic habitat in the photic zone where the predominate substrate is coarse sediment. The substrate may be dominated by bivalves (Mytilidae), by a mixed epibenthic macrocommunity, or by microphytobenthic organisms and grazing snails' e.g. Hydrobiidae, *Theodoxus* spp, *Bithynia* spp, *Radix* spp). There is no specific information on pressures, threats, conservation and management measures for this habitat.

Synthesis

This habitat is present in all sub-basins of the Baltic Sea and therefore the EOO exceeds 50,000km². There is a lack of quantitative data on overall trends in quantity or quality but expert opinion is that the habitat is considered to be stable. Changes may occur in the future as a result of variations in salinity but the scale of any likely effect is unknown.

The overall assessment for this EUNIS level 4 habitat has been based on the HELCOM (2013) assessments for the associated HELCOM HUB biotopes. Draft assessments were derived using a weighted approach whereby the HELCOM assessment outcomes were assigned a score. This was averaged across the relevant biotopes. The outcomes were reviewed by Baltic experts to reach a final conclusion. HELCOM (2013) assessed two relevant Baltic biotopes (AA.I1E1 and AA.I2W) as Least Concern (A1). AA.I1V was not evaluated. With no additional information on changes in extent or quality of this habitat and its relatively widespread distribution, the current expert opinion is an assessment of Least Concern for both the EU 28 and EU 28+.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Least Concern	-	Least Concern	-

Sub-habitat types that may require further examination

None.

Habitat Type

Code and name

Unvegetated epifaunal communities on Baltic infralittoral coarse sediment

Description

No characteristic photographs of this habitat currently available.

Habitat description

This is a Baltic Sea benthic habitat in the photic zone where at least 90% of the substrate is coarse sediment according to the HELCOM HUB classification. Three associated biotopes have been identified. 'Baltic photic coarse sediment dominated by Mytilidae' (AA.I1E1) is encountered in salinities higher than 5 psu, and is identified by a large representation of Mytilidae, at least 50% of the biomass among the epibenthic bivalves, and covering at least 10% of the seabed. The other two biotopes are 'Baltic photic coarse sediment characterized by mixed epibenthic macrocommunity' (AA.I1V) and 'Baltic photic coarse sediment dominated by microphytobenthic organisms and grazing snails' (AA.12W) where the benthic organisms or grazing snails (e.g. Hydrobiidae, *Theodoxus* spp, *Bithynia* spp, *Radix* spp) constitute at least 50% of the biomass or volume.

Indicators of quality:

Both biotic and abiotic indicators have been used to describe marine habitat quality. These include: the presence of characteristic species as well as those which are sensitive to the pressures the habitat may face; water quality parameters; levels of exposure to particular pressure, and more integrated indices which describe habitat structure and function, such as trophic index, or successional stages of development in habitats that have a natural cycle of change over time. There are no commonly agreed indicators of quality for this habitat, although particular parameters may have been set in certain situations e.g. protected features within Natura 2000 sites, where reference values have been determined and applied on a location-specific basis.

Characteristic species:

Mytilus spp., *Hediste diversicolor*, Hydrobiidae, *Theodoxus* spp, *Bithynia* spp, *Radix* spp.

Classification

EUNIS:

The closest correspondence in EUNIS (2004) level 4 is A5.11 Infralittoral coarse sediment in low or reduced salinity

Annex 1:

The relationship between HUB biotopes and Annex 1 habitats has not yet been mapped by HELCOM, however this habitat may occur in the following Annex 1 habitats:

1110 Sandbanks slightly covered all the time

1160 Large shallow inlets and bays

1650 Boreal Baltic narrow inlets

MAES:

Marine - Marine inlets and transitional waters

Marine - Coastal

MSFD:

Shallow sublittoral coarse sediment

Shallow sublittoral mixed sediment

EUSeaMap:

Shallow coarse or mixed sediments

IUCN:

9.3. Subtidal loose rock/pebble/ gravel

Other relationships:

Level 5 of the HELCOM HUB classification (2013):

AA.11V: Baltic photic coarse sediment characterised by mixed epibenthic macrocommunity

AA.12W: Baltic photic coarse sediment dominated by microphytobenthic organisms and grazing snails

Level 6 of the HELCOM HUB classification (2013):

AA.11E1: Baltic photic coarse sediment dominated by Mytiidae

Does the habitat type present an outstanding example of typical characteristics of one or more biogeographic regions?

No

Justification

Although one of the three associated biotopes is typical of the Bothnian Bay, overall this habitat is not considered to be an outstanding example of typical characteristics of the Baltic Sea in general.

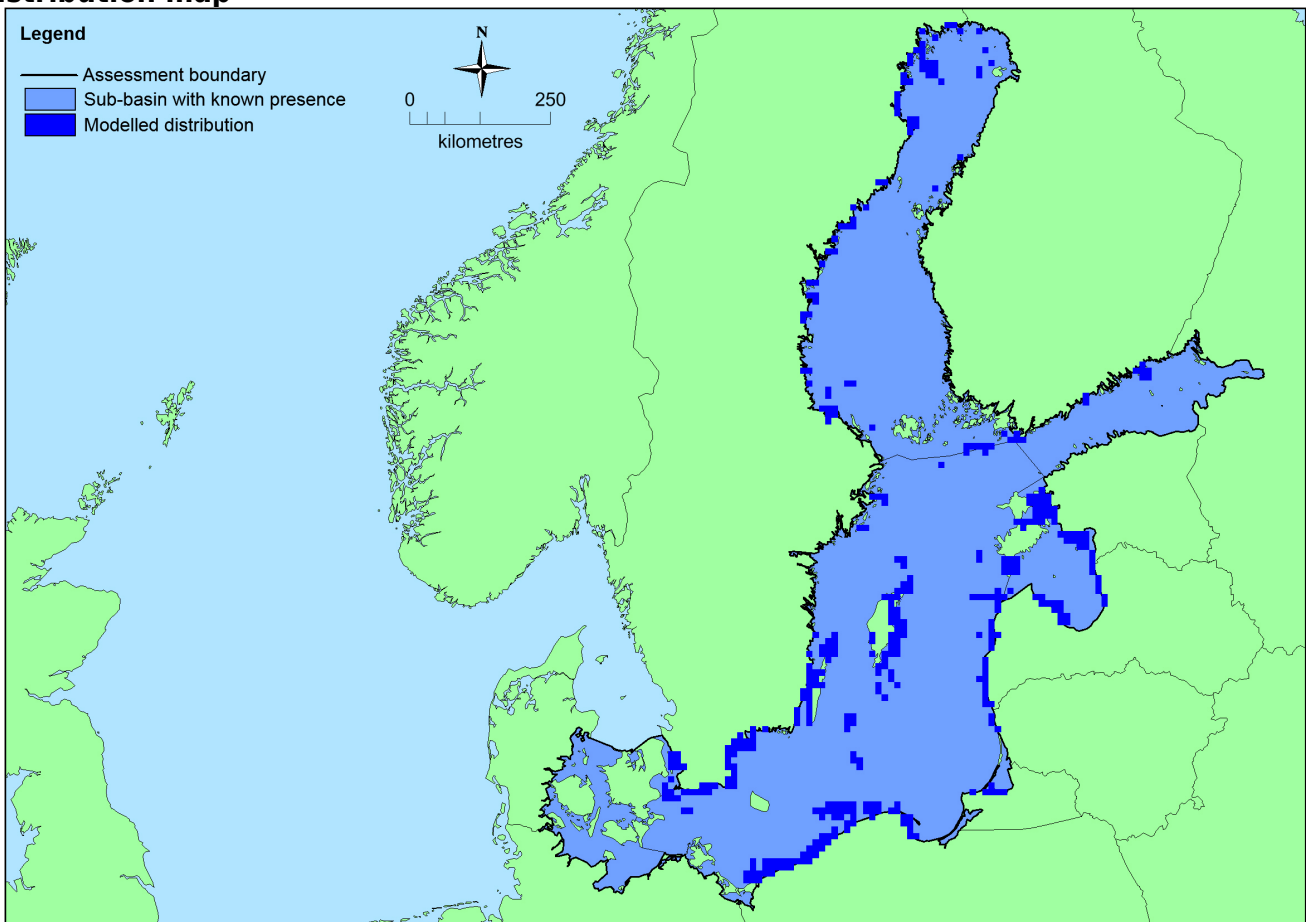
Geographic occurrence and trends

Region	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
<i>Baltic Sea</i>	Baltic Proper: Present Belt Sea: Present Gulf of Bothnia: Present Gulf of Finland: Present Gulf of Riga: Present The Sound: Present	Unknown Km ²	Stable	Stable

Extent of Occurrence, Area of Occupancy and habitat area

	Extent of Occurrence (EOO)	Area of Occupancy (AOO)	Current estimated Total Area	Comment
<i>EU 28</i>	>50,000 Km ²	Unknown	Unknown Km ²	This habitat is present in all the Baltic sub-basins however there is insufficient information for accurate calculation of EOO and AOO.
<i>EU 28+</i>	>50,000 Km ²	Unknown	Unknown Km ²	This habitat is present in all the Baltic sub-basins however there is insufficient information for accurate calculation of EOO and AOO.

Distribution map



There are insufficient data to provide a comprehensive and accurate map of the distribution of this habitat. This map has therefore been generated using the modelled data available on EMODnet for EUNIS level 3 habitats in the Baltic Sea (EMODnet, 2010). This means it indicates potential areas in which this habitat may occur, not the actual distribution of this EUNIS level 4 habitat. EOO and AOO cannot be calculated at

the present time, although the habitat is known to occur in all the Baltic sub-basins.

How much of the current distribution of the habitat type lies within the EU 28?

This habitat occurs in the EU 28+ (Russia). The percentage hosted by EU 28 is therefore less than 100% but there is insufficient information to establish the proportion. Similar habitats do occur in other European Regional Seas.

Trends in quantity

This habitat is common throughout the Baltic Sea occurring in all the sub-basins although some of the associated biotopes have a more limited distribution. The extent of the habitat is considered to have been stable over the last 50 years but there are no quantitative historic data. Some of the associated biotopes may increase in extent in the future in response to reductions in salinity associated with climate change.

- Average current trend in quantity (extent)

EU 28: Stable

EU 28+: Stable

- Does the habitat type have a small natural range following regression?

No

Justification

This habitat occurs in all the Baltic sub-basins therefore does not have a small natural range.

- Does the habitat have a small natural range by reason of its intrinsically restricted area?

No

Justification

This habitat occurs in all the Baltic sub-basins therefore does not have a small natural range.

Trends in quality

There are no quantitative data to determine trends in quality however current quality is believed to be good and unlikely to decrease in the future.

- Average current trend in quality

EU 28: Stable

EU 28+: Stable

Pressures and threats

No specific pressures and threats have been identified for this habitat type.

List of pressures and threats

-

Conservation and management

No specific conservation and management measures have been identified for this habitat type.

List of conservation and management needs

-

Conservation status

Annex 1:

1110: MBAL U1

1160: MBAL U2

1650: MBAL U2

HELCOM (2013) assessments:

1110 VU C1

1160 VU C1

1650 VU C1

HELCOM (2013) assessed two associated biotopes AA.I1E1 and AA.I2W as LC (A1). AA.I1V was not evaluated.

When severely damaged, does the habitat retain the capacity to recover its typical character and functionality?

Unknown

Effort required

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	0 %	Unknown %	Unknown %	Unknown %
EU 28+	0 %	Unknown %	Unknown %	Unknown %

There is a lack of quantitative data on the extent of this habitat but expert opinion is that it is likely to have been stable over the last 50 years. In the future some of the associated biotopes may increase in extent as a result of reductions in salinity associated with climate change. This habitat has therefore been assessed as Least Concern under criterion A for both the EU 28 and EU 28+.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	>50,000 Km ²	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
EU 28+	>50,000 Km ²	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

This habitat is present in all the Baltic sub-basins, therefore EOO exceeds 50,000km² however with no quantitative data on habitat extent or area, accurate calculation of EOO or AOO is not possible at the present time. There is uncertainty over future trends. This habitat has therefore been assessed as Data Deficient under criterion B.

Criterion C and D: Reduction in abiotic and/or biotic quality

Criteria C/D	C/D1		C/D2		C/D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %
EU 28+	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %

Criterion C	C1		C2		C3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %
EU 28+	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %

Criterion D	D1		D2		D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown%	unknown %	unknown%	unknown %	unknown%
EU 28+	unknown %	unknown%	unknown %	unknown%	unknown %	unknown%

Experts consider there to be insufficient data on which to assess criteria C/D.

Criterion E: Quantitative analysis to evaluate risk of habitat collapse

Criterion E	Probability of collapse
EU 28	Unknown
EU 28+	Unknown

There is no quantitative analysis available to estimate the probability of collapse of this habitat type.

Overall assessment "Balance sheet" for EU 28 and EU 28+

	A1	A2a	A2b	A3	B1	B2	B3	C/D1	C/D2	C/D3	C1	C2	C3	D1	D2	D3	E
EU28	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Least Concern	-	Least Concern	-

Confidence in the assessment

Low (mainly based on uncertain or indirect information, inferred and suspected data values, and/or limited expert knowledge)

Assessors

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Contributors

HELCOM RED LIST Biotope Expert Team 2013 and Baltic Sea Working Group for the European Red List of Habitats 2014 and 2015.

Reviewers

T.A. Haynes.

Date of assessment

09/07/2015

Date of review

17/12/2015

References

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