Sparse or no macrofaunal community on infralittoral coarse sediment

Summary

This habitat occurs in all the Baltic Sea sub-basins, particularly in high energy exposure areas. There is a lack of quantitative data on pressure and threats as well as on distribution, extent and quality. No conservation or management measures have been identified specifically for this habitat.

Synthesis

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.I2T and AA.I4U) as Least Concern (A1). The extent and area of this habitat is believed to have been stable over the last 50 years and no change is expected in the near future. Current expert opinion is an assessment for this habitat as 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

Sparse or no macrofaunal community on infralittoral coarse sediment

Description

No characteristic photographs of this habitat currently available.

Habitat description

This Baltic Sea benthic habitat occurs in the photic zone with at least 90% coverage of coarse sediment according to the HELCOM HUB classification. Sessile/semi-sessile epifauna and flora is present but covers less than 10%. The habitat is encountered in high energy exposure areas whre the topmost level is mixed by wave action. Two associated biotopes have been identified ‘Baltic photic coarse sediment characterized by sparse epibenthic macrocommunity (AA.I2T) and Baltic photic coarse sediment characterized by no macrocommunity (AA.I4U)

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, Hydroids, *Amphibalanus improvisus*

Classification

EUNIS:

The closest correspondence in EUNIS (2004) level 4 is A5.41 Sublittoral mixed 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.I2T Baltic photic coarse sediment characterized by sparse epibenthic macrocommunity

AA.I4U Baltic photic coarse sediment characterized by no macrocommunity

Does the habitat type present an outstanding example of typical characteristics of one or more biogeographic regions?
No

Justification
Gravel (or coarse substrate) in high energy areas also exist in other parts of the world, and it is not uncommon that the flora and/or sessile fauna is sparse. This is due to the challenge of colonizing a substrate where the topmost layer is “continuously” moving, with an abrasive effect on organic structures.

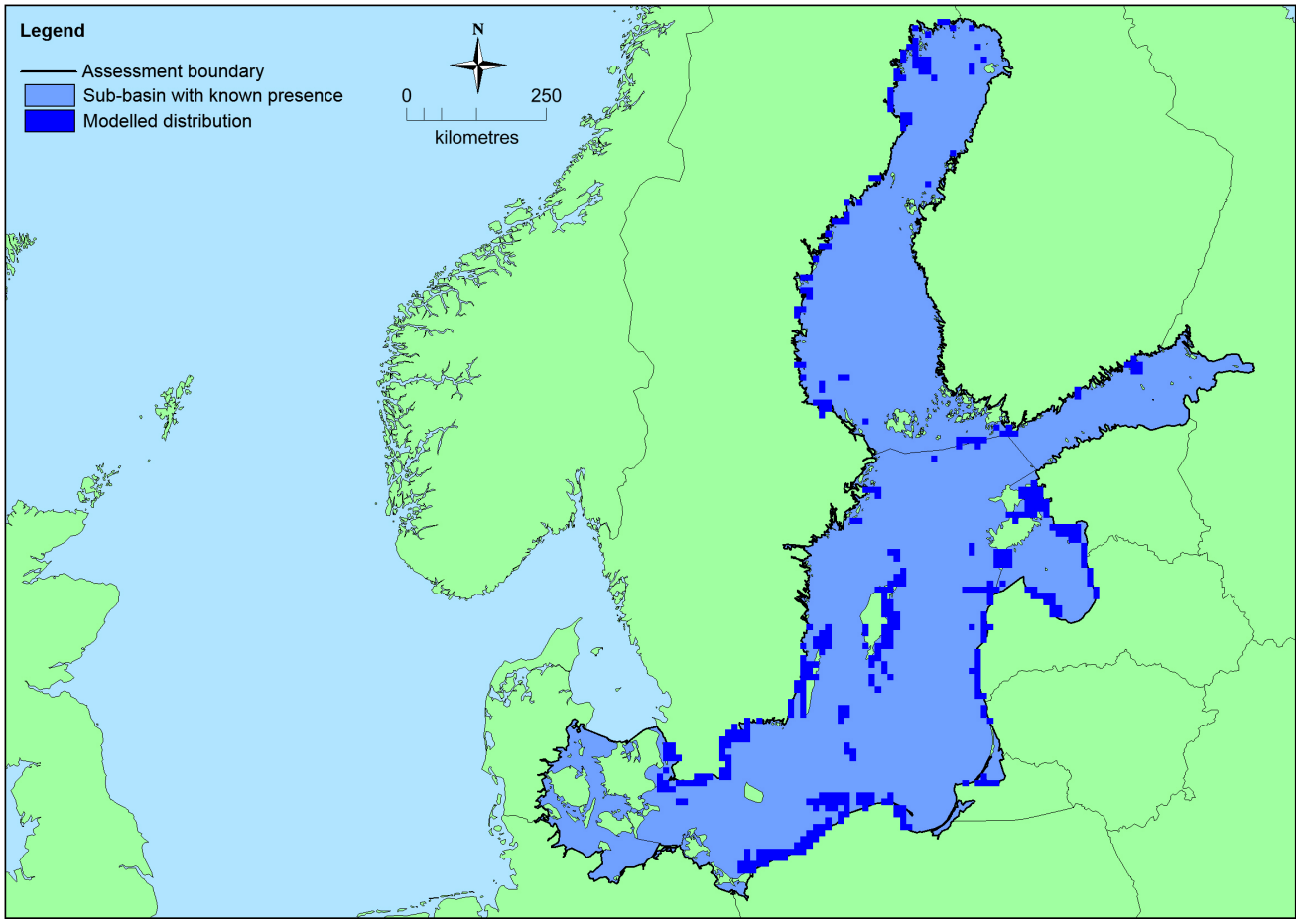
Geographic occurrence and trends

Region	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Baltic Sea	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	Unknown

Extent of Occurrence, Area of Occupancy and habitat area

	Extent of Occurrence (EOO)	Area of Occupancy (AOO)	Current estimated Total Area	Comment
EU 28	>50,000 Km^2	Unknown	Unknown Km^2	This habitat is present in all the Baltic sub-basins.
EU 28+	>50,000 Km^2	Unknown	Unknown Km^2	This habitat is present in all the Baltic sub-basins

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.

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.

Trends in quantity

This habitat is present in all Baltic Sea sub-basins. There is a lack of quantitative data on trends but extent is considered to have been stable over the last 50 years and expert opinion is that this is likely to remain so in the near future.

- 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 Sea 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 Sea sub-basins therefore does not have a small natural range.

Trends in quality

There is insufficient information on which to determine any trends in quality of this habitat over the last 50 years.

- Average current trend in quality
  EU 28: Unknown
  EU 28+: Unknown

Pressures and threats

No information on pressure and threats specific to this habitat have been identified.

List of pressures and threats

-

Conservation and management

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

List of conservation and management needs

No measures

No measures needed for the conservation of the habitat/species

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 the two associated biotopes AA.I2D and AA.I4U as LC (A1).

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	<25 %	unknown %	unknown %	unknown %
EU 28+	<25 %	unknown %	unknown %	unknown %

There is a lack of quantitative data on changes in quantity of this habitat but it is believed to have been stable over the last 50 years. This habitat has been assessed as Least Concern under Criteria 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 isp resent in all the Baltic Sea sub-basins therefore EOO exceeds 50,000km^2 however with no quantitative data on habitat extent, area, potential future trends and associated threats it is assessed as Data Deficient under Criteria 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
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Reviewers
M. Haldin.

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08/07/2015

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References

HELCOM, 2013. *Red List of Baltic Sea underwater biotopes, habitats and biotope complexes*. Helsinki Commission. 138.