

Epifaunal communities of Baltic upper circalittoral sand

Summary

This is a Baltic Sea benthic habitat in the upper circalittoral where at least 90% of the substrate is sand. Sessile/semi-sessile epibenthic communities, including those dominated by bivalves, cover at least 10% of the seabed. It is typically found at depths below approximately 30 m in high energy exposure areas. No specific pressures, threats, conservation or management measures have been identified for this habitat.

Synthesis

This habitat is known to occur in all the Baltic Sea sub-basins although quantitative data on the area covered is not available. It is believed to have been stable over the last 50 years with no change expected in the near future. 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 biotope AB.J1E1 as Least Concern (A1). Biotope AB.J1V was not evaluated. On the basis of these assessments and expert opinion, this habitat is assessed as Least Concern for both the EU 28 and EU 28+, since it has a large geographic distribution, the trends in quantity have been stable in the past 50 years, and there are no known plausible threats that may induce the habitat to collapse in the near future.

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

Epifaunal communities of Baltic upper circalittoral sand

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 sand according to the HELCOM HUB classification. Sessile/semi-sessile epibenthic communities, including those dominated by bivalves, cover at least 10% of the seabed. It is typically found at depths below approximately 30 m in high energy exposure areas. One associated biotope has been described (AB.J1E1) which is characterised by a large representation of Mytilidae. These make up at least 50% of the biomass of the epibenthic bivalves present.

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. The amount of sediment covering the hard surfaces and the diversity, abundance and biomass of associated fauna are potential quality indicators for this habitat.

Characteristic species:

Mytilus spp., *Hediste diversicolor*

Classification

EUNIS:

The closest correspondence in EUNIS (2004) level 4 is A5.21 Sublittoral sand 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

1130 Estuaries

1160 Large shallow inlets and bays

1650 Boreal Baltic narrow inlets

MAES:

Marine - Marine inlets and transitional waters

Marine - Coastal

MSFD:

Shallow sublittoral sand

EUSeaMap:

Shallow sands

IUCN:

9.4 Subtidal Sandy

Other relationships:

Level 5 of the HELCOM HUB (2013) classification:

AB.J1V Baltic aphotic sand characterised by mixed epibenthic macroscopic community

AB.J1E- Baltic aphotic sand characterised by epibenthic bivalves, this habitat has one biotope on HUB level 6; 'Baltic aphotic sand dominated by Mytilidae' (AB.J1E1).

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

Yes

Regions

Baltic

Justification

This habitat is extensive and typical of areas of soft sediment in the Baltic Sea.

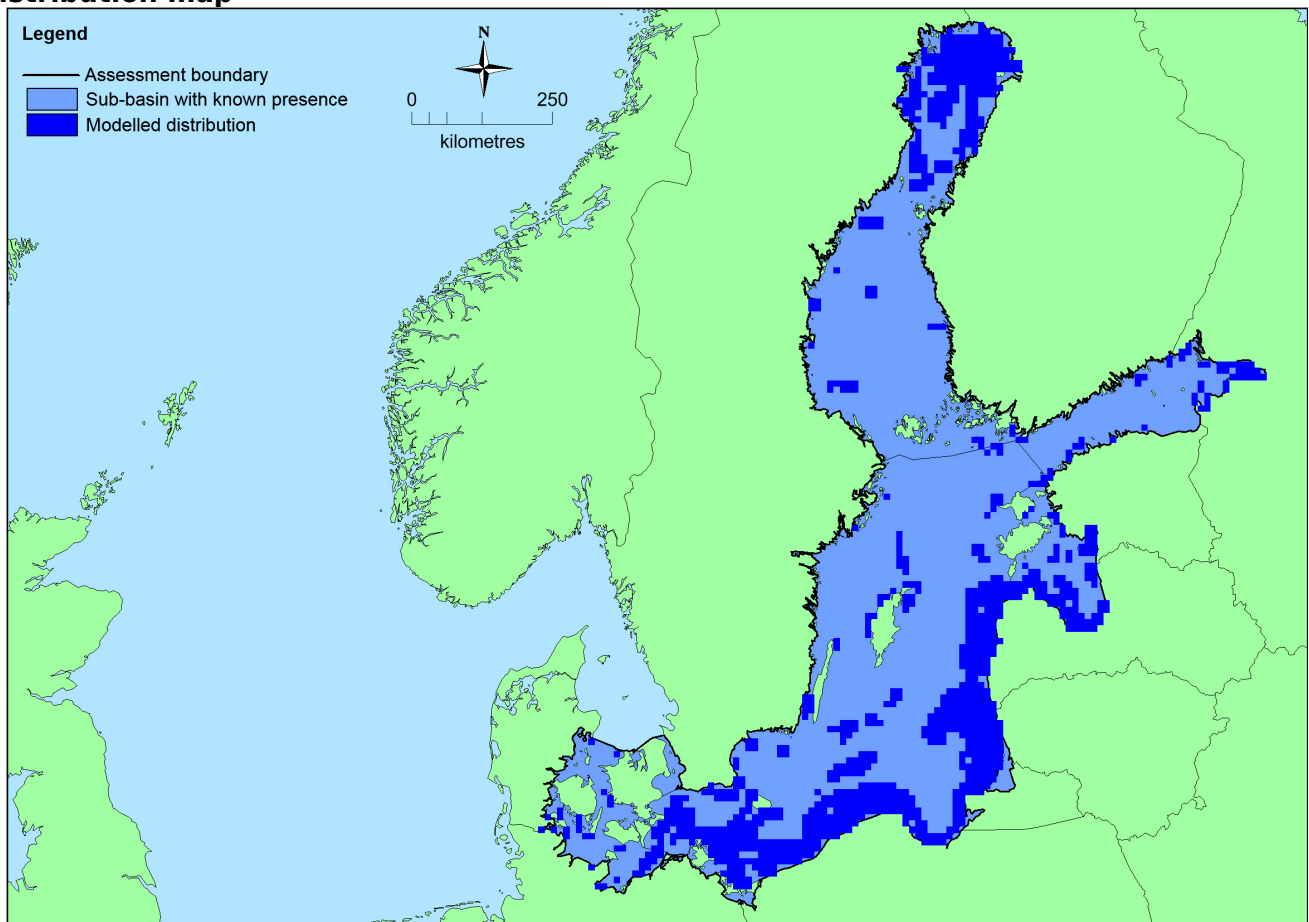
Geographic occurrence and trends

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	Unknown

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 Sea 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. This habitat may be present in other European regional seas.

Trends in quantity

This habitat is present in all the Baltic Sea sub-basins. Although poorly studied the current trend is considered to be stable. There are no data on historic trends nor any estimates of future trends.

- 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

The trends in quantity of this habitat are unknown.

- Average current trend in quality

EU 28: Unknown

EU 28+: Unknown

Pressures and threats

This habitat is poorly studied with no information on specific pressures and threats at the present time.

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

-

Conservation status

Annex 1:

1110: MBAL U1

1130: MBAL U2

1160: MBAL U2

1650: MBAL U2

HELCOM (2013) assessments:

1110 VU C1

1130 CR C1

1160 VU C1

1650 VU C1

HELCOM (2013) assessed biotopes AB.J1E1 as LC(A1). Biotope AB.J1V 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 %

Habitat quantity is considered to have been stable over the last 50 years and there is no information on historic or future reductions. This habitat is therefore 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	No	No	Unknown	Unknown	No	No	Unknown	Unknown
EU 28+	>50,000 Km ²	No	No	Unknown	Unknown	No	No	Unknown	Unknown

This habitat is present in all Baltic Sea basins therefore EOO exceeds 50,000km². The AOO is unknown. The habitat is believed to have been stable over the past 50 years, therefore there is no continuing decline in extent. Quality trends are unknown. This habitat is Least Concern under criteria B1a and B1b and Data Deficient under all other criteria. Overall it is 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 %

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 %

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 considered 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	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	LC	DD	DD	DD	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD

Overall Category & Criteria			
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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

M. Calix.

Date of assessment

10/07/2015

Date of review

18/02/2016

References

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