A5.xZ Pontic circalittoral terrigenous muds

Summary

The habitat is present in the Black Sea on areas of terrigenous muds in the circalittoral zone. The sediments generally consist of sand, mud and silt carried to the sea by watercourses, and their composition is usually related to their source material The depth at which it occurs (20-100m) means little to no light and sheltered conditions. Eutrophication is the main historic pressure on this habitat, which although the situation has improved due to pollution controls, eutrophication is still a pressure and will likely be in the future as well.

Additional pressures include: trawling, chemical pollution and other anthropogenic disturbances. Conservation and management measures relevant to this habitat include: measures to maintain physical and biological integrity, improvement of water quality, pollution event response strategies, survey and monitoring programs and raised public awareness.

Synthesis

Detailed information on the abundance and extent of this habitat is lacking. Information on the quantity and quality of this habitat including historical or recent trends is unknown. For the purposes of Red List assessment this habitat is considered to be Data Deficient.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Data Deficient	-	Data Deficient	-

Sub-habitat types that may require further examination

None

Habitat Type

Code and name

A5.xZ Pontic circalittoral terrigenous muds

There are currently no photographs of this habitat available.

Habitat description

Terrigenous sediments are those derived from the weathering and erosion of rocks on land; thus they are derived from terrestrial rather than marine environments. The sediments generally consist of sand, mud and silt carried to the sea by watercourses, and their composition is usually related to their source material. Depending on the mechanism and rapidity of deposition of the sediments, the habitat comprises more or less firm muddy facies which are favoured by certain species.

Indicators of quality:

Both biotic and abiotic indicators have been used to describe marine habitat quality. These include; the presence of characteristic species and those which are sensitive to the pressures the habitat may face, water quality parameters, levels of exposure to particular pressure as well as 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:

Abra alba , *Acanthocardium paucicostatum* and *Plagiocardium papillosum*

Classification
This habitat may be equivalent to, or broader than, or narrower than the habitats or ecosystems in the following typologies.

EUNIS (v1405):

Level 4. A sub-habitat of 'Circalittoral mud' (A5.3)

Annex 1:

1110 Sandbanks slightly covered all the time

1130 Estuaries

MAES:

Marine - Coastal

MSFD:

Shallow sublittoral sediment (coarse, sand, mud, mixed)

EUSeaMap:

Shallow muds

IUCN:

9.6 Subtidal muddy

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

Justification
There is insufficient knowledge and information on this habitat to state whether it is an outstanding example of this biogeographic region.

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)
Black Sea	Black Sea: Present Sea of Marmara: Present	Unknown Km^2	Unknown	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	Unknown Km^2	Unknown	Unknown Km^2	The habitat is known to occur in the Black Sea but there is insufficient data to accurately calculate EOO and AOO.
EU 28+	Unknown Km^2	Unknown	Unknown Km^2	The habitat is known to occur in the Black Sea but there is insufficient data to accurately calculate EOO and AOO.

Distribution map
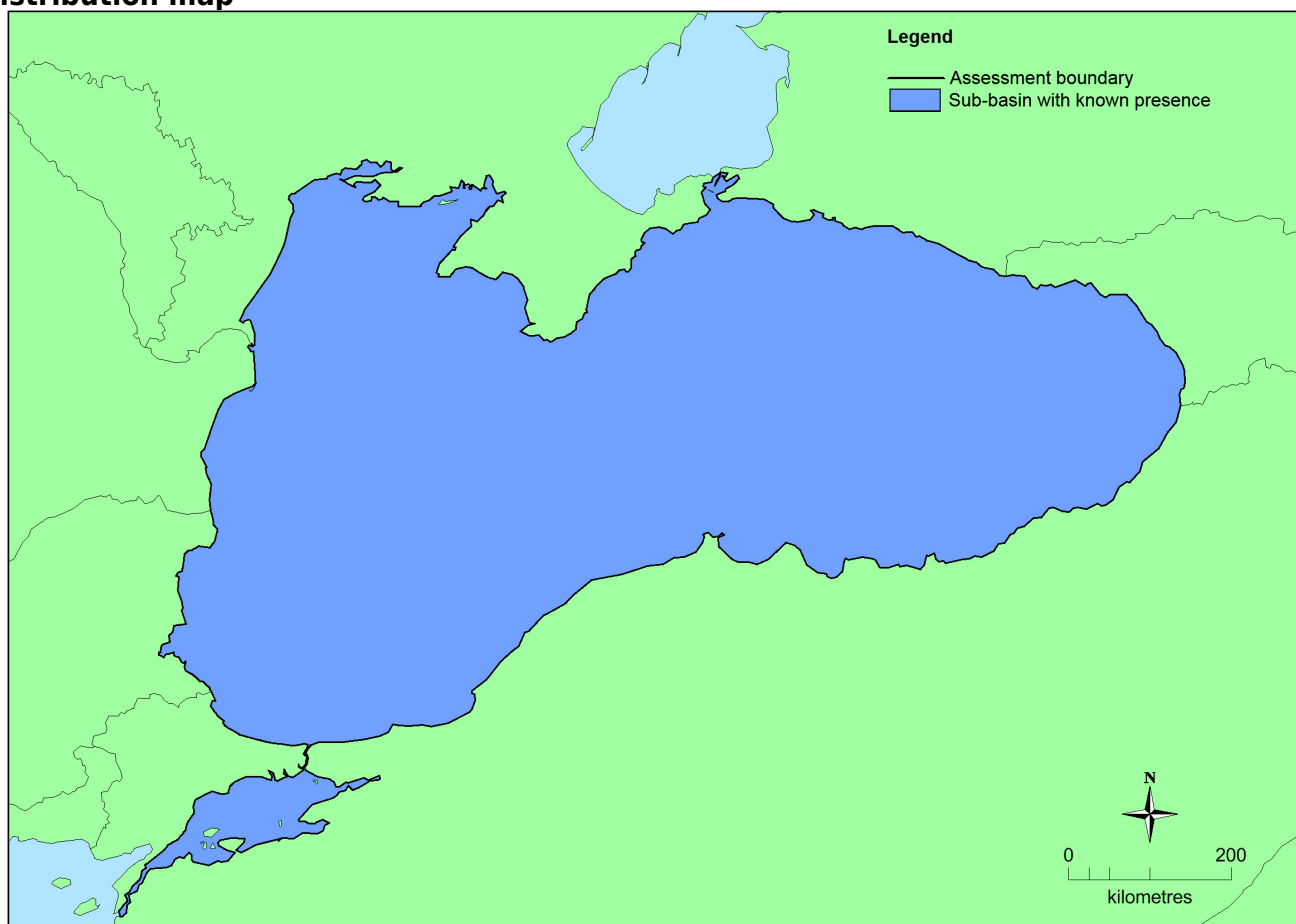
There is insufficient data to produce a map of the distribution of this habitat. However the sub-basins of which this habitat is likely to occur in have been indicated.

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

It is unknown how much of this habitat is hosted by the EU28 in the Black Sea.

Trends in quantity

There is insufficient data to accurately assess changes in quantity of the habitat

- Average current trend in quantity (extent)
  EU 28: Unknown
  EU 28+: Unknown
- Does the habitat type have a small natural range following regression?
  Unknown
  Justification

The habitat is known to occur in the Black Sea but there is insufficient data to accurately calculate EOO and AOO. There is insufficient data to accurately assess whether the habitat has undergone a significant decline (>25% of extent) in the last 50 years.

- <u>Does the habitat have a small natural range by reason of its intrinsically restricted area?</u>
Unknown
Justification
There is insufficient data and knowledge on this habitat to state whether it has a small natural range by reason of an intrinsically restricted area.

Trends in quality

There is insufficient data to accurately assess changes in quality of the habitat

- <u>Average current trend in quality</u>
EU 28: Unknown
EU 28+: Unknown

Pressures and threats

Eutrophication as a result of nutrient enrichment (N, P and organic matter) is the most significant historic pressure on the habitat. Anoxic and hypoxic conditions due to eutrophication caused mass mortalities in benthic communities. Since the 1990s this pressure has reduced due to tighter controls on pollution in the catchment of the Danube and other rivers which enter the north-west Black Sea. Whilst this pressure is now reduced it is still a continuing threat in the current and future periods. This is especially true for non EU countries surrounding the Black Sea which are not bound by the agreements such as the Water Framework Directive (WFD).

The habitat is likely to be sensitive to:

Trawling is a current and future threat to the habitat causing deterioration and habitat destruction by damaging benthic communities both directly and indirectly through effects such as smothering and altering the sediment characteristics. Demersal trawling is prohibited in some states. However, illegal trawling is still an issue in these areas.

Chemical pollution is a threat of current and future importance which at its most severe can result in species mortality. High mortality rates can lead to a reduction in extent. Lower mortality rates will result in a reduction in habitat quality. Chemical pollution may also affect the size and growth rate of some of the associated fauna.

Mobile demersal dredging and trawling is a threat of current and future importance. This causes habitat destruction leading to in a reduction in extent and quality.

List of pressures and threats

Biological resource use other than agriculture & forestry

Fishing and harvesting aquatic resources
Professional active fishing

Pollution

Nutrient enrichment (N, P, organic matter)
Input of contaminants (synthetic substances, non-synthetic substances, radionuclides) - diffuse sources, point sources, acute events

Conservation and management

Conservation and management measures which would benefit this habitat include implementing measures to maintain physical and biological integrity, including pollution control and regulation; improvement of water quality management outside EU member states; contingency plans to be followed in the event of a major pollution incident; and raised public awareness of ecological value and vulnerability.

List of conservation and management needs

Measures related to marine habitats

Other marine-related measures

Measures related to urban areas, industry, energy and transport

Other measures

Conservation status

Annex 1:

No relationship

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

There is insufficient data and knowledge of this habitat to assess its capacity to recover

Effort required

10 years
Unknown

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	unknown %	unknown %	unknown %	unknown %
EU 28+	unknown %	unknown %	unknown %	unknown %

There is insufficient data on changes in quantity of this habitat to undertake an assessment using criterion A.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	unknown Km^2	Unknown	Unknown	unknown	unknown	Unknown	Unknown	unknown	unknown
EU 28+	unknown Km^2	Unknown	Unknown	unknown	unknown	Unknown	Unknown	unknown	unknown

The precise extent of the habitat is unknown. Therefore there is insufficient data to produce EOO and AOO figures.

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 to conduct an assessment using 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	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	DD	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
Data Deficient	-	Data Deficient	-

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

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