

A2.2x Pontic mediolittoral sands

Summary

This habitat occurs in the mediolittoral zone in areas of coarse, medium and fine sands. It is typically exposed, moderately exposed or sheltered from wave action.. It is also present in the Sea of Marmara. Eutrophication is the main historic pressure on this habitat. Additional pressures include: coastal development, sand extraction and trampling caused by beach users. 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, raised public awareness and enhanced legal protection.

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

A2.2x Pontic mediolittoral sands

No characteristic photographs are currently available for this habitat.

Habitat description

This habitat occurs in the mediolittoral zone in areas of coarse, medium and fine sands. It is typically exposed, moderately exposed or sheltered from wave action.

The dominant environmental conditions which define the sediment characteristic and species composition are high levels of physical disturbance from wave action, wide temperature variability, and periods of desiccation. In the microtidal Black Sea (tidal range of about 0.3 m) this habitat is limited to narrow beach strip covered by the swash.

Community composition depends on grain size and origin of sand (siliceous/calcareous, biogenic/abiogenic) with three associated biotopes distinguished. Diversity is usually low due to high physical disturbance from wave action but abundances may be high.

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 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:

The biotope associated with coarse and medium sands of exposed to moderately exposed beaches is inhabited by large numbers of the burrowing wedge clam *Donacilla cornea*, *Donacilla* distribution is normally strictly limited to the beach strip covered by the swash and only exceptionally it may extend towards the infralittoral to an approximate depth of 3 m – an area usually inhabited by *Donax trunculus*. Another characteristic species is the infaunal polychaete *Ophelia bicornis* which occupies the upper swash zone and the mysid shrimp *Gastrosaccus sanctus*. Typical interstitial species are the crustaceans *Eurydice dolfusi*, *Gastrosaccus sanctus*, and the polychaetes *Nerine cirratulus*, *Saccocirrus papillocercus*, *Pisione remota*, *Hesionides arenaria*.

A second biotope occurs on the sheltered shores of lagoons and estuaries from Crimea and Taman peninsula, where *Donacilla* occurs in a very narrow swash zone in muddy sands with significant organic load, together with polychaetes like *Hediste diversicolor* and *Alitta succinea*.

A third biotope occurs in marine situations in fine siliceous sands (freshwater-influenced) where the amphipod *Pontogammarus maeoticus* is highly abundant, while *Donacilla* and *Ophelia* disappear.

Classification

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

EUNIS (v1405):

Level 5. A sub-habitat of Pontic littoral sand (A2.2).

Annex 1:

1130 Estuaries

1140 Mudflats & sandflats not covered by water at low tide

MAES:

Marine - Marine inlets and transitional waters

Marine - Coastal

MSFD:

Littoral sediment

EUSEaMap:

Not mapped

IUCN:

12.2 Sandy shorelines

12.4 Mud shoreline and intertidal mudflats

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

Unknown

Justification

It is unknown whether this habitat presents an outstanding example of the typical characteristics of the Black Sea region.

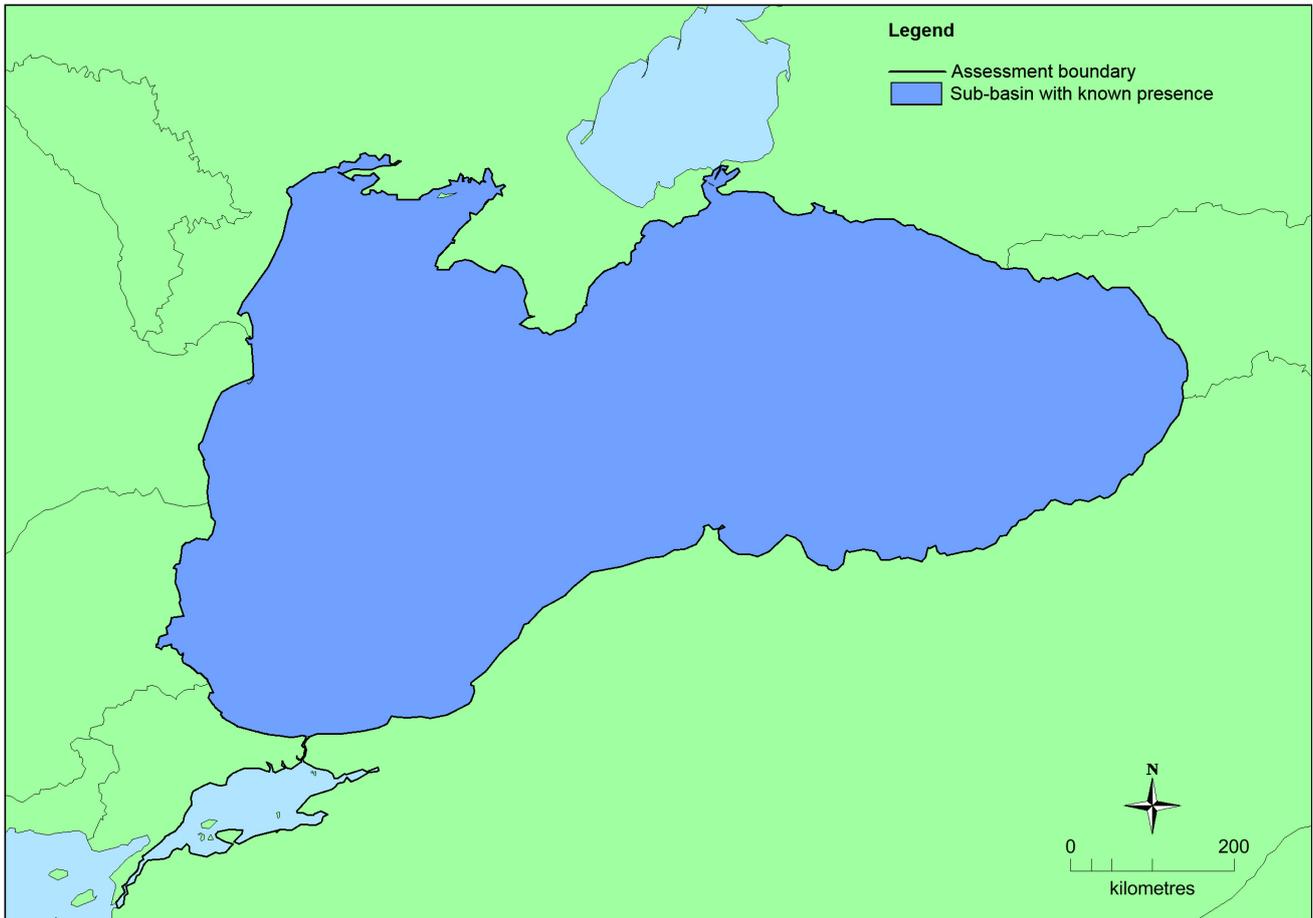
Geographic occurrence and trends

Region	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
<i>Black Sea</i>	Black Sea: 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
<i>EU 28</i>	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.
<i>EU 28+</i>	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



This habitat occurs in the Black Sea but there is insufficient data to produce a map of its distribution or calculate EOO and AOO.

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 EU 28 in the Black Sea, but its presence is known from all countries around 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 any decline in the last 50 years.

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

Unknown

Justification

There is insufficient 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.

- Average current trend in quality

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 this habitat. 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).

Coastal development and coastal protection works which alter the beach dynamics are a threat of current and future importance and can result in direct removal as well as indirect impacts. This habitat is also highly sensitive to sand extraction and trampling by beach users.

List of pressures and threats

Urbanisation, residential and commercial development

Other urbanisation, industrial and similar activities

Human intrusions and disturbances

Other human intrusions and disturbances

Trampling, overuse

Pollution

Nutrient enrichment (N, P, organic matter)

Natural System modifications

Human induced changes in hydraulic conditions

Removal of sediments (mud...)

Extraction of sea-floor and subsoil minerals (e.g. sand, gravel, rock, oil, gas)

Conservation and management

Conservation and management measures which would benefit this habitat include measures to maintain physical and biological integrity, including pollution control and regulation, improvement of water quality management, control and regulation of coastal development, contingency plans to be followed in the event of a major pollution incident, and survey and monitoring programmes.

Raised public awareness of ecological value and vulnerability of the habitat, enhanced legal protection for the habitat and key species (such as additions to the EU Habitats Directive), establishment of a unified list of Black Sea species and habitats requiring conservation measures), and designation or extension of MPAs which can provide an additional legal framework to support delivery of conservation objectives.

List of conservation and management needs

Measures related to marine habitats

Other marine-related measures

Measures related to spatial planning

Establish protected areas/sites
Legal protection of habitats and species

Measures related to urban areas, industry, energy and transport

Other measures

Conservation status

Annex 1:

1140 MBL5 U1

Some of the characteristic species *O.bicornis*, *H.arenarius* and *D.cornea* are listed as endangered in the Black Sea Red Data Book.

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. This habitat is therefore Data Deficient under 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							
EU 28+	unknown Km ²	Unknown							

This habitat occurs in the Black Sea but there is insufficient data to calculate EOO and AOO. This habitat is therefore 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 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+	
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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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