

A4.2x Marmara circalittoral biogenic habitats- worm reefs

Summary

The habitat is present in the Sea of Marmara on areas of circalittoral soft mud and hard substrates. The worm reefs (formations) are formed by several species, depending on the bottom composition. The pressures and threats likely to affect the habitat are: fishing, pollution, invasive species and climate change. The conservation and management measures which would benefit the habitat are all related to the designation of Marine Protected Areas and the steps needed to regulate these.

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 therefore considered to be Data Deficient.

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

Sub-habitat types that may require further examination

None

Habitat Type

Code and name

A4.2x Marmara circalittoral biogenic habitats- worm reefs

There are currently no photographs of this habitat available.

Habitat description

Worm reefs (formations) in the circalittoral zone in the Sea of Marmara are formed by several species, depending on the bottom composition. The most common are the *Hydroides* spp. and to a lesser extent *Salmacina incrustans* and *Salmacina dysteri*. Worms grow on hard substrates and also build carbonate tubes.

Indicators of quality:

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

Characteristic species:

Porifera like *Ciocalypta penicillus*, Echinoderms like *Antedon mediterranea*, *Ophiothrix fragilis* and *Asterias rubens*, and Cnidarians like *Parazoanthus axinellae*, *Paramuricea clavata*, *Paramuricea macrospina*, *Eunicella cavalloni*, *Paralcyonium spinulosum* and *Caryophyllia smithii* are some of the characteristic

species that can be found in this formation. Molluscs and Decapods also occur.

Classification

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

EUNIS (2004):

Level 4. A sub-habitat (association) of 'Circalittoral rock and other hard substrata' (A4.2)

Annex 1:

1170 Reefs

1180 Submarine structures made by leaking gas

MAES:

Marine - Coastal

Marine - Shelf

MSFD:

Shelf sublittoral rock and biogenic reef

EUSeaMap:

Not mapped

IUCN:

10.1 Epipelagic (0-200m)

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

No

Justification

The Sea of Marmara has distinct environmental conditions compared to the Black Sea, with conditions more similar to that of the Mediterranean Sea. As such habitats present here do not present an outstanding example of the typical characteristics of the Black Sea region.

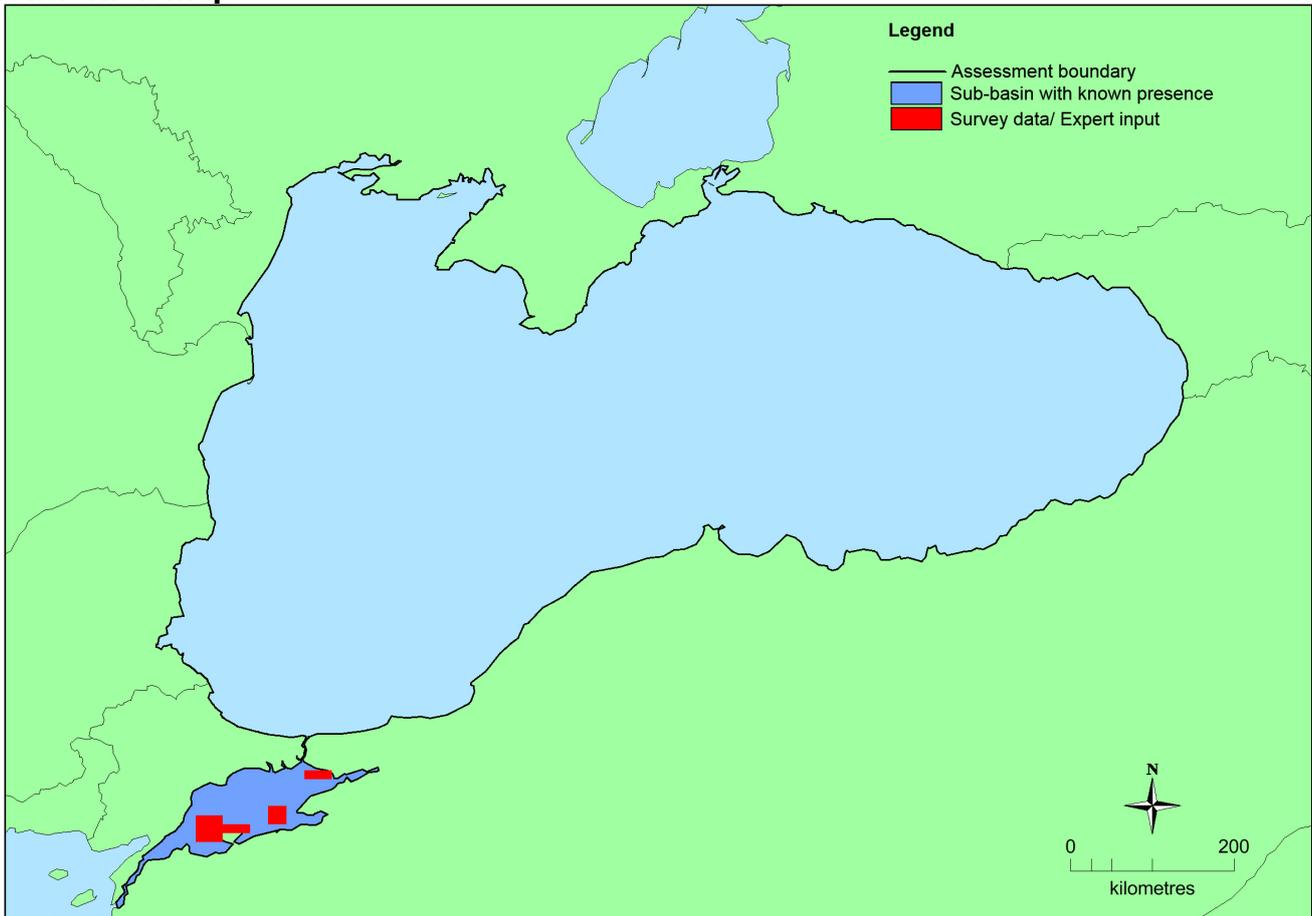
Geographic occurrence and trends

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>	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	Km ²		Km ²	This habitat is only present in the Sea of Marmara therefore it does not occur in the EU28
EU 28+	6039 Km ²	19	Unknown Km ²	EOO and AOO have been calculated on the available data.

Distribution map



This map has been generated based on expert opinion and has been used to calculate AOO and EOO. The map should be treated with caution as it does not necessarily reflect the full distribution of the habitat.

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

The habitat is only present in the Sea of Marmara, therefore it is not present in the EU28.

Trends in quantity

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

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

Justification

This habitat does not occur in the Black Sea, therefore the maximum EOO for the Sea of Marmara is

11,350km². However, there is insufficient information to assess whether the habitat has undergone a significant decline (>25% of extent) in the last 50 years. This habitat also occurs in the Mediterranean therefore it is unlikely to have a small natural range.

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

No

Justification

This habitat does not occur in the Black Sea, however it is present in the Sea of Marmara as well as the Mediterranean Sea. Therefore this habitat is unlikely to have 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: -

EU 28+: Unknown

Pressures and threats

Pressures and threats affecting this habitat include: professional fishing (active or passive), marine water pollution, non-native invasive species, and physical changes to the seawater due to climate change, e.g. temperature and pH. Professional fishing can disrupt the formations of the worm reefs, marine water pollution can alter the physicochemical composition of the sea water and thus affect the worm reefs, and non-native invasive species which compete with the worm reef formers in terms of space and can also alter the physiognomy of the reefs.

List of pressures and threats

Biological resource use other than agriculture & forestry

- Fishing and harvesting aquatic resources
 - Professional passive fishing
 - Professional active fishing
 - Benthic or demersal trawling

Pollution

- Marine water pollution

Invasive, other problematic species and genes

- Invasive non-native species

Climate change

- Changes in abiotic conditions
 - Temperature changes (e.g. rise of temperature & extremes)
 - Sea-level changes
 - Decline or extinction of species

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; coastal development controls; contingency plans to be followed in the event of a major pollution incident; survey and monitoring programmes; raised public awareness of ecological value and vulnerability; and implementing measures to reduce global warming

and sea level rise.

List of conservation and management needs

Measures related to marine habitats

Other marine-related measures

Measures related to spatial planning

Establish protected areas/sites

Measures related to urban areas, industry, energy and transport

Other measures

Conservation status

Annex 1:

1170: MBLS U1, MMED XX

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	n/a %	n/a %	n/a %	n/a %
EU 28+	unknown %	unknown %	unknown %	unknown %

There is insufficient data on changes in quantity of this habitat, to determine any trends in quantity.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	n/a Km ²	-	-	n/a	n/a	-	-	n/a	n/a
EU 28+	6,039 Km ²	Unknown	Unknown	unknown	19	Unknown	Unknown	unknown	unknown

As the trends in quality and quantity of this habitat are unknown, there is insufficient data to conduct an assessment using 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	n/a %	n/a %	n/a %	n/a %	n/a %	n/a %
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	n/a %	n/a %	n/a %	n/a %	n/a %	n/a %
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	n/a %	n/a%	n/a %	n/a%	n/a %	n/a%
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	n/a
EU 28+	unknown

There is no quantitative analysis available that estimates 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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
n/a	-	Data Deficient	-

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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Reviewers

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Date of assessment

18/03/2016

Date of review

12/01/2016

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