

## A5.XY Pontic circalittoral biogenic detritic bottoms with unattached form of *Phyllophora crispa*

### Summary

The habitat is present in the Black Sea on circalittoral biogenic detritic bottoms. Eutrophication is the main historic pressure on this habitat. Additional pressures include: trawling, siltation and disturbance from other anthropogenic activities. Conservation and management measures relevant to this habitat include: measures to maintain physical and biological integrity, improvement of water quality, enhanced legal protection 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

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#### Code and name

A5.XY Pontic circalittoral biogenic detritic bottoms with unattached form of *Phyllophora crispa*

#### Habitat description

Mixed sediments (shelly mud to pure shell hash) occurring at depths within the circalittoral zone. The most important characterising component of this habitat is the spherical form of *Phyllophora* (*Phyllophora crispa sphaerica*).

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:

*Phyllophora* fields in the northwest Black Sea have associated specialized faunal communities including more than 110 species of invertebrates and 47 species of fish. The main systematic groups of macrozoobenthos recorded from the Small *Phyllophora* field' in 2000 in terms of number of species,

abundance and biomass were molluscs, polychaetes and crustaceans.

### **Classification**

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

EUNIS:

Level 4 of the EUNIS classification (v1405). A sub-habitat of 'Circalittoral biogenic habitat' (A5.6)

Annex 1:

1170 Reefs

8330 Submerged or partially submerged sea caves

MAES:

Marine - Shelf

MSFD:

Shelf sublittoral rock and biogenic reef

EUSeaMap:

Shelf rock or biogenic reef

IUCN:

9.3 Subtidal loose rock/ pebble/ gravel

Other relationships:

No relationships

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

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#### Justification

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

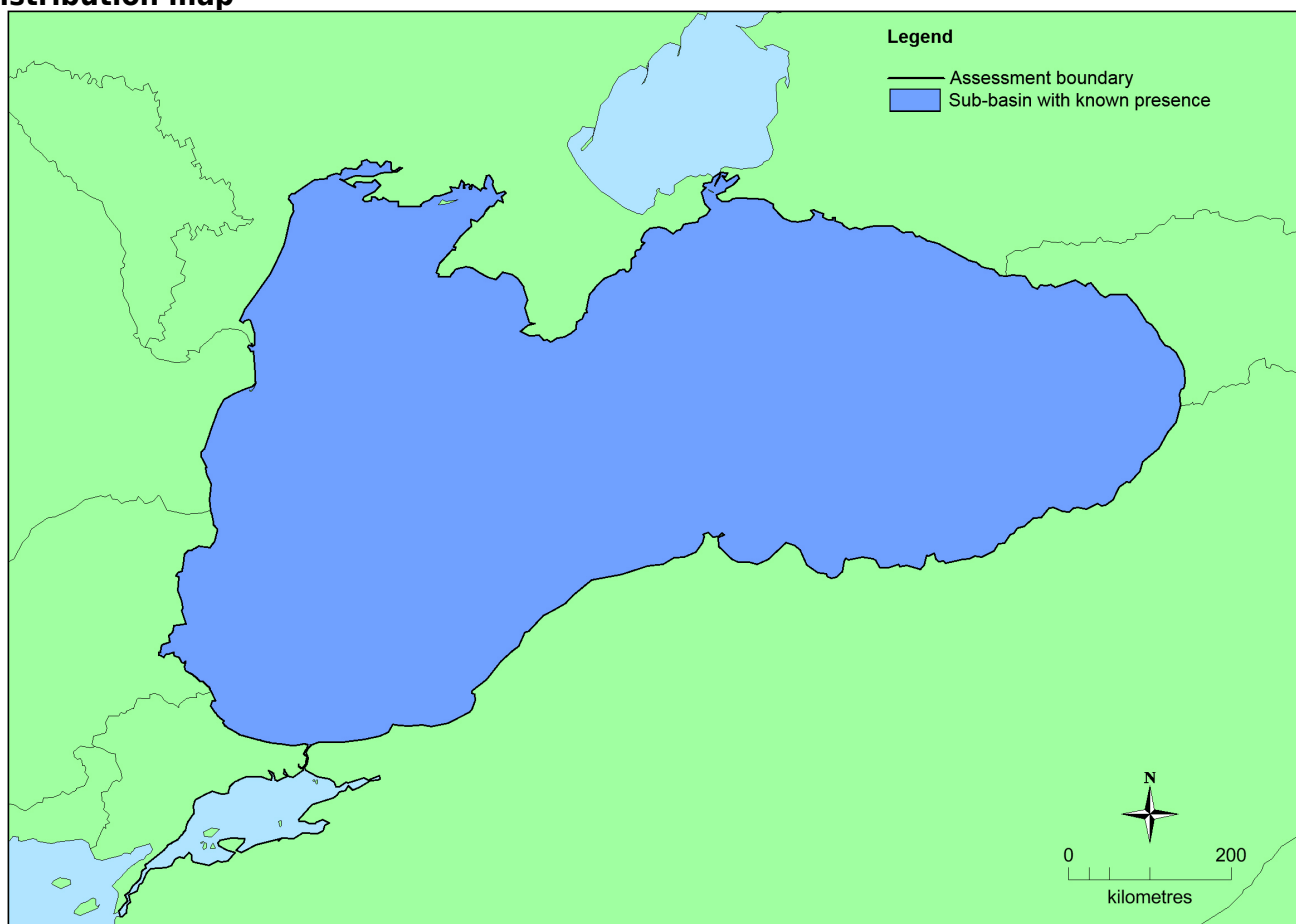
### **Geographic occurrence and trends**

Region	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
<i>Black Sea</i>	Black Sea: Present	Unknown Km <sup>2</sup>	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 <sup>2</sup>	Unknown	Unknown Km <sup>2</sup>	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 <sup>2</sup>	Unknown	Unknown Km <sup>2</sup>	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.

## 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?  
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### 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.

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

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.

- Average current trend in quality

EU 28: Unknown

EU 28+: Unknown

### **Pressures and threats**

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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. This 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.

Siltation. This is a current and future threat to the habitat. The resettling of suspended sediment can smother filter feeding organisms as well as inhibiting the growth of some species. Siltation is typically caused by dredging, trawling and other activities which disturb bottom sediments.

Mobile demersal dredging and trawling. This 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)

#### **Natural System modifications**

Siltation rate changes, dumping, depositing of dredged deposits

### **Conservation and management**

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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 outside EU member states
- Raised public awareness of ecological value and vulnerability
- Enhanced legal protection for occurrences of the habitat and key species (e.g. additions to the EU Habitats Directive, establish a unified list of Black Sea species and habitats requiring conservation measures, etc.)
- Designation of MPAs

## 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

## Conservation status

Annex 1-type:

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 <sup>2</sup>	Unknown	Unknown	unknown	unknown	Unknown	Unknown	unknown	unknown

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28+	unknown Km <sup>2</sup>	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)

## **Assessors**

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## **Reviewers**

J. Ford

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19/03/2015

## **Date of review**

22/01/2016

## **References**

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Bacescu M.C., Muller G.I., Gomoiu M.-T., 1971. *Cercetari de ecologie bentala in Marea Neagra (analiza cantitativa, calitativa si comparata a faunei bentice pontice)*. Ecologie Marina vol. IV. Editura Academiei R.S.R., Bucuresti, 357 pp.

Bacescu M., 1977. *Les biocenoses benthiques de la Mer Noire*. In: Biologie des eaux saumâtres de la Mer Noire, Pora E.A. (ed.), IRCM, Constanta 1: 128-134.

Kostylev, E.F., Tkachenko, F.P. & Tretiak, I.P. 2010. Establishment of "Zernov's Phyllophora field" marine reserve: protection and restoration of a unique ecosystem. *Ocean & Coastal Management*. 53(5-6);203-208.

Tkachenko, F.P., Tretiak, I.P. & Kostilev, E.F. 2009. Macrophytobenthos of the Zernov Phyllophora Field in present conditions (the Black Sea, Ukraine). *International Journal on Algae*. 11(1); 64-72