

## A3.3x Foliose algae, other than Fucales on Pontic sheltered upper infralittoral rock, well illuminated

### Summary

The habitat is present in the Black Sea in shallow, sheltered waters on rocky substrates. It is also present in the Sea of Marmara. Eutrophication is the main historic pressure on this habitat. Additional pressures include: coastal development, siltation and chemical pollution. Conservation and management measures relevant to this habitat include: maintaining the biological and physical integrity of the habitat, improvements in water quality, coastal development controls, survey and monitoring programmes, raised public awareness and increased 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

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#### Code and name

A3.3x Foliose algae, other than Fucales on Pontic sheltered upper infralittoral rock, well illuminated

No photographs of this habitat type are currently available.

#### Habitat description

Present in shallow sheltered waters, such as semi-enclosed bays on rocky substrates. Reported at depths from 1 up to 14m although known to occur in deeper waters in the pre-eutrophication period in the early 1980s. The presence of light is a key environmental factor, as the sheltered nature of the rocky habitat. In more high energy environments the algal communities are scoured by wave action, preventing the characteristic species from colonising. The habitat is analogous to the *Cystoseria* canopies with the important distinction that Fucales are not present. Communities are typically comprised of *Ulvaceae*, *Laurencia coronopus*, Corallines, *Ceramium* spp. and *Scytoniphon lomentaria*.

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:

*Ulva intestinalis*, *Ceramium virgatum*, *Callithamnion corymbosum*, *Laurencia coronopus*, *Corallina elongata* and *Ceramium spp.*, *Ulvaceae* and *Scytoniphon lomentaria*.

### 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 of 'Pontic infralittoral rock' (A3.3)

Annex 1:

1160 Large shallow inlets and bays

1170 Reefs

MAES:

Marine - Coastal

MSFD:

Shallow sublittoral rock and biogenic reefs

EUSeaMap:

Shallow photic rock or biogenic reef

Shallow aphotic rock or biogenic reef

IUCN:

9.2 Subtidal rock and rocky reefs

**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**

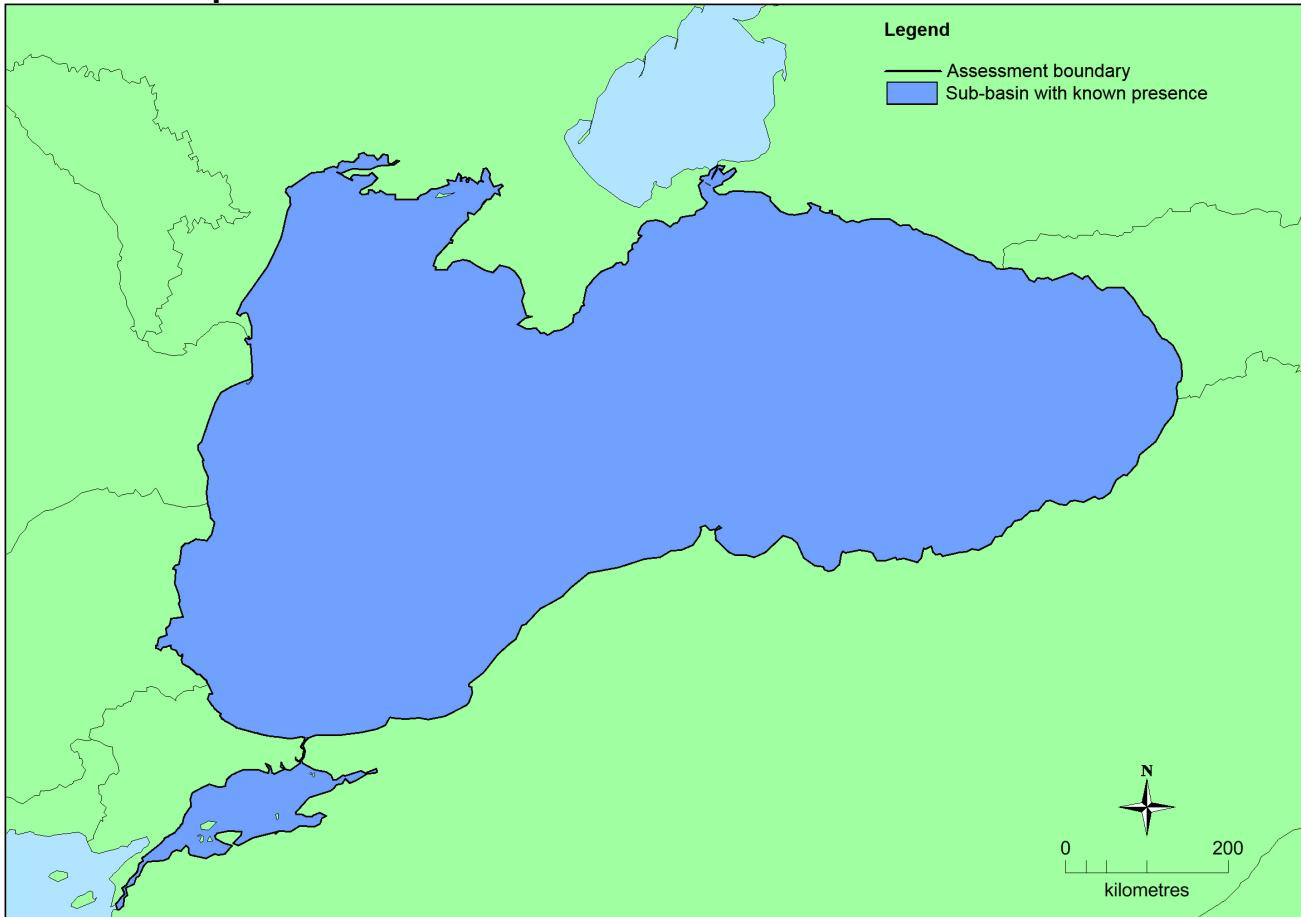
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Region	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Black Sea	Black Sea: Present Sea of Marmara: Present	Unknown Km <sup>2</sup>	Unknown	Unknown

## 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 EU 28 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.

- 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. Reduced light penetration due to eutrophication caused declines in extent and quality of the 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).

The habitat is likely to be sensitive to:

- Coastal developments including the construction of marinas and slipways, sediment extraction, the widening and dredging of channels, creation of artificial beaches, road developments and sea defences. These activities may alter the hydrological regime which will in turn affect the character and viability of the habitat.

-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.

- Chemical pollution. This is a threat of current and future importance which at its most severe can result in species can lead to 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.

## List of pressures and threats

### **Urbanisation, residential and commercial development**

Other urbanisation, industrial and similar activities

### **Pollution**

Nutrient enrichment (N, P, organic matter)

Input of contaminants (synthetic substances, non-synthetic substances, radionuclides) - diffuse sources, point sources, acute events

### **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 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, survey and monitoring programmes, 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**

Other spatial measures

Establish protected areas/sites

Legal protection of habitats and species

### **Conservation status**

Annex 1:

1160: MBLS U1

1170: MBLS U1

### **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**

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### **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
	E00	a	b	c	AOO	a	b	c	
EU 28	unknown Km <sup>2</sup>	Unknown							

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

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## **Date of assessment**

19/03/2015

## **Date of review**

18/01/2016

## **References**

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Afanasiev D. F., Korpakova I. G. 2008. Macrophytobenthos Russian Azov-Black Sea., Rostov-on-Don: FGUP AzNIIRH.

Anon. 2006. *The northwestern part of the Black Sea: biology and ecology*. Kiev: Naukova Dumka. 701pp.

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

Chernyakov D. A. 1995. Natural-aquatic landscape complexes of the Tendra and Egorlyk bays and monitoring of their state in Black Sea Biosphere Reserve.

Dimitrova-Konaklieva, S. 2000. *Flora of the Marine Algae of Bulgaria (Rhodophyta, Phaeophyta, Chlorophyta)*. Pensoft, Sofia, Bulgaria.

Kalugina-Gutnik A.A. 1970. *The composition and distribution of benthic vegetation in the south-eastern part of the Black Sea*. Ecological and morphological studies of benthic organisms. Kiev: Naukova Dumka, p. 185- 202.

Kalugina-Gutnik A.A. 1975. *Phytobenthos of Black Sea*, Kiev: Naukova Dumka, 275 p.

Konsulov, A. 1998. *Black Sea Biological Diversity: Bulgaria. Volume 5 of Black Sea environmental series*. United Nations Publications, New York, USA.

Kostenko, N. S. 2003. Some trends of the succsecion of bottom vegatation in the Karadag area. *Proc. Sciences. Rec. NaUKMA, Ser. "Biologiya and ekologiya"*: 429-432.

Lisovskaya O.A., Stepanyan O.V. 2009. A variety of coastal macroalgae Taman Peninsula (Russia) in summer., *Algology* 19(4): 341-348.

Marinov, T. 1990. *The zoobenthos from the Bulgarian Sector of the Black Sea*. Publishing house of the Bulgarian Academy of Sciences, Sofia, pp 195 (in Bulgarian).

Micu, D., Zaharia, T., Todorova, V., Niță, V. 2007. *Romanian Marine Habitats of European Interest*. Punct Ochit Publishers, Constanța, Romania.

Micu, D. 2008. Open Sea and Tidal Areas. In: Gafta D. and Mountford J.O. (eds.) *Natura 2000 Habitat Interpretation Manual for Romania*. EU publication no. EuropeAid/121260/D/SV/RO, 101pp. ISBN

978-973- 751-697-8.

- Micu, D., Zaharia, T., Todorova, V. 2008. Natura 2000 habitat types from the Romanian Black Sea. In: Zaharia T, Micu D, Todorova V, Maximov V, Niță V. *The development of an indicative ecologically coherent network of marine protected areas in Romania*. Romart Design Publishing, Constanta, Romania.
- Moncheva. S., Todorova, V., (eds). 2013. Initial assessment of the marine environment. Article 8, MSFD 2008/56/EC and NOOSMV (2010). 500p
- Morozova-Vodyanitskaya N. V. 1959. Bottom vegetation of the Black Sea. *Proceedings of the Sevastopol Biological Station* 11: 3 - 28
- Petranu, A. 1997. *Black Sea Biological Diversity: Romania. Volume 4 of the Black Sea Environmental Series*. United Nations Publications, New York, USA.
- Salomidi, M., Katsanevakis, S., Damalas, D., Mifsud, R., Todorova, V., Pipitone, C., Fernandez, T. V., Mirto, S., Galparsoro, I., Pascual, M., Borja, Á., Rabaut, M., Braeckman, U. 2010. Monitoring and Evaluation of Spatially Managed Areas. Catalogue of European seabed biotopes. Deliverable 1.2. Available at: <http://www.mesma.org/default.asp?ZNT=SOT1O-1P24>. (Accessed: 19/08/2015).
- Teyubova V. F. 2005. Features interannual dynamics species composition and structure macrophytobenthos in the Bay of Novorossiysk (Black sea). *Ekologiya Morya* 69: 53 – 57.
- Teyubova V.F. 2012. *The diversity and ecological features macrophytobenthos the Russian sector of the Black Sea.*, Dissertation on competition degree of candidate of biological sciences, 280 pp.
- Tkachenko, F. P., Kovtun O. O. 2014. Contemporary condition of seaweeds flora of Zmeiny island costal zone (Black Sea). *Chornomors'k. bot. z.* 10(1): 37-47.
- Todorova, V., Panayotova, M. 2011. *Black mussels and/or barnacle communities on mediolittoral rocks*. Red book of Republic of Bulgaria, Vol. III, Natural habitats, Eds. BAS & MOEW. [ISBN 978-9549746-23-5].
- Vershinin, A. 2007. *Life in the Black Sea*. Maccentr, Moscow, Russia.
- Zaika V. E., Boltachev A. R., Zuev G. V., Kovalev A. V., Milchakova N. A., Sergeeva N. G. 2004. Floristic and faunistic changes in the Crimean Black Sea shelf after 1995 – 1998, *Marine Ecological Journal*, 3(2), p. 37-44.
- Zaitsev, Y. P., Alexandrov, B. G. 1998. *Black Sea Biological Diversity: Ukraine. Volume 7 of the Black Sea Environmental Series*. United Nations Publications, New York, USA.