

A1.31: Fucoids on sheltered Atlantic littoral rock

Summary

This habitat is present in sheltered to extremely sheltered rocky shores and/or in locally sheltered patches on rocky shores exposed to moderately exposed to wave action. It is characterised by the presence of fucoid algae. Climate change through effects on sea temperature is a threat, especially at the edge of the habitats range, whilst pollution, for example resulting from oil spills may have a localised effect. General conservation and management measures which would benefit this habitat include contingency plans to be followed in the event of a major pollution incident and measures to reduce global warming and sea level rise.

Synthesis

Detailed information on the abundance and extent of this habitat is lacking but survey information reveals that it has a wide range and is not restricted to a few locations (e.g. present on the, Atlantic coasts of Portugal and Spain, the Channel coast of France, the UK and the Kattegat coast of Sweden).

Local and/or seasonal factors often exert a substantial influence on intertidal habitats making it difficult to distinguish any long-term trend across the region. This is complicated further because differences between localities are often linked to differences in geographical latitude and, therefore, to differences in climatic traits like temperature and/or ice cover. Where this habitat has been studied in detail some trends in quantity and quality have been reported over various time scales however, there is insufficient information to provide an overall estimate of historical, recent and possible future trends in quantity and quality.

This habitat has a large EOO and AOO, and therefore qualifies as Least Concern under criterion B. However the habitat is assessed as Data Deficient both at the EU 28 and EU 28+ levels due to lack of information on trends in quantity and quality.

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

A1.31: Fucoids on sheltered Atlantic littoral rock



Fucoids on sheltered rock, Saint Malo, France (© S.Gubbay).

Habitat description

Dense blankets of fucoid seaweeds dominating sheltered to extremely sheltered rocky shores and/or in locally sheltered patches of rocky shore that are exposed/moderately exposed to wave action. The habitat is found in sheltered areas such as inlets and bays below the lichen dominated zone and above the kelp dominated zone in the sublittoral. It also occurs in sheltered patches on more wave exposed shores such as the north coast of Spain and Portugal.

Indicators of Quality

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

Typically, the wrack *Pelvetia canaliculata* occurs on the upper shore, with the wrack *Fucus spiralis* below. The middle shore is dominated by vast areas of the wrack *Ascophyllum nodosum* or the wrack *Fucus vesiculosus* or a mixture of both. The wrack *Fucus serratus* covers lower shore bedrock and boulders.

Classification

EUNIS (v1405).

Level 4. A sub-habitat of 'Atlantic littoral rock' (A1.3).

Annex 1:

1160 Large shallow inlets and bays

1170 Reefs

MAES

Marine - Marine inlets and transitional waters

Marine - Coastal

MSFD

Littoral rock and biogenic reef

EUSeaMap

Not mapped

IUCN

12.1 Rocky shoreline

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

Yes

Regions

Atlantic

Justification

This habitat is very typical of sheltered rocky shores on the mainland coasts of the North East Atlantic region

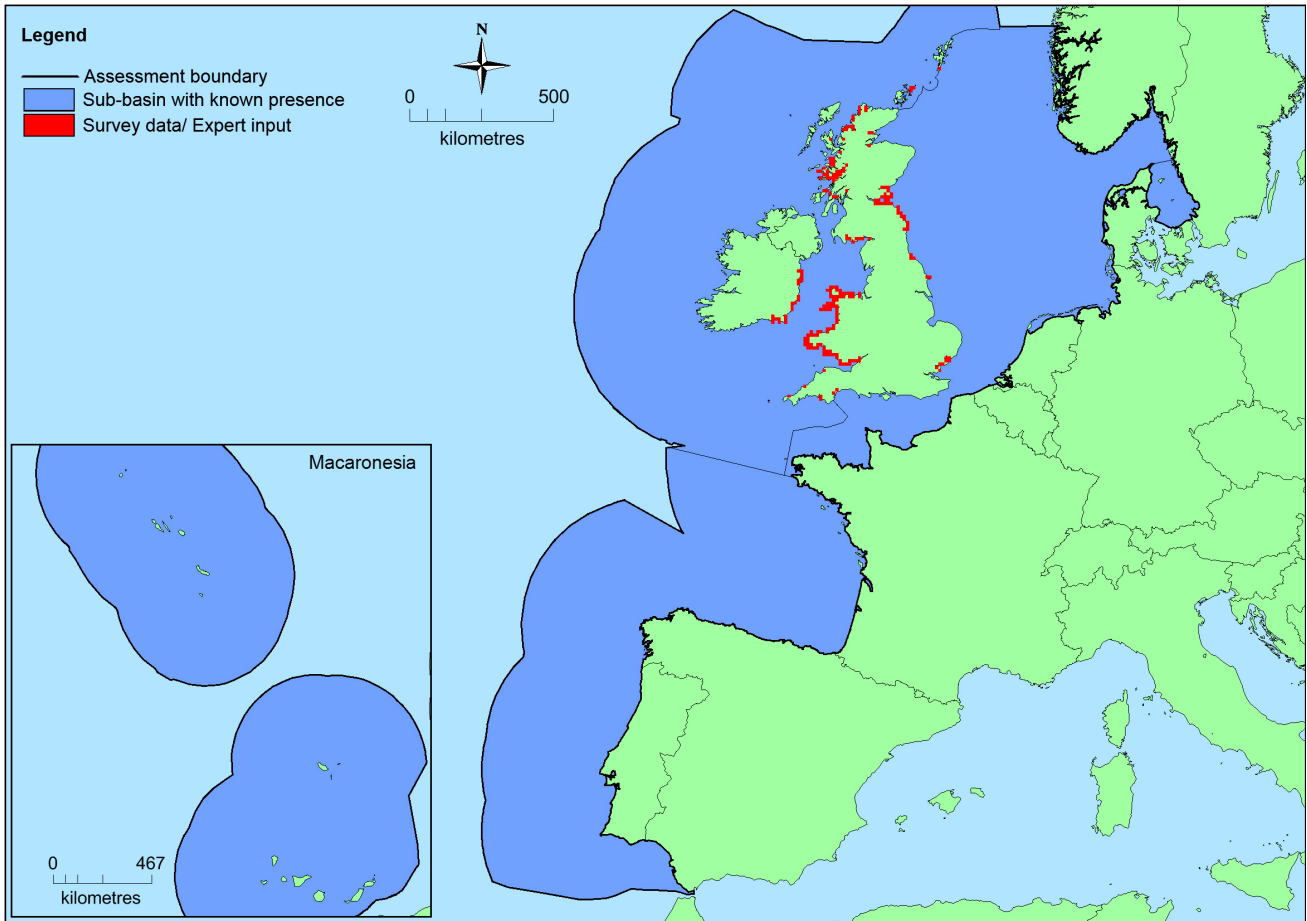
Geographic occurrence and trends

Region	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
<i>North-East Atlantic</i>	Bay of Biscay and the Iberian Coast: Present Celtic Seas: Present Greater North Sea: Present Macaronesia: Present Kattegat: 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>	422,653 Km ²	658	Unknown Km ²	EOO and AOO have been calculated on the available data. Although this data set is known to be incomplete the figures exceed the thresholds for threatened status.
<i>EU 28+</i>	422,653 Km ²	658	Unknown Km ²	EOO and AOO have been calculated on the available data. Although this data set is known to be incomplete the figures exceed the thresholds for threatened status.

Distribution map



There are insufficient data to provide a comprehensive and accurate map of the distribution of this habitat. This map has been generated using EMODnet data from modelled/surveyed records for the North East Atlantic (and supplemented with expert opinion where applicable) (EMODnet 2010). EOO and AOO have been calculated on the available data presented in this map however these should be treated with caution as expert opinion is that this is not the full distribution of the habitat.

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

This habitat occurs in the EU 28+ (e.g. Norway, Isle of Man, Channel Islands). The percentage hosted by the EU 28 is therefore less than 100% but there is insufficient information to establish the proportion.

Trends in quantity

Local and/or seasonal factors often exert a substantial influence on intertidal habitats making it difficult to distinguish any long-term trend across the region. This is complicated further because differences between localities are often linked to differences in geographical latitude and, therefore, to differences in climatic traits like temperature and/or ice cover. This habitat has been studied in detail in some localities however there is insufficient information to provide an overall estimate of historical, recent and possible future trends in quantity.

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

No

Justification

This habitat has a large natural range in the North East Atlantic region extending from the northern Atlantic coast of Spain and Portugal in the west, to the Skagerrak coast of Sweden in the east.

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

No

Justification

This habitat has a large natural range in the North East Atlantic region extending from the northern Atlantic coast of Spain and Portugal in the west, to the Skagerrak coast of Sweden in the east.

Trends in quality

Local and/or seasonal factors often exert a substantial influence on intertidal habitats making it difficult to distinguish any long-term trend across the region. This is complicated further because differences between localities are often linked to differences in geographical latitude and, therefore, to differences in climatic traits like temperature and/or ice cover. In northern Spain, for example, there has been decrease in net primary production and shortening of growth period for intertidal algae between 1977 - 2007.

Although this habitat has been studied in detail in some localities there is insufficient information to provide an overall estimate of historical, recent and possible future trends in quality.

- Average current trend in quality

EU 28: Unknown

EU 28+: Unknown

Pressures and threats

Climate change through effects on sea temperature is a threat to this habitat, especially at the edge of its range. In northern Spain, which is at the southern edge of this fucoid dominated habitat, global warming has been suggested as a possible reason for decline in habitat quality for two main reasons; affecting the length and timing of the season growth and changes in nutrient availability, through decreasing intensity and seasonality of the summer upwelling along the north coast of Spain.

Pollution, for example resulting from oil spills, can have a localised detrimental effect and contamination by chemical compounds such as Tributyl tin used as a ship antifoulant, is known to have affected the reproductive success of dog whelks (*Nucella lapillus*) which are associated with this habitat.

List of pressures and threats

Pollution

Oil spills in the sea

Other forms of pollution

Climate change

Changes in abiotic conditions

Temperature changes (e.g. rise of temperature & extremes)

Conservation and management

General conservation and management measures which would benefit this habitat include pollution control and regulation, development control and contingency plans to be followed in the event of a major pollution incident, survey and monitoring programmes, raised public awareness of their ecological value and vulnerability, and measure to reduce global warming and sea level rise.

List of conservation and management needs

Measures related to wetland, freshwater and coastal habitats

Restoring/Improving water quality

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

Measures related to hunting, taking and fishing and species management

Other species management measures

Conservation status

Annex 1:

1160: MATL U2, MMAC FV

1170: MATL U2, MMAC FV.

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

The effects of chronic impacts on this habitat are generally reversible provided the disturbance is stopped. Recovery from acute impacts is also possible but may take much longer depending on the scale and type of impact.

Effort required

10 years
Naturally

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 %

The range of habitat is well known and its extent has been mapped in detail in some locations (e.g. some Marine Protected Areas). There are studies showing short and long term trends, for example following oil spills, in some locations but no assessment of overall trend in quantity for the North East Atlantic. It is therefore considered to be Data Deficient under criteria A for both the EU 28 and EU 28+.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	>50,000 Km ²	Unknown	Unknown	No	>50	Unknown	Unknown	No	No
EU 28+	>50,000 Km ²	Unknown	Unknown	No	>50	Unknown	Unknown	No	No

This habitat has a large natural range in the North East Atlantic region. The precise extent is unknown however as EOO >50,000km² and AOO >50, this exceeds the thresholds for a threatened category on the basis of restricted geographic distribution. Trends are unknown. The distribution of the habitat is such that

the identified threats are unlikely to affect all localities at once. This habitat has therefore been assessed as Least Concern under criteria B1(c) B2 (c) and B3 and Data Deficient for all other criteria.

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 on which to assess 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	LC	LC	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	DD	DD	DD	DD	LC	LC	LC	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

S.Beal.

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19/08/2015

Date of review

15/12/15

References

Connor, D.W., Allen, J.H., Golding, N. *et al.* 2004. The Marine Habitat Classification for Britain and Ireland Version 04.05 JNCC. [online] Peterborough: ISBN 1 861 07561 8. Available at: http://jncc.defra.gov.uk/pdf/04_05_introduction.pdf. (Accessed: 30/08/2014).

European Environment Agency, (2014) EUNIS habitat type hierarchical view . Available at: <http://eunis.eea.europa.eu/habitats-code-browser.jsp>. (Accessed 22/08/2014).

Lamela-Silvarrey, C., Fernández, C., Anadón, R. & Arrontes, J. (2012) Furoid assemblages on the north coast of Spain: past and present (1977-2007). *Botanica Marina* 55(3): 199-207.

Tempera, F., E. Atchoi, P. Amorim, J. Gomes-Pereira & J. Gonçalves (2013). *Atlantic Area Marine Habitats. Adding new Macaronesian habitat types from the Azores to the EUNIS Habitat Classification*. Horta: MeshAtlantic, IMAR/DOP-UAç, Horta, 126pp