A4.13 Mixed faunal turf communities on high energy Atlantic upper circalittoral rock

Summary

This habitat occurs on wave-exposed circalittoral bedrock and boulders, subject to tidal streams. The slow-growing complex biogenic structures created by the associated hydroids, bryozoans and sponges, modify the flow of currents, consolidate sediments and provide a three-dimensional habitat to a multitude of associated species. Pressures and threats have been described in general terms and include activities which may result in abrasion of the epifauna, or lead to changes in community composition as a response to poor water quality and increased turbidity and sedimentation. No conservation measures that specifically target this habitat have been identified however it is present within some Marine Protected Areas and may therefore be protected through associated management measures that limit potentially damaging activities.

Synthesis

Detailed information on the abundance and extent of this habitat is lacking. It is known to be widespread (e.g. present in the Azores, Atlantic coast of France, the UK and Sweden), exceeding thresholds of EOO and AOO for Red Listing, but 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 given the lack of information on its trends in quantity and quality and the fact that its overall distribution is unknown.

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

A4.13 Mixed faunal turf communities on high energy Atlantic upper circalittoral rock

No characteristic photographs of this habitat are currently available.

Habitat description

This habitat type occurs on wave-exposed circalittoral bedrock and boulders, sometimes on vertical or steep slopes, subject to tidal streams ranging from strong (3-6 kn) to moderately strong (1-3 kn). The rocky outcrops may be surrounded by coarse sediment, for example shelly gravel or muddy gravel. The majority of the organisms are filter feeders, depending on suspended material in the water column and providing important water quality regulation and nutrient cycling services. Amongst others, sponges, bryozoans, hydroids, ascidians and sea-anemones, whose functional roles are of high importance, form these communities. Slow-growing complex biogenic structures created by hydroids, bryozoans and

sponges modify the flow of currents, consolidate sediments and provide a three-dimensional habitat to a multitude of associated species.

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:

This habitat is characterised by a diverse range of hydroids (*Halecium halecinum*, *Nemertesia antennina* and *Nemertesia ramosa*), bryozoans (*Alcyonidium diaphanum*, *Flustra foliacea*, *Bugula flabellata* and *Bugula plumosa*) and sponges (*Scypha ciliata*, *Pachymatisma johnstonia*, *Cliona celeta*, *Raspailia ramosa*, *Esperiopsis fucorum*, *Hemimycale columella* and *Dysidea fragilis*) forming an often dense, mixed faunal turf. Other species found within this complex are *Alcyonium digitatum*, *Urticina felina*, *Sagartia elegans*, *Actinothoe sphyrodeta*, *Caryophyllia smithii*, *Corynactis viridis*, *Pomatoceros triqueter*, *Balanus crenatus*, *Cancer pagurus*, *Necora puber*, *Asterias rubens*, *Echinus esculentus* and *Clavelina lepadiformis*.

Classification

EUNIS (v1405):

Level 4. A sub-habitat of ‘Atlantic circalittoral rock’ (A4.1).

Annex 1:

1170 Reefs

MAES:

Marine - Marine inlets and transitional waters

Marine - Coastal

MSFD:

Shallow sublittoral rock and biogenic reef

EUSeaMap:

Shallow photic 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 information on the characteristics of this habitat (including its associated biotopes) or on its distribution and extent to determine whether it is typical of North East Atlantic region.

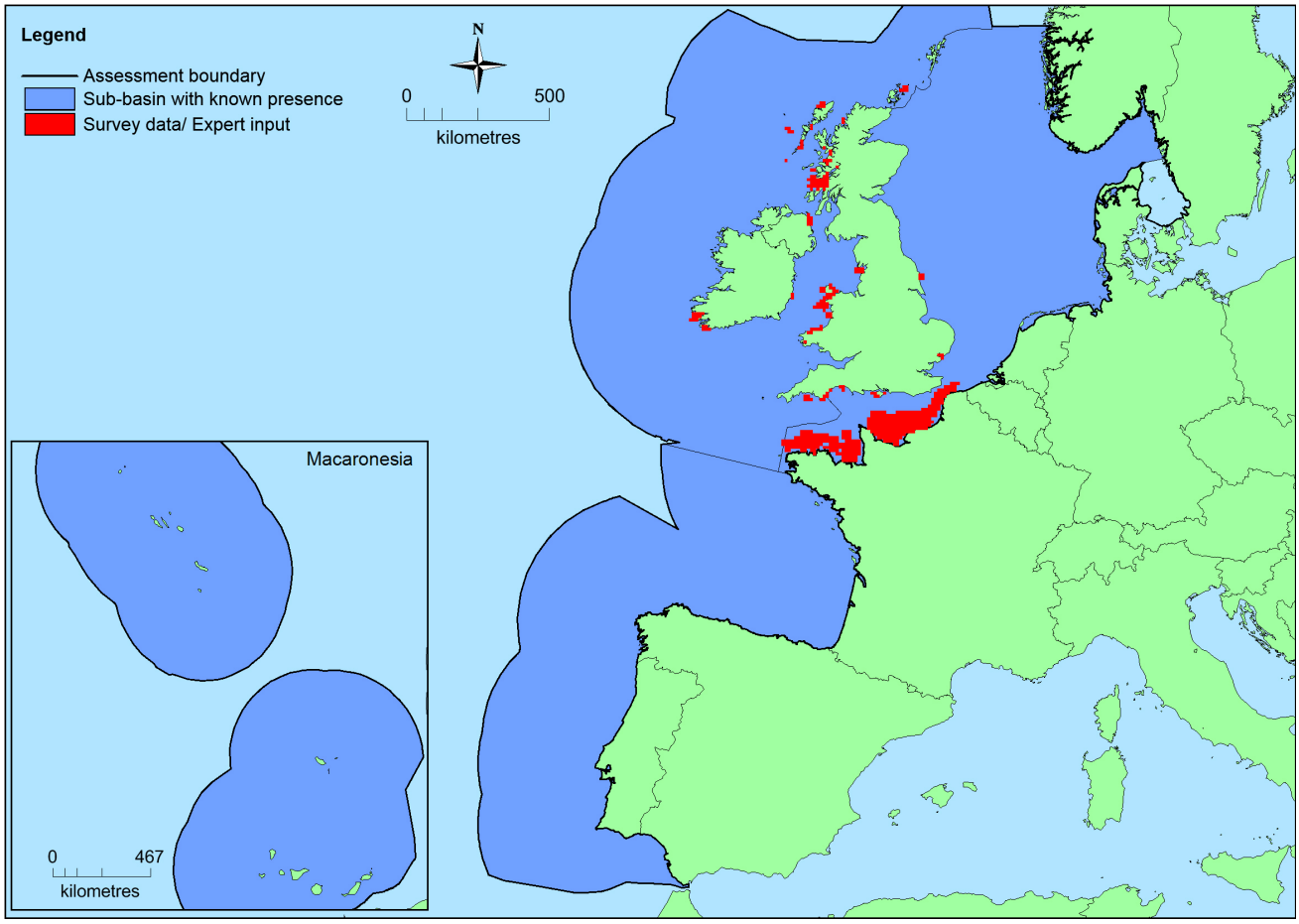
Geographic occurrence and trends

Region	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
North-East Atlantic	Bay of Biscay and the Iberian Coast: Present Celtic Seas: Present Kattegat: Uncertain Greater North Sea: Present Macaronesia: 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	680,908 Km^2	564	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.
EU 28+	>680,908 Km^2	>564	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 likely to be between 85-90% but there is insufficient information to establish the exact figure.

Trends in quantity

The extent of this habitat in the North East Atlantic region and any trends (historical, recent or estimated future) are unknown.

- 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
  There is a lack of detailed information on the extent of this habitat in the North East Atlantic. However as it is known to occur in locations as widely separated as the Atlantic coast of France, Ireland and Sweden, it is not considered to have a small natural range.
- Does the habitat have a small natural range by reason of its intrinsically restricted area?
  No
  Justification

There is a lack of information on the extent of this habitat in the North East Atlantic. However as it is known to occur in locations as widely separated as the Atlantic coast of France, Ireland and Sweden, it is not considered to have a small natural range.

Trends in quality

The extent of this habitat in the North East Atlantic region is unknown and there is insufficient information on any trends in quality to estimate any historical, current or future trends.

- Average current trend in quality
  EU 28: Unknown
  EU 28+: Unknown

Pressures and threats

Pressures and threats have been described in general terms for this habitat. They include activities which may result in abrasion of the epifauna, or lead to changes in community composition as a response to poor water quality (from organic based effluents such as sewage or intensive fish farming), or due to contamination by heavy metals, pesticides or other potential toxins. Increased turbidity and sedimentation will also affect the characteristic species as they are adapted to high energy conditions.

List of pressures and threats

Biological resource use other than agriculture & forestry

Marine and Freshwater Aquaculture
Fishing and harvesting aquatic resources
Professional passive fishing
Potting
Professional active fishing
Benthic or demersal trawling
Benthic dredging

Pollution

Pollution to surface waters (limnic, terrestrial, marine & brackish)
Nutrient enrichment (N, P, organic matter)

Natural System modifications

Siltation rate changes, dumping, depositing of dredged deposits

Conservation and management

No conservation measures that specifically target this habitat have been identified, however it is present within some Marine Protected Areas and may therefore be protected through measures that limit potentially damaging activities e.g. by zoning fishing activities, regulation of discharges to the marine environment and setting limits of activities such as dredging which increase turbidity.

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 hunting, taking and fishing and species management

Regulation/Management of fishery in marine and brackish systems

Conservation status

Annex 1:

1170: MATL U2, MMAC FV.

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

Unknown

Effort required

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 information to determine any trends in quantity of this habitat. This habitat has therefore been assessed as Data Deficient under criterion 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 >50,000km^2 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 for both the EU 28 and EU 28+.

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)

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Date of assessment
17/08/2015

Date of review
15/01/2016

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