

A3.36 Faunal communities on variable or reduced salinity Atlantic infralittoral rock

Summary

The extent of rocky habitat in rias, sea-lochs and estuaries can range from a narrow strip restricted to the top of the shore to littoral reef structures extending to the subtidal. The associated communities are adapted to these conditions and consequently their composition and character is different to that found on similar substrata on the open coast.

This habitat and the associated biotopes are vulnerable to damage and deterioration from a number of pressures and threats. These include increases in suspended sediment/turbidity levels which can affect filter feeding organisms; an increase in levels of organic matter and nutrients that may lead to localised depletion of oxygen, pollution from synthetic organic compounds and heavy metals, with larval stages of some species being particularly sensitive; and physical damage due to abrasion from static fishing gears. Sea level rise, increased storminess and changes in freshwater flows associated with climate change are a potential future threat to this habitat. Current approaches to conservation include the regulation of potentially damaging activities in Marine Protected Areas and through coastal planning as well as general measures applied to large areas such as those which improve or maintain good water quality across the watershed.

Synthesis

This habitat does not have a small natural range nevertheless, because of the lack of quantitative data on extent and condition, no assessment of trends in quantity and quality can be made at the present time. For the purposes of Red List assessment it is therefore considered to be Data Deficient for both the EU 28 and EU 28+.

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

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No characteristic photographs of this habitat are currently available.

Habitat description

The extent of rocky habitat in rias, sea-lochs and estuaries can range from a narrow strip restricted to the top of the shore to littoral reef structures extending to the subtidal. Rocky habitats in these sheltered inlets are typically located in low wave energy environments with reduced salinity, subjected to accelerated tidal streams with increased turbidity and siltation. The associated communities are adapted to these conditions and consequently their composition and character is different to that found on similar substrata on the open coast. Estuarine rocky habitats often display a transition of community types down the length of an

estuary, reflecting the different environmental conditions i.e. those at the upper ends of estuaries being specific to ultra-sheltered and low salinity, grading to communities similar to open coast rock communities towards the mouth of estuaries.

At the most diverse end of the scale this habitat may support a rich and exceptionally abundant sessile epibiota of anemones (e.g. *Metridium senile* and *Diadumene sincta*), filter feeding sponges (e.g. *Halichondria panacea*, *Hymeniacidon perleve*, *Haliclona oculata*, *Raspalia spp.*, *Suberties spp.* and *Stelligera spp.*), bryozoans (e.g. *Alcyonidium digitata*, *Bugula spp.*), hydroids (e.g. *Sertularella gaudichaudi*, *Tubularia spp.*) and ascidians (e.g. *Ascidiella aspersa* and *Dendrodoa grossularia*). Seaweed dominated biotopes are generally poorly developed or absent. In some sea lochs dense mussel *Mytilus edulis* beds develop in tide-swept channels, whilst upper estuarine rocky habitats in the rias may support particular brackish-water tolerant faunas.

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

Where the habitat is dominated by *Mytilus edulis*, a wide variety of epifaunal colonisers on the mussel valves, including seaweeds, hydroids and bryozoans can be present including, *Balanus crenatus*, *Halichondria panacea*, *Metridium senile*, *Ascidiella aspersa* and Ectocarpaceae. The crab *Carcinus maenas* and starfish *Asterias rubens* may also be present. In locations with a high turbidity such as upper estuaries, the brackish-water hydroid *Cordylophora caspia* and small colonies of the encrusting bryozoan *Electra crustulenta* and a few *Balanus crenatus* may be present. The hydroid *Hartlaubella gelatinosa* and bryozoans *Conopeum reticulum* and *Bowerbankia imbricata* have been recorded in other locations where this habitat occurs. There are considerable differences in species composition between sites, but all occur in brackish turbid-water conditions.

Classification

EUNIS (v1405):

Level 4. A sub-habitat of 'Atlantic infralittoral rock' (A3.3).

Annex 1:

1130 Estuaries

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?

No

Justification

This habitat can be found in rias and in estuaries. It should most likely be considered usual rather than characteristic of the region.

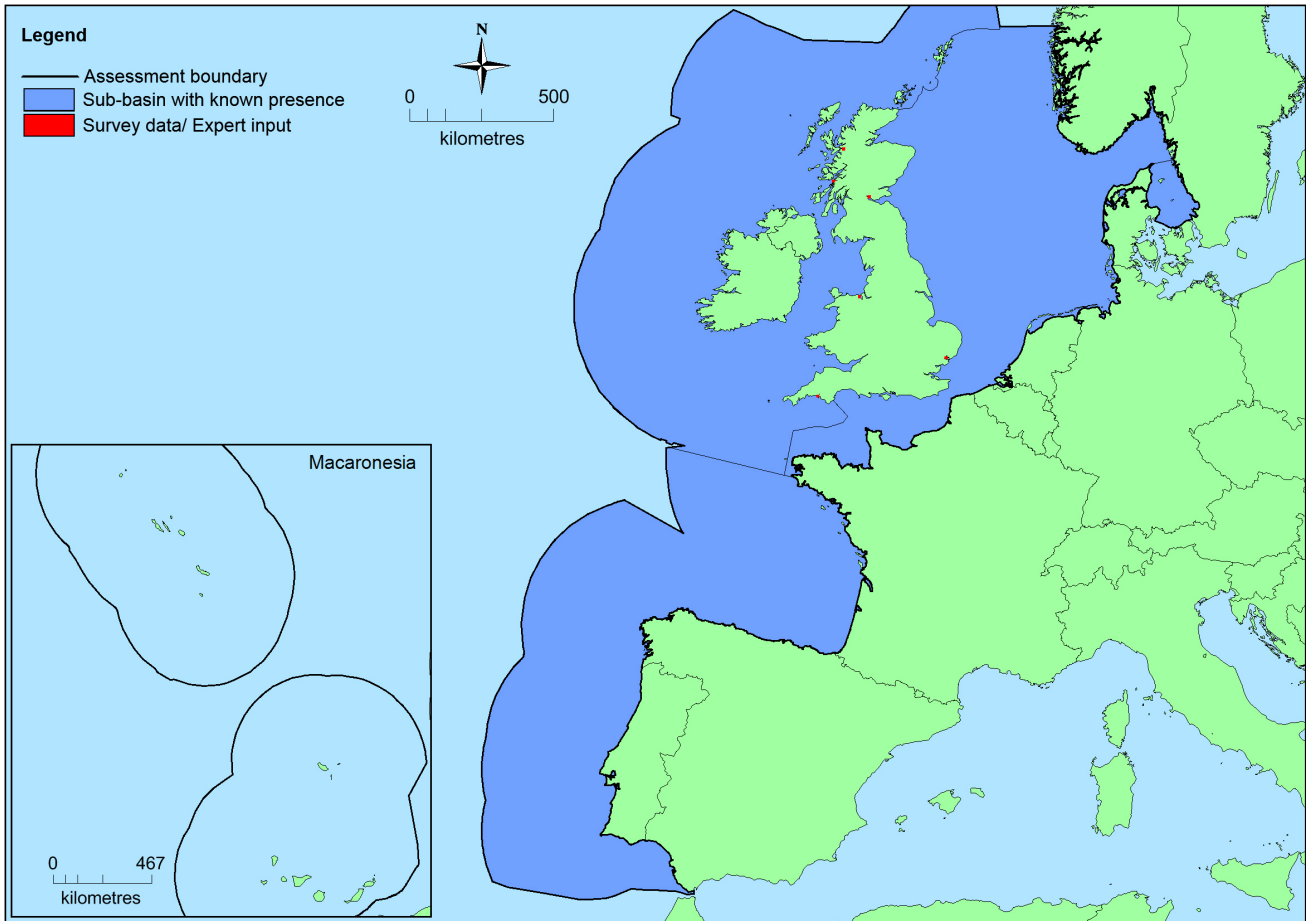
Geographic occurrence and trends

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 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>	>50,000 Km ²	unknown	unknown Km ²	There is insufficient information for accurate calculation of EOO and AOO.
<i>EU 28+</i>	>50,000 Km ²	unknown	unknown Km ²	There is insufficient information for accurate calculation of EOO and AOO.

Distribution map



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). There are insufficient data to provide a comprehensive and accurate map of the distribution of this habitat or for calculation of EOO and AOO.

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

Unknown

Trends in quantity

There is insufficient information to determine any trends in quantity of this habitat.

- 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 does not have a small natural range being present in the rias on the Atlantic coast of Spain and France, the west coast of Ireland and South West Britain, as well as in sea lochs on the west coast of Scotland, Orkney and Shetland but there are insufficient data for accurate calculation of EOO.

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

No

Justification

This habitat does not have a small natural range being present in the rias on the Atlantic coast of Spain and France, the west coast of Ireland and South West Britain, as well as in sea lochs on the west coast of Scotland, Orkney and Shetland but there are insufficient data for accurate calculation of EOO.

Trends in quality

There is insufficient information to determine any trends in quantity of this habitat.

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

Pressures and threats

Communities in naturally sheltered conditions, such as those of estuarine rocky habitats, rias and sea lochs are vulnerable to damage and deterioration from a number of pressures and threats. These include increases in suspended sediment/turbidity levels which can affect filter feeding organisms; an increase in levels of organic matter and nutrients that may lead to localised depletion of oxygen, pollution from synthetic organic compounds and heavy metals, with larval stages of some species being particularly sensitive; and physical damage due to abrasion from static fishing gears.

Sea level rise, increased storminess and changes in freshwater flows associated with climate change are a potential future threat to this habitat.

List of pressures and threats

Biological resource use other than agriculture & forestry

- Marine and Freshwater Aquaculture
- Fishing and harvesting aquatic resources

Pollution

- Pollution to surface waters (limnic, terrestrial, marine & brackish)
- Marine water pollution

Natural System modifications

- Human induced changes in hydraulic conditions

Climate change

- Changes in abiotic conditions

Conservation and management

Current approaches to conservation include the regulation of potentially damaging activities in Marine Protected Areas and through integrated coastal zone management schemes. General measures applied to large areas such as those which improve or maintain good water quality across the watershed are also beneficial.

List of conservation and management needs

Measures related to wetland, freshwater and coastal habitats

- Restoring/Improving water quality

Measures related to spatial planning

- Other spatial measures
- Establish protected areas/sites

Conservation status

Annex 1:

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

There is insufficient information to determine whether this habitat retains the capacity to recover when severely damaged and if so, over what time scales. Major influences include larval supply, hydrodynamics such as scour and turbidity levels.

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 on the current and historical extent of this habitat to determine any trends in quantity. This habitat has 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	unknown	unknown	Unknown	Unknown	unknown	unknown
EU 28+	>50,000 Km ²	Unknown	Unknown	unknown	unknown	Unknown	Unknown	unknown	unknown

This habitat does not have a small natural range being present in the rias on the Atlantic coast of Spain and France, the west coast of Ireland and South West Britain, as well as in sea lochs on the west coast of Scotland, Orkney and Shetland. Nevertheless, because of significant shortcomings in available mapping data, reliable figures for EOO and AOO cannot be derived at the present time. There is also a lack of information on trends. This habitat has therefore been assessed as Data Deficient under criterion B 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	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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Contributors

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Reviewers

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References

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