

A1.16 Macaronesian communities of exposed eulittoral rock

Summary

This habitat is present on rocky shores of the Macaronesian islands of the Azores, Madeira and Canaries Archipelago that are very exposed to wave action. Rock surfaces are typically colonised by crustose and turf forming algae and the faunal components are mainly diverse gastropod species such as *Patella spp.* and *Osilinus spp.* as well as the rock crab *Grapsus adscensioni*.

The main pressures and threats are destruction or modification of the habitat as a result of coastal development. These include the construction of harbours and tourist resorts which can extend across the intertidal zone or affect the wave exposure. Waste disposal and sewage discharges to the marine environment can also damage or degrade the biotopes associated with this habitat although the exposure conditions means that these are unlikely to be major threats. More recently, oil platform maintenance works are a potential entrance vector for marine exotic species although any ecological effects on Macaronesia habitats have not been yet evaluated.

Beneficial measures include the regulation of coastal development and of discharges to the marine environment as well as controls on the introduction of invasive species. Marine Protected Areas which include this habitat can act as a focus for the introduction of such measures.

Synthesis

There is insufficient information to determine historical, current or future trends in quantity or quality of this habitat although it is considered likely to decline in the future if conservation measures are not introduced.

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 because of the lack of information on its extent and any 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

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Turf forming macroalgae community dominated by *Gelidium* spp. on exposed eulittoral rock, Gran Canaria, Spain (© R.Haroun).



Exposed eulittoral rock habitat, Bañaderos Gran Canaria, Spain (© R.Haroun).

Habitat description

This intertidal habitat occurs on rocky shores of bedrock and boulders in areas exposed to wave action during high tides as well as to the swell of large storms. It includes eleven biotopes newly described specific to the Azores A1.1x_PT01 to A1.1x_PT11. In the Canary Islands, these communities are widespread along exposed eulittoral rocks. Crustose as well as turf-forming macroalgae colonise the rock surfaces and faunal communities on the exposed rock surfaces include barnacles and limpets.

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:

Among the crustose species, the most abundant are *Nemoderma tingitana*, *Ralfsia verrucosa*, *Pseudolithoderma adriatica* and *Porolithon onkodes*, whereas among turf-forming macroalgae, the most common species are *Gelidium arbuscula*, *Gelidium canariense*, *Pterocladia capillacea*, *Laurencia viridis*, *Osmundea pinnatifida*, *Ceramium* spp, and *Polysiphonia* spp.; The faunal components are mainly diverse gastropod species such as *Patella* spp. and *Osilinus* spp. as well as the rock crab *Grapsus adscensionis*.

Classification

EUNIS (2004)

Level 4. A sub-habitat of 'High Energy littoral rock' (A1.1) with modification to include Macaronesia.

Annex 1:

1170 Reefs

MAES:

Marine - Marine inlets and transitional waters

Marine - Coastal

MSFD:

Littoral rock & 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?

Unknown

Justification

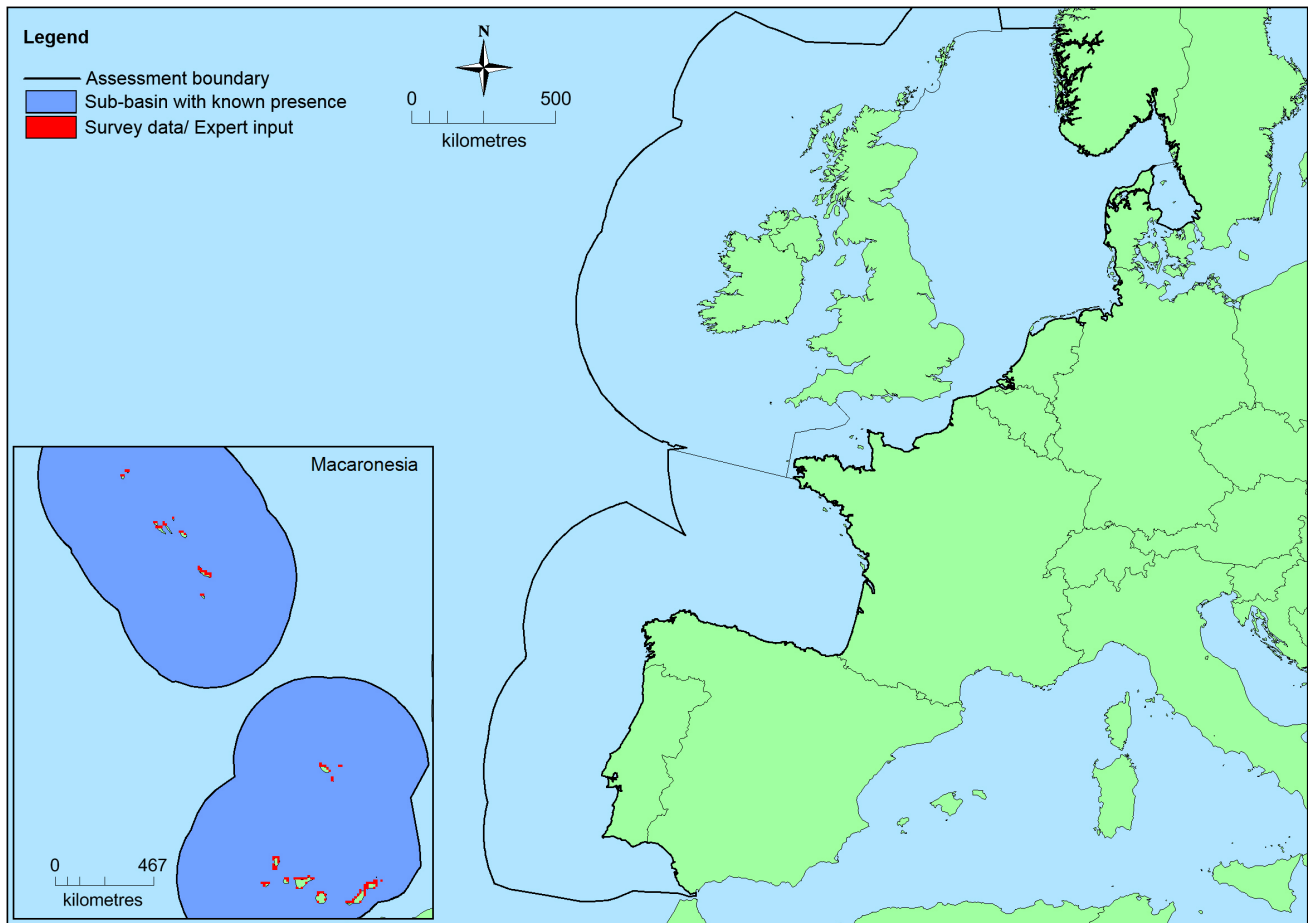
Geographic occurrence and trends

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>	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
<i>EU 28</i>	712,921 Km ²	103	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>	712,921 Km ²	103	Unknown Km ²	This habitat does not occur outside the EU28

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?

100% is hosted by EU 28 in the North East Atlantic in the Macaronesian region.

Trends in quantity

There is scattered but insufficient information on the past extent of this habitat to determine historical trends in quantity. As it occurs in the intertidal zone which is subject to different degrees of human pressures such as habitat destruction or modification it is considered likely to decline in the future if conservation measures are not introduced.

- 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 as it is present in the Azores, Madeira and the Canary Islands.

- 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 as it is present in both the Azores, Madeira and the Canary Islands although it is restricted due to the geological characteristics of the rock shores: volcanic basaltic rocks eroded by high energy wave action.

Trends in quality

There is insufficient information about this habitat to determine historical trends in quality. As it occurs in the intertidal zone which is subject to different degrees of human pressures such as habitat destruction or modification it is considered likely to decline in the future if conservation measures are not introduced.

- Average current trend in quality

EU 28: Unknown

EU 28+: Unknown

Pressures and threats

The main threat to this habitat is related to the high intensity of urban coastal development which has taken place on the most populated islands of Macaronesia in recent decades. Harbour construction, tourism resorts have exerted significant pressures on habitats in the littoral zone. Poorly managed waste disposal and sewage discharge can be an additional pressure but this is less likely given the exposed conditions where this habitat occurs.

The increase in international maritime traffic in the harbours of main cities of the Canaries Archipelago and, more recently, oil-platform maintenance works may potentially lead to the introduction of marine exotic species. The ecological effects of such species on Macaronesian habitats have not been evaluated.

List of pressures and threats

Urbanisation, residential and commercial development

Urbanised areas, human habitation

Discharges

Pollution

Pollution to surface waters (limnic, terrestrial, marine & brackish)

Nutrient enrichment (N, P, organic matter)

Marine water pollution

Invasive, other problematic species and genes

Invasive non-native species

Conservation and management

This habitat is included within some Marine Protected Areas where there are associated management measures, regulations and codes of conduct although not necessarily targeting this specific habitat. Regulation of coastal development and discharges to the marine environment and controls on activities that might lead to the introduction of invasive species are other measures that could benefit this habitat.

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

Measures related to urban areas, industry, energy and transport

Urban and industrial waste management
Managing marine traffic

Conservation status

Annex 1:

1170: MATL U2

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.

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 %

This habitat is only present in the EU 28 in the North East Atlantic region. There is insufficient information on the past extent of this habitat to determine historical trends in quantity but it is considered likely to decline in the future if conservation measures are not introduced. It is assessed as 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%

This habitat occurs in the littoral zone of the Macaronesian islands which are subject to different types and degrees of human pressures such as habitat destruction or modification. There is insufficient information to determine historical or future trends in quality although it is considered likely to decline in quality in the future if specific conservation measures are not introduced. This habitat has therefore been assessed as Data Deficient under 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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