

A5.5x Communities of Mediterranean infralittoral coastal detritic bottoms

Summary

This habitat is usually associated with the lower infralittoral zone. The nature of a substratum varies widely and depends largely on the typology of the nearby coast and of nearby infralittoral formations. It is affected by human activities that increase mud transport from the coast (mainly untreated urban waste discharge, and major construction works). Resulting hypersedimentation may reduce the quality of the habitat by smothering associated species, resulting in biotope homogenization and a consequent reduction of the associated biodiversity and of the exploitable living resources. Combined effects of urbanization, fisheries, aquaculture and sedimentation can exacerbate these impacts.

Basic knowledge about the habitat and its distribution in the Mediterranean is needed to improve spatial planning in general, and strategic planning of particular human activities when there are competing demands. Designation of Protected Areas is also recommended and reduction of anthropogenic waste to areas where this habitat occurs. Direct engagement of scientists and conservationists in the planning of the management process, analysis of social and economic costs and benefits of different management options, and involvement of diverse stakeholders will be essential to the successful implementation of conservation actions.

Synthesis

This habitat is directly subject to various anthropogenic impacts resulting from urban, industrial, agricultural, aquaculture and other coastal activities. Fishing in general, and the use of bottom towed fishing gears in particular which is widespread and of high intensity in the Mediterranean, particularly in the Adriatic Sea, pose ephemeral or permanent threats to this habitat, depending on the relative vulnerability of species present. Many studies also show that combined impacts of urbanization, fisheries, aquaculture and sedimentation led to a shift in associated assemblages.

Declines over the last 50 years cannot be quantified but expert opinion is that there is likely to have been a fairly substantial reduction in quality. This habitat has therefore been assessed as Near Threatened under criteria C/D for 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
Near Threatened	C/D1	Near Threatened	C/D1

Sub-habitat types that may require further examination

None.

Habitat Type

Code and name

A5.5x Communities of Mediterranean infralittoral coastal detritic bottoms

No characteristic photographs of this habitat currently available.

Habitat description

This habitat is usually associated with the lower infralittoral zone. The nature of the substratum varies

widely and depends largely on the typology of the nearby coast and of the nearby infralittoral formations. This implies that the substrata can sometimes be formed by gravels and sands originating from predominant local rocks, sometimes shell debris from various molluscs and echinoderms, sometimes debris from branched bryozoans or debris of dead and more or less corroded *Melobesia* spp. The interstices between these various components are partially filled by a greater or lesser proportion of sand and mud.

Indicators of quality:

Standard biotic and abiotic indicators have been used to describe marine habitat quality, but the presence and abundance of indicated characteristic species can also be used as an indicator of habitat quality.

Characteristic species:

Demosponges: *Suberites domuncula*; Crustaceans: *Paguristes eremita*, *Anapagurus laevis*; Echinoderms: *Ophiura ophiura*; *Astropecten irregularis*, *Anseropoda placenta*; Ascidians: *Molgula oculata*, *Polycarpa pomaria*, *Microcosmus vulgaris*.

Classification

EUNIS (v1405):

Level 4. A sub-habitat of Shallow sublittoral/infralittoral mixed sediments (A5.5)

Annex 1:

1160 Large shallow inlets and bays

MAES:

Marine - Marine inlets and transitional waters

Marine - Coastal

MSFD:

Shallow sublittoral sediment (coarse, sand, mud, mixed)

EUSeaMap:

Shallow sands

Shallow muds

Shallow coarse or mixed sediments

IUCN:

9.3 Subtidal loose rock/ pebble/ gravel

9.4 Subtidal sandy

9.6 Subtidal sandy-mud

9.6 Subtidal muddy

Barcelona Convention (RAC/SPA)

IV.2.2 Biocenosis of the coastal detritic

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

Unknown

Justification

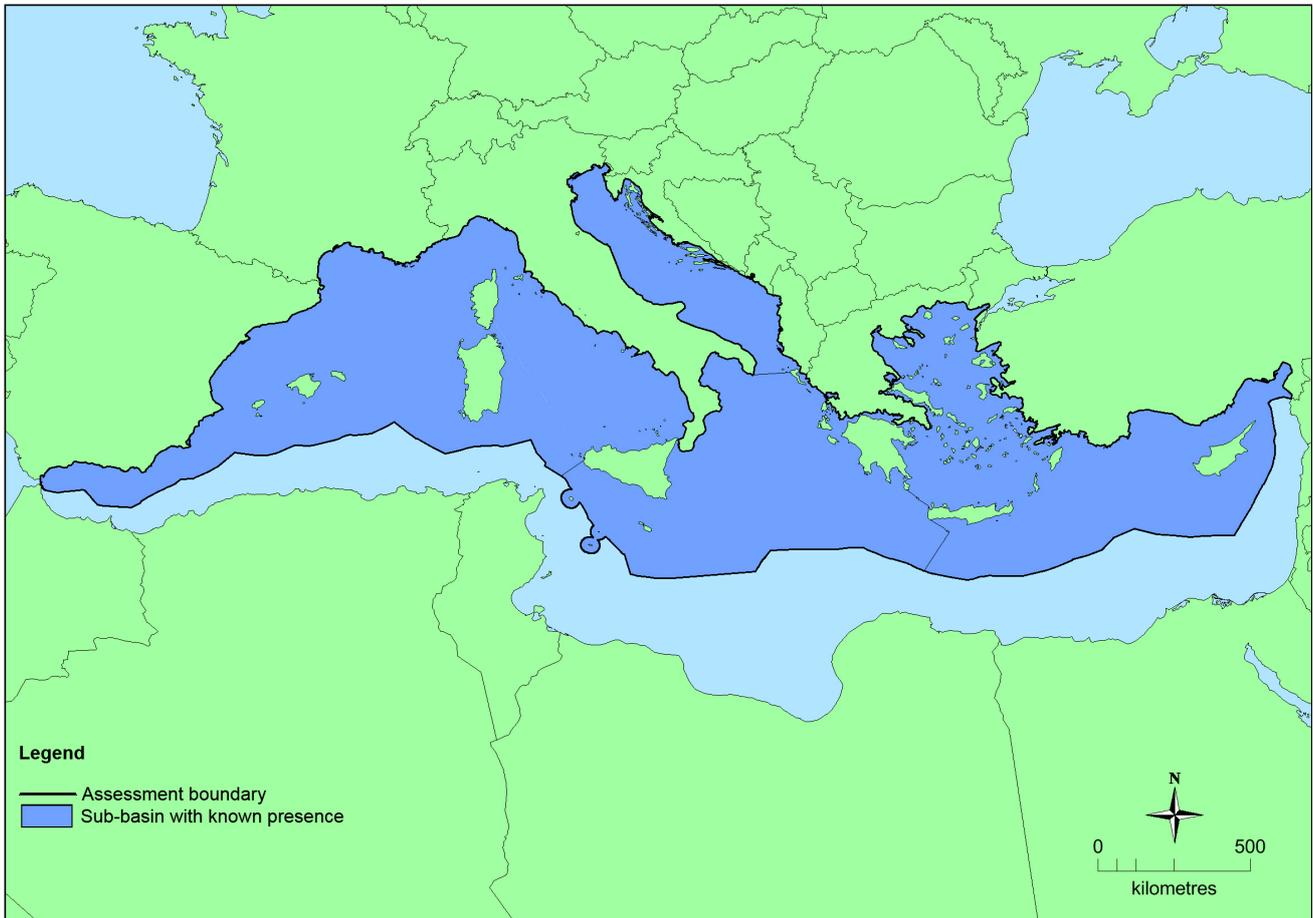
Geographic occurrence and trends

Region	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
<i>Mediterranean Sea</i>	Adriatic Sea: Present Aegian-Levantine Sea: Present Ionian Sea and the Central Mediterranean Sea: Present Western Mediterranean Sea: Present	Unknown Km ²	Unknown	Decreasing

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	This habitat is present in all the Mediterranean sub-basins.
<i>EU 28+</i>	>50,000 Km ²	unknown	Unknown Km ²	This habitat is present in all the Mediterranean sub-basins.

Distribution map



This habitat is known to occur in all sub-basins in the Eastern and Western Mediterranean but there is insufficient data to produce a map of its distribution.

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

Unknown although this habitat is likely to be present in the EU 28+.

Trends in quantity

The extent of this habitat is still poorly known, and the studies conducted have mostly focused on the description of the benthic assemblages in relation to sediment characteristics. Whilst some areas of this habitat may have been lost there is insufficient data to determine any trends at the current time.

- 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 all four Mediterranean sub-basins.

- 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 all four Mediterranean sub-basins.

Trends in quality

This habitat is directly subject to various anthropogenic impacts resulting from urban, industrial, agricultural, aquaculture and other coastal activities. Fishing in general, and the use of bottom towed

fishing gears in particular, pose ephemeral or permanent threats to this habitat, depending on the relative vulnerability of species present. This is widespread in the Mediterranean Sea with recent analysis of Automatic Identification System (AIS) ship tracking data revealing that the continental shelf area in the EU Mediterranean countries is almost all subject to a high intensity of trawled gear fishing increasing on an east to west gradient with the highest intensity and extent in the Adriatic Sea. Many studies also show that combined impacts of urbanization, fisheries, aquaculture and sedimentation led to a shift in associated assemblages.

Because of the pressures and threats on infralittoral habitats of soft sediment and severe degradation in some locations it is reasonable to assume that quality of this habitat has declined in much of the Mediterranean.

- Average current trend in quality

EU 28: Decreasing

EU 28+: Decreasing

Pressures and threats

This habitat is vulnerable to human activities that increase mud transport from the coast (mainly untreated urban waste discharge, major construction works in the maritime field, and leaching from soil). Resulting hypersedimentation reduces the quality of the habitat by smothering associated species, resulting in biotope homogenization and a consequent reduction of the associated biodiversity and of the exploitable living resources. The combined effects of urbanization, fisheries, aquaculture and sedimentation can exacerbate these impacts.

List of pressures and threats

Agriculture

Use of biocides, hormones and chemicals

Fertilisation

Urbanisation, residential and commercial development

Urbanised areas, human habitation

Industrial or commercial areas

Discharges

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

Soil pollution and solid waste (excluding discharges)

Conservation and management

Basic knowledge on this habitat, the associated assemblages/species biology (distribution, abundance, habitat preferences, life-cycles), its distribution in the Mediterranean and any trends are needed. Spatial planning in general, and strategic planning of particular human activities are needed for the conservation of this habitat when there are competing demands. Designation of Protected Areas is also recommended. In areas where the habitat is affected, it is recommended to reduce anthropogenic waste, particularly

domestic and industrial wastewater that is still loaded with fine matter, pollutants and organic matter.

Fisheries legislation for this whole zone exists but precise management measures aimed at this particular habitat are not in place. Direct engagement of stakeholders in the planning of the management process, analysis of social and economic costs and benefits of different management options, will be essential to the successful implementation of conservation actions.

List of conservation and management needs

Measures related to wetland, freshwater and coastal habitats

Restoring/Improving water quality
Restoring coastal areas

Measures related to marine habitats

Restoring marine habitats

Measures related to spatial planning

Establish protected areas/sites
Legal protection of habitats and species

Measures related to hunting, taking and fishing and species management

Regulation/Management of fishery in marine and brackish systems

Measures related to urban areas, industry, energy and transport

Urban and industrial waste management

Conservation status

Annex 1:

1160: MMED XX

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

The capacity of this habitat to recover once severely damaged is 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 %

The current trend in quantity is unknown, and there is a lack of information on past or future reductions in quantity for 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	Yes	Yes	Unknown	Unknown	Yes	Yes	Unknown	Unknown
EU 28+	>50,000 Km ²	Yes	Yes	Unknown	Unknown	Yes	Yes	Unknown	Unknown

This habitat has a widespread geographical distribution but the exact locations and therefore AOO are unknown. Threatening processes are considered likely to cause continuing declines in the next 20 years. This habitat has therefore been assessed as Least Concern for criteria B1a and B1b for both the EU 28 and EU 28+ 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	Close to VU threshold %	Fairly substantial %	Unknown %	Unknown %	Unknown %	Unknown %
EU 28+	Close to VU threshold %	Fairly substantial %	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 is subject to pressures and threats from urbanization, fisheries, aquaculture and sedimentation which are prevalent along the Mediterranean coastline and which have led to the degradation of soft substrate infralittoral areas.

Declines over the last 50 years specific to this habitat cannot be quantified but expert opinion is that this is likely to have been fairly substantial and close to the Vulnerable threshold. This habitat has therefore been assessed as Near Threatened 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 evaluate risk of habitat collapse. Therefore, the habitat is assessed as Data Deficient under Criterion E.

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	DD	DD	NT	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	DD	DD	DD	DD	LC	DD	DD	NT	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
Near Threatened	C/D1	Near Threatened	C/D1

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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Date of assessment

13/01/2016

Date of review

04/04/2016

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