

A2.12 Estuarine Atlantic littoral coarse sediment

Summary

This habitat is found on the upper reaches of estuaries and other inlets (e.g. sea lochs) which are subject to variable and reduced salinity conditions. The outflow of riverine freshwater at the heads of the inlets results in the washing out of fine particulate matter, leaving coarse sediments. Pressures and threats relevant to this habitat are pollution, change of hydrological conditions including wave exposure, infilling, trampling, coastal development and land reclamation. Conservation and management schemes include the removal of dykes, and water quality improvement programmes to reduce the risk of toxic contamination. Moreover, spatial management including zoning of activities as part of Integrated Coastal Zone Management Schemes, Marine Protected Areas that cover the entire estuary complex, as well as control of diffuse inputs from the watershed.

Synthesis

There is a lack of information on the extent of this habitat and any trends in quantity or quality over the last 50 years. 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

A2.12 Estuarine Atlantic littoral coarse sediment





Mixed coarse sediment habitat. with tubes of the peacock worm *Sabella pavonina* visible. Erme estuary, Devon, UK (© A.R.Davis).

Intertidal coarse sediment habitat, Erme estuary, Devon, UK (© A.R.Davis).

Habitat description

This habitat occurs on shores of coarse sediments (shingle, gravels and coarse sand) and in the upper reaches of estuaries and other inlets (e.g. sea lochs) which are subject to variable and reduced salinity conditions. The outflow of riverine freshwater at the heads of the inlets results in the washing out of fine particulate matter, leaving coarse sediments.

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 overtime.

Indices developed to assess the ecological status of coastal waters, including estuaries, according to the Water Framework Directive, include physical indicators, water quality indicators and measures of benthic diversity, species richness and abundance. The latter group, which is particularly relevant to benthic habitats, includes a Benthic Quality Index, an Infaunal Trophic Index, a Marine Biotic index based on ecological groups, and the Benthic Opportunistic Polychaetes/Amphipods index.

Characteristic species:

Associated communities are typically species-poor and characterised by oligochaete worms.

Classification

EUNIS (v1405):

Level 4 of the EUNIS classification. A sub-habitat of 'Atlantic littoral coarse sediment' (A2.1).

Annex 1:

1130 Estuaries

MAES:

Marine - Marine inlets and transitional waters

MSFD:

Littoral Sediment

EUSeaMap:

Not mapped

IUCN:

9.1 Estuaries

12.3 Shingle and/or Pebble Shoreline and/or Beaches

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

No

Justification

Coarse sediment habitats are not characteristic of the intertidal zone of estuaries nor are estuarine shingles typical of the North East Atlantic.

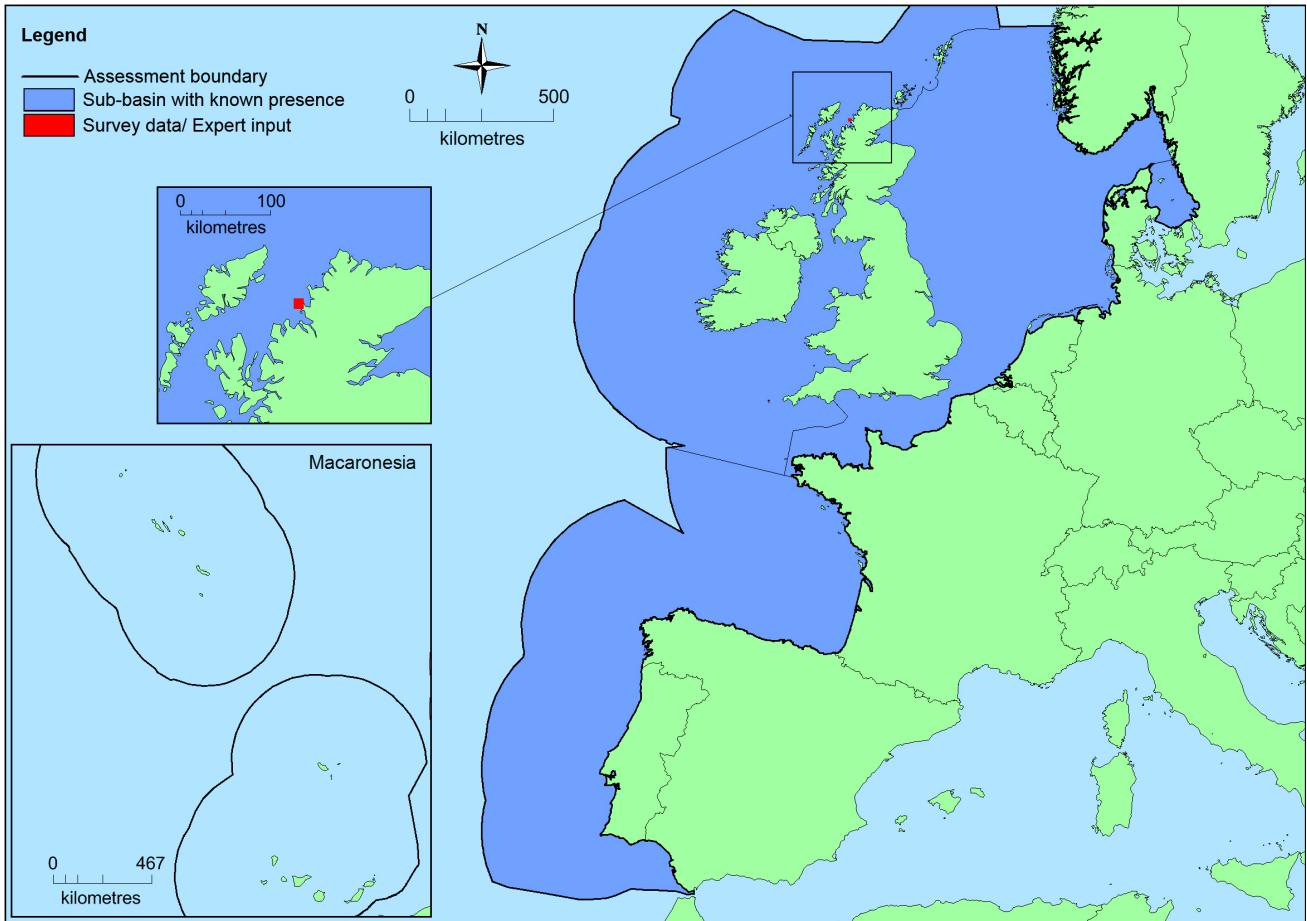
Geographic occurrence and trends

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>	Celtic Seas: Present Kattegat: Present Greater North Sea: Present Bay of Biscay and the Iberian Coast: 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>	Unknown Km ²	Unknown	Unknown Km ²	Insufficient records for reliable estimate.
<i>EU 28+</i>	Unknown Km ²	Unknown	Unknown Km ²	Insufficient records for reliable estimate.

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

Trends in quality

Unknown.

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

Pressures and threats

Increasing human activities in the coastal zone create multiple stresses on estuaries that degrade water quality and damage the associated habitats. The pressures include wastewater inputs, chemical contaminants, freshwater diversions, draining and ditching of wetlands, reinforcement of shorelines, inlet stabilisation and trampling on the shore.

List of pressures and threats

Urbanisation, residential and commercial development

Discharges

- Disposal of household / Recreational facility waste
- Disposal of industrial waste
- Disposal of inert materials
- Other discharges
- Water discharges (with/without contaminants)

Human intrusions and disturbances

- Outdoor sports and leisure activities, recreational activities
- Walking, horseriding and non-motorised vehicles

Pollution

- Pollution to surface waters by industrial plants
- Pollution to surface waters by storm overflows
- Other point source pollution to surface water
- Diffuse pollution to surface waters via storm overflows or urban run-off
- Diffuse pollution to surface waters due to agricultural and forestry activities

Natural System modifications

- Human induced changes in hydraulic conditions
 - Landfill, land reclamation and drying out, general
 - Reclamation of land from sea, estuary or marsh
 - Removal of sediments (mud...)
 - Estuarine and coastal dredging
 - Change of sea-floor substrate
 - Dykes, embankments, artificial beaches, general
 - Sea defense or coast protection works, tidal barrages

Conservation and management

Conservation and management schemes to benefit estuarine habitats have been applied at a number of scales ranging from whole estuary systems to small areas within an estuary. They include the removal of dykes, together with the introduction of water quality improvement programmes to reduce the risk of toxic contamination.

Other measures include spatial management, with zoning of activities as part of Integrated Coastal Zone Management Schemes, Marine Protected Areas that cover the entire estuary complex, and management of diffuse inputs from the water shed.

List of conservation and management needs

Measures related to wetland, freshwater and coastal habitats

Restoring/Improving water quality
Restoring/Improving the hydrological regime

Measures related to marine habitats

Other marine-related measures

Measures related to spatial planning

Other spatial measures

Measures related to urban areas, industry, energy and transport

Other measures
Urban and industrial waste management

Conservation status

Annex 1:

1130: MATL U2

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 historical, recent or potential future trends of this habitat. It has therefore been assessed as Data Deficient under criterion A.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	unknown Km ²	Unknown	Unknown	unknown	unknown	Unknown	Unknown	unknown	unknown
EU 28+	unknown Km ²	Unknown	Unknown	unknown	unknown	Unknown	Unknown	unknown	unknown

There is insufficient information for calculation of EOO or AOO. This habitat has therefore been assessed as Data Deficient under criteria B.

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			
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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

G. Saunders & C. Karamita.

Contributors

C. Karamita and the North East Atlantic Working Group: S. Gubbay, G. Saunders, H. Tyler-Walters, N. Dankers, F.Otero-Ferrer, J.A. Forde, K. Fürhaupter and N. Sanders.

Reviewers

J.Leinikki.

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References

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