

Summary of Key Indicators: Annex 2g Coastal Margins

Natural England's Natural Capital Indicators Project aims to identify key attributes for measuring change in natural capital in England, at a range of scales. Key indicators have been identified for the quantity, quality and location of ecosystems. We have not identified suitable repeated measures for value of benefits, which could be used as indicators.

Summary of key indicators:

See table below for further detail and related data sets

1. Extent of habitat: coastal lagoons, intertidal sediment (beach and mud), salt marsh, sand dunes, sea cliff, shingle

2. Quality

- **Nutrient/chemical status:** of sediment/soil and coastal lagoons.
- **Sediment processes:** soil/sediment biota, sediment supply, sediment stabilisation (for flood protection)
- **Species composition:** naturalness of biological assemblage (number of trophic levels and community composition in each), lack of invasive non-native species.
- **Vegetation:** cover of vegetation/bare soil, natural strandline.
- **Cultural:** nature, landscape, seascape and urban green space, culture and history, quietness, accessibility.
- **Geodiversity:** active geomorphological processes; condition of designated geosites.

3. Location of:

- Transition and connectivity from subtidal to coastal and terrestrial habitats
- Width/area/location for dynamic movement and development of coastal habitats e.g. saltmarsh and sand dunes
- Width/area/location of habitats providing flood protection – for housing and infrastructure
- % population who can access a minimum of 2ha accessible green space / blue space within 2 miles of home.

4. Ecosystem service flows (specific to individual services):

- Measurement of the service: carbon sequestered and greenhouse gases fixed, maintenance of wildlife habitats and species, flood protection, mass stabilisation. Practices that relate to experiential and physical, scientific and educational use.

The project also identifies and reviews datasets for measuring the attributes. Data sets are only included if they are regularly updated. Gaps in data are also identified, where appropriate data sets have not been found.

Summary of Key Indicators: Coastal Margins

This note summarises the results of this project for the Coastal Margins Broad Habitat, for the key ecosystem services in the table below. Please also see the separate note on the method followed.

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Coastal margins: provisioning and regulating services			Ecosystem services				Data sources
Asset attribute	Indicator category	Indicator	Mass stabilisation	Flood protection	Maintenance of nursery pops & habs	Climate regulation	
Quantity	Extent	Coastal lagoons			X		Priority Habitat Inventory; Channel Coastal Observatory
Quantity	Extent	Intertidal sediment (beach and mud)	X	X	X	X	Priority Habitat Inventory; Channel Coastal Observatory; OS VectorMap District; EMODnet - Intertidal mudflats layer for England
Quantity	Extent	Salt marsh	X	X	X	X	Priority Habitat Inventory; Saltmarsh Extents, Saltmarsh Zonation
Quantity	Extent	Sand dunes	X	X	X	X	Priority Habitat Inventory; Channel Coastal Observatory
Quantity	Extent	Sea cliff			X		Priority Habitat Inventory
Quantity	Extent	Shingle	X	X	X		Priority Habitat Inventory; Channel Coastal Observatory
Quality	Nutrient (& chemical) status	Nutrient & chemical status of coastal lagoons			X		Water Framework Directive (WFD)
Quality	Nutrient (& chemical) status	Sediment/soil nutrient status			X		Clean Seas Environmental Monitoring Programme; LTMN (mainly only for NNRs)
Quality	Soil/sediment processes	Soil/sediment biota			X	X	Clean Seas Environmental Monitoring Programme; LTMN (mainly only for NNRs)
Quality	Soil/sediment processes	Sediment supply/availability (including type, grain size)	X	X	X		Common Standards Monitoring (CSM) (only for Sites of Special Scientific Interest)
Quality	Soil/sediment processes	Sediment stabilisation		X			None identified
Quality	Species Composition	Naturalness of biological assemblage number of trophic levels & community composition in each level			X		None identified
Quality	Species Composition	Invasive non-native species			X		WFD
Quality	Vegetation	Cover of vegetation/bare soil (esp. dunes, shingle, dynamic between saltmarsh/mudflat)	X	X			CSM (only for Sites of Special Scientific Interest), Saltmarsh Zonation
Quality	Vegetation	Natural strandline – triggers formation of new dunes & saltmarsh			X		CSM (only for Sites of Special Scientific Interest)
Spatial config.		Transition and connectivity from subtidal to terrestrial habitats			X		CSM (only for Sites of Special Scientific Interest)
Spatial config.		Width/area/location for dynamic movement and development of coastal habitats e.g. saltmarsh and sand dunes	X		X		None identified
Spatial config.		Width/area/location of habitats providing flood protection – for housing and infrastructure		X			None identified
ES flow		Carbon sequestered & green house gases fixed				X	None identified
ES flow		Maintenance of sustainable ecosystems/life cycle stages			X		None identified
ES flow		Reduced inundation of terrestrial areas from marine flooding		X			Environment Agency; Risk of Flooding from Rivers and Sea
ES flow		Sediment stabilisation	X				Saltmarsh Zonation

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Coastal Margins: Cultural & Geodiversity Services					Data Source
Asset attribute	Indicator category	Indicator	Cultural Services	Geodiversity services	
Quantity	Extent	Coastal lagoons	X		Priority Habitat Inventory; Channel Coastal Observatory
Quantity	Extent	Intertidal sediment (beach and mud)	X		Priority Habitat Inventory; Channel Coastal Observatory; OS - VectorMap District; EMODnet - Intertidal mudflats layer for England
Quantity	Extent	Salt marsh	X		Priority Habitat Inventory; EA Saltmarsh Zonation
Quantity	Extent	Sand dunes	X		Priority Habitat Inventory; Channel Coastal Observatory
Quantity	Extent	Sea cliff	X		Priority Habitat Inventory
Quantity	Extent	Shingle	X		Priority Habitat Inventory; Channel Coastal Observatory
Quality	Nature	Visibility of wildlife	X		None identified
Quality	Nature	Presence of flagship species	X		None identified
Quality	Nature	Presence of rare (red list) species	X		None identified
Quality	Nature	Species diversity	X		Countryside Survey
Quality	Nature	Favourable condition of SSSIs	X		CSM (only for Sites of Special Scientific Interest)
Quality	Nature	Favourable condition of designated geosites	X	X	CSM (only for Sites of Special Scientific Interest)
Quality	Landscape, seascape & urban green space	Size of environmental space (ha)	X		None identified
Quality	Culture & history	Designated Historic Environment Assets (World Heritage Sites, Scheduled monuments (% at risk), Historic Parks & Gardens, Listed Buildings, Conservation Area, registered battlefields)	X		Historic Environment Record
Quality	Quietness	Tranquility	X		CPRE Tranquility mapping, Defra Strategic Noise Mapping
Quality	Accessibility	Mean number of perimeter access points per km	X		None identified
Quality	Accessibility	Public Rights of Way / permissive paths; footpaths, bridleways, byway – length, density (km/ha)	X		OS master Map, Public Rights of Way
Quality	Accessibility	Presence of paths accessible to all – e.g. wheelchairs, pushchairs - length, density (km/ha)	X		None identified
Quality	Formative geological processes	Active geomorphological processes; terrestrial, coastal & marine		X	None identified
Spatial Configuration		% population who can access 2ha of green space within 2 miles of home	X		None identified
ES flow	Experiential & physical use	Number of visits	X		MENE: Monitor of Engagement with the Natural Environment
ES flow	Experiential & physical use	Duration of visits	X		MENE: Monitor of Engagement with the Natural Environment
ES flow	Experiential & physical use	Range of activities undertaken (number of people carrying out each activity, frequency, time spent)	X		MENE: Monitor of Engagement with the Natural Environment
ES flow	Scientific/educational	Number of research projects; PhD / Masters projects	X		None identified
ES flow	Scientific/educational	Number of school visits	X		None identified