

Glossary: Bailiwick Coastal Defence Strategy

Accretion	The accumulation of (beach) sediment by natural processes.
Aggregates	Sand and gravel, crushed rock and other bulk materials used in the construction industry for purposes such as the making of concrete, mortar and asphalt.
Apron	A layer of stone, concrete or other material to protect the toe of a seawall.
Astronomical Tide	The tidal levels and flows that would result from gravitational effects, e.g. of the Earth, Sun and Moon, without any meteorological influences.
Backshore	The area above normal maximum high water level, that is nevertheless affected by coastal processes.
Bathymetry	The spatial variability (topography) of seabed levels, often described in terms of depth below Chart Datum.
Beach Crest	The point representing the limit of high tide storm wave run-up.
Beach Management	Management of a beach as a coastal defence with a pre-determined standard of protection, using combinations of beach recharge, recycling, re-profiling, beach control structures and a programme of monitoring.
Beach Plan Shape	The shape of the beach in plan; usually shown as a contour line, or a combination of contour lines or recognisable features such as beach crest and/or still water line.

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Beach Profile	A cross-section taken perpendicular to a given beach contour; the profile may include the face of a dune or seawall, extend over the backshore, across the foreshore, and seaward underwater into the nearshore zone.
Breaching	Failure of the defences allowing flooding by tidal action.
Chart Datum	The level to which both tide levels and water depths are reduced on marine charts. On UK charts, this level approximates to the predicted LAT level.
Coastal Defence	General term used to encompass both coast protection against erosion and sea defence against flooding.
Coastal Processes	Collective term covering the action of natural forces on the shoreline and nearshore seabed.
Coastal Squeeze	The process under which coastal habitats and natural features progressively are lost or drowned, by being caught between coastal defences and rising sea levels.
Coastal Unit	Defined as a length of coastline with coherent properties in terms of both coastal processes and land use.
Cross-Shore	Perpendicular to the shoreline.
Cross-Shore Transport	The movement of (beach) sediments approximately normal (at right angles) to the shoreline.

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Defence Line	The crest of a seawall/revetment (man-made defences) or the crest of dunes or the cliff edge (natural defences).
Depth- Limited	Situation in which wave generation (or wave height) is limited by water depth.
Detached Breakwaters	Coastal structures lying parallel but not connected to the shore. They are generally constructed from imported rock or concrete units placed on the seabed.
Diffraction	Process affecting wave propagation, by which wave energy is radiated normal to the direction of wave propagation in to the lee of an island or breakwater.
Downdrift	The direction of the predominant longshore movement of beach material.
Dunes	Wind-blown sand deposits, often vegetated.
Ebb	A period when the tidal level is falling. Often taken to mean the ebb current that occurs during this period.
Embankment	An earth bank raised above a low-lying hinterland area to prevent flooding.
Erosion	The process of wearing away, and the subsequent transport of, a material by the action of natural forces.
Erosion Defence	A structure or scheme designed to prevent erosion of the coastline.

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Fetch-limited	Situation in which wave energy (or wave height) is limited by the size of the wave generation area.
Fetch	Distance over which a wind acts to produce waves, also termed fetch length.
Flood Defence	A structure or scheme designed to limit the risk of flooding in coastal regions, by the sea under extreme wind and tidal conditions.
Free board	The height of the crest of a structure above the still water level.
Geomorphology	The study of land forms and land forming processes.
Groynes	Cross-shore coastal structures connected to the shore, designed to reduce longshore transport by causing beach reorientation. They may be constructed from timber, concrete, steel sheet piles or rock.
Hard Defences	Defences that tend to confront and resist the natural coastal processes, e.g. seawalls.
Highest Astronomical Tide	The highest level that can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions.
Hougue	A rocky hillock.
Intertidal Zone or Foreshore	The area between LAT and HAT.
Isthmus	A narrow piece of land connecting two larger pieces of land.

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Longshore	Parallel and close to the coastline.
Longshore Transport/Drift	The movement of (beach) sediments approximately parallel to the foreshore as a result of waves and/or currents approaching at an oblique angle to the shoreline. Also known as longshore drift.
Lowest Astronomical Tide	The lowest level that can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions.
Mare	Originally, a lagoon situated in low-lying flat land between bays/escarpments, which often become marshy with the passage of time.
Neap Tides	Tides of small range that occur twice a month (when the moon is in quadrature).
Nearshore	Area over which seabed transport can be caused by storm waves, including the intertidal zone.
Offshore	Area seaward of nearshore zone where seabed transport is not normally driven by waves.
Ordnance Datum	Standard reference level used by the Ordnance Survey for land surveys in the UK. Usually based on mean sea level at Newlyn, Cornwall, although Guernsey and Herm have a local datum.
Overtopping	Water carried over the top of a coastal defence owing to wave run-up exceeding the crest height.

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Refraction	The process by which the direction of a wave moving in shallow water at an angle to the contours is changed so that the wave crests tend to become more aligned with those contours.
Residual Life	The number of years the defence is estimated to last before its integrity is compromised as a result of progressive deterioration, if no maintenance or repairs are undertaken.
Return Period	Average time period between occurrences of a given event.
Revetment	General term for sloping, often permeable structures, providing flood or erosion protection to the backshore. May be constructed from rock, concrete or other material. Often a layer (or layers) used to protect the sloping face of an embankment, natural coast or shoreline.
Rock Protection	A simple revetment comprising one layer of rock (i.e. no filter or secondary layers), frequently used around Guernsey to reduce erosion at headlands.
Sea Level Rise	The long-term upward trend in mean sea level resulting from a combination of local or regional geological movements and global climate change.
Seawalls	A length of coastline that is relatively self contained as far as the
Sediment Cell	movement of sand or shingle is concerned.

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Sediment Processes	The phrase "sediment processes" is taken to include the following characteristics: coastal geomorphology, longshore transport of sediment, and sediment sources and sinks. This results in two broad types of sediment.
Sediment Sink	Point or area at which beach material is irretrievably lost from a coastal cell, such as an estuary or a deep channel in the seabed.
Sediment Source	Point or area on a coast from which beach material arises, such as an eroding cliff, or river mouth.
Shingle Ridge/Bank	An upper beach feature with a low-lying backshore subject to flooding.
Shoreline	The interface between the land and the sea
Significant Wave Height	The average of the highest one third of the waves during a given event or time period.
Site of Nature Conservation Importance	A non-statutory designation covering sites that have a significant wildlife value.
Soft Defences	Defences designed to work with rather than against the natural coastal processes. They tend to absorb rather than reflect wave energy and to be dynamic rather than static, e.g. beach nourishment.

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Spring Tides	Tides of large range that occur twice a month (when the moon is new or full).
Standard of Defence	The adequacy of defence measured in terms of high, medium or low standard. May also be measured in terms of the return period (years) of the event that causes a critical condition to be reached.
Surges	Changes in water levels as a result of meteorological forcing, e.g. wind, high or low bathymetric pressure, causing a difference between the recorded water level and that predicted using harmonic analysis; may be positive or negative.
Tidal Current	The movement of water associated with the rise and fall of the tides.
Tidal Range	The vertical difference between high and low water levels.
Tide	The periodic rise and fall in the level of the water in oceans and seas, the result of gravitational attraction of the sun and the moon.
Updrift	The direction opposite to that of the predominant longshore movement of beach material.
Wave Climate	The seasonal or annual distribution of wave height, period and direction.