

Coastal Structures Glossary

Anchor piles	These are anchors, usually vertical piles driven into the ground, on the landward side of the bulkhead, to which the bulkhead is tied by tiebacks or tie-rods (commonly called deadmen).
Armor	This refers to the larger stone used as the outer layers of a revetment which is directly exposed to waves.
Breakwater	A breakwater is an offshore structure which is aligned parallel to the shoreline. A fixed breakwater refers to one generally constructed of stone or gabion baskets (wire baskets or mattresses which are filled with stone), placed on the bottom. Floating breakwaters should be firmly anchored and may be constructed of tires, logs, specially fabricated boxes and baffles, or other floating materials.
Buried toe	This is the practice of trenching in the seaward toe of a riprap structure to help prevent scour and shifting of the structure.
Core	The core is the smaller stone used as the base of the revetment which is not directly exposed to waves.
Fetch	Fetch is the distance that wind blows over water prior to its reaching a shoreline. Generally it is used as an estimate of potential wave energy or stress the shoreline may expect.
Filter cloth	Filter cloth is the synthetic textile placed between sheeting and backfill which prevents soil loss but is water-permeable.
Groin	This is a structure that is perpendicular to the shoreline and extends into the water. They function in trapping sand moving in the along-shore currents.
Jetting	Jetting is a method of sinking structures in substrate where high pressure water “washes” the structure down and the hole refills with sediment as the pressurized water is cut off.
Jetty	As with groins, jetties are linear structures placed perpendicular to the shoreline and cross the intertidal zone to deeper water. They function to intercept sand moving along the shoreline and protect channels and inlets from shoaling and wave energy.
Low-profile	This is a recommended design for either timber or stone groins, in which the elevation of the channelward end of the groin is no greater than that of mean low water. This allows the sand to bypass the groin more quickly once the groin cell is filled, lessening the interruption of sediment movement to downdrift shorelines.
Marsh toe protection	This is a low-profile rock structure placed channelward of a marsh, usually being placed directly against an eroding scarp.
Return walls	These are walls located at each end of the bulkhead and shoreline, approximately perpendicular to the bulkhead and shoreline, which tie the bulkhead into the upland and

prevent the bulkhead from being flanked.

Revetment	A revetment is a sloped structure consisting of multiple layers of stone or other material placed along a bank.
Riprap	Riprap is the stone used to build a revetment. Frequently, the structure itself is called riprap.
Screw anchors	Screw anchors refer to another anchoring method that consists of rods that screw into the upland.
Sill	Sill is a continuous low-profile breakwater structure.
Spur	Spurs are attached to the downdrift side of the groin and oriented perpendicular to the groin, and parallel to the shoreline. The spur may be aligned anywhere between MLW and the channelward end of the groin. The purpose is to prevent characteristic erosion of sand immediately downdrift of the groin.
Tiebacks	These are rods used to connect the bulkhead to the land anchor pile or deadmen (usually the horizontal piles connected to the anchor pile).
Tombolo	This is the name given to the build-up of sand landward of gapped breakwaters.
Up- & down drift	Updrift and downdrift refer to longshore drift, or the movement of sediment along the shore. Sediment may move in both directions along a particular shoreline. The net direction of movement determines the net accumulation of sediment by a groin. Groins necessarily deprive downdrift shorelines of their sand supply, worsening any existing erosion problems.
Vegetative control	Vegetative control is the use of wetlands vegetation to deter erosion, either alone or in concert with an offshore breakwater or sill. Vegetation may be planted or allowed to colonize naturally.
Whaler	Whaler refers to a structural member of a wood bulkhead or groin which runs horizontally between pilings and braces the sheeting.