SHORELINE MANAGEMENT
GLOSSARY

Armor Larger stone used as the outer layers of a revetment directly exposed to wave action.

Bank height Approximate height of the upland bank above mean low water.

Bathymetry The topography, or contours, of a waterway correlated to water depths.

Beach The shoreline zone comprised of unconsolidated sandy material upon which there is mutual interaction of the forces of erosion, sediment transport and deposition extending from the low water line landward to the uplands.

Best Management Practice (BMP) Measures that have the combined effect of ensuring project integrity for the design life of the project while minimizing the potential adverse impacts associated with construction and maintenance.

Beach nourishment Placement of good quality sand along a beach shoreline to raise the elevation of the nearshore area.

Breakwater A structure usually built of rock positioned a short distance from the shore. The purpose is to deflect the force of incoming waves to protect a shoreline.

Bulkhead A vertical structure that acts as a retaining wall usually constructed parallel to a shoreline.

Buried toe Trenched seaward toe of a revetment to help prevent scour and shifting of the structure.

Core stone Smaller stone used as the base of a revetment to provide a stable base for armor stone.

Downdrift The resulting direction material is carried as waves strike a shore and move “down” along a shoreline.

Fetch The distance along open water over which wind blows. For any given shore, there may be several fetch distances depending on predominant wind directions, but there is generally one fetch which is longest for any given shoreline exposure.

Filter cloth Synthetic textile placed between bulkhead sheeting and backfill or underneath a revetment to prevent soil loss yet provide permeability.

Gabion A basket or cage filled with stone, brick or other material to give it a weight suitable for use in revetments or breakwaters. In the marine environment, usually made with galvanized steel wire mesh with a PVC coating.

Groin A rigid, vertical structure extending perpendicular to shore to trap transporting sand or other material down a shoreline.

Groin field A series of several groins built parallel to each other along a shoreline.

Headland A point of high land jutting out into a body of water.

Jetty A structure similar to a groin, but typically designed to prevent shoaling of a navigation channel.

JPA The standard Joint Permit Application for shoreline stabilization structures and other activities conducted in wetlands and the marine environment. The applicant completes one form, which is submitted to local, state and federal permitting agencies.

Incidental effects Indirect impacts of an activity or structure, such as those resulting from redirected wave energy, trapped sand or sedimentation.

Littoral transport The movement of sand and other materials along the shoreline in the littoral zone, or the area between high and low watermarks during non-storm periods.

Low profile The recommended design for groins with a channelward elevation no greater than mean low water to allow sand bypass to continue once the groin cell is filled, reducing the potential for adverse downdrift effects.

Marsh fringe A band of marsh plants which runs parallel to a shoreline.

Marsh toe revetment A low revetment built to protect an eroding marsh shoreline.

Mean high water The average height of high waters over a nineteen year period.

Mean low water The average height of low waters over a nineteen year period. Virginia is a low water state, meaning private property extends to the mean low water line.

Mean tide range The vertical distance between mean high water and mean low water.

Nearshore A term referring to the area close to the shore but still partly submerged. This area is where sand bars and shoals often form.

Pressure treated The process of preserving wood by impregnating it with chemicals to reduce or retard invasion by wood destroying organisms.

Reach A discrete portion of a shoreline somewhat homogeneous in its physical characteristics and upon which there are mutual interaction of the forces of erosion, sediment transport, and accretion.

Return walls Bulkhead end sections perpendicular to the shoreline to tie the bulkhead into the upland and prevent the bulkhead from being flanked as the shoreline continues to retreat on either side of the structure.

Revetment A sloped structure constructed with large, heavy stone, often in two layers, used to anchor the base of the upland bank. The size of a revetment is dictated by the energy of the shoreline environment where it is proposed.

Riprap Stone that is hard and angular that will not disintegrate from exposure to water or weathering.

Scarp A low steep slope caused by wave erosion.

Seawall A vertical wall or embankment, usually taller and larger than a bulkhead.

Shoal A shallow area in a waterway, often created by nearby sandbars or sandbanks.

Shore orientation The compass direction the shoreline faces. Some directions are more prone than others to the erosive forces of storm events.

Sill An erosion protection measure that combines elements of both revetments and offshore breakwaters. Sills are usually built of stone, low in profile and built close to shore.

Sediment barrier or ***Silt screen*** Structures placed at the toe of a slope or in a drainageway to intercept and detain sediment and decrease flow velocities. Barriers may be constructed of posts and filter fabric properly anchored at the base or hay bales staked in place end to end.

Sheet pile A wooden plank or steel sheet used in the construction of bulkheads and groins.

Slope Degree of deviation of a surface from the horizontal; measured as a numeric ratio, percent or in degrees. When expressed as ratio, the first number is the horizontal distance and the second is the vertical distance.

Splash apron A structural component, often of rock, used to prevent forceful waves from scouring out material from the top of a revetment or bulkhead.

Spur A vertical structure normally used perpendicular to groins to redirect incoming waves to allow a sheltered area in the lee and promote the accumulation of sand.

Storm surge The resulting temporary rise in sea level due to large waves and low atmospheric pressure created during storms.

Subaqueous or ***Submerged lands*** The ungranted lands beneath the tidal waters of the Commonwealth extending seaward from the mean low water mark to the 3 mile limit.

Submerged aquatic vegetation (SAV) Rooted plants found in shoal areas of Chesapeake Bay which provide important ecological roles, such as providing food, shelter and oxygen as well as trap sediment and dissipate wave energy.

Time of year restrictions Restrictions that limit construction projects during periods of heightened sensitivity for certain aquatic organisms, such as anadromous fish, submerged aquatic vegetation (SAV), shellfish and Northeastern beach tiger beetle.

Tombolo The accumulation of beach material in the lee of a breakwater structure.

Wave climate The average wave conditions as they impact a shoreline, including waves, fetch, dominant seasonal winds and bathymetry.

Wave energy The force a wave is likely to have on a shoreline depending on environmental factors, such as shore orientation, wind, channel width, and bathymetry.

Wave height The vertical measurement of a single wave from its base or trough to its top or crest.

Sources:

VMRC 1999. **Shoreline Development BMP's: Best Management Practices for Shoreline Development Activities which encroach in, on, or over Virginia's tidal wetlands, coastal primary sand dunes and beaches, and submerged lands.** Virginia Marine Resources Commission, August 1999.

Hardaway, C. S. and R. J. Byrne. 1999. **Shoreline Management in Chesapeake Bay.** Virginia Sea Grant Publication VSG-99-11.

Web Sites:

Virginia Wetlands Management Handbook - **http://ccrm.vims.edu/wetlands/handbook**
Self-Taught Education Units - **http://ccrm.vims.edu/wetlands/selfeds**
Wetland Functions & Values
Coastal Shoreline Defense Structures