

## Glossary of Shoreline Features

### Glossary of Shoreline Features Defined

**Agricultural** - Land use defined as agricultural includes farm tracts that are cultivated and crop producing. This designation is not applicable for pastureland, which is coded as Grass.

**Bank Cover** – Bank cover is a classification based on the presence or absence of bare soil on the bank. “Cover” can include either vegetative or structural cover.

**Bank Height** – Bank height is the height of the bank from the base to the top. We estimate height from imagery, field inspection, videography, LIDAR or a combination of all data sources.

**Bare** - Land use defined as bare includes areas void of any vegetation or obvious land use. Bare areas include those that have been cleared for construction.

**Beaches** - Beaches are persistent sandy shores that are visible during high tides. These features can be wide or thin lenses of sand. Beaches are coded as linear features at the wet/dry line to portray their location only. If a beach does not have a visible wet/dry line, then the line feature is located at the seaward edge of the beach. ‘Wide’ beaches have at least 25 feet of dry sand persistently visible above high tides. Beach features coded along tidal marsh shorelines are persistent, sandy features located on the water side of tidal marsh vegetation. Sand washed into tidal marshes is not coded as a beach if the marsh vegetation &/or marsh edge is still clearly visible. This classification of beaches along tidal marsh shorelines can include professional judgment.

**Boathouse** - A boathouse is considered any covered structure alongside a dock or pier built to cover a boat. They include true “houses” for boats with roof and siding, as well as awnings that offer only overhead protection. Since nearly all boathouses have adjoining piers, piers are not surveyed separately, but are assumed. Boathouses may be difficult to see in aerial photography.

**Boat Ramp** - Boat ramps are used to launch vessels of all types. They are usually constructed of concrete, but wood and gravel ramps are also found. Point identification of boat ramps does not discriminate based on type, size, material, or quality of the launch. This inventory attempts to distinguish, when possible, private versus public ramps. Ramps located in privately owned, commercial marinas and residential communities are classified as private.

**Breakwaters** - Breakwaters are structures that sit offshore and generally occur in a parallel series along the shore. Some breakwaters are attached to the land and are referred to as headland breakwaters. Their purpose is to attenuate and deflect incoming wave energy, protecting the fastland behind and between the structures.

The Shoreline Inventory does not map individual breakwaters. A breakwater “system” is delineated and depicted as a line parallel to the series of breakwaters. Breakwaters are distinguished from marsh toe revetments by the size of the structures and presence of a sand beach instead of a tidal marsh landward from the structures. The classification can include best professional judgment.

**Bulkhead** - Bulkheads are traditionally treated wood or steel “walls” constructed to offer protection from wave attack. More recently, plastics are being used in the construction. Bulkheads are vertical structures built slightly seaward of the problem area and backfilled with suitable fill material. They function like a retaining wall, as they are designed to retain upland soil, and prevent erosion of the bank from impinging waves.

From aerial photography, long stretches of bulkheaded shoreline may be observed as an unnaturally straight or angular coast. They are mapped and illustrated as linear features along the shoreline. In rare cases, the bulkhead may be located well inland from the depicted location because the coding follows a digital shoreline.

**Commercial** - Commercial is a land use classification denoting small commercial operations such as shops, restaurants, as well as campgrounds. These operations are not necessarily water dependent businesses.

**Debris** – Debris represents nonconforming materials and rubble dumped along the shoreline in a haphazard manner. Debris can include tires, bricks, broken concrete rubble, and railroad ties as examples. The inventory maps Unconventional instead of Debris when the material is deliberately placed for shoreline protection in a manner similar to riprap, bulkhead, and other shoreline protection structures.

**Dilapidated Bulkhead** – A bulkhead which has failed due to deterioration from age or storm damage is called a dilapidated bulkhead. In many cases the structure may not be able to perform erosion control functions any longer.

**Dock/Pier** - In this survey, a dock or pier is a structure, generally constructed of wood, which is built perpendicular or parallel to the shore. These are typical on private property, particularly residential areas. However, there are exceptions where they are used in working waterfront communities, and may be disconnected from the shore. In general docks provide access to the water, a mooring for vessels, and a venue for recreational activities. They are mapped as point features. Pier length is not surveyed.

**Dilapidated Pier** – A pier which has failed due to deterioration from age or storm damage is classified as a dilapidated pier. The remnants of this structure may be original pilings only.

**Forest Land Use** - Forest cover includes deciduous, evergreen, and mixed forest stands. The land use is classified as Forest if there is a dense cover of trees and no other land use category is apparent close to the shoreline, e.g. residential, commercial, industrial, agriculture, etc.

**Grass** - Grasslands include large unmanaged fields, managed grasslands adjacent to large estates, agriculture tracts reserved for pasture, and grazing. While a general rule of thumb will classify a tract as “grass” if a home sits behind a large tract of grass, a designation of “residential” may be made if there are similar tracts adjacent to each other. This designation can be determined using best professional judgment.

**Groinfield** - Groins are low profile structures that sit perpendicular to the shore. They can be constructed of rock, timber, or concrete. They are frequently set in a series known as a groinfield, which

may extend along a stretch of shoreline for some distance. Unless only a single groin can be detected, this inventory does not delineate individual groins in a groinfield. The groinfield is mapped as one linear feature parallel to the shoreline running along the length of the groin series. When effective, groins will trap sediment moving alongshore.

**Industrial** - Industrial operations are larger commercial businesses and can include areas where power plants, pulp mills, refineries, etc. are in operation along the coast.

**Jetty** – A jetty is a structure which is perpendicular to the shoreline and generally located near navigation channels and other places associated with navigation, such as the entrance of tidal creeks and tributaries, boat ramps, or marina boat basins. The function of a jetty is to reduce wave action and prevent sediment transported alongshore from accumulating in navigation areas.

**Land Use** – Land Use refers to the predominant condition in the immediate riparian area within 100 feet of the adjacent shoreline. While the actual assessment of land use is defined by a distance, the classification can include best professional judgment; particularly when development or other land use activity is setback on the parcel.

**Marina** - Marinas are denoted as line features in this survey. The infrastructure associated with the marina (e.g. bulkheading, docks, wharfs, etc.) are not digitized individually. However, if a boat ramp is noted it will be surveyed separately and coded as private. Marinas are generally commercial operations. However, smaller scale community docks offering slips and launches for residences are becoming more popular. To distinguish these facilities from commercial marinas, the user could check the riparian land use delineation. If “residential” the marina is most likely a community facility. The survey estimates the number of slips within the marina and classifies marinas as those with less than 50 slips and those with more than 50 slips.

**Marsh** –Tidal marsh at least 20 sq. ft. in area, meeting the definition established in Virginia’s Tidal Wetlands Act, and not otherwise considered a marsh island. In all cases, wetland vegetation must be relatively well established, although not necessarily healthy. In previous Tidal Marsh Inventories, marshes were further classified based on morphology and physiographic setting.

**Marsh Island** – A marsh island is a vegetated wetland that is completely isolated from the mainland and found in open water. A marsh that is surrounded by water due to dissection from small tidal creeks was classified as marsh, not a marsh island.

**Marsh toe revetment** (aka Marsh sill) –A low revetment placed offshore from an existing marsh or new planted marsh is classified as marsh toe revetment. The structure may include tidal openings to allow for the easy exchange of free swimming organisms during tidal cycles. Marsh toe revetments are mapped as offshore linear features running along the length of the structure. Marsh toe revetments are distinguished from breakwaters by the linear placement and presence of a tidal marsh instead of a sand beach landward from the structure. The classification can include best professional judgment.

**Military** – A land use classification of Military marks the location of federal military reservations. This classification is generally reserved for the section of the base where active operations and infrastructure exist. Expansive military property adjacent to these areas which are unmanaged forest areas, for

example, may be classified as forest land use.

**NoMarsh\_Forest** – Areas of trees found within a tidal marsh that are not considered part of the tidal marsh. May be upland, tidal swamp, or nontidal swamp.

**NoMarsh\_Sand** – Sand overwash on top of marsh. May or may not continue to be marsh in the future. Not counted as marsh for current survey.

**NoMarsh-ScrubShrub** – Areas of non-wetland scrub-shrub vegetation found within a tidal marsh.

**Paved** - Paved areas represent roads which run along the shore and generally are located at the top of the banks. Paved also includes parking areas such as parking at boat landings, or commercial facilities.

***Phragmites australis*** – Also known as common reed or reed grass, *Phragmites* is an invasive wetland plant known to thrive in areas that have experienced disturbance. *Phragmites* is mapped in two ways as a tidal marsh community type where it is dominant (>50% cover) and also where it appears in mapped tidal marshes in any amount.

**Residential** – Residential land use includes single and multi-family dwellings located near the shoreline.

**Riprap** (aka Revetments) - Sloped structures constructed with large, heavy stone or other materials placed against the upland bank for erosion protection are classified as riprap. Riprap is mapped as a linear feature along the shoreline. Riprap is also used next to failing bulkheads (bulkhead toe revetments). The inventory maps only riprap when this type of structure is co-located with bulkheads. A similar structure is used to protect the edge of eroding marshes. This use is mapped as marsh toe revetment, not riprap.

**Scrub-shrub** - Scrub-shrub is a land use class that includes small trees, shrubs, and bushy plants. This land use is easily distinguished during remote sensing compared to Forest and Grass.

**Shoreline** – generalized term for the land-water interface. Also see Upland Shoreline.

**Spit** - A narrow coastal landform tied to the upland shoreline at one end resulting from the deposition of sand moved by tides and currents. Spit features are generally sandy and may be dominated by beach, dune, and/or marsh habitats. For inventory purposes, this definition does not include spit features that are developed or have developable upland.

**Timbered** - Timbered or clear-cut land use is an area where all the trees have been cut down or removed for harvesting or in preparation for construction.

**Tree Fringe** - When the dominant riparian land use is not Forest but a line of trees is maintained along the bank edge, the land use is noted to include a tree fringe.

**Unconventional** - Unconventional features represent segments along the shore where alternative material has been deliberately placed for shoreline protection. Unconventional features may include unique materials placed in a similar manner as riprap or bulkheads, such as engineered pre-cast concrete

products. It may also include unique placement or arrangement of conventional materials like riprap that does not fit other structure definitions. The inventory maps Debris instead of Unconventional when the material is haphazardly scattered and not providing any shoreline protection value.

**Upland Shoreline** – the boundary between the water and upland. Where marshes exist, it is the upland edge of the tidal marsh, or where beaches exist, the upland edge of the beach. Also referred to as the baseline shoreline, it is not a tidally referenced or surveyed demarcation. It is the baseline on which the lubc (land use and bank condition) is coded.

**Wharf** – Typically describes a shore parallel structure where boats are tied. In this inventory, Wharf is generally associated with large industrial, public or commercial facilities.