



Site Assessment Terms

Day 1: Site Assessment Exercise

Terminology	Definition	Relevance
Bathymetry	Measuring of water depths, usually in the ocean, in order to determine bottom topography.	One factor that contributes to the amount of wave energy a site experiences; nearshore depths may impact sill dimensions, costs, and other design choices
Benchmark	A fixed physical object or mark used as a reference point	Established during site assessment and required for permit drawings and monitoring
Benthic	Relating to the bottom of a water body or to the organisms that live there; the benthic region begins at the shoreline (intertidal zone) and extends downward along the bottom of the water body	Must be assessed for presence of shellfish, including oysters, submerged aquatic vegetation, and sediment characteristics
Erosion Rate	A calculated number indicating how quickly land is being lost; usually stated as ft/yr	One factor in determining the level of protection necessary for a site
Fetch	The distance along open water over which wind blows in a single direction	One factor that contributes to the amount of wave energy a site experiences; helps dictate material sizing and structure dimensions; one factor in determining feasibility of a living shoreline for a particular site
Mean High Water (MHW)	The average of all the high water heights observed over the National Tidal Datum Epoch	Required for JPA drawings and measurements
Mean Low Water (MLW)	The average of all the low water heights observed over the National Tidal Datum Epoch	Required for JPA drawings and measurements
Mean Tide Range	The difference between mean high and mean low water levels	Required that 1.5X mean tide range be marked on JPA drawings
Morphology	Structure and configuration of the land; may refer to shoreline or nearshore areas	May affect a site's exposure to wind and wave energy; level of protection needed, and design approach
National Tidal Datum Epoch (NTDE)	The specific 19-year time period established by the National Ocean Service for collecting observations on water levels and calculating tidal datum values	NOAA currently uses the 1983-2001 NTDE. The NTDE is set to be updated to 2002-2020 data by 2025.
Orientation	The compass direction the shoreline faces	Indicates relation to erosion forces and potential sunlight; highest winds typically from the north and east; south-facing shorelines typically receive more sunlight for establishment of vegetation

Riparian	Connected with or immediately adjacent to the shoreline; this area is commonly referred to as the buffer	Jurisdictional impacts; healthy riparian buffers mitigate runoff; one indicator of a site's ability to adapt to sea level rise
Runoff	Stormwater that flows along the surface and may contain sediments and dissolved nutrient or other particles	Possible source of erosion; may introduce pollutants
Sediment	Solid material that is moved and deposited in another area	Sediment types dictate the type of sill structures that can be supported
Slope	The angle of the bank from the water to the upland	Indicator of a site's ability to adapt to sea level rise; may impact design and cost if grading or fill is necessary; impacts plant choice and planting locations
Storm Surge	The rise in sea level during a storm, measured as the height of the water above the normal tide; primarily caused by winds pushing water onshore	Indicative of the level of protection necessary for a site to withstand major storm events
Submerged Aquatic Vegetation (SAV)	Underwater flowering plants	Presence of SAV impacts permitting process, design choices
Topography	Contours and relative elevations of natural and artificial features of the shoreline	Determines design options, construction access, and feasibility
Wave Type	Refers to the source of waves (e.g. wind, boat wakes)	One factor in determining design options and level of protection needed

References

Hardaway, C. S., Jr. (n.d.). *Living Shoreline Design Guidelines for Shore Protection in Virginia's Estuarine Environments*. W&M ScholarWorks. <https://scholarworks.wm.edu/reports/833/>

Glossary - NOAA Shoreline Website. (n.d.). <https://shoreline.noaa.gov/glossary.html>

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