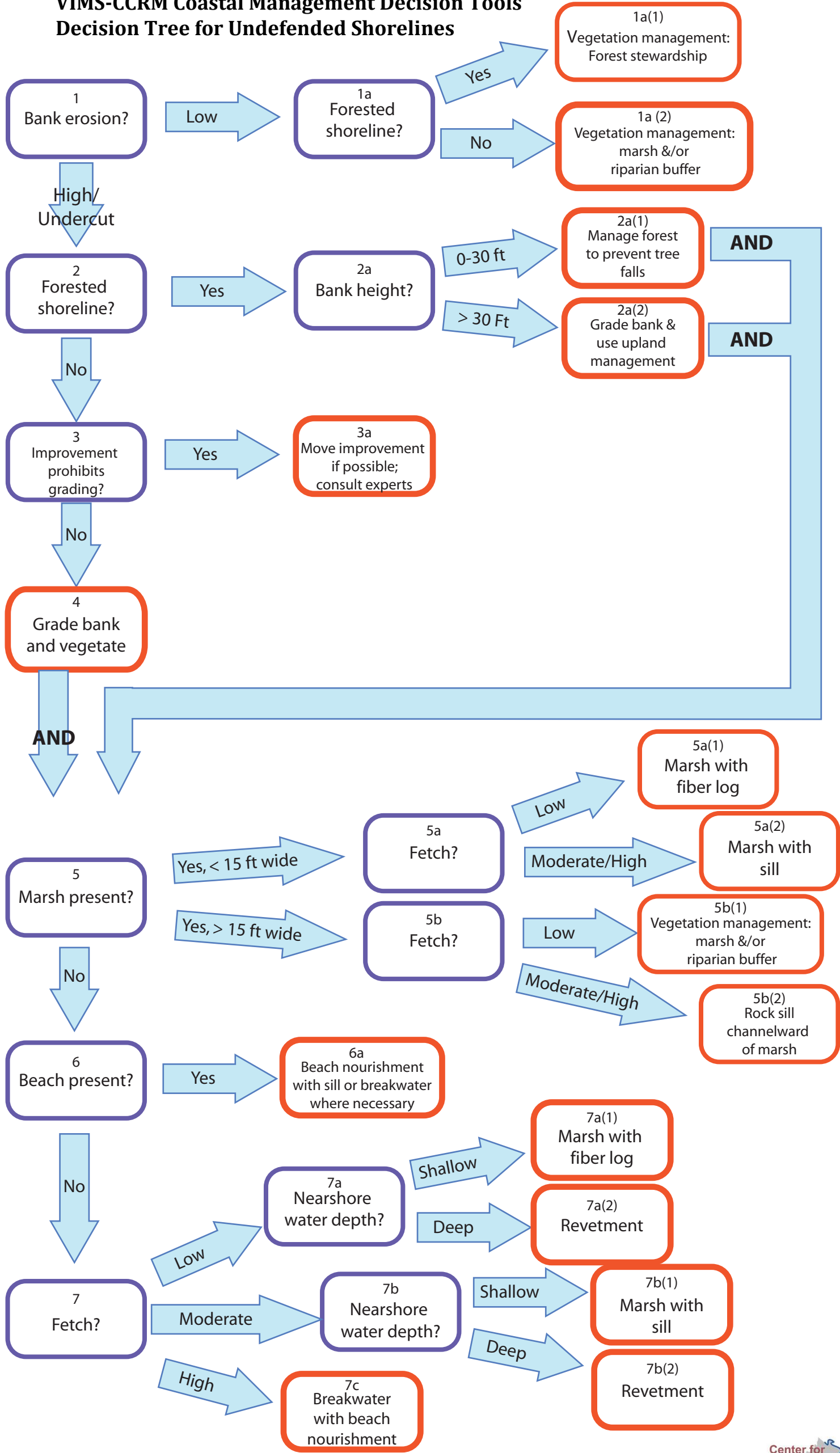


VIMS-CCRM Coastal Management Decision Tools
Decision Tree for Undefended Shorelines



Bank Erosion	The loss of upland soil along a shoreline due to the action of water, ice or wind. Indicators of erosion include bare soil areas, leaning and fallen trees, exposed tree roots, dead tree stumps in the water, and bank slumping.
Bank Erosion - High	Evidence of active soil movement, including bare exposed soil areas, numerous leaning and fallen trees, dead tree stumps in the water and/or bank slumping.
Bank Erosion - Low	No evidence of active soil movement, indicated by dense wetland and/or upland vegetation, trees growing straight up, trees of different ages, multiple layers of vegetation (canopy, mid-story, groundcover) and a relative absence of exposed soil areas.
Bank Erosion - Undercut	Loss of soil only at bank toe due to tidal action or water currents.
Bank Height	Approximate vertical height of the upland bank.
Beach	Shoreline type dominated by loose, unconsolidated sand
Beach nourishment	Placement of good quality sand along a beach shoreline to increase the beach width and raise the elevation of the nearshore area
Fetch	The distance across open water over which wind blows and waves are generated. This distance is measured at all angles from the shoreline. For the purposes of the decision tree, use the longest distance. Low: 0 – ½ mile; Moderate: between ½ - 2 miles; High: greater than 2 miles
Fiber log	Manufactured, biodegradable log that provides temporary erosion and sediment control and provides a medium for growing plants, particularly wetland and bank vegetation.
Forested Shoreline	Shoreline type dominated by mature canopy trees and other forest vegetation layers, such as mid-story trees, shrubs and ground cover.
Grade Bank	Reduce the steepness of a slope to allow for wave run-up and to improve vegetation growing conditions.
Marsh Present	Tidal wetland plants are growing along shoreline in parallel fringe or inland bays and tidal ponds (pocket marshes).
Marsh with fiber log	A treatment that uses fiber logs for temporary stabilization of a planted marsh area.
Marsh with sill	A low revetment placed near the mean low water elevation then backfilled with sand to create a tidal marsh where it does not occur naturally.
Nearshore water depth	The vertical distance between the water surface and the submerged bottom usually referenced in feet below the mean low water elevation (e.g. – 2 ft MLW) Shallow: at 30 ft. channelward from MLW, water depth is ≤ 3 ft. Deep: at 30 ft. channelward from MLW, water depth is > 3 ft.
Revetment	A sloped structure constructed with large, heavy stone or other material (riprap) placed against the upland bank for erosion protection. The size of a revetment is dictated by the wave height expected to strike the shoreline.
Rock sill channelward of marsh	A low revetment placed near the mean low water elevation adjacent to an existing tidal marsh.
Sill or Breakwater with beach nourishment	A structure usually built of rock positioned offshore to deflect the force of incoming waves and to contain a sand beach. Sill is generally of lower elevation & closer to shore. A breakwater is generally larger & further from shore.
Upland Management	Capture rainfall and runoff from impervious surfaces rather than allowing it to flow or be directed toward the waterway. Re-locate or elevate buildings that are routinely flooded or threatened by erosion.
Vegetation Management: Forest Stewardship	Enhance the existing forest condition by selectively removing dead, dying and severely leaning trees, pruning branches with weight bearing load over the water, planting mid-story and ground cover vegetation, controlling invasive upland species introduced by previous clearing.
Vegetation Management, Marsh &/or riparian buffer	Enhance the existing marsh condition by periodically removing excessive tidal debris and solid waste, repairing storm damaged areas, or adding new wetland vegetation. Enhance the existing riparian buffer condition by adding new trees, shrubs and ground covers; replace lawn with ornamental grasses, native shrubs and small trees.