

Facts About: Alternative BMPs

Stream Restoration and Shoreline Stabilization

Stream restoration and shoreline stabilization are alternative linear best management practices (BMPs) that help improve water quality by reversing the impacts of erosion, preventing further erosion, and improving the quality of habitat by mimicking natural hydrology.

Stream Restoration

Stream restoration repairs and reinforces stream banks by mimicking the natural features of the landscape. Stream bank erosion happens when there is an increased volume of runoff entering the stream after rain events because impervious (or paved) surfaces prevented rain from filtering into the ground. The impervious surfaces cause this runoff to flow into the stream faster than it would under natural conditions, which increases erosive power. This erosion can lead to habitat loss and more sediment in the stream. Stream restoration can help connect severely eroded streams back to the floodplain and restore habitat and clean water.



Eroded stream bank (before)



Restored stream (after)

Shoreline Stabilization

Shoreline stabilization involves tidal marsh creation, beach nourishment (replacing sand lost to erosion), and stone barriers to prevent further degradation of shorelines and promote shoreline habitat. Living shorelines use natural features to provide wetland habitat while still preventing shoreline erosion, rather than hard barriers. This is a commonly used tidal shoreline practice in the Chesapeake and Atlantic Coastal Bays.



Shoreline stabilization



Shoreline stabilization with signage, CBT

Pollutant Removal Efficiencies

Practice	Lbs Reduced / Linear Ft		
	Sediments	Phosphorus	Nitrogen
Stream Restoration (coastal plain/non-coastal plain)	15/45	0.068	0.075
Shoreline Stabilization	137	0.068	0.075

More Information

For more specific information on how stream restoration, shoreline stabilization, and alternative BMPs can be used for restoration, go to "Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits"