



US Army Corps  
of Engineers

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# Shoreline Protection Using Naturally Occurring Vegetation

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## Purpose

This technical note describes a conceptual shoreline erosion protection measure for the lakeside approach to an emergency spillway using naturally occurring vegetation.

## Problem

Shoreline erosion in some areas may require special or unusual methods. One special area is the shoreline on the lakeside approach to an emergency spillway. Emergency spillways normally have a crest, and hydrologists recommend against trees growing to a height greater than the crest in the emergency spillway, since such vegetation may interfere with flood flows. However, if trees are growing on the shoreline, cutting or removing them may exacerbate the erosion process.

## Solution

One solution to the problem is to cut the trees partway through the trunk and push the upper portion of the tree into the water (Figure 1).

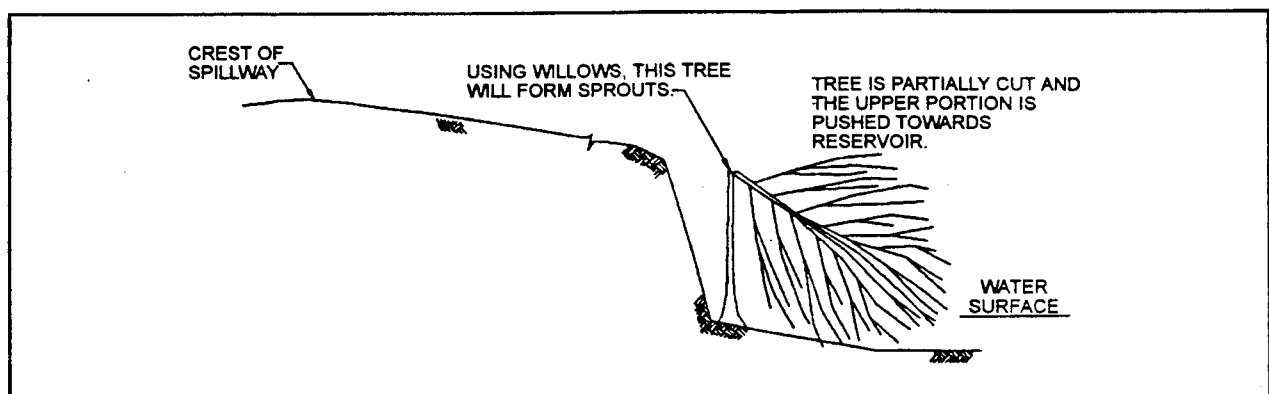


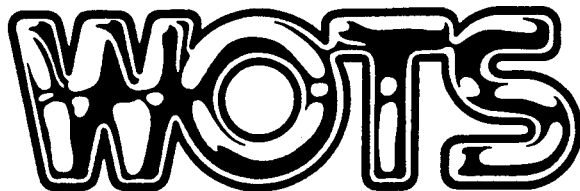
Figure 1. Naturally occurring vegetation used for shoreline protection

The upper portion of the trees lying in the water will catch debris and support algal mats and aquatic macrophyte growth, which in turn will stop or impede shoreline erosion. Not all tree species will sprout under such conditions; however, most willows will flourish and produce thick clumps or new growth using such treatment.

This method allows the hydrologic criteria to be satisfied, protects the shoreline from erosion, and can also provide shallow-water fishery habitat, especially for prey species. This method is also low cost and does not require a large amount of manpower.

## **Point of Contact**

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WATER OPERATIONS TECHNICAL SUPPORT