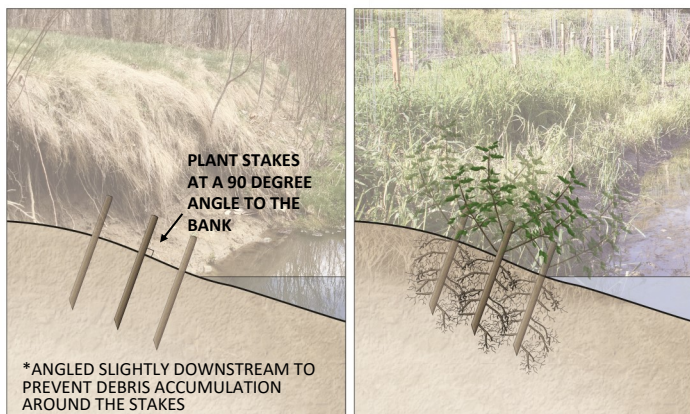# PLANT LIVE STAKES TO STABILIZE YOUR STREAMBANKS!

Streambanks without woody vegetation are not effective in the battle against erosion. One of the easiest and most inexpensive methods for stabilizing streambanks is planting live, but dormant, native shrub cuttings (no visible buds, leaves, or roots).

PLANT STAKES AT A 90 DEGREE ANGLE TO THE BANK

*ANGLED SLIGHTLY DOWNSTREAM TO PREVENT DEBRIS ACCUMULATION AROUND THE STAKES

Dormant Live Stake Installation   *After Establishment*

The following shrub species develop a dense, fibrous root system that helps hold soil in place:

◆ Redosier Dogwood	*Cornus stolonifera*
◆ Grey Stem Dogwood	*Cornus racemosa*
◆ Silky Dogwood	*Cornus amomum*
◆ Green Twig/Round-leaved Dogwood	*Cornus rugosa*
◆ Sandbar Willow	*Salix interior*
◆ Pussy Willow	*Salix discolor*
◆ Black Willow	*Salix nigra*
◆ Buttonbush	*Cephalanthus occidentalis*
◆ Black Elderberry	*Sambucus nigra*
◆ Common Ninebark	*Physocarpus opulifolius*

Dogwoods (Cornus sp.) and ninebark are generally more shade tolerant whereas willows (Salix sp.), buttonbush, and elderberry prefer full sun. More information is available at www.plants.USDA.gov

If your streambank is severely eroding, live stakes alone may be insufficient to address the problem. Contact Chagrin River Watershed Partners or your County Soil and Water Conservation District for guidance. If you remove a severely leaning or damaged tree, leave the existing stump and roots in the streambank to protect against erosion. Keep in mind that some riverbank trees and shrubs will naturally overhang streams and are not a threat to stream bank stability.

CHAGRIN RIVER WATERSHED PARTNERS

(440) 975-3870
www.crwp.org

Northeast Ohio Regional Sewer District

(216) 881-8247
www.neorsd.org

FREQUENTLY ASKED QUESTIONS

HOW MUCH DO THEY COST?
Live stakes typically cost $1 to $2 each and may be less expensive when bought in bulk.

WHERE DO I GET THEM?
Many of these shrubs are available through mail order suppliers and County Soil and Water Conservation Districts. If you already have some of the mature shrub species listed here, you can use them as a source of cuttings! Cut branches that are 0.75 to 1.5 inches in diameter into 2 to 3 foot lengths using pruners or loppers. Make a straight cut toward the tip of the branch and cut it at an angle just below a leaf node at the thicker end towards the trunk to make a point. Remove any side branches.

WHEN DO I PLANT THEM?
The best time to plant live stakes is when the plants are dormant between early December and mid-April, during periods when soils are unfrozen and workable. They should be harvested or purchased close to the installation date (ideally within 24 hours). Store in a cool, damp, shaded place in buckets of water with the rooting end down or wrap in wet burlap or newspaper.

HOW DO I PLANT THEM?
Live stake spacing should be 2 to 3 feet apart in a triangular arrangement above the normal baseflow level of the stream in areas that will remain moist throughout the growing season. Avoid planting stakes in the active stream channel where they may be washed away. In soft soils, stakes can be inserted perpendicularly into the streambank using a dead blow hammer or rubber mallet. If the soils are dry or compacted, first drive a piece of rebar into the bank to make pilot holes. Insert the stakes pointed end down so at least ½ to ⅔ of the stake is in the soil. Tamp down the soil around the stakes to ensure good soil contact and encourage root growth.

HOW DO I EVALUATE PLANTING SUCCESS?
Roots, branches, and foliage should begin developing within the next growing season. Live stakes may take several weeks to months to show signs of growth. Not many leaves will be seen in the first growing season as the focus is on root development. Replace unsuccessful live stakes and control invasive species that may compete with your live stakes. It takes 2-3 years for shrubs to become well-established.