Streambank Erosion

The willow-post method for streambank stabilization is the result of the coordinated efforts of the Illinois River Soil Conservation Task Force, the Illinois Department of Energy and Natural Resources, and the Illinois Department of Conservation. Funding for these efforts was made possible by central Illinois legislators of the Illinois General Assembly.

Streambank erosion is a serious threat to farmland along creeks and streams throughout Illinois. For centuries these prairie streams have meandered through our countryside, but in recent years many have turned into raging torrents capable of causing major destruction of property and life.

Valuable farmland washes away. Bridge embankments give out and roads are closed. House foundations collapse into backyard creeks. Stop the destruction and cut your losses with a new way to control streambank erosion.

Solve the Problem with the Willow-Post Method

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The Willow-Post Method for Streambank Stabilization

What is it?

The willow-post method is a means of controlling streambank erosion through installation of native willow cuttings to stabilize eroding streambanks.

The willows root and develop greenery very quickly. Within a few months it is difficult to recognize the installation.

How does it work?

The stabilization process is two-fold. First, the willow root network binds the soil together. Second, the willow foliage slows floodwaters near the eroding bank, which also helps reduce bank erosion downstream. With bank erosion under control, grasses and more valuable trees can grow.

Willow posts are driven into holes made by an excavator with a metal ram.

What are its advantages?

- **Low cost, both in terms of materials and installation.** Willows are native to the region and easy to obtain. Installation is fast and permanent.
- **Environmentally sound.** The use of all native materials encourages natural habitats in and around streams and enhances their scenic beauty.
- **Ongoing maintenance costs are low and control is long-term** because the willow-post method creates a natural environment that is self-sustaining.
- **Tested and proven effective in Illinois** under flood conditions, even when heavy spring floods carry ice floes.
- **More valuable trees can grow** after the willows slow bank erosion.

How do costs compare to "traditional methods?"

The "traditional" methods for controlling streambank erosion rely on the use of riprap or a variety of cement and steel retaining structures. These methods typically cost $50 to $200 per foot and require maintenance and repair through the years. The willow-post system can be installed for $7 to $15 per foot, with little or no maintenance. Landowners can ensure the establishment of valuable trees by planting tree seedlings.

Will the willows spread into adjacent fields?

No. When applied at severe erosion sites, the willows have remained at the water's edge, which is their preferred environment. They have not spread upward into adjacent fields or clogged the channel.

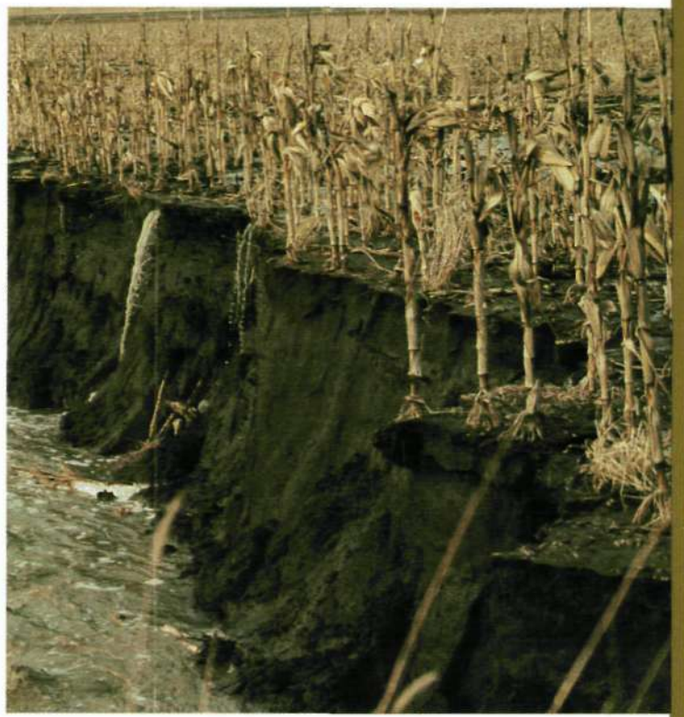
The stabilized bank can withstand even severe floods.

Where can the willow-post method be used?

In Illinois the willow-post method has been used most successfully along streams in agricultural floodplains without tree cover.

How can the technique be used most effectively?

The willow-post method for streambank stabilization is most effective when incorporated into a "systems approach" to land and water management. The system should include an erosion control plan on the land upstream from the stabilized streambank. On land sloping more than 2 percent, reduced-till and no-till farming should be practiced. Pasture and timber areas on steep slopes should be managed for adequate vegetative cover in order to slow water runoff. Floodwater should overflow onto the floodplain. This overflow slows erosion and allows rich soil deposition. Fields should be protected with a wider riparian border.



Is streambank erosion washing away your crops and land?

Why is streambank erosion such a problem?

In most instances, streambank erosion is an indication that significant changes in land use and management have occurred upstream. These changes are the result of agricultural trends that have produced a dramatic increase in the velocity and volume of farmland runoff into streams and waterways. They include:

- Straightening and channelizing creeks and streams.
- Clearing vegetation from streambanks.
- Less land in soil-conserving crops of hay, pasture, and cereal grains.
- More land in erosive rowcrops of corn and soybeans.
- Larger farms and bigger equipment, which involve the removal of fencerows, hedgerows, and windbreaks.
- Lack of proper land management on steep sloping pasture and timber areas.
- Increased surface drainage to eliminate "wet holes" in fields.

Three Steps to Obtain Assistance for Streambank Erosion Control

1. **Identify** the locations and severity of the streambank erosion sites on your property.
2. **Assess** the potential for future damage and property loss and additional expenses if erosion is allowed to continue.
3. **Learn more** about the willow-post technique to control streambank erosion by contacting one or more of the following agencies and organizations, all located in your county:

Soil and Water Conservation District (SWCD). Provides assistance for incorporating streambank erosion control methods into a comprehensive conservation farm plan.

Cooperative Extension Service (CES). Supplies educational information on the willow-post method and erosion control alternatives for cropland.

Soil Conservation Service (SCS). Offers technical assistance for developing streambank erosion plans.

Agricultural Stabilization and Conservation Service (ASCS). Supplies information regarding cost-sharing assistance for construction.

Department of Conservation (DOC). Provides information on tree planting and distributes tree seedlings to improve riparian stands.

Land Improvement Contractors. Offer expertise, experience, and equipment for installing the willow-post stabilization system.