



# **SHORELINE STABILIZATION**

**This is a supplement to the Citizen’s Guide, which provides basic information about Adirondack Park Agency regulations.**

The Adirondack Park Agency Act (the APA Act) and Agency regulations implementing the Freshwater Wetlands Act (the Wetlands Act) and the Wild, Scenic, and Recreational Rivers System Act (the Rivers Act) establish prohibitions and permitting requirements on certain activities involving shorelines in the Park. These provisions may require issuance of an Agency variance and/or permit for shoreline stabilization projects.<sup>1</sup>

## **Variance Requirements**

### **1) Shoreline Structure Setbacks**

Pursuant to § 806 of the Adirondack Park Agency Act, any new structure<sup>2</sup> greater than 100 square feet in size must comply with the following minimum setback distances from the mean high water mark of any lake, pond, or navigable<sup>3</sup> river or stream<sup>4</sup>:

|                        |         |                     |          |
|------------------------|---------|---------------------|----------|
| Hamlet                 | 50 feet | Rural Use           | 75 feet  |
| Moderate Intensity Use | 50 feet | Resource Management | 100 feet |
| Low Intensity Use      | 75 feet |                     |          |

Under the Rivers Act, the following additional restrictions apply to structures of any size on Low Intensity Use, Rural Use, and Resource Management lands:<sup>5</sup>

- No new structures of any size are allowed within 250 feet of the mean high water

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<sup>1</sup> Note that there may be additional reasons for Agency review of a shoreline stabilization project beyond those described in this flyer.

<sup>2</sup> Boathouses and docks as defined in Agency regulations are excepted from this requirement.

<sup>3</sup> A river or stream is navigable if a boat with a capacity of one or more persons, including a canoe or kayak, could be operated when the waterbody is at its mean high water level. In some instances, a river or stream may be navigable even with natural or artificial interruptions to boat operation.

<sup>4</sup> The shoreline restrictions are incorporated into local zoning laws for the Towns of Arietta, Bolton, Caroga, Chester, Chesterfield, Colton, Day, Edinburg, Hague, Horicon, Indian Lake, Johnsbury, Newcomb, Queensbury, Westport, and Willsboro, and the Town and Village of Lake George. Advice on requirements and variance procedures may be obtained from the local code enforcement officer.

<sup>5</sup> Fences, poles, signs less than two square feet in area, lean-tos, docks, bridges, and stream improvement structures for fishery management purposes are excepted from this requirement. Boathouses are also excepted in Recreational river areas.

- mark of a designated Scenic river; and
- No new structures of any size are allowed within 150 feet of the mean high water mark of a designated Recreational river.

Setback distances are measured horizontally along the shortest line between any point of the structure and any point on the shoreline at the mean high water mark. Agency staff will locate the mean high water mark upon request of a landowner contemplating development.

Structure size is generally measured in plan (top) view, except that retaining walls and fences are measured using the larger of either elevation (face) view or plan view.<sup>6</sup>

Shoreline stabilization approaches that are not considered structures are discussed below.

## **2) Shoreline Vegetation Cutting**

Except to allow for the removal of diseased vegetation and rotten or damaged trees, all vegetative cutting on a parcel with shoreline on a lake, pond, or navigable river or stream must comply with the following restrictions:

- Within 35 feet of the mean high-water mark, no more than 30 percent of the trees in excess of six inches diameter at breast height (4½ feet above ground) may be cut over any 10-year period.
- Within 6 feet of the mean high-water mark, no more than 30 percent of any vegetation may be removed.

## **Permitting Requirements**

The most common reasons for which shoreline stabilization activities require an Agency permit include the following:

- The project will involve wetlands.
- The project will involve cutting vegetation within 100 feet of the mean high water mark of a designated wild, scenic, or recreational river.

In addition, when no approval is required from the Department of Environmental Conservation, an Agency permit must be obtained for the installation of a retaining wall or rip rap along a shoreline.<sup>7</sup>

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<sup>6</sup> Individual structures may be considered a single structure for the purpose of implementing the shoreline restrictions if they are less than ten feet apart or structurally integrated. Please contact the Agency for more information.

<sup>7</sup> Permits from the Department of Environmental Conservation are often required for shoreline stabilization activities. For more information, see <http://www.dec.ny.gov/>.

## **SHORELINE STABILIZATION APPROACHES**

Regardless of whether Agency review is required for a shoreline stabilization project, landowners should employ the least structural or “softest” approach available to address existing shoreline erosion problems. Erosion is usually caused by the removal of shoreline and riparian vegetation, and hardened shorelines provide only a temporary fix. The character of the natural shoreline and riparian zones should be retained or restored whenever possible.

The Agency recognizes four approaches to addressing shoreline erosion problems: 1) vegetative planting/maintenance; 2) bioengineering; 3) biotechnical; and 4) structural. These approaches are ranked in order of preference, with the first option being the most desirable. The first two approaches generally do not require a variance from the Agency’s shoreline structure setback requirements. Biotechnical and structural approaches generally do require a variance within designated river areas, or when individual or combined components measure greater than 100 square feet. Vegetative cutting associated with any of these approaches may require a variance, or a permit if within 100 feet of a designated river. A permit will also be required for any shoreline stabilization approach that involves wetlands.

### **Approach 1 – Vegetative Planting and Maintenance**

Planting, re-planting, and maintaining vegetation are the simplest and most cost-effective ways to stabilize shorelines. Shoreline vegetation provides other benefits as well, including the preservation of shoreline character, water quality, fish habitat, wildlife habitat, and pollinator nectar sources.

Maintaining shoreline vegetation:



Re-planting a disturbed shoreline:

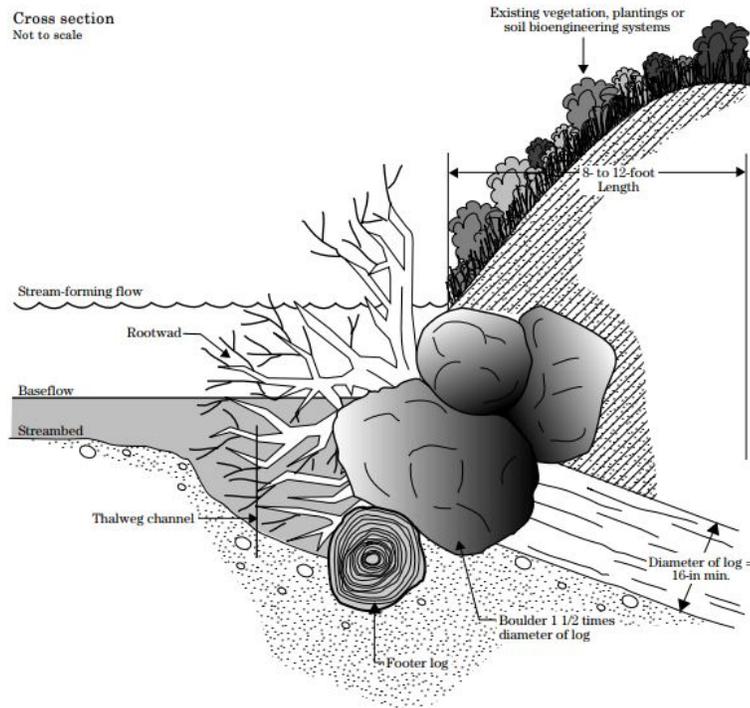


## Approach 2 – Bioengineering

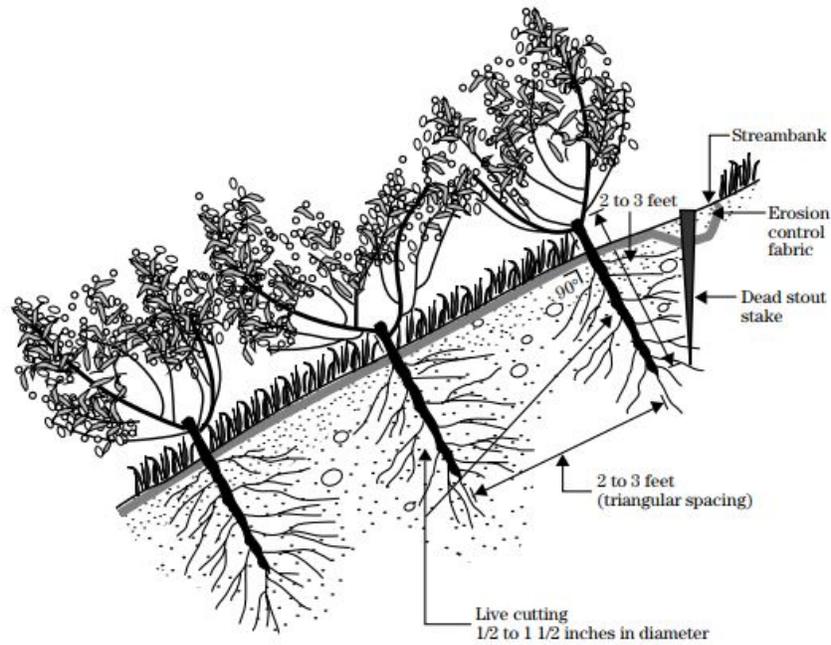
Bioengineering involves the establishment of toe root wads, live staking, brush layering/matting, erosion control matting, contour wattling (live fascines), and coir logs, in addition to live plantings, to provide stability and resistance to erosion. Bioengineering approaches provide similar cost, ease, and shoreline benefits as vegetative planting and maintenance approaches.

Toe Root Wads:

Figure 16-22 Log, rootwad, and boulder revetment details (adapted from Rosgen 1993—Applied fluvial geomorphology short course)

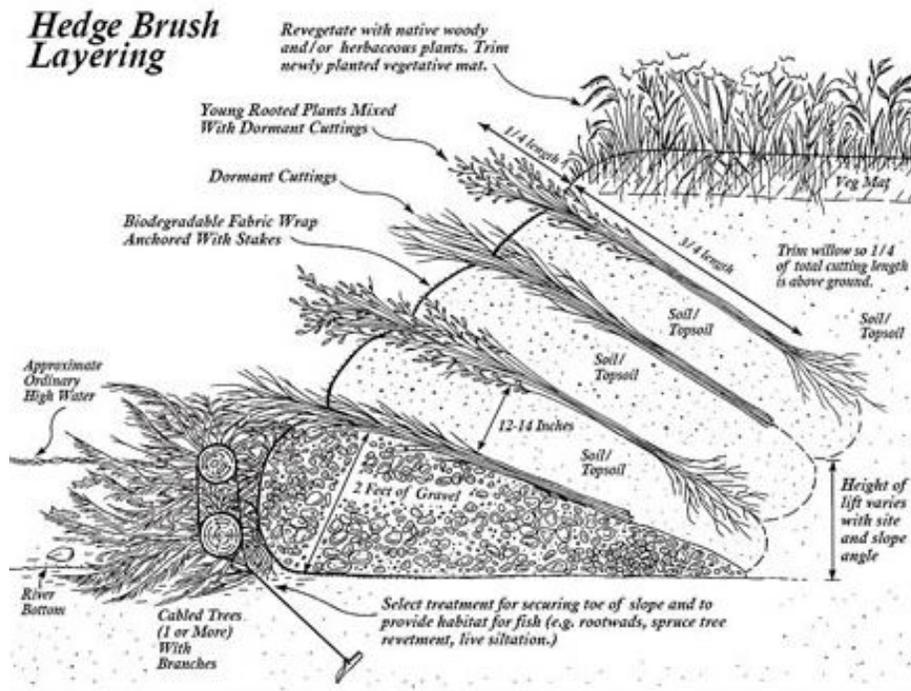


Live Staking with Woody Plants such as Native Willow and Dogwood:

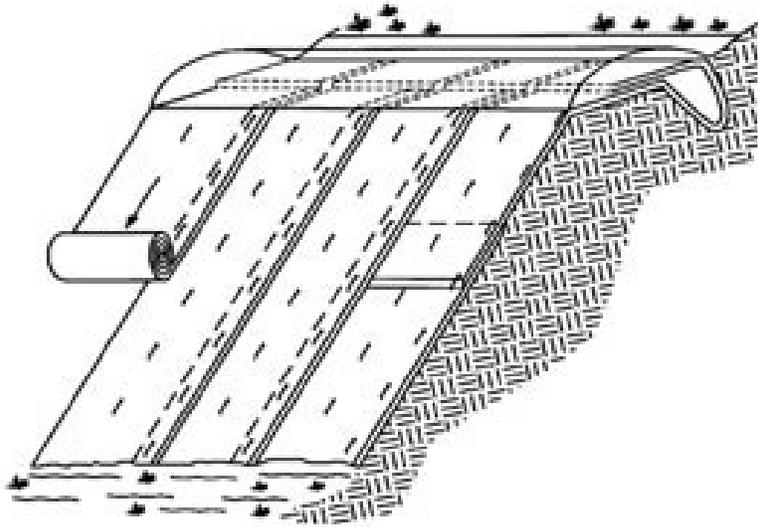


Note:  
Rooted/leafed condition of the living  
plant material is not representative of  
the time of installation.

Brush Layering/Matting:

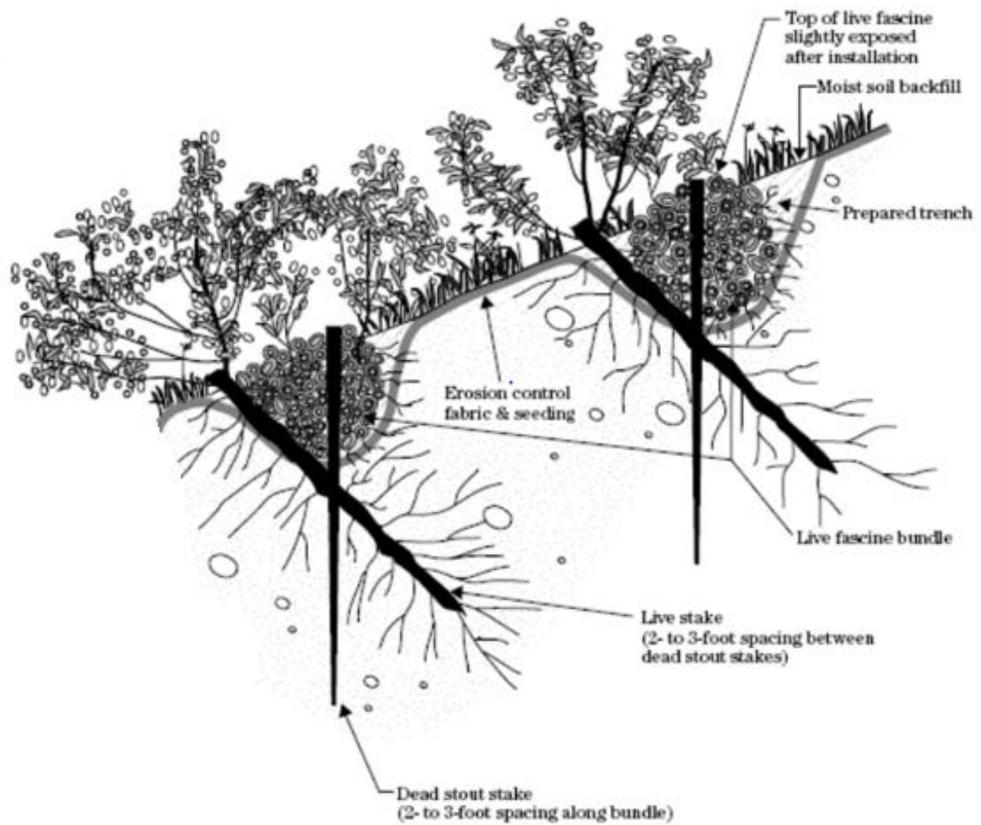


Erosion Control Matting:

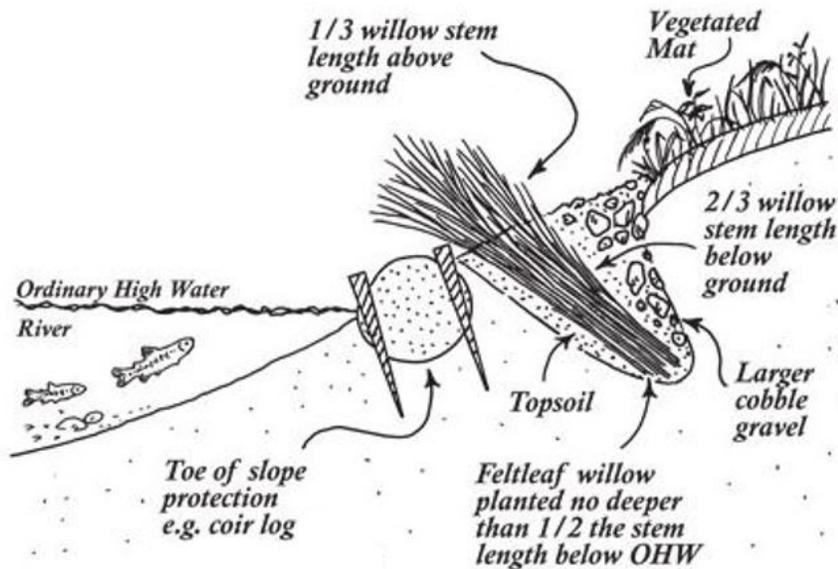


Contour Wattling (Live Fascines):

Cross section  
Not to scale



## Coir Logs:



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### Approach 3 – Biotechnical

Biotechnical approaches combine plantings or bioengineering with some degree of structural design. Biotechnical approaches include vegetated gabion walls or mattresses, vegetative cribbing, and vegetated rip rap.

### Approach 4 – Structural

Structural approaches consist of concrete seawalls, rip-rap, timber walls, gabions made of stone or timber, and other structures. Structural approaches are expensive, require maintenance, and cause the most severe environmental impacts of all available stabilization measures.

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This flyer is intended to provide general information regarding Agency jurisdiction. Other provisions or restrictions may apply. Please contact the Agency with any questions at 518-891-4050. For a binding written response as to whether a specific proposal requires Agency review, please submit a Jurisdictional Inquiry Form, available at [www.apa.ny.gov/Forms/jiform.pdf](http://www.apa.ny.gov/Forms/jiform.pdf).