

## 4.3 Restoring Riparian Buffer Zones

There are many factors to consider when restoring the vegetation next to a streambank. Natural regeneration (just leaving it alone) is the least expensive and least certain method of establishing a riparian buffer. Flood waters deposit sediment that makes a good seed bed and often carries tree and shrub seeds from upstream. The resulting stand is usually dominated by fast-growing species, such as elm, silver maple, boxelder and willow. When planting a site, native trees and shrubs tolerant to periodic water saturation should be used next to the stream. This type of vegetation will add long-term stability to the streambank, as well as provide many ecological benefits. Grasses can be used for immediate erosion control in the interim time before the trees and shrubs can become established. Native warm season grasses could also be an option where grazing within the riparian zone is a priority.

### Vegetation Types

Benefit	Grass	Shrubs	Trees
Streambank stability	low	high	high
Filter sediment	high	low	low
Nutrient retention	med	medium	high
Pesticide buffering	med	med/high	med/high
Flood protection	low	medium	high

### Why not exotic plants?

Exotic plants can become invasive because they are not subject to the same limiting factors that exist in their native habitat. Invasion by exotic plants is second only to habitat destruction as the greatest threat to the natural ecosystems of the United States. Here in the South, kudzu is one extreme example of an exotic plant growing out of control. Privet, mimosa, bamboo, and Japanese honeysuckle are other exotic plants that have become invasive after being introduced to our area. Once exotics become established, they are very difficult to control.



### Seeding a Bank with Grasses and Legumes

Seeding can be inexpensive, easy to maintain, and works quickly to reduce erosion. Grass choice is very important. Cool season grasses (like fescue, rye) have shallow roots and therefore cannot deeply anchor the soil along the bank during flood events. Annual grasses can prevent immediate erosion while perennial trees and shrubs are growing in. Commonly used annual grasses include: barley, oats, rye, wheat, and millet.

Seeding must be completed at low flow conditions and vegetation must have a chance to grow before high flow conditions occur.

Slope of the streambank should be no steeper than 6 feet horizontal to 1 foot vertical. Dirt must be pulled away from the stream, but it is illegal to allow any spoil to fall in the stream.

A landowner has numerous options for seeding a bank. Liquid seed mixtures can be sprayed on the slope or seeds can be simply thrown out and covered with a light layer of topsoil. Commercial seed mats are also available, which add stability to the streambank and more quickly establish grasses.

The restoration site should be heavily mulched to prevent erosion while the grasses are filling in.