



**A healthy riparian buffer is an essential part of a healthy stream.**



# Riparian Buffers

## **What is a Riparian Buffer?**

The term riparian buffer is used to describe lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin-lines-of-green containing native grasses, flowers, shrubs and trees that line the stream banks. They are also called vegetated buffer zones. A healthy riparian area is evidence of wise land use management.

## **What are their values?**

Riparian buffers are important for good water quality. Riparian zones help to prevent sediment, nitrogen, phosphorus, pesticides and other pollutants from reaching a stream. Riparian buffers are most effective at improving water quality when they include a native grass or herbaceous filter strip along with deep rooted trees and shrubs along the stream.

Riparian vegetation is a major source of energy and nutrients for stream communities. They are especially important in small, headwater streams where up to 99% of the energy input may be from woody debris and leaf litter. Overhanging riparian vegetation keeps streams cool, this is especially important for North Carolina's mountain trout populations.

Riparian buffers provide valuable habitat for wildlife. In addition to providing food and cover they are an important corridor or travel way for a variety of wildlife. Forested streambanks benefit game species such as deer, rabbit, quail and nongame species like migratory songbirds.

Riparian vegetation slows floodwaters, thereby helping to maintain stable streambanks and protect downstream property. By slowing down floodwaters and rainwater runoff, the riparian vegetation allows water to soak into the ground and recharge groundwater. Slowing floodwaters allows the riparian zone to function as a site of sediment deposition, trapping sediments that build stream banks and would otherwise degrade our streams and rivers.

### Loss of Riparian Areas

Degraded riparian buffers reduce water quality values, reduce wildlife and fish populations, cause serious property damage (bank erosion) and loss of valuable agricultural lands. Removal of riparian vegetation results in increased water temperatures and decreased dissolved oxygen. The loss of shade exposes soils to drying out by wind and sunlight and reduces the water storage capacity of the riparian area. Loss of riparian vegetation causes streambank erosion. Eroding banks contribute to sedimentation and lead to a wide shallow stream with little habitat value. These factors result in significant reductions in aquatic stream life.

### Restoring and Managing Riparian Buffers

Rehabilitating riparian buffers is key to restoring natural stream functions and aquatic habitats. There are many economic benefits derived from increased riparian habitat, channel stabilization, improved water quality, improved wildlife and fish populations, improved aesthetics, and other associated values. Depending on the surrounding land use and area topography, riparian buffers should range from 25 to 100 feet wide on each side of the stream.

### Recommended Riparian Management Practices

- Protect or establish native shrubs, trees, or other vegetation along streams to help prevent bank erosion, trap sediment and filter other pollutants.
- Manage livestock grazing in riparian zones to avoid damage to existing plants.
- Plan developments, forestry activities and other land disturbing activities to protect riparian zones.

### Practices to Avoid

- Straightening sections of streams.
- Removing streamside shrubs, trees and other vegetation.
- Farming up to the edge of a stream.
- Allowing livestock access to the riparian zone.
- Operating heavy equipment in the riparian zone.

## Find Out More About Riparian Buffers and Management...

For assistance in evaluating riparian buffer problems, designing a riparian system, information on permits and cost share, contact the following organizations:

North Carolina Wildlife Resource Commission  
Natural Resources Conservation Service  
Resource Conservation & Development Councils  
Soil & Water Conservation Districts  
United States Fish and Wildlife Service

All programs and services are offered on a non-discriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status or disability.

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*Degraded riparian buffers lead to streambank erosion and loss of valuable agricultural land.*



*Well managed buffers provide clean water, stable streams and good wildlife habitat.*



*Avoid straightening streams and removing streamside vegetation.*