

4.2 Riparian Buffer Zones



***Do you want to protect the river and your property investment?
The most important action could be taking no action at all.
Leave the vegetation along the creek undisturbed (a no-mow zone) and you will
dramatically reduce soil erosion and water pollution.***

A riparian buffer zone is a vegetated area that exists next to a waterway. Riparian zones are periodically flooded so they usually consist of vegetation types that are tolerant to water saturation. These areas act as a buffer between upland activities, such as agriculture or development, and the stream corridor. Riparian buffers along the Kings River can be found in all shapes and sizes because of both natural factors and landowner priorities. Whatever you use your property for, there is a type of riparian buffer that could and should be implemented to protect your investment.

Benefits of Riparian Buffers

To The Landowner

Flood Control: Vegetation slows down moving water and absorbs and retains water. Riparian zones can also reduce the amount of debris and gravel moving onto fields from floodwater.

Erosion Control: Root systems hold bank soil in place.

Property Value: Acreage protected with reduction in bank erosion. Mature trees bring higher values.

To Water Quality

Filter: Sediment and pollutants in stormwater run-off captured.

Nutrient Removal: Excess nutrients utilized before they reach the stream.

Temperature Reduction: Tall vegetation shades and cools the stream so water can carry more oxygen. Shade also inhibits algal growth.

To Wildlife

Habitat: Riparian corridors are used by wildlife more than any other habitat type.

Travel Corridor: Provides migration corridors for birds, amphibians, reptiles, and mammals.

The first step in establishing a riparian buffer zone should be to create a plan. A buffer width should be at least the width of the stream, with a minimum width of 50 feet. Make a sketch of your property or use existing maps and aerial photos from a site such as Google Earth. Make notes on the following features:

- Location of riffles (shallows) and pools
- Areas of instability where materials are accumulating (gravel bars) and eroding
- Areas that flood and approximate flood frequency
- Type of soil (is it saturated most of the time?)
- Types of vegetation
- Land use
- Areas of steep slope

USDA 3-Zone Riparian System

Zone 1: Fast growing and flood tolerant species should be planted from the water's edge to a distance of at least 15 feet. This area can also be left alone to vegetate naturally.

Zone 2: Managed forest including species that are tolerant to both wet and dry conditions. This zone should be at least 20 feet wide.

Zone 3: Filter strip of grasses and shrubs, which can be grazed, grown for hay, or periodically mowed or cut. Perennial grasses and forbs well-adapted to drier conditions do well in this zone. Area should be at least 20 feet wide.

Excellent resources that provide more in depth information about planting and maintaining riparian buffer zones include the following:

Riparian Planting Guide of the Ozarks - Available online at beaverwatershedalliance.org

A Riparian Area Assessment Guide for Streamside Landowners - Available online at uaex.edu

Invasive Alien Plants of Northwest Arkansas - Available online at beaverwatershedalliance.org



Flooding can cause a huge amount of damage to structures, crops, and hay fields that lie in the flood plain. Riparian buffers reduce the amount of sediment and nutrients moving from the field to the waterway. What is even cooler is that they also reduce the amount of gravel, debris, and potentially contaminated soils that move onto your property during a flood. Strong buffer zones can help keep the river in its normal channel even during extreme flood events.

(Photo by Cory Martin)