

**Natural Resources Conservation Service  
Conservation Practice Standard**

**RIPARIAN FOREST BUFFER  
(Ac.)  
CODE 391**

**DEFINITION**

An area of trees and/or shrubs located adjacent to and up-gradient from water bodies.

**PURPOSES**

- Create shade to lower water temperatures to improve habitat for aquatic organisms.
- Provide a source of detritus and large woody debris for aquatic organisms and habitat for wildlife.
- Reduce excess amounts of sediment, organic material, nutrients and pesticides in surface runoff and reduce excess nutrients and other chemicals in shallow ground water flow.

**CONDITIONS WHERE PRACTICE APPLIES**

On areas adjacent to permanent or intermittent streams, lakes, ponds, or wetlands.

**CRITERIA**

The location, layout and density of the riparian forest buffer will accomplish the intended purpose and function. The buffer will consist of a zone (identified as zone 1) that begins at the normal water line, or at the top of the bank, and extends a minimum distance of 15 feet, measured horizontally on a line perpendicular to the water body.

Dominant vegetation will consist of existing or planted trees and shrubs suited to the site and the intended purpose. Occasional removal of some tree and shrub products such as high value trees is permitted provided the intended purpose is not compromised by the loss of vegetation or harvesting disturbance.

Necessary site preparation and planting shall be done at a time and manner to insure survival and growth of selected species. Only viable, high quality, and adapted planting stock will be used. Site preparation shall be sufficient for establishment and growth of selected species and be done in a

manner that does not compromise the intended purpose.

Livestock shall be excluded to achieve and maintain the intended purpose.

Harmful pests present on the site will be controlled or eliminated as necessary to achieve and maintain the intended purpose.

**Additional Criteria to Reduce Excess Amounts of Sediment, Organic Material, Nutrients and Pesticides in Surface Runoff and Reduce Excess Nutrients and Other Chemicals in Shallow Ground Water Flow**

An additional strip or area of land, zone 2, will begin at the edge and up-gradient of zone 1 and extend a minimum distance of 20 feet, measured horizontally on a line perpendicular to the water body. The minimum combined width of zones 1 and 2 will be 35 feet. Where flood plain width allows, the minimum combined width of zones 1 and 2 will be increased to 30 percent of the geomorphic (active) flood plain up to 150 feet. Criteria for zone 1 shall apply to zone 2 except that removal of tree and shrub products such as timber, nuts and fruit is permitted on a periodic and regular basis provided the intended purpose is not compromised by loss of vegetation or harvesting disturbance.

Concentrated flow erosion or mass soil movement shall be controlled in the up-gradient area immediately adjacent to zone 2 prior to establishment of the riparian forest buffer.

**CONSIDERATIONS**

- The severity of bank erosion and its influence on existing or potential riparian trees and shrubs should be assessed. Watershed-level treatment or bank stability activities may be needed before establishing a riparian forest buffer.
- Where ephemeral, concentrated flow erosion and sedimentation is a concern in the area up-gradient of zone 2, consider the application of a

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vegetated strip consisting of grasses and forbs. When concentrated flow erosion and sedimentation cannot be controlled vegetatively, consider structural or mechanical treatments.

- Favor tree and shrub species that are native and have multiple values such as those suited for timber, biomass, nuts, fruit, browse, nesting, aesthetics and tolerance to locally used herbicides.
- Avoid tree and shrub species, which may be alternate hosts to undesirable pests. Species diversity should be considered to avoid loss of function due to species-specific pests.
- The location, layout and density of the buffer should compliment natural features.

## PLANS AND SPECIFICATIONS

Specifications for this practice shall be prepared for each site. Specifications shall be recorded using approved specifications sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

## OPERATION AND MAINTENANCE

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance).

The riparian forest buffer will be inspected periodically and protected to maintain the intended purpose from adverse impacts such as excessive vehicular and pedestrian traffic, pest infestations, pesticide use on adjacent lands, livestock damage and fire.

Replacement of dead trees or shrubs and control of undesirable vegetative competition will be continued until the buffer is, or will progress to, a fully functional condition.

As applicable, control of concentrated flow erosion or mass soil movement shall be continued in the up-gradient area immediately adjacent to zone 2 to maintain buffer function.

Zone 2 width may be increased, where practical, by 20 feet in high sediment and nutrient producing areas (soil loss > T). This additional 20 ft. filter strip will be located on the up-gradient side of zone 2.

This strip will be established to permanent grass or forbs. Stiff stemmed grasses or forbs may be established to accelerate sediment deposition.

Any removals of tree and shrub products shall be conducted in a manner that maintains the intended purpose.

Any use of fertilizers, pesticides and other chemicals to assure buffer function shall not compromise the intended purpose.

## SUGGESTED PLANT LIST (Not limited to)

### GRASSES:

Bahia grass  
Bermuda grass (common)  
Dallisgrass  
Fescue  
Orchard grass  
Switch grass  
Weeping love grass

### SHRUBS/FORBES:

American Plum  
Autumn Olive  
Crab Apple  
Partridge Pea  
Sericea Lespedeza  
Shrub Lespedeza  
Bicolor  
Japanica  
Thundergii  
Wild Plum

### TREES:

Basswood	Yellow Poplar
Black Cherry	Oak
Black Gum	Cherry Bark
Black Walnut	Chinkapin
Chinese Chestnut	Northern Red
Cottonwood	Nuttall
Cypress	Overcup
Dogwood	Pin
Green Ash	Sawtooth
Hackberry	Scarlet
Hickory	Shumard
Pecan*	Southern Red
Persimmon	Swamp White
Pine	Swamp Chestnut
Sweet Gum	Water
Sycamore	White
White Ash	Willow

\*No commercial varieties of pecans planted in an orchard fashion are allowed under CRP.