

**RIPARIAN FOREST BUFFER
(CODE 391)**

DESCRIPTION

An area of trees, woody shrubs and other vegetation located adjacent to and up-gradient from waters of the state.

PURPOSE

The purpose of this practice is to remove sediment, organic material, nutrients, pesticides and other pollutants in surface runoff and reduce excess nutrients and other chemicals in shallow subsurface flow and to reduce pesticide drift in order to prevent or abate pollution of the waters of the State.

CONDITION

This practice may be applied as part of a related conservation management system. This practice may further be applied to areas adjacent to permanent or intermittent streams, wetlands and areas with ground water recharge where water quality is impaired or where there is a high potential of water quality impairment.

POLICIES

1. The location, layout, width, length and woody plant density of the riparian forest buffer will be selected to accomplish the intended purpose and function.
2. NRCS Standards and Specifications for Riparian Forest Buffers (Code 391) shall be followed when applying this practice.
3. The riparian forest buffer shall consist of an area that begins at the top of the bank and extends a minimum distance of 35 feet measured horizontally on a line perpendicular to the water body. The minimum width may be wider than 35 feet to achieve the desired purpose.
4. A Riparian Forest Buffer shall not be less than 35 feet in width or more than a maximum average of 100 feet wide.
 - a. Cost-share may be provided for additional buffer width based on the criteria that follows. Use the Extended Buffer Worksheet, Section III, page 16. (Regional CREP acreage caps apply and may affect eligibility for extended buffers or filter strips.)
 - i. In the region covering Cecil, Kent, Queen Anne, Caroline, Talbot, Dorchester, Somerset, Worcester and Wicomico counties combined, CREP offers for these buffer practices wider than 100 feet, up to a maximum of 250 feet, based on average width, will only be eligible for land determined to be Highly Erodible Land (HEL)

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- ii. In the region covering Harford, Baltimore, Carroll, Howard, Montgomery, Anne Arundel, Prince George's, Charles, Calvert, St. Mary's, Frederick, Washington, Allegany and Garrett counties combined, CREP offers for these buffer practices wider than 100 feet, up to a maximum of 250 feet, based on average width, may be eligible where additional water quality benefits can be derived such that:
 - a. The soils in the additional width are at least 50% hydric;
 - b. The additional buffer width is occasionally or frequently flooded; or,
 - c. On HEL land, where the cost-effectiveness of the additional width is \$40/ton of soil saved or less. If the cost-effectiveness of the practice exceeds \$40/ton of soil saved, use the variable rate formula to determine the amount of cost-share funds the applicant could receive from all funding sources.
5. Overland flow through the riparian area shall be maintained as sheet flow as much as practical. Excessive sheet-rill and concentrated flow erosion shall be controlled in the areas immediately adjacent and up-gradient of the buffer site.
6. Use tree and shrub species that are native, or are introduced and are non-invasive. Use of native species is required for the first 15 feet. Nonnative, non-invasive species may be planted beyond the first 15 feet, although the use of native species is encouraged throughout the buffer. All plantings shall consist of a mixture of two or more species to achieve greater diversity.
7. Species selected for planting shall be suited to the seasonal variation of soil moisture on the planting site. Plant types and species shall be selected based on their compatibility in growth rates, shade tolerance, and other characteristics.
8. Natural regeneration may be used to establish a buffer, if the following conditions are met:
 - a. there is an adequate natural seed source of desired species in adjacent areas;
 - b. site conditions are favorable for establishing the desired number and distribution of seedlings within a specified time period; and,
 - c. noxious or invasive species are not likely to jeopardize the stand.
9. Site preparation and planting to establish vegetative cover shall be done at a time and in a manner to ensure survival and growth of the selected species. Supplemental moisture shall be applied if and when necessary to assure early survival and establishment of selected species. Site preparation is eligible for cost-share provided it is an area of light infestation; less than 20% of the site is covered by Multiflora Rose or other invasive woody species. The maximum cost-share available for site preparation is \$600 per acre.

10. Occasional removal of trees is permitted provided that the intended purpose is not compromised by the loss of vegetation. In addition, such harvesting must occur as part of an approved forestry management plan.
11. In situations where hardwood species are appropriate, tree shelters may be cost-shared at a maximum rate of 400 shelters per acre. Tree shelters on woody shrubs to protect from small animal damage may be eligible if the approved forestry management plan identifies the necessity of the shelters.
12. Applicants are required to be in compliance with Maryland Nutrient Management Program requirements and regulations.
13. Cost-sharing is authorized for the establishment of the required permanent vegetative cover as buffer strips along banks according to the criteria for Critical Area Planting (Code 342). Only viable, high quality and adapted planting stock will be used. The method of planting for new buffers may include hand or machine planting techniques, suited to achieving proper depths and placement for the intended purpose and function of the buffer. In addition, cost-sharing is authorized for the establishment of one or all of the following, if it is considered essential for the protection of the riparian area:
 - a. Permanent Fencing (Code 382) for the purpose of livestock exclusion in order to protect water quality and stream banks from damage.
 - b. Stream Crossings (Code 728) and/or Watering Facilities (Code 614), in order to minimize impact to buffer vegetation and function.
14. Cost-sharing is not authorized for the following practices:
 - a. Replacement, repair, relocation or installation of any utilities such as water, sewer, electric, gas or telephone.
 - b. Replacement or reconstruction of other attached, existing BMPs, unless such replacement or reconstruction is essential to the proper functioning of the proposed riparian forest buffer.
 - c. Planting of trees or shrubs for purely aesthetic purposes
 - d. Moving or replacing existing stream fencing when increasing the width of existing buffers.
15. Limit disturbance within the first 15 feet to occasional removal of some tree and shrub products such as high value trees. Regular removal of tree and shrub products such as timber, nuts and fruit may be permitted outside of this area if the intended purpose is not compromised by the loss of vegetation or harvesting disturbance. Any removals of tree and shrub products shall be conducted in a manner that maintains the intended purpose and is consistent with state and local law.

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- a. An approved sediment and erosion control plan is required when harvesting disturbs over 5,000 sq. ft.
 - b. In the Chesapeake Bay and Atlantic Coastal Bays Critical Area, a Timber Harvest Plan is also required.
16. An operation and maintenance plan shall be developed in accordance with NRCS standards and specifications and provided with the technical drawings.
17. Additional operation and maintenance requirements shall be developed on a site-specific basis to assure performance of the practice as intended.
18. This practice must be properly maintained for a minimum of fifteen (15) years. The applicant agrees to provide all equipment, labor and materials needed to meet this requirement. At a minimum, these measures shall be carried out for the life of the practice:
- a. Periodically inspect the riparian forest buffer, and repair or restore as needed to maintain the intended purpose from adverse impacts such as excessive vehicular and pedestrian traffic, pest infestations, and pesticide use on adjacent lands, livestock damage and fire.
 - b. Replace dead trees and shrubs as needed, and control undesirable vegetative competition.
 - c. As applicable, control of concentrated flow erosion or mass soil movement shall be continued in the up-gradient area immediately adjacent to the riparian forest buffer to maintain buffer function.
 - d. For purposes of reducing excess pollutants in surface runoff and shallow groundwater, manage the dominant canopy to maintain maximum vigor of overstory and understory species.
 - e. Weeds shall be controlled for three years after planting. Any use of fertilizers, mechanical treatments, prescribed burning, pesticides and other chemicals to assure buffer function shall not compromise the intended purpose

COST-SHARE RATE

The State cost-share payment will not exceed 87.5% of the total eligible cost, not to exceed \$35,000 per project.

USDA shares will be considered co-cost shares and entered accordingly on the Water Quality Project form and Claim for Payment.

ATTACHMENTS

Applicant(s) with an outstanding Unsatisfactory On-Farm Status Review of BMP Maintenance and Use of previous project(s) may be ineligible for further MACS Cost-Share funding. When a previous project expires with outstanding unsatisfactory status, the applicant is ineligible for any future MACS funding.

The following items are needed:

1. A copy of a recorded deed(s) for the parcel(s) where the BMP is located. If the current, appropriate deed is already on file in the MACS Office, then record both the agreement number of the file where the deed is kept and the liber/folio numbers in the General Comments section of the application.
2. A copy of the Real Property Data Search page from the Maryland Department of Assessments and Taxation's website (www.dat.state.md.us) indicating the Maryland Property View Account ID Number and owner information.
3. An aerial photograph indicating the property lines as well as all existing and proposed BMPs. For sediment control practices, indicate the drainage area and the direction of flow.
4. A plan view sketch graphically demonstrating the layout and details of the proposed BMP. The sketch should also distinguish buffer widths.
5. The Extended Buffer Worksheet, if applicable.