

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**RIPARIAN HERBACEOUS COVER**

(Acre)

CODE 390

**DEFINITION**

Grasses, grass-like plants and forbs that are tolerant of intermittent flooding or saturated soils and that are established or managed in the transitional zone between terrestrial and aquatic habitats.

- Where the riparian area has been altered and the potential natural plant community has changed or converted to cropland, pastureland, rangeland or other commercial/agricultural uses.
- Where channel and stream bank stability is adequate to support this practice.

**PURPOSE**

To provide the following functions:

- Provision of food, shelter, shading substrate, access to adjacent habitats, nursery habitat and pathways for movement by resident and nonresident aquatic, semi-aquatic and terrestrial organisms.
- Improve and protect water quality by reducing the amount of sediment and other pollutants, such as pesticides, organic materials, and nutrients in surface runoff as well as nutrients and chemicals in shallow ground water flow.
- Help stabilize stream bank and shorelines.
- Increase net carbon storage in the biomass and soil.

**CONDITIONS WHERE PRACTICE APPLIES**

- Areas adjacent to perennial and intermittent watercourses or water bodies where the natural plant community is dominated by herbaceous vegetation that is tolerant of periodic flooding or saturated soils. For seasonal or ephemeral watercourses and waterbodies, this zone extends to the center of the channel or basin.

**CRITERIA**

**General Criteria Applicable to All Purposes**

Select perennial plants that are adapted to site and hydrologic conditions and provide the structural and functional diversity preferred by fish and wildlife. [Refer to Vermont practice standard Critical Area Planting – 342 for information on seed mixes, seeding rates and planting times.](#)

Protect riparian vegetation and water quality by reducing or excluding the use of that vegetation for haying and grazing until the desired plant community is well established. [Grazing of the established vegetation will be on a limited basis according to an approved grazing plan. Refer to Vermont practice standard Prescribed Grazing – 528.](#)

Site hydrology must be considered. Plant species selected must be adapted to the projected duration of saturation and inundation of the site.

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

Management systems applied will be designed to maintain or improve the vigor and reproduction of the desired plant community. Timing of haying or grazing periods will avoid

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service [State Office](#) or visit the [electronic Field Office Technical Guide](#).

periods when streambanks are vulnerable to livestock or mechanical damage.

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 site-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.

Riparian widths will vary depending on the requirements of wildlife species and associated environmental concerns. Minimum width per side shall include the first bench of the floodplain or be at least 1.5-times the stream width (based on the horizontal distance between bankfull elevations) **or 25 feet, whichever is greater**, or 25 feet for water bodies.

Existing underground functional drains shall be replaced with rigid, non perforated pipe through the buffer or equipped with a management regulating structure to allow control of overflow.

**Additional Criteria to Protect or Improve Water Quality**

Minimum width shall be increased to 2.5 times the stream width (based on the horizontal distance between bankfull elevations) **or 35 feet, whichever is greater**, or 35 feet for waterbodies. Concentrated flow erosion, **sheet and rill erosion**, or mass soil movement shall be controlled in the up gradient area prior to establishment of the riparian herbaceous cover.

Species selected shall have stiff stems and high stem density near the ground surface.

**Additional Criteria to Stabilize Streambanks and Shorelines**

Select native or accepted, introduced species that provide a deep, binding root mass to strengthen streambanks and improve soil health.

**Additional Criteria for Increasing Net Carbon Storage in Biomass and Soils**

Maximize width and length of the herbaceous riparian buffer to fit the site.

Plant species used will have the highest rates biomass production for the soil and other site conditions, consistent with meeting fish and wildlife habitat requirements for the site.

**Additional Criteria for Terrestrial Wildlife**

Select native species adapted to the site. Density of the vegetative stand established for this purpose shall consider targeted wildlife habitat requirements and encourage plant diversity.

If mowing **or grazing** is necessary to maintain herbaceous cover it will occur outside the **primary nesting season for grassland birds (April 15–August 1)**. **Mowing and harvesting should be completed in August** to allow for adequate re-growth for **fall, winter and spring** cover.

The width of the buffer, when the primary purpose is to benefit wildlife, shall be a minimum of 50 feet and may extend up to 150 feet or wider.

A mixture of at least 4 species of grasses (either warm season or cool season), forbs (wildflowers) and legumes shall be selected in order to provide additional benefits for wildlife enhancement.

Warm season grasses, such as big and little bluestem, switchgrass and indiagrass, provide valuable year round habitat although they typically take a few growing seasons to establish. See 'Vegetating with Native Grasses in Northeastern North America.'

Preferred cool season grasses for wildlife include timothy, orchard grass, redtop, Canada wildrye and Virginia wildrye. Legumes, such as ladino clover, common white clover, and red clover may be mixed in to improve the variety and food value of the stand.

**CONSIDERATIONS**

Preference should be give to native, locally adapted species of plants.

Other conservation practices that may facilitate the establishment of Riparian Herbaceous Cover or enhance its performance include:

- Streambank and Shoreline Protection – (580)

- Stream Channel Stabilization – (584)
- Fence – (382)
- Riparian Forest Buffer – (391)
- Pasture and Hayland Planting – (512)
- Range Planting – (550)
- Filter Strip – (393)
- Use Exclusion – (472)
- Prescribed Grazing – (528)
- Brush Management – (314)
- [Critical Area Planting – \(342\)](#)

Considerations should be given to how this practice will complement the functions of adjacent riparian, terrestrial and aquatic habitats.

Control of trees and shrubs may be required to prevent dominance of the riparian zone by woody plants and maintain openness in riparian system.

The management plan shall consider habitat and wildlife objectives such as habitat diversity, habitat linkages, daily and seasonal habitat ranges, limiting factors and native plant communities.

Establish alternative water sources or controlled access stream crossings to manage livestock access to the stream and riparian area.

Selection of native plant species is recommended but tame, introduced species may be used. All selected species should have multiple values such as those suited for biomass, wintering and nesting cover, aesthetics, forage value for aquatic invertebrates, and tolerance to locally used herbicides.

Avoid plant 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 vegetative structure and composition of the buffer should complement natural features.

Corridor configuration, establishment procedures and management should enhance habitats for threatened, endangered and other

plant or animal species of concern, where applicable.

Use plant species that provide full ground coverage to reduce particulate matter generation during establishment and maintenance operations.

## PLANS AND SPECIFICATIONS

Specifications for this practice shall be prepared for each site. Specification shall be recorded using approved specifications sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation. [Plans and specifications will include details on species selected, seedbed preparation, fertilizer and pesticide use, seeding rates, and seeding method.](#) [Acceptable use of the area for mowing, cutting or grazing will be detailed in writing.](#)

## OPERATION AND MAINTENANCE

The purpose of operation, maintenance and management is to insure that the practice functions as intended over time.

The riparian area 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.

Control of concentrated flow erosion, [sheet and rill erosion](#), or mass soil movement shall be continued in the up-gradient area to maintain riparian function.

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

## REFERENCES

Schultz, R.C., J.P. Colletti, T.M. Isenhardt, W.W. Simpkins, C.W. Mize, and M. L. Thompson. 1995. Design and placement of a multi-species riparian buffer strip. *Agroforestry Systems* 29:201-225.ts.

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Northeastern North America. 63pp.

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