

Riparian Herbaceous Cover (Acre) 390

DEFINITION

Riparian Herbaceous Cover is an area of grass or 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.

PURPOSES

The purposes of riparian herbaceous areas are to provide the following functions:

- Provide 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 streambank and shorelines.
- Increase net carbon storage in the biomass and soil.

CONDITIONS WHERE PRACTICE APPLIES

- On 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.

- Where the riparian area has been altered and the potential natural plant community has been changed or converted to cropland, pastureland, rangeland, or other commercial/agricultural uses.
- Where it is not feasible or desirable to establish woody vegetation.
- Where channel and streambank stability is adequate to support this practice.

CRITERIA

General Criteria Applicable To All Purposes

Select perennial plants that are adapted to site and hydrologic conditions and that provide the structural and functional diversity preferred by fish and wildlife. Select species that provide a deep, binding root mass to strengthen streambanks and improve soil health. Refer to Conservation Practice Standard Conservation Cover (327).

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

Preference shall be given to native species to: reduce the introduction of invasive plant species; provide management of invasive species; and minimize the economic, ecological, and human health impacts that invasive species may cause. If native plant materials are not adapted or proven effective for the planned purpose, then non-native, non-invasive species may be used. Refer to the Natural Resources Conservation Service (NRCS) Field Office Technical Guide (FOTG), Section 1, Invasive Plant Species for plant materials identified as invasive species.

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.

Haying or grazing will be used only as a vegetative management tool to meet the intended purpose(s) and not to provide forage. Timing of haying or grazing periods will avoid periods when streambanks are vulnerable to livestock or mechanical damage.

Protect riparian vegetation and water quality by limiting or excluding the use of that vegetation for haying and grazing until the desired plant community is well established.

Necessary site preparation and planting shall be done at a time and manner to ensure 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 be at least 33 feet.

Additional Criteria To Protect Or Improve Water Quality

Minimum width shall be increased to the greater of 2.5 times the stream width (based on the horizontal distance between bankfull elevations) or Tables 2 through 7, recommended widths for filter strips, in the Conservation Practice Standard Filter Strips (393A).

Concentrated flow 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

Follow the Conservation Practice Standard Streambank and Shoreline Protection (580) when using herbaceous cover 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.

Additional Criteria For Wildlife

For wildlife, riparian width will vary depending on the purpose. Refer to Table 1 for recommended width for various wildlife species.

The width requirements below are for each side of streams, county drains, ditches, or other linear watercourses and for around water bodies. These widths may extend beyond the riparian boundaries.

TABLE 1 - MINIMUM WIDTHS FOR VARIOUS WILDLIFE SPECIES ON EACH SIDE OF A WATERCOURSE OR AROUND A WATERBODY	
Species	Desired Width (Ft.)
Ground nesting ducks, sandhill crane, and grassland neotropical migrants	200
Deer, quail, and pheasant	100
Frog, salamander, turtle, and others	100

Joining of existing and new buffers increases the continuity of cover. For habitat purposes, the buffer length will be extended along the entire stream reach on both sides within the ownership (or beyond, if possible) or to existing riparian forests; i.e., the longest distance possible.

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.

Disturbance of the vegetative stand, including activities such as burning, mowing, haying, and grazing will be done in accordance with the Grassland Activity Specification found in the FOTG.

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 the following Conservation Practice Standards:

- Streambank and Shoreline Protection - (580)
- Stream Channel Stabilization - (584)
- Stream Crossing - (578)
- Fence - (382)
- Riparian Forest Buffer - (391)
- Pasture and Hayland Planting - (512)
- Filter Strip - (393)
- Use Exclusion - (472)
- Prescribed Grazing - (528A)
- Brush Management - (314)

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.

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 if present or possible in the area.

Use plant species that provide full ground coverage.

PLANS AND SPECIFICATIONS

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

OPERATION AND MAINTENANCE

The purpose of operation, maintenance, and management is to ensure 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 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.