**NATURAL RESOURCES CONSERVATION SERVICE**

**CONSERVATION PRACTICE STANDARD**

# RIPARIAN HERBACEOUS COVER

**(Ac.)**

**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.

## 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 banks 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 native 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 native 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.

## CRITERIA

**General Criteria Applicable to All Purposes**

Select native perennial plants that are adapted to site and hydrologic conditions, and provide the structural and functional diversity preferred by fish and wildlife

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. Plans for limited livestock grazing or haying will be designed to protect and enhance established vegetation and streambanks.

Site hydrology, soils and stream channel processes must be considered. Plant species selected must be adapted to the projected duration of saturation and inundation of the site.

Harmful pests and highly invasive exotic and noxious weed species 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 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 (e.g. approximately the 2-year flood zone for non-entrenched streams) or be at least 1½ times the stream width (based on the horizontal distance between bankfull elevations) or 15 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 2½ times the stream width (based on the horizontal distance between bankfull elevations) or 35 feet for waterbodies. 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**

Select native 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 of 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 is necessary to maintain herbaceous cover, it will occur outside the nesting season and allow for adequate re-growth for winter cover.

**CONSIDERATIONS**

Consider native plant species locally adapted and representative of plant communities found in the immediate watershed or adjacent areas of similar elevation, climate and hydrologic regime.

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)

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 during establishment of herbaceous species to prevent dominance of the riparian zone by woody plants, and maintain openness in the riparian system. Allow for the long-term succession of riparian vegetation from herbaceous-dominated to shrub- or tree-dominated communities on sites with that potential in the absence of fire or mechanical disturbance to woody vegetation (e.g. ice flow breakage).

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.

All selected native plant species should have multiple values, such as those suited for biomass, wintering and nesting cover, aesthetics and forage value for aquatic invertebrates.

Consider planting grasses, forbs and/or legumes that attract and provide food and cover habitat for pollinators and beneficial insects. See Idaho Biology Technical Note No. 1; Pollinators.

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

Idaho Specification Worksheet ID-CPA-025, Seeding/Planting Plan. USDA-NRCS, Boise, ID.

**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 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**

NRCS – Idaho Plant Materials Technical Notes

No. 4 – Reading Seed Packaging Labels and Calculating Seed Mixtures

No. 10 – Pasture and Range Seedings

No. 24 – Grass, Grass-Like, Forb, Legume and Woody Species for the Intermountain West

No. 32 – Native Shrubs and trees for Riparian Areas

No. 38 – Wetland plants and Grasses for Riparian Areas

No. 41 – Restoration and Diversification of Plant Communities with Woody Plants

No. 43 – Tree Planting Care and Management

NRCS – Idaho Biology Technical Note

No. 1 – Pollinators

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