

NATURAL RESOURCES CONSERVATION SERVICE
MONTANA CONSERVATION PRACTICE STANDARD

RIPARIAN HERBACEOUS COVER (ACRE)

CODE 390

DEFINITION

Riparian areas are ecosystems that occur along water courses or at the fringe of water bodies. Riparian herbaceous cover consists of grasses, grass-like plants and forbs.

PURPOSE

Riparian areas serve the following functions:

- Riparian areas provide habitat (food, shelter and water) for aquatic and terrestrial organisms.
- Intercept direct solar radiation, create shade and **restore or stabilize the appropriate width to depth ratio for the channel type** to help maintain or restore suitable water temperatures for fish and other aquatic organisms while providing a milder microclimate for wildlife.
- Improve and protect water quality by reducing the amount of sediment and other pollutants, such as pesticides, organic, and nutrients in surface runoff as well as nutrients and chemicals in shallow ground water flow.
- Provide food, in the form of plant detritus, for aquatic insects which are important food items for fish.
- Help stabilize the channel bed and streambank.
- To serve as corridors to provide landscape linkages between existing habitats.
- Provide room for watercourses to establish geomorphic stability.
- To manage existing riparian herbaceous habitat to improve or maintain desired plant communities.

- Increase net carbon storage in the biomass and soil.

CONDITION WHERE PRACTICE APPLIES

Along watercourses or on the fringe of water bodies where the natural plant community is dominated by herbaceous vegetation.

Where the ecosystem has been altered and the potential natural plant community has changed or has been converted to cropland, pastureland, grazing land, etc.

CRITERIA

General Criteria Applicable to All Purposes

Select native species that are adapted to site conditions and provide diversity, cover and food for wildlife. **Introduced plant species may be used to meet specific project objectives.** Species selected **must** also provide a deep, binding root mass to strengthen streambanks and improve soil health.

If the area is used for livestock or hay production, protect and enhance riparian vegetation and water quality by reducing the **stress to vegetation from** haying and grazing until the desired plant community is well established. A plan for limited livestock grazing or haying will be designed to protect and enhance established and emerging vegetation, stream bank stability, wildlife habitat, and **areas adjacent to** the stream during critical periods for aquatic species.

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

NRCS, MT
September 2004

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version, of this standard contact the Natural Resources Conservation Service.

Note: This type of font (**AaBbCcDdEe 123...**) indicates NRCS National Standards.
This type of font (**AaBbCcDdEe 123...**) indicates Montana Supplement.

Management systems applied will be designed to maintain the vigor and reproduction of the desired plant community. Timing of haying or grazing periods will avoid periods when streambanks are saturated and vulnerable to livestock or mechanical damage.

The plant communities established and target successional stage will depend on wildlife needs, existing resources in the watershed, and local management objectives.

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.

Site hydrology must be analyzed. Plant species selected must be adapted to the anticipated periods of saturation and inundation of the site.

Channel and streambank stability must be evaluated in selecting the practice or determining that this practice may need to be combined with other practices that better address stability issues.

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.

Riparian area widths will vary depending on the requirements of wildlife species and associated environmental concerns, as well as the channel valley shape.

Other applicable practices—found in the Field Office Technical Guide (FOTG), Section IV, Practice Standards—include , but are not limited to:

- Streambank and Shoreline Protection – (580)
- Stream Channel Stabilization – (584)
- Vegetative Bioengineering - NCS
- Fence – (382)
- Riparian Forest Buffer – (391)
- Pasture and Hayland Planting – (512)

- Range Planting – (550)
- NCS—Vegetative Bioengineering
- Channel Vegetation – (322)
- Critical Area Planting – (342)
- Filter Strips – (393)
- Restoration and Management of Declining Habitats – (643)

Additional Criteria to Protect or Improve Water Quality

Concentrated flow erosion or mass soil movement shall be controlled in the up gradient area prior to establishment of the riparian herbaceous cover.

The native or natural plant community will be managed and maintained to optimize the ecological functions of the riparian zone which control erosion and maintain water quality.

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 carbon sequestration and biomass production for the soil and other site conditions.

CONSIDERATIONS

Consider habitat and wildlife objectives such as habitat diversity, daily and seasonal habitat ranges, limiting factors, and native plant communities.

The plant communities established and targeted successional stage will depend on the desired riparian values, existing resources in the watershed, and local management objectives.

Where native seed sources are adequate and meet the intended purpose of the riparian cover, natural regeneration will be allowed.

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

Channel and streambank stability must be considered in selecting this practice or determining that this practice **must** be

combined with other practices that better address stability issues.

This practice can be combined with filter strips to improve water quality.

Consider how this practice will provide riparian habitat and linkage to other habitats.

This practice should be included as part of an overall management system.

Target riparian buffer restoration on a watershed basis to address habitat fragmentation, connectivity, and provide corridors for wildlife by maintaining continuous streamside vegetation.

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

Select plant species that are native and have multiple values such as those suited for biomass, nesting, aesthetics 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 density of the buffer should compliment natural features.

Corridor configuration, species planted and management should enhance habitats for threatened, endangered and other species of concern, where applicable.

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

Use caution when using introduced species as they may become invasive.

Consideration should be given to managing the upland habitat in order to maintain the longevity of the practice.

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.

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.

As applicable, control of concentrated flow as applicable, 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.

Management is needed to maintain vegetation, including control of unwanted vegetation.

A riparian functional assessment can monitor the change in riparian ecological health and thus indicate future management direction.