

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
RIPARIAN HERBACEOUS COVER

(Ac.)

CODE 390

DEFINITION

Grasses, sedges, rushes, ferns, legumes, and forbs tolerant of intermittent flooding or saturated soils, established or managed as the dominant vegetation in the transitional zone between upland and aquatic habitats.

PURPOSE

This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes:

- Restore, improve or maintain the desired plant communities.
- Provide or improve food and cover for fish, wildlife and livestock,
- Establish and maintain habitat corridors.
- Enhance pollen, nectar, and nesting habitat for pollinators.
- Increase net carbon storage in the biomass/soil.
- Increase water storage on floodplains.
- Improve and maintain water quality.
- Reduce erosion and improve stability to stream banks and shorelines.
- Enhance stream bank protection as part of stream bank soil bioengineering practices.
- Dissipate stream energy and trap sediment.

CONDITIONS WHERE PRACTICE APPLIES

Areas adjacent to perennial to 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 water bodies, this zone extends to the center of the channel or basin, *or*

Where the natural herbaceous riparian area has been altered or converted, *and*

Where channel and stream bank stability is adequate to support this practice.

CRITERIA

I. Determine the width of the riparian herbaceous cover based on the geomorphic potential of the site and project purposes, including the life history requirements of local fish and wildlife species, including pollinators.

II. Where available, use Ecological Site Descriptions (ESD's) to guide restoration. Treatments should be congruent with the dynamics of the ecological site and keyed to states and plant community phases that have the potential and capability to support the desired plant community. Refer to [NM FOTG Section II - ESD](#).

III. In areas where native seeds and propagules are present, natural regeneration can be used in lieu of planting. However, planting is required if a native seed bank is not present, or where natural regeneration is not expected to reach its full potential within two years.

IV. If planting, select perennial plants that are adapted to site and hydrologic conditions and provide the structural and functional diversity preferred by fish and wildlife likely to benefit from the installation of the practice.

- Stream type and site hydrology must be considered; selected plant species must be adapted to the projected hydrology of the site.
- Only viable, high quality and site-adapted planting stock will be used.
- Native species and/or local ecotypes will be used wherever possible. Note: when the purpose includes wildlife habitat, only native plant species will be used.
- Necessary site preparation and planting shall be done at a time and manner to insure survival and growth of selected species.

CRITERIA (continued)

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

VI. Protect riparian vegetation and water quality by reducing or excluding haying and grazing until the desired plant community is well established (generally defined as two years).

VII. Timing of haying or grazing periods, after the establishment period, will be designed to sustain riparian functions and values. Avoid periods when soils are saturated and vulnerable to damage.

VIII. Management systems applied will be designed to maintain or improve the vigor and reproduction of the desired plant community.

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

- Utilize Integrated Pest Management (a combination of Biological, Mechanical and/or Chemical) using environmentally sensitive methods. *Example:* prevention, scouting, spot treatment, and follow-up. Refer to NRCS practice Integrated Pest Management (595).
- Refer to USDA Plants Database, NM invasive and noxious weeds. www://plants.usda.gov.
- Pest management will be conducted in a manner that mitigates impacts to pollinators. Refer to [NRCS Fish and Wildlife Habitat Management Leaflet No. 24, Integrated Pest Management \(IPM\) and Wildlife](#).

X. Ensure that any use of fertilizers, pesticides or other chemicals shall not compromise the intended purpose.

ADDITIONAL CRITERIA

Criteria for Wildlife / Fish/ Aquatic Organisms

The restoration and management plan shall include additional considerations for providing cover, food and corridor development for fish and other aquatic and terrestrial organisms which use or depend upon herbaceous riparian corridors for all or part of their life cycle. Refer to NRCS practice Wetland Wildlife Habitat Management (644) or Upland Wildlife Habitat Management (645) for more information.

Criteria for Wildlife / Aquatic Wildlife (cont.)

- Determine the life history requirements of the species likely to benefit from this practice.
- Select *only* native species adapted to the site. Use local ecotypes when available.
- Species must provide structural & functional diversity for the fish/wildlife likely to benefit from the cover. Refer to the practice specification for more detail.
- Grazing, mowing or burning may be used, after the establishment period, if planned to promote or maintain a healthy herbaceous cover which provides adequate density and height for the targeted wildlife habitat requirements (including adequate re-growth for winter and spring nesting/breeding cover).

Disturbance must only occur outside of the primary nesting and fawning season.

A third or less of the site may be disturbed in any given year.

Criteria for Pollinator Habitat

The restoration and management plan shall include additional considerations for providing cover, food and corridor development for pollinators. Refer to NRCS practice Upland Wildlife Habitat Management (645) for more information.

- Establish a wide variety of flowering plants that provides pollen and nectar. Utilize a mix of plant species that bloom at different times throughout the year, and have different flower sizes and shapes.
- Where appropriate, incorporate pollinator nesting habitat (patches of unshaded bare soil for ground nesting bees) and clump forming warm-season native grasses.
- No more than a third of the site should be disturbed (mowed, grazed, burned, etc.) each year; to protect pollinators and maintain habitat with a diversity of plant structure.
- Design the area to provide a habitat corridor to link adjacent pollinator habitat.

ADDITIONAL CRITERIA (cont.)**Criteria for Providing Forage for Livestock**

Species selected shall have a moderate to high forage value, a moderate to high grazing tolerance, and be consistent with meeting criteria IV.

Criteria for Increasing Net Carbon Storage in Biomass and Soils

Maximize the size of the project area by including the entire potential herbaceous zone.

Species selected shall have the highest rates of biomass production, and that are consistent with meeting criteria IV.

Criteria to Maintain or Improve Water Quality

Minimum width shall be increased to 2.5 times the stream width (based on the horizontal distance between bank-full elevations) or 35 feet for water bodies such as wetlands or ponds. Extended buffers offer more surface area to filter out sediments, agro-chemicals and other pollutants.

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 to reduce water velocities and facilitate infiltration into the floodplain, and that are consistent with meeting criteria IV.

Criteria to Stabilize Streambanks & Shorelines

Species selected shall be native (or accepted, introduced species) that provide a deep, binding root mass to strengthen streambanks, build the floodplain and improve soil health, and that are consistent with meeting criteria IV.

CONSIDERATIONS

If stream or wetland restoration is necessary to implement this practice, refer to NRCS practice Wetland Restoration (657) or Stream Habitat Improvement & Management (395).

Complimentary NRCS practices may include: Restoration and Management of Rare and Declining Habitat (647), Riparian Forest Buffer (391), and Wetland Enhancement (659).

The location, layout and vegetative structure should complement natural features. Avoid straight vegetative lines, or unnatural designs.

Example: a woody riparian habitat (cottonwoods/shrubs/willows) interspersed with small areas of herbaceous riparian habitat complement the natural mosaic of a floodplain.

Selection of native plant species is preferred, selected to provide 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 pests (generally insect pests). Species diversity should be considered to avoid loss of function due to species-specific pests.

Where threatened or endangered species (plant and/or animal) or species of concern may occur, consider including elements that would benefit those species: corridor configuration, plant species selection, management, etc. Refer to the New Mexico Rare Plants list, found at <http://nmrareplants.unm.edu>.

Control of invasive trees and shrubs may be necessary to prevent dominance of the herbaceous riparian zone by woody plants. Refer to NRCS practice Brush Management (314).

Establish alternative livestock water sources and/or control access to streams/wetlands/springs or other sensitive water resources. Use NRCS practice Access Control (472), Stream Crossing (578), Water Facility (614).

Consider the effects of upstream and downstream conditions, structures, facilities, and constraints on the planned activities.

PLANS AND SPECIFICATIONS

Site specific planning for this practice shall follow the Standard and Specifications, and be recorded using the appropriate, approved job sheet(s). Narrative statements in the conservation plan or other documentation may provide supplemental information.

In addition to conservation plan requirements, the plan shall identify and describe:

- the baseline (pre-treatment) condition,
- the desired natural plant community and/or desired habitat type(s),
- Structural and vegetative implementation actions necessary to achieve the goals and objectives,
- management actions necessary to achieve the goals and objectives. Including the method, timing and intensity of each action.

OPERATION AND MAINTENANCE

The following actions shall be carried out to ensure that this practice functions as intended. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance):

- Conditions shall be evaluated and compared to desired conditions on a regular basis; to be able to quickly adjust the conservation plan and ensure the desired habitat conditions are met. Specify the appropriate timing in the Operation & Maintenance schedule.
- Annually inspect and repair structural or vegetative components of this practice. Including but not limited to: control of concentrated flow erosion or mass soil movement.
- Any adjustments to treatments and/or management must be made in consultation with the local NRCS conservationist.

REFERENCES

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- Estaban, M. et al. 2000. Handbook of Wetland Vegetation Communities of New Mexico. New Mexico Natural Heritage Program. Online: <http://nhnm.unm.edu>
- Hoag, J.C., S.K. Wyman, G. Bentrup, L. Holzworth, D.G. Ogle, J. Carleton, F. Berg, and B. Leinard. 2001. USDA-NRCS, Boise, ID and Bozeman, MT. [Technical Note 38: Users Guide to the Description, Propagation, and Establishment of Wetland Plant Species and Grasses for Riparian Areas in the Intermountain West](#). (PDF; 6.3 MB)
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- 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.
- Shepherd, M. D., S. L. Buchmann, M. Vaughan, S. H. Black. 2003. [Pollinator Conservation Handbook: A Guide to Understanding, Protecting, and Providing Habitat for Native Pollinator Insects](#), 145 pp. Portland: The Xerces Society
- USDA. Plants Database. [New Mexico Invasive and Noxious Weeds](#). Online: www://plants.usda.gov
- USDA, NRCS, Wildlife Habitat Management Institute. 2002. [Integrated Pest Management \(IPM\) and Wildlife](#). Fish and Wildlife Habitat Management Leaflet No. 24. Technical Note 190-27