

**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.

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.

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. Select from those species found in the California Vegetation Guide specific to that MLRA for the site.

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.

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 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

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.
- Where the riparian area has been altered

sufficient for establishment and growth of selected species and be done in a manner that does not compromise the intended purpose. Site preparation and planting will be conducted in such a way to minimize sedimentation into adjacent water body.

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 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 2.5 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 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

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)
- Conservation Cover (327)

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

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, introduced species may be used under certain conditions. Introduced species, already present in the watershed, may be used when natives seed or plugs are unavailable or won't establish. Use of natives

or introduced species that are highly competitive should be considered to prevent dominance over native understory and ground cover species. 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.

Measures should be provided to control noxious weeds and other invasive species.

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.

Cultural Resources Considerations

NRCS policy is to avoid any effect to cultural resources and protect them in their original location. Determine if installation of this practice or associated practices in the plan could have an effect on cultural resources. The National Historic Preservation Act may require consultation with the California State Historic Preservation Officer.

<http://www.nrcs.usda.gov/technical/cultural.html> is the primary website for cultural resources information. The California Environmental Handbook and the California Environmental Assessment Worksheet also provide guidance on how the NRCS must account for cultural resources. The e-Field Office Technical Guide, Section II contains general information, with Web sites for additional information.

Document any specific considerations for cultural resources in the design docket and the Practice Requirements worksheet.

Endangered Species Considerations

If during the Environmental Assessment NRCS determines that installation of this practice, along with any others proposed, will have an effect on any federal or state listed Rare, Threatened or Endangered species or their habitat, NRCS will advise the client of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the client selects one of the alternative conservation treatments for installation; or with concurrence of the client, NRCS initiates consultations concerning the listed species with the U.S. Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game.

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.

Written specifications, schedules and maps shall be prepared for each planning area and each habitat type.

Specifications shall:

- Identify the amounts and types of habitat elements, locations and management actions necessary to achieve the client's objectives.
- Describe the appropriate method, timing, frequency, duration, and intensity of management needed to produce the desired habitat conditions and sustain them over time.
- Statement of how specifications address local water quality issues or those water quality issues identified in the conservation plan when the purpose is to protect or improve water quality.

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

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.