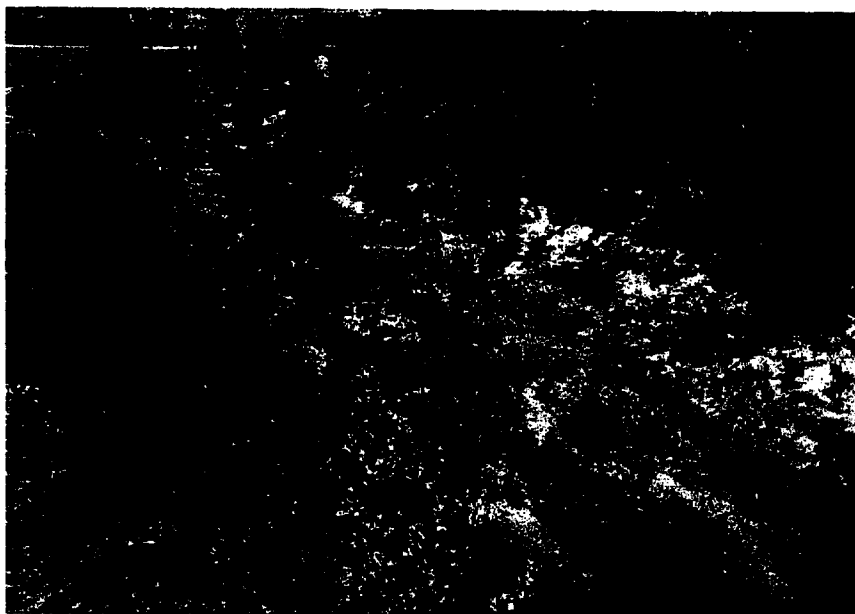


# FARM WATER QUALITY PLANNING MANAGEMENT PRACTICE

**Riparian  
Herbaceous Cover  
# 390**

*University of California Cooperative Extension  
Natural Resources Conservation Service*



Riparian Herbaceous Cover consists of planting grasses, grasslike plants and forbes to protect and enhance the riparian ecosystems that occur along waterbodies. To minimize crop shading and reduce risk of log jams, this practice uses only low growing plant varieties. It is appropriate for small seasonal streams.

See Riparian Forest Buffer #391 for larger stream systems where woody vegetation is appropriate for bank protection and stream shading.

## **Advantages**

- Filters sediment and other pollutants
- Helps stabilize the streambank
- Enhances desired plant communities
- Provides habitat for native wildlife and aquatic organisms
- Provides food for aquatic insects that are food items for fish
- Restores riparian corridor vegetation
- Can provide habitat for beneficial insects

## **Disadvantages**

- Does not provide as much streambank and stream protection as tall woody vegetation
- May provide cover for rodent or bird pests

**Practice Effectiveness for Reducing Water Quality NPS Pollution Potential**

| <b>Erosion-sheet &amp; rill</b> | <b>Erosion-streambank</b> | <b>Pesticides-leaching</b> | <b>Pesticides-dissolved in runoff</b> | <b>Pesticides-adsorbed to sediment</b> | <b>Nutrients-leaching</b> | <b>Nutrients-surface waters</b> |
|---------------------------------|---------------------------|----------------------------|---------------------------------------|--|---------------------------|---------------------------------|
|                                 |                           | slight                     | moderate                              | moderate                               |                           |                                 |

Empty boxes indicate information not yet collected for this practice

**Additional sources of information regarding riparian herbaceous cover:**

UC Sustainable Agriculture Research and Extension Program <http://www.sarep.ucdavis.edu/>  
 UC Weed Research and Information Center <http://wric.ucdavis.edu/>

Some of the information in this management sheet has been taken from the Natural Resource Conservation Service (NRCS) Handbook of Conservation Practices practice #390. Picture provided by Monterey County NRCS. Contact your local NRCS office or visit <http://www.nrcs.usda.gov> for more information.

**A Practice Specification has not been prepared. Specifications and design details will be prepared upon request of the Area Engineer or State Conservation Engineer.**

NATURAL RESOURCES CONSERVATION SERVICE  
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 consist of grasses, grasslike 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 increase the depth to width ratio 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 water courses to establish geomorphic stability.

To manage existing riparian herbaceous habitat to improve or maintain desired plant communities.

**CONDITION WHERE PRACTICE APPLIES**

Along water courses 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. Species selected should also provide a deep, binding root mass to strengthen streambanks and improve soil health.

Protect and enhance riparian vegetation and water quality by reducing the use of that vegetation for 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 out of 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.

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.

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 widths will vary depending on the requirements of wildlife species and associated environmental concerns.

Other applicable practices 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

#### **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 should be managed and maintained to optimize functions of the riparian zone which control erosion and maintain water quality.

#### **CONSIDERATIONS**

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 may need to be combined with other practices that better address stability issues.

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

Considerations should be given to how this practice will provide riparian habitat and linkage to other habitats.

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.

#### **Endangered Species Considerations**

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user 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 landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that critical periods, such as spawning, eggs in gravels and rearing of young may preclude activities in the stream that may directly affect the stream habitat during those periods. For example, there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

#### **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.