

**NATURAL RESOURCES CONSERVATION SERVICE
PACIFIC ISLANDS AREA**

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 bank and shorelines.
- Increase net carbon storage in the biomass and soil.

CONDITION 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 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.

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.

To select suitable perennial plant species for a riparian forest buffer planting in the Pacific Islands Area, use the Pacific Island Plant Restoration Database. The database can be accessed via the internet at: <http://hawaiiconservation.org/piprd.asp>.

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 and avoid wildlife species' breeding/nesting seasons.

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 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 or accepted, introduced 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.

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)
- Fence – (382)
- Riparian Forest Buffer – (391)
- Forage and Biomass Planting (512)
- Range Planting – (550)
- Filter Strip – (393)
- Field Borders – (386)
- Channel Bank Vegetation (322)
- Access Control – (472)
- Prescribed Grazing – (528)
- Brush Management – (314)
- *Herbaceous Weed Control (315)*

- *Integrated Pest Management (595)*

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 to prevent dominance of the riparian zone by woody plants and maintain openness in riparian system.

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 tame, introduced species may be used *with the concurrence of the NRCS Pacific Islands Area State Biologist*. All selected species should have multiple values such as those suited for biomass, loafing and nesting cover, aesthetics, forage value for aquatic invertebrates, 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 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

The Pacific Islands Area Jobsheet for this practice shall be used to prepare and record the plans and specifications for each site and reviewed with the client.

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 and feral ungulate 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.

The Pacific Islands Area Jobsheet for this practice shall be used to prepare and record the operation, maintenance and management requirements for each site and reviewed with the client.

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.

USDA, NRCS. 2004. National Biology Handbook, Aquatic and Terrestrial Habitat Resources, Subpart B Part 613, Conservation Corridor Planning at the Landscape Level Managing for Wildlife Habitat pp. 1-132