



**CONSERVATION ENHANCEMENT ACTIVITY**

**E390A (with Montana Supplement)**

**CONSERVATION STEWARDSHIP PROGRAM**

Increase riparian herbaceous cover width for sediment and nutrient reduction

**Conservation Practice 390: Riparian Herbaceous Cover**

**APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)**

**RESOURCE CONCERN: Water**

**ENHANCEMENT LIFE SPAN: 5 Years**

**Enhancement Description**

Where an existing herbaceous riparian buffer is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of sediment and nutrient removal from surface and subsurface flows.

**MT: Riparian herbaceous cover applies to areas adjacent to permanent or 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. For riverine systems, this enhancement should be applied to upper stream reaches (1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> order streams) that are not forested.**

**Locate riparian herbaceous buffers where channel and stream bank stability are adequate to support this practice.**

**Riparian herbaceous cover is applicable on sites where the riparian area has been altered and the potential natural plant community has changed.**

**The objective of the enhancement is to establish riparian herbaceous cover dominated by native grasses, sedges, rushes, ferns, legumes and other forbs tolerant of intermittent flooding or saturated soils, established or managed as the dominant vegetation in the transitional zone between upland and aquatic habitats.**

E390A – Increase riparian herbaceous cover width for sediment and nutrient reduction <b>with Montana Supplement (bold)</b>	July 2019 <b>Montana Supplement February 2020</b>	Page   1
--	--	----------



## CONSERVATION ENHANCEMENT ACTIVITY

### E390A (with Montana Supplement)

## CONSERVATION STEWARDSHIP PROGRAM

#### Criteria

- Existing buffer width shall be at least 35 feet or (if applicable) the minimum State buffer- width requirement, whichever is greater. Maximum enhancement buffer width may be increased up to the greater of 100 feet or the State-allowed maximum width.

**MT: The maximum width of the enhancement buffer will be 100 ft., but no greater than the width of the geomorphic floodplain.**

- To the extent possible, the buffer area and extended buffer will be shaped and vegetated to increase overland flow interception.
- Concentrated flow erosion or mass soil movement shall be controlled in the up-gradient area prior to establishment of the riparian herbaceous cover.
- 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.
- Species selected shall have stiff stems and high stem density near the ground surface to reduce water velocities and facilitate infiltration into the floodplain. Only viable, high quality and site-adapted planting stock will be used. Selection of native plants is recommended.
- In areas where native seeds and propagules are present, natural regeneration can be used in lieu of planting. Planting is required if no native seed bank is present.
- Selected plant species must be adapted to the projected duration of saturation and inundation of the site.
- Where available, use Ecological Site Description to guide restoration to appropriate vegetative community phase and include appropriate vegetative functional groups.

E390A – Increase riparian herbaceous cover width for sediment and nutrient reduction <b>with Montana Supplement (bold)</b>	July 2019 <b>Montana Supplement February 2020</b>	Page   2
--	--	----------



## CONSERVATION ENHANCEMENT ACTIVITY

### E390A (with Montana Supplement)

## CONSERVATION STEWARDSHIP PROGRAM

- Necessary site preparation and planting shall be done at a time and manner to ensure survival and growth of selected species.
- Management systems applied will be designed to maintain or improve the vigor and reproduction of the desired plant community.
- Harmful pests present on the site will be controlled or eliminated as necessary to achieve and maintain the intended purpose. Pest management will be conducted in a manner that mitigates impacts to pollinators.
- Protect riparian vegetation by reducing or excluding haying and grazing until the desired plant community is well established, with grazing deferred for a minimum of two years.
- Design the expanded buffer enhancement for an expected life of at least 5 years.
- **MT:**
  - **An inventory of the site or a comparable site will be completed to determine the existing and potential species in the riparian herbaceous communities. Consideration will be given to how this enhancement will complement the functions and natural features of adjacent riparian, terrestrial and aquatic habitats. Overland flow interception should also be considered in the design of the cover enhancement.**
  - **The selection of the seed mixture is critical to the success of the planting. Where available, use the Montana Ecological Site Descriptions (FOTG – Section II) to determine the appropriate vegetative community phase and vegetative functional groups.**
  - **Follow the Montana 550 Standard, Specification and Job sheet to design the seed mix and make planting recommendations.**
  - **Plantings will consist of three or more native grass or sedge species and one or more forb species suited to the site. At least 50% of each planting mix (seed or propagule count) shall be a rhizomatous or moderately rhizomatous grass or sedge species. Species selected will have stiff stems and high stem density near the ground surface to reduce water velocities and facilitate infiltration into the floodplain.**

E390A – Increase riparian herbaceous cover width for sediment and nutrient reduction <b>with Montana Supplement (bold)</b>	July 2019 <b>Montana Supplement February 2020</b>	Page   3
--	--	----------



## CONSERVATION ENHANCEMENT ACTIVITY

### E390A (with Montana Supplement)

## CONSERVATION STEWARDSHIP PROGRAM

- The selected species should also provide a deep, binding root mass to strengthen streambanks and improve soil health. Tall, rhizomatous grasses like switchgrass and prairie cordgrass are ideal plant materials for filtering out sediment, slowing water velocities, and protecting the soil surface.
- Reference Montana NRCS Plant Material Technical Note 46 for species and cultivar selection and Technical Note 33 for seeding rates. Plant materials should be adapted to local conditions. Seeding rates will be calculated on a pure live seed (PLS) basis. Note: All seed and planting materials must meet state quality standards. Seed tags must be current.
- Site preparation will be completed in a time and in a manner that ensures survival and growth of selected species while protecting the soil from erosion.
- The seed characteristics of the species selected will determine planting dates. Spring planting will occur prior to May 15th. Fall planting dates will be October 15 or later, after fall dormancy sets in.
- Use plant density observations from multiple areas in the field(s) to confirm successful establishment two years from the planting date. Use Montana Technical Note 5 (Revision 1) Evaluating Seeding Success for Pasture and Hay Planting (Code 512) and Range Planting (Code 550).
- Use plant density observations from multiple areas in the field(s) to confirm successful establishment two years from the planting date. Use Montana Technical Note 5 (Revision 1) Evaluating Seeding Success for Pasture and Hay Planting (Code 512) and Range Planting (Code 550).
- If the area is used for livestock or hay production, Prescribed Grazing (Code 528) or Forage Harvest Management (Code 511) will be planned to protect and enhance emerging and established vegetation to fulfill the intended purpose of the buffer for the duration of its lifespan (5 years). Domestic grazing and haying activities will be deferred for a minimum of two years or until the desired plant community is well established.



## CONSERVATION ENHANCEMENT ACTIVITY

### E390A (with Montana Supplement)

## CONSERVATION STEWARDSHIP PROGRAM

- **The use of fertilizers, pesticides and other chemicals will not compromise the intended purpose of the riparian herbaceous cover. Harmful pest will be controlled. Pest management will be performed in a manner that minimizes negative impacts to water quality, wildlife, etc.**
- **Alternative water sources or controlled access stream crossings should be established to manage livestock access to the stream and riparian area.**
- **Excessive concentrated-flow erosion and/or mass soil movement will be controlled in the adjacent areas and up-gradient of the site to maintain riparian function.**
- **This enhancement will comply with all applicable federal, state and local laws and regulations, including the Montana Streamside Management Zone (SMZ) Law.**
- **This enhancement may have the potential to affect cultural resources. Refer to Exhibits 1 and 3 of NRCS Montana’s Prototype Programmatic Agreement (PPA) for Section 106 compliance for additional guidance.**

#### Documentation and Implementation Requirements

##### Participant will:

- Prior to implementation, prepare the planned buffer area for vegetation establishment. Refer to NRCS Conservation Practice Standard Riparian Herbaceous Cover (Code 390). (NRCS will provide technical assistance, as needed.)
- Prior to implementation, in areas that are highly disturbed and are unlikely to have existing native seed in the soil work closely with NRCS to select plant species that are adapted to your specific site. (NRCS will provide technical assistance, as needed.)

E390A – Increase riparian herbaceous cover width for sediment and nutrient reduction <b>with Montana Supplement (bold)</b>	July 2019 <b>Montana Supplement February 2020</b>	Page   5
--	--	----------



### CONSERVATION ENHANCEMENT ACTIVITY

### E390A (with Montana Supplement)

# CONSERVATION STEWARDSHIP PROGRAM

Species	Species type (grass, legume, forb)	Rate (Lbs/Ac) PLS

- Prior to implementation, select planting technique and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	
Seeding Depth	

- During implementation, grade the site, as needed, to eliminate concentrated flow through the buffer including that from uphill from the buffer.
- During implementation, replace any underground functional tile drains that pass through the buffer with rigid, non-perforated pipe or install a management regulating structure to allow overflow control.
- During implementation, conduct planting of selected species according to dates, techniques, depth, and other requirements listed in the plan.
- During implementation, install and maintain erosion control measures as needed, such as silt fencing and mulching.
- During implementation, notify NRCS of any planned changes to allow NRCS to verify that the changes meet NRCS enhancement criteria.
- After implementation, control harmful pests at the site, as necessary, and in a manner that mitigates impacts to pollinators.



## CONSERVATION ENHANCEMENT ACTIVITY

### E390A (with Montana Supplement)

## CONSERVATION STEWARDSHIP PROGRAM

- After implementation, protect the area by reducing haying and excluding grazing until the plant community is established, deferring grazing for a minimum of two years.
- **NRCS will:**
  - Prior to implementation, provide and explain NRCS Conservation Practice Standard Riparian Herbaceous Cover (Code 390) to show how it relates to this enhancement.
  - Prior to implementation, verify the enhancement is planned for cropland.
  - Prior to implementation, verify the enhancement is planned for acres that have been appropriately prepared for riparian herbaceous cover.
  - Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.
  - As needed, prior to implementation, NRCS will provide technical assistance:
    - Preparing a site plan that meets NRCS Conservation Practice Standard Riparian Herbaceous Cover (CPS 390).
    - Selecting the stiff-stemmed species of grasses and/or perennial forbs best suited to site saturation and inundation conditions.
    - Selecting planting techniques and timing appropriate for the site and soil conditions.
    - Planning the use of additional erosion control, as needed for the site.
    - Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.



**CONSERVATION ENHANCEMENT ACTIVITY**

**E390A (with Montana Supplement)**

**CONSERVATION STEWARDSHIP PROGRAM**

- During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- During implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- After implementation, verify the vegetation was established to specifications developed for the site.
- After implementation, verify the planting is protected from pests, has had limited haying, and that grazing is being excluded, if established less than two years.

**NRCS Documentation Review:**

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name \_\_\_\_\_

Contract Number \_\_\_\_\_

Total Amount Applied \_\_\_\_\_

Fiscal Year Completed \_\_\_\_\_

\_\_\_\_\_  
NRCS Technical Adequacy Signature

\_\_\_\_\_  
Date