

# Riparian Herbaceous Cover

## Conservation Practice Job Sheet

390



### DEFINITION

Riparian Herbaceous Cover is a strip of permanent vegetation established and managed between upland and aquatic habitats. Vegetation consists of adapted grasses, legumes, and forbs.

### PURPOSE

This practice may be used to provide pollinator and other wildlife habitat in the form of food or cover, habitat connectivity and some measure of temperature moderation to streams. It may also improve, protect and maintain water quality by reducing the amount of sediment and other pollutants, such as pesticides, organic materials, and nutrients in surface and shallow ground water. In addition, it may serve to increase carbon and biomass within the soil and reduce erosion and improve stability to stream banks and shorelines while dissipating stream energy and trapping sediment

### GENERAL

The minimum width of the buffer must be no less than 30 feet.

Seed used must conform to the minimum state standards for purity, germination and other features. Seed tags and other information may be requested for verification.

Herbaceous species selected for this practice are grasses and forbs (introduced or native) based on the purpose of the riparian herbaceous buffer.

*Planners should use the planting dates, species and mixes listed in 327 Conservation Cover. For introduced species, certified seed is required unless otherwise indicated.*

Any application of lime and fertilizer should always be performed according to University of Kentucky recommendations based on a soil test analysis consistent with the University of Kentucky laboratory soil test procedures.

Any erosion on the site and immediately up-slope from the site must be controlled prior to establishment of the new cover. This may require installation of additional conservation practices such as field borders, grassed waterways or filter strips.

If the purpose is to increase net carbon storage in biomass and soils, maximize the width and length of the herbaceous riparian buffer to fit the site. Activities which set back succession should not be frequently undertaken (e.g. disking, haying, mowing, etc.)

### SITE PREPARATION

Site preparation consists of competition control prior to planting, seedbed preparation and species selection.

#### A. Competition Control Prior to Planting

Competition control is the most important step to ensuring establishment of desired vegetation. This control should begin prior to the seeding and seedbed operations whether selecting introduced grass /legume species or native grass/forb species. Either conventional seedbed preparation or herbicide application/s or both should be used to control competition prior to planting.

Several steps are required to get successful competition control when using herbicide to eradicate existing vegetation. The first step is to remove any excessive top growth that may be present. Removal can be accomplished by mowing or grazing the area prior to application(s) of any recommended herbicide. Where possible,

always attempt to remove the residue to allow for better herbicide contact. If hay removal or grazing is not possible, the area may be raked and moved off the area that will be planted. In some situations prescribed fire may also be a viable option for improving seedbed conditions and herbicide effectiveness. Burning must be done according to a detailed burn plan from KDFWR, The Nature Conservancy, or a TSP.

Next, apply a broad spectrum herbicide. The recommended herbicide program may involve a fall application with a follow-up spring application(s). A second herbicide application is usually required for dense fescue or other sod forming grass species in areas where competition may not be controlled by one herbicide application. The herbicide applications must be made while the target vegetation is rapidly growing and once 4 to 6 inches of new growth has occurred to ensure herbicide uptake. The following table provides some general options for controlling competition prior to planting.

METHOD	TIMING	PROCEDURE
<b>Single Burn-Down</b>  This option <u>should not</u> be used when tall fescue or other undesirable sod forming grass is the predominant cover.	Spring	<ol style="list-style-type: none"> <li>1. Remove excess vegetation in fall or winter via mowing or close grazing.</li> <li>2. Apply herbicide after vegetation has grown 4 to 6 inches in spring</li> <li>3. Apply broad spectrum herbicide product prior to planting if necessary.</li> <li>4. Follow all herbicide label instructions.</li> </ol>
<b>Double Burn-Down</b>  This option should be used when tall fescue or other sod forming grass is the predominant cover.	Fall & Spring	<ol style="list-style-type: none"> <li>1. Remove excess vegetation in late summer through fall (typically September) by mowing or grazing.</li> <li>2. Apply broad spectrum herbicide after vegetation has actively grown to 4 to 6 inches in late summer or early fall. Follow all label instructions.</li> <li>3. Apply broad spectrum herbicide just prior to planting and after remaining vegetation grows 4 to 6 inches in spring.</li> <li>4. Follow all label instructions.</li> </ol>

## B. Seeding and Seedbed Preparation

Regardless of the seeding method used, the seeding depth for most species should never exceed 1/4 to 1/2 inch for introduced species and never more than ¼ inch for native species. For native species, having some seed on the soil surface is better than having it too deep.

Avoid no-till planting or cultipacking planted seedbeds in wet soil since it may result in placing the seed too deep.

### 1. Conventional Tillage

Conventional seeding may be used for establishment on areas that have been recently cropped, where weedy competition will be lessened and where the risk of soil erosion is minimal.

In the spring prior to planting, prepare the site by making multiple passes with a disk to make a clean, firm seedbed. As a general guide, a seedbed is considered firm when footprints leave no more than a half-inch deep depression. Seeds are usually broadcast by hand or spreader. The importance of a dry firm seedbed cannot be over-emphasized to ensure proper planting depth.

Broadcast fluffy seeded native species with a drop spreader. When using a cyclone type spreader, a carrier should be used to help distribute the seed. The following carriers may be used: pelletized lime at a 200 lbs/acre rate; or oats at 32 lbs. /acre rate. Since fluffy seed will only broadcast as far as the carrier, make sure your passes overlap to ensure even coverage. If oats or other cereals are used as a carrier, mow prior to seed head formation.

After broadcasting, always cultipack or roll the seeded area only once to ensure good seed to soil contact and the proper, shallow seeding depth.

### 2. No Tillage

Planting by no-till method uses a seed drill to place seed at a prescribed depth within the soil. It is the preferred method of

establishment regardless of the species planted since soil disturbance is minimal, thus reducing weed competition and the risk of soil erosion. Two common mistakes when no-till planting include pulling the drill too fast and not stopping to check seeding depth often enough. Also, ensure that the drill is set to the correct depth for the species being planted.

Smooth seeded native species like switchgrass can be planted using a no-till drill with the legume box. Fluffy seeded native species will need to be seeded with a no-till drill specialized to plant these seeds. These specialized drills have seed boxes with dividers and agitators, picker wheels, and oversized drop tubes. Specialized drills are also designed so they can be adjusted to ensure shallow planting depths. Some conventional no-till drills have been retro fitted with a fluffy grass seed box. Care needs to be exercised when setting these drills to ensure that planting depths are no deeper than ¼ inch. Two common mistakes when no-till planting native grasses include pulling the drill too fast and not stopping to check seeding depth often enough.

### **C. Eastern Gama Grass Planting**

Eastern Gama grass may be planted into a conventionally tilled seedbed or into killed grass sod using a corn planter. Since some corn drills do not handle the seed as well as others a trial run should be conducted prior to the planting operation. Planting depth for Eastern Gama grass should not be deeper than 1-1½ inches.

## **OPERATION AND MAINTENANCE**

Competition control remains an important part of establishment for up to two years after planting depending upon the species planted. Control competition and prevent weed seed formation in established stands by top clipping during this period as recommended by NRCS, Kentucky Department of Fish and Wildlife Resources, or a certified Technical Service Provider.

Post-emergent herbicides could also be needed to control competition for native grasses during the two-year establishment period as recommended by one of the above technical service providers.

Inspect and repair areas planted to riparian herbaceous cover after storms to fill in gullies, reseed disturbed areas, and take other measures to ensure the effectiveness of the practice.

After the establishment year (when any recommended top-clipping would be done), avoid mowing areas planted to riparian herbaceous cover between May 15<sup>th</sup> and August 1<sup>st</sup> which is the primary nesting season for ground-nesting birds and animals. In addition, to improve wildlife and pollinator habitat, try not to disturb more than 50 percent of the area in any one year.

Areas where riparian herbaceous cover is being established under various Farm Bill programs may require the participant to follow additional or more stringent management requirements. Refer to any attached Management and Maintenance Job Sheet(s) as applicable.

Maintain original width and length of the riparian herbaceous cover(s). Harvest, mow, reseed, and fertilize as necessary to maintain plant density and vigorous plant growth.

*Note: Where wildlife or pollinators are a primary consideration, fertilization may result in stands becoming too dense for wildlife use.*

Maintain a stand density for the purpose(s) intended. Inspect after major storms, remove trapped sediment and repair eroding areas. Regular disturbance may be necessary to maintain the intended function or remove woody invasion. This could include grazing, haying/mowing, light disking or burning. Maintenance activities should not occur during the nesting season (May 15 – Aug 1) when feasible. If feasible disturb no more than one-third of the stand in any given year

***Some types and dates of maintenance mentioned above may be prohibited by various USDA programs. Contact the local NRCS office to ensure compliance with all program rules.***

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### SPECIFICATIONS

Site-specific requirements and additional provisions are listed on the following pages. Specifications are prepared in accordance with the Riparian Herbaceous Cover (390) practices standard in the NRCS Field Office Technical Guide. This information is considered to be part of the contract and/or conservation plan.

<b>Client:</b>	<b>Farm #:</b>	<b>Adjacent Waterbody</b>
<b>Field(s):</b>	<b>Tract #:</b>	<input type="checkbox"/> Stream
<b>Designed By:</b>	<b>Date:</b>	<input type="checkbox"/> Pond/Lake
<b>CRP Practice</b> (if applicable):		<input type="checkbox"/> Other

Purpose (check all that apply)	
<input type="checkbox"/> Improve wildlife and/or pollinator habitat by providing corridors, increasing diversity, connectivity, structure or food, cover or nesting	<input type="checkbox"/> Improve stabilization of streambanks and shorelines along waterbodies
<input type="checkbox"/> Increasing net carbon storage in biomass and soils	<input type="checkbox"/> Protect or improve water quality (increased width)
<input type="checkbox"/> Restore, improve or maintain desired plant communities	<input type="checkbox"/> Dissipate stream energy and trap sediment

- WinPST attached** (Refer to the windows pesticide screening tool for risks associated with pesticide use.)
- See attached information** regarding pesticide applications and/or planting or mix information.

Layout (use additional sheets if necessary)	Field ____	Field ____
Herbaceous Riparian Width <sup>1</sup> (ft.)		
Planned Riparian Length Along Waterbody (ft.)		
Total Area (acres)		
Method of Establishment <sup>2</sup>		
Method of Competition Control		
Pre-Planting Herbicide Application Date(s) (if applicable)		
Planting Date(s)		
Planted Species #1 <sup>3</sup>		
Planted Species #2		
Planted Species #3		
Lime per soil test (tons/acre) N, P, K per soil test (if applicable)		

1. The **minimum** width is 30 feet. Use 15 feet for ponds and other waterbodies. For water quality, use 2.5 times the average stream width and 35 feet for ponds or other waterbodies.
2. Identify how the riparian cover will be established: **No-Till Drilled or Conventional**.
3. List the species planted. If planting a mixture(s) attach the mix or species to job sheet. For mixes refer to (327) Conservation Cover.

**Site Preparation** (Complete as appropriate)

- No-Till Native Warm Season Grass and/or Forb Establishment** - Fescue or other dense sod may require removal prior to establishment of more wildlife friendly species.
- Conventional Native Warm Season Grass and/or Forb Establishment** - Plowing or disking should be done deep enough to kill all existing vegetation and establish a firm seedbed.
- Conventional Method Cool Season Grasses and Legumes** - Plowing or disking should be done deep enough to kill all existing vegetation and to incorporate lime and fertilizer into the top 4-6 inches of the surface soil. Any existing rills and gullies should be obliterated and a firm seedbed prepared. The surface should be reasonably smooth, free of ridges, rocks, and other obstructions.
- No-Till Method for Cool Season Grasses and Legumes or Pollinator Establishments** - Eliminate competitive vegetation by heavy grazing, mowing and/or herbicides to completely destroy competitive growth. Broad leaf and other undesirable weeds should be eradicated by applying proper herbicides at least 2 weeks prior to seeding date. Refer to the University of Kentucky Cooperative Extension Service for herbicide recommendations. Seed must be placed in firm contact with the mineral soil and at a depth of ¼ to ½ inch of the surface depth control bands or other controls should be used to insure proper placement of seed.

**Planting Methods** (Complete as appropriate)

- No-Till Native Warm Season Grass and/or Forb Establishment** - Establish vegetation according to the specified seeding rate of grass \_\_\_\_\_ lbs. /ac PLS and forbs at \_\_\_\_\_ lbs. /ac PLS. Seed should be drilled ¼ inch deep uniformly over the area. Smooth seeded species like switchgrass may be planted using a conventional no-till drill. Other species may require a modified or specialized drill. Check depth of seed frequently during planting.
- Conventional Native Warm Season Grass and/or Forb Establishment** - Broadcast fluffy seeded native species with a drop or cyclone type spreader. Use a carrier to help distribute light or fluffy seed. The carrier \_\_\_\_\_ should be used at a rate of \_\_\_\_\_ lbs. /acre. Ensure your passes overlap for even coverage. If oats or other cereals are used as a carrier, mow prior to seed head formation.
- Conventional Method for Cool season and/or Introduced Grasses and Legumes** - Seed should be planted at a rate of \_\_\_\_\_ lbs. /ac and forbs at \_\_\_\_\_ lbs. /ac PLS. The seed should be covered to a depth of ¼ - ½ inch in a firm seedbed. A roller or cultipacker should be used to ensure good seed to soil contact. If necessary, mulch newly seeded area with \_\_\_\_\_ tons per acre of mulch material. A small grain crop may be needed as a companion crop at the rate of \_\_\_\_\_ pounds per acre (clip or harvest before it heads out).
- No-Till Method for Cool Season Grasses and Legumes** - Drill grass and/or legume seed ¼ - ½ inch deep uniformly over area. Establish vegetation according to the specified seeding rate. If necessary, mulch newly seeded area with \_\_\_\_\_ tons per acre of mulch material. A small grain crop may be needed as a companion crop at the rate of \_\_\_\_\_ pounds per acre (clip or harvest before it heads out).

**Operation and Maintenance** (Complete as appropriate)

**Maintenance method and compatible uses include:**

- Mowing/Haying:** Frequency \_\_\_\_\_
- Grazing:** # of Livestock \_\_\_\_\_ Frequency \_\_\_\_\_
- Light Disking:** Frequency \_\_\_\_\_
- Prescribed Fire:** Frequency \_\_\_\_\_

Maintain the dominant cover at the minimum height of \_\_\_\_\_ inches between maintenance activities.

Also refer to the section of this document entitled Operation and Maintenance. **NOTE: Some activities may not be allowed under various programs.**

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If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included

**Additional Specifications**

**Certifications**

<b>Job Sheet</b>	Prepared by:	Title:	Date:
	Approved by:	Title:	Date:
<b>Installation</b>	<b>Meets NRCS Standards and Specifications</b>		
	Certification by:	Title:	Date:

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