



RIPARIAN FOREST BUFFER

Michigan CONSERVATION RESERVE PROGRAM CREP – CP22

Natural Resources Conservation Service (NRCS)

March 2011



Photo courtesy of USDA NRCS

WHAT IS A RIPARIAN FOREST BUFFER?

A riparian forest buffer is an area of trees and shrubs located adjacent to streams, lakes, ponds, sinkholes and karst areas, or wetlands. Riparian forest buffers intercept sediment, nutrients, pesticides, and other materials in surface runoff and reduce nutrients and other pollutants in shallow subsurface water flow. Woody vegetation in buffers provides food and cover for wildlife, helps lower water temperatures by shading the water body, stabilizes stream banks, and slows out-of-bank flood flows. In addition, the vegetation closest to the water body provides litter fall and large woody debris important to aquatic organisms. Some trees established or managed in a riparian forest buffer can also provide timber, wood fiber, and/or horticultural products after the CREP contract expires.

ELIGIBILITY

To be eligible for this practice for the Conservation Reserve Enhancement Program (CREP), the land must be located in the Saginaw Bay, River Raisin Western Lake Erie, or Lake Macatawa Watersheds, and the land must have a cropping history (4 out of 6 years from 2002 - 2007), or be considered marginal pastureland. Plus, there must be an existing water quality resource concern present that can be addressed with a Riparian Forest Buffer. If trees are currently present, the site may still be eligible if it is determined they are not functioning as a Riparian Forest Buffer, and additional trees will be planted.

If wildlife habitat is the only resource concern, the site is not eligible for CREP. However, the site may be

eligible for a Riparian Forest Buffer through other USDA cost-share programs.

CREP POLICY

CREP Riparian Forest Buffers will be installed according to the Riparian Forest Buffer Standard (391) in the local Field Office Technical Guide (FOTG).

CREP Riparian Forest Buffers installed on **Cropland** are eligible adjacent and parallel to streams, sinkholes and karst areas, wetlands, and permanent bodies of water such as lakes/ponds. On **Marginal Pastureland**, Riparian Forest Buffers are only eligible along streams and **permanent** bodies of water.

For the Conservation Reserve Enhancement Program, Riparian Forest Buffers will be a minimum of 50 feet from the edge of the eligible body of water, and a maximum of 180 feet from the edge of the eligible water body. If the minimum design width for water quality purposes exceeds 180 ft., the maximum width for CREP will be the minimum design width.

CREP riparian forest buffers will consist of 2 zones at a minimum, and may require a 3rd zone if concentrated flow conditions are present. Zone 1 will consist of trees/shrubs and extend a **minimum** of 15 feet from the edge of the body of water; this zone creates a stable ecosystem adjacent to the body of water. Zone 2 will also consist of trees/shrubs and extend a **minimum** of 20 feet from the edge of zone 1; this zone is important for sequestering nutrients, pesticides, sediment, etc. Zone 3 is only eligible for concentrated flow conditions, and will be planted to grasses and forbs and will be an avg. width of 20 feet from the edge of zone 2; this zone provides sediment and nutrient filtering, and converts concentrated flow to sheet flow.

The entire width of the riparian forest buffer must be established to trees and/or shrubs, except the outer 20 feet may be planted to grasses if necessary for concentrated flow conditions.

Tree and shrub species selected for the buffer will be adapted to the site conditions (see Conservation Tree/Shrub Suitability Groups in Sect. II of FOTG) and meet the standards in the local FOTG. Only viable, high quality planting stock will be used.

INSTALLATION

It is essential to prepare a weed-free and firm seedbed before planting the trees and shrubs. It may be

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necessary to prepare the site the fall before planting the trees in the spring using tillage, herbicides, etc. Contact your local Michigan State University (MSU) Extension Agent for specific herbicide recommendations. **All herbicides will be applied according to the label.**

Plantings using bare-rooted stock and non-rooted cuttings should be completed in the spring after the ground thaws, but no later than June 1; or planted in the fall after October 1 until the ground freezes when soil moisture is adequate. Containerized and balled and burlap stock may be planted between October 1 and June 1 as local soil moisture and weather conditions permit. Direct seeding will be completed from October 1 through April 30 as local soil moisture and weather conditions permit

If the site is suitable, the landowner can choose to establish the trees through **Natural Regeneration**. **No cost-share is available with this option**; but, if after 2 years natural regeneration does not adequately stock the site, the trees must be planted **without** cost-share.

Weed Control is also important to ensure survival and maximum growth of the trees after they are planted. Cost-share is authorized for one weed control application within 24 months after the trees are planted. A 2 ft radius around each tree should remain weed-free to maximize tree growth. **Mowing** is not allowed for weed control for trees.**

A weed control method **between** rows is to plant non-competitive grasses. **However, the 9 ft² weed and grass-free radius around each tree will still be maintained to maximize tree growth.** Eligible grasses are found in the Conservation Cover Standard (327) in the FOTG. **Mowing of these grasses is not authorized.**

Livestock will be excluded from all CREP buffers. Cost-share is authorized for fencing, alternative water sources, and livestock crossings if necessary.

OPERATION AND MAINTENANCE

Noxious weeds and other undesirable plants, insects, and pests need to be controlled, including such maintenance as necessary to avoid detrimental effects to the riparian forest buffer and surrounding land. Some of the most common pests that need controlled on CREP acreage include Autumn Olive, Multiflora Rose, Spotted Knapweed, Quackgrass, etc.

Maintenance activities are allowed only on a spot basis and only if necessary to maintain stand health, maintain stand diversity, or control pests that will damage the CREP cover or adjacent lands.

MOWING** is not allowed for weed control for CREP tree maintenance. Other maintenance activities are only allowed between August 1 – May 1st (i.e. - outside of the Primary Nesting and Brood-Rearing season). For trees, all maintenance activities should occur

during the dormant season. If maintenance activities are needed at times other than these, the FSA County Committee **must** approve the maintenance activity **prior to** the activity occurring.

The riparian forest buffer should be inspected on a seasonal basis and following major storm and runoff events. Any damages or sediment accumulation that would adversely impair the function of the buffer must be corrected immediately, at the landowner's expense.

Replacement of dead trees and shrubs will be needed to ensure at least 80% of the trees are living. The landowner is responsible for replacement costs.

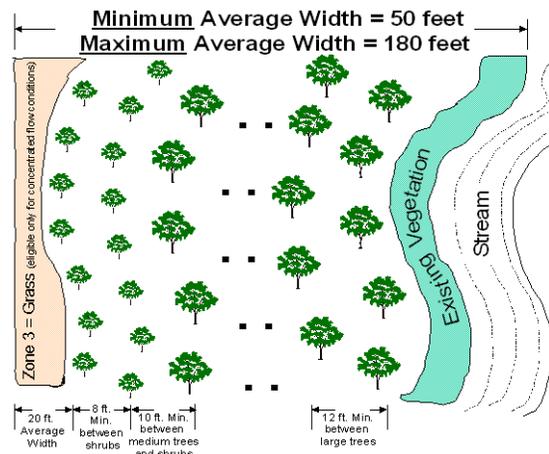
CONSIDERATIONS

For optimum wildlife habitat, plant a variety of trees and shrubs including those likely to produce den cavities and provide food. Following are species referenced in the 391 Standard in the FOTG that are considered excellent for upland wildlife cover, large cavity potential, and/or fruit and nut production, plus have a medium or higher flooding tolerance. Consult the FOTG for more information and other species.

Tree Species	Mature Ht (ft)	Flooding Tolerance	Wildlife Suitability
Cottonwood	90	H	H
Cranberry, Highbush	15	H	H
Dogwood, Red-osier	12	H	H
Dogwood, Silky	12	H	H
Oak, Bur	70	H	H
Oak, Swamp White	70	M	H
Sycamore	90	H	H
Walnut, Black	80	M	H

Flooding – H = Able to survive deep flooding for 1 growing season. M = Able to survive flooding or saturated soil for 30 consecutive days during the growing season.

Below is a typical layout and design of a CREP Riparian Forest Buffer. Note: other designs may also be eligible for CREP – see your plan and plan map.



RIPARIAN FOREST BUFFER DESIGN WORKSHEET CREP CP-22

Landowner:

County:

Farm:

Tract:

Field(s):

Width / Acres:

Date:

REQUIREMENTS

DESIGN CONSIDERATIONS:

(Soils information is based on the FOTG, Section II-Forestry Interpretations)

Predominant Soil Type(s):

Site Index (with planned species):

RECOMMENDED SPECIES	TOTAL # NEEDED	RECOMMENDED SPACING
Row #'s: =		Within Row #'s : ft
Row #'s: =		Between Row #'s : ft
Row #'s: =		Within Row #'s : ft
Row #'s: =		Between Row #'s : ft
Row #'s: =		Within Row #'s : ft
Row #'s: =		Between Row #'s : ft
Row #'s: =		Within Row #'s : ft
Row #'s: =		Between Row #'s : ft

ZONE 3 = -

NOTES =

SITE PREPARATION - BEFORE PLANTING:

- Permanent Fence: : _____ ft = (see the attached design)
- Water Source: Pipeline: _____ ft = (see design)
- Water Facilities(s): Livestock Crossing: (see design)
- A Pre-Construction Meeting will occur with NRCS to ensure the Design is understood and followed.**
- Herbicide₁ (per label): Dates =
- Herbicide₂ (per label): Dates =
- Tillage: Dates =
- Grass - Dates =
- (between rows only):
- Temporary Seeding:
- Structures, Grading, Leveling, Filling – **See the attached Design Sheet.**
- Other:

PLANTING METHOD in Year

- Tree Planting Method:** :
- (If unforeseen circumstances prohibit the planting of the trees/shrubs by this date, please contact our office as soon as possible)
- Tree Protectors: Number Needed =**
- Other:**

POST-PLANTING MAINTENANCE for Pest Control

Maintain a 9 ft² weed & grass-free radius for up to 3 years around each tree for optimal growth*

Fabric Weed Barriers:

- **Note: cost-share is limited to the same cost as a follow-up herbicide treatment.**

Herbicide (per label):*

Date =

Other:**

***NOTE: after the Final Status Review has been issued, all maintenance activities (MOWING** is not authorized for maintaining trees) will only be conducted between August 1 May 1st, and pests will be treated on a “spot” basis only, unless prior approval is granted by the FSA County Committee.**

**** MOWING may be conducted between the rows to control pests from August 1 - 20, and pests will be treated on a “spot” basis only, unless prior approval is granted by the FSA County Committee.**

MID-CONTRACT MANAGEMENT for Plant Diversity, Wildlife Habitat, and Soil and Water Protection

The predominant cover will be trees, so Mid-Contract Management is not Required

LOCATION AND LAYOUT SKETCH & ADDITIONAL INFORMATION

ADDITIONAL INFORMATION:

Reset Form

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