



United States Department of Agriculture
Natural Resources Conservation Service

Water Quality and Wildlife Enhancement Activity – ANM05- Extending Riparian Forest Buffers for Water Quality Protection and Wildlife Habitat



Extend existing buffers

Where existing buffers are utilized, extend them to gain more efficiency in intercepting overland flow and reducing the transport of nutrients, pesticides and agro-chemicals.

Land Use Applicability

This enhancement is applicable on cropland and pasture land.

Benefits

Widening existing conservation buffers (e.g., filter strips, riparian buffers, grassed waterways, field borders) that currently meet NRCS conservation practice standard criteria can provide food and cover for native and game species as well as enhancing aquatic habitat by providing shade, input of wood or carbon to the stream, and stabilizing streambank conditions. Additionally, these extended buffers offer more surface area to filter out sediments and agro-chemicals.

Riparian habitats are important transition zones between terrestrial landscapes and aquatic zones. Wildlife species utilize these transition zones because they provide a unique combination of cover, access to water and often provide important travel corridors. Extending existing buffers not only enhances wildlife habitat but it increases the effectiveness of water quality protection they provide to the streams.

Criteria for Extending Existing Buffers

Existing buffers must meet minimum state requirements for width. Extend the existing buffer for a total of 60 feet or more to enhance habitat and water quality functions.

The extended buffer must be composed of at least 5 species of non-noxious, wildlife friendly grasses, perennial forbs, shrubs, and/or trees best suited to site conditions. Include species that provide pollinator food and habitat where possible.

- All site preparation and plant establishment shall be accomplished according to the appropriate NRCS conservation practice standard criteria and specifications.
- Forested riparian buffers shall consist of a diversity of tree and shrub species of which the majority are capable of producing fruit or nuts and trees which, when mature, will achieve heights of at least 60 feet and 60% canopy closure.
- Any use of the buffer must not compromise its intended purpose.
- To the extent possible the buffer areas and extended buffer areas will be vegetated to increase overland flow interception and increase water quality values of the stream or water body.



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For full implementation of this enhancement, continuous buffers must be used on all lands adjacent to streams, lakes and ponds where annual crops are produced.

Operation and Maintenance:

- Once established, buffers must not be mowed, disked, grazed, or otherwise disturbed, until after the primary wildlife ground nesting period has ended.
- Buffers will be regularly maintained for its intended purpose through the life of the contract. This includes any removal of vegetation, including grazing.
- Grazing is allowed if a grazing management plan is used that protects the integrity, diversity and function of the riparian area.
- Buffers will have a wildlife management plan to maintain established plant communities through the life of the contract. The wildlife plan will maintain the plant community and its structural diversity and provide habitat for intended species, remove duff, and control woody vegetation.

Documentation Requirements

1. A map showing the location and size of enhanced riparian forest buffers.
2. Documentation of the type and rates of vegetation planted in the new riparian forest buffers.



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NH State Supplement

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Criteria

The minimum width of an existing riparian buffer is 35 feet.

The extended buffer may be either a grass filter strip or a forested buffer planted to trees and shrubs. Tree and shrub species must be selected based on a soils map or a natural community normally found on the site. NRCS will provide a list of appropriate species for a particular site if requested. Minimum planting densities are 200 trees per acre or 300 shrubs per acre, or a combination of the two. Natural regeneration may be used when conditions ensure that a minimum of 150 trees and/or shrubs per acre will be established within 2 growing seasons.

For Herbaceous Riparian Buffers:

Do not plant Reed Canary Grass. The following mixes are acceptable mix for this enhancement. Other mixes including warm season grasses and perennial flowering plants for pollinators are acceptable. Note: some plantings for pollinators can be toxic to livestock, for more information refer to the Northeast Pollinator Technical Note or the USDA Plants Database.

For moderately well and well drained sites recommended species include:

Species	lbs/ac of seed
Orchardgrass	10
Smooth Bromegrass	5
Medium Red Clover	5
Timothy	5
Redtop	5

For somewhat and poorly drained sites recommended species include:

Species	lbs/ac of seed
Orchardgrass	7
Redtop	5
Red Clover	5
Kentucky Bluegrass	7
Perennial ryegrass	5
Ladino clover	1

For sandy excessively-well drained sites recommended species include:

Species	lbs/ac of seed
Big Blue Stem	3
Little Blue Stem	5
Sand Love Grass	4
Creeping Red Fescue	5
Virginia Wild Rye	5
Red Top	5

Suggested Tree and Shrub Species for Riparian Buffer Plantings

Tree Species		Wet Site	Dry Site	Pollinator	Wildlife Mast
Scientific Name	Common Name				
<i>Acer saccharinum</i>	silver maple	X			
<i>Acer saccharum</i>	sugar maple	X			
<i>Acer rubrum</i>	red maple	X	X		
<i>Quercus alba</i>	white oak	X			X
<i>Quercus rubra</i>	northern red oak		X		X
<i>Pinus strobus</i>	White Pine		X		
<i>Pinus serotina</i>	Red Pine		X		
<i>Prunus spp</i>	Cherry (choke, black etc)			X	X
<i>Tilia americana</i>	Basswood		X	X	
<i>Fraxinus pennsylvanica</i>	Green Ash	X			X
<i>Carya ovata</i>	Shagbark Hickory	X			X
Shrub Species					
<i>Amelanchier canadensis</i>	shadblow serviceberry		X	X	X
<i>Amelanchier laevis</i>	allegheny serviceberry		X	X	X
<i>Corylus americana</i>	hazelnut		X		X
<i>Rhus typhina</i>	staghorn sumac		X	X	X
<i>Sambucus canadensis</i>	common elderberry	X		X	X
<i>Viburnum dentatum</i>	arrowwood viburnum	X		X	X
<i>Aronia melanocarpa</i>	Black Chokeberry		X	X	X
<i>Cornus racemosa</i>	Grey Dogwood	X		X	X
<i>Cornus sericea</i>	Redosier Dogwood	X		X	X
<i>Hamamelis virginiana</i>	Witch Hazel	X		X	X
<i>Rubus</i>	Red and Black Raspberry		X	X	X
<i>Salix discolor</i>	Pussy Willow	X		X	
<i>Vaccinium corymbosum</i>	high bush blueberry	X	X	X	X
<i>Viburnum Casinoidies</i>	Northern Wild Raisin	X		X	X
<i>Viburnum lentago</i>	nannyberry	X		X	X

