

Animal Enhancement Activity – ANM33- Riparian buffer, terrestrial and aquatic wildlife habitat



Enhancement Description

This activity consists of managing riparian zones by utilizing select conservation measures (such as re-locating equipment operations, trails, or livestock; establishing diverse native vegetation and controlling invasive species; fencing; and extending the width of the riparian zone to enhance wildlife habitat adjacent to riparian zones of steams, ponds, lakes, or wetlands) to achieve stream side cover and vegetative diversity and structure to improve terrestrial and aquatic wildlife habitat.

Land Use Applicability

Cropland, Pastureland, Rangeland, Forestland

Benefits

Intact riparian zones with a natural and diverse mix of herbaceous and/or woody vegetation of different ages are important landscape features for sustaining fish and wildlife populations. Maintaining vigorous native or natural riparian vegetation of diverse age classes and species will benefit riparian and aquatic fauna by providing: (a) thermal, nesting/fawning, and hiding cover in riparian zones, stream banks, and shorelines; (b) diverse food sources; (c) a steady source of leaves, brush, small woody material for aquatic food webs at and downstream of the site; (d) root systems to enhance bank stability, and (e) vegetative filters for surface water run-off.

Conditions Where Enhancement Applies

This enhancement only applies to existing acres of forested riparian zones on crop, pasture, range or forest land uses, *OR* existing acres of non-forested riparian zones on crop, pasture, or range land uses.

Criteria

For forested riparian zones:

1. The width of forested riparian zones must be wider than the NRCS State standard width for Riparian Forest Buffers to a maximum width of 150 feet.
2. Manage the riparian area to maintain a diversity of non-invasive tree, shrub, and herbaceous species by techniques such as selective thinning, controlled grazing, prescribed burning, selective use of herbicides, and/or the planting of native species.
3. Retain existing snags or create new snags by girdling live trees of at least one/acre.
4. Manage the riparian vegetation to provide tree canopy shade of the stream and good stream side cover.



5. Do not use heavy equipment such as bull dozers and tractors within the forested riparian zone to implement enhancement activities.

For non-forested riparian zones:

1. On streams, rivers, or floodplains adjacent to pastures, cropland, hayland, or rangeland:
 - a. Enhance and maintain a well-vegetated riparian zone that is 2.5 times the width of the stream channel or 35 feet, whichever is greater to a maximum width of 150 feet.
 - b. Improve the diversity of native or natural shrub and/or herbaceous plant species suitable for the site and appropriate for the riparian and aquatic species that inhabit the area by planting appropriate species.
 - c. Implement at least one of the management actions from #3 below.
2. On ponds, floodplain wetlands, or lakes adjacent to pastures, cropland, hayland or rangeland:
 - a. Enhance and maintain a well-vegetated riparian zone that is 35 feet wide or greater.
 - b. Improve the diversity of native or natural woody and/or herbaceous plant species suitable for the site and appropriate for the riparian and aquatic species that inhabit the area by planting appropriate species.
 - c. Implement at least one of the management actions from #3 below.
3. Additional management actions for enhancing non-wooded riparian zones:
 - a. Control invasive species through a grazing management plan or suitable pest management techniques.
 - b. Limit livestock use of riparian zone through a prescribed grazing management plan
 - c. Control access of people, machinery, and livestock to the riparian zone with fencing.
 - d. Provide off-site watering source(s) for livestock.

Adoption Requirements

This enhancement is considered adopted when the riparian zone(s) is within the range of a 150 foot maximum and either the NRCS State standard width for Riparian Forest Buffers, or for non-forested riparian zones, 2.5 times the width of the stream channel or 35 feet, whichever is greater.

Documentation Requirements

1. Delineations on a map or aerial photo indicating the stream channel length where the riparian zone has improved habitat.
2. Provide written documentation, on the delineation map, of all riparian zone activities implemented to meet the requirements of this enhancement.
3. List of maintenance activities carried out on riparian acres as prescribed under the practice used, and its specific fish and wildlife considerations.

Michigan Supplement

ANM 33

To be eligible for this enhancement, the existing riparian buffer must exceed 100 feet.

Further, enhancement activities must meet all other applicable NRCS Michigan conservation practice standards such as Forest Stand Improvement (666), Tree/Shrub Pruning (660), Herbaceous Weed Control (315), Brush Management (314), in the eFOTG, Section IV.

Select trees and shrubs that will provide habitat for the target wildlife species, improve diversity, and are suited to the soil as identified by the Soil Survey and/or Conservation Tree/Shrub Suitability Groups (CTSG) tool located in the eFOTG, Section II, Folder K.

Additional Criteria Applicable to Michigan:

- Do not remove timber from Riparian Forest Buffers with slopes greater than 50%.
- Plan any tree harvesting or cutting to leave at least 60 sq. ft. of residual basal area.
- Do not cut any trees growing along the stream bank.
- Create or maintain 4 to 7 snags (standing dead trees) per acre.
 - With at least 1 snag per acre greater than 12" in diameter at breast height (measured 4.5 ft from the ground), if possible.

Plants suitable for riparian areas to enhance fish and wildlife include:

Trees and Shrubs

Scientific Name	Common Name	Eco-Region*
<i>Alnus incana ssp. rugosa</i>	Speckled Alder	ALL
<i>Aronia arbutifolia (Photinia floribunda)</i>	Red Chokeberry	ALL
<i>Asimina triloba</i>	Pawpaw	SLP
<i>Cephalanthus occidentalis</i>	Buttonbush	LP
<i>Cornus drummondii</i>	Roughleaf Dogwood	SLP
<i>Cornus amomum</i>	Silky Dogwood	ALL
<i>Cornus foemina</i>	Gray Dogwood	ALL
<i>Cornus stolonifera</i>	Red-Osier Dogwood	ALL
<i>Crataegus spp. **</i>	Common Hawthorn	ALL
<i>Hamamelis virginiana</i>	American Witchhazel	ALL
<i>Ilex verticillata</i>	Winterberry/Michigan Holly	ALL
<i>Lindera benzoin</i>	Spicebush	LP
<i>Lonicera canadensis</i>	Fly Honeysuckle	ALL
<i>Physocarpus opulifolius</i>	Ninebark	ALL
<i>Prunus virginiana</i>	Chokecherry	ALL
<i>Ribes americanum</i>	Black Currant	ALL
<i>Rosa palustris</i>	Swamp Rose	ALL

Scientific Name	Common Name	Eco-Region*
<i>Rubus occidentalis</i>	Black Raspberry	ALL
<i>Rubus parviflorus</i>	Thimbleberry	UP,NLP
<i>Rubus strigosus</i>	Red Raspberry	ALL
<i>Salix exigua</i>	Sandbar Willow	ALL
<i>Salix discolor</i>	Pussy Willow	ALL
<i>Sambucus canadensis</i>	Elderberry	ALL
<i>Sambucus racemosa</i>	Red-Berried Elder	ALL
<i>Spiraea alba</i>	Meadowsweet	ALL
<i>Staphylea trifolia</i>	American Bladdernut	LP
<i>Vaccinium corymbosum</i>	Highbush Blueberry	LP
<i>Vaccinium angustifolium</i>	Low Sweet Blueberry	ALL
<i>Viburnum nudum</i> var. <i>cassinoides</i>	Wild Raisin	NLP, UP
<i>Viburnum dentatum</i>	Southern Arrowwood	SLP
<i>Viburnum prunifolium</i>	Blackhaw	SLP
<i>Viburnum opulus</i> var. <i>americana</i>	Highbush Cranberry	ALL
<i>Vitis riparia</i>	River Grape	ALL
<i>Abies balsamea</i>	Balsam Fir	NLP,UP
<i>Acer negundo</i>	Boxelder	ALL
<i>Acer nigrum</i>	Black Maple	ALL
<i>Acer rubrum</i>	Red Maple	ALL
<i>Acer saccharinum</i>	Silver Maple	ALL
<i>Acer spicatum</i>	Mountain Maple	UP,NLP
<i>Aesculus glabra</i>	Ohio Buckeye	SLP
<i>Betula allegheniensis</i>	Yellow Birch	ALL
<i>Carpinus caroliniana</i>	Blue Beech, Musclewood	ALL
<i>Carya cordiformis</i>	Bitternut Hickory	LP
<i>Carya laciniosa</i>	Shellbark Hickory	SLP
<i>Celtis occidentalis</i>	Northern Hackberry	SLP
<i>Cornus alternifolia</i>	Alternateleaf Dogwood	ALL
<i>Fraxinus americana</i>	White Ash	LP, EUP
<i>Fraxinus pennsylvanica</i>	Green/Red Ash	ALL
<i>Fraxinus nigra</i>	Black Ash	ALL
<i>Fraxinus quadrangulata</i>	Blue Ash	SLP
<i>Gleditsia triacanthos</i>	Honeylocust	SLP
<i>Juglans nigra</i>	Black Walnut	SLP
<i>Morus rubra</i>	Red Mulberry	SLP
<i>Nyssa sylvatica</i>	Blackgum	SLP
<i>Platanus occidentalis</i>	American Sycamore	SLP
<i>Populus deltoides</i>	Eastern Cottonwood	ALL
<i>Quercus bicolor</i>	Swamp White Oak	SLP
<i>Quercus imbricaria</i>	Shingle Oak	SLP
<i>Quercus macrocarpa</i>	Bur Oak	ALL
<i>Quercus muehlenbergii</i>	Chinkapin Oak	SLP

Scientific Name	Common Name	Eco-Region*
<i>Quercus palustris</i>	Pin Oak	SLP
<i>Salix amygdaloides</i>	Peachleaf Willow	LP
<i>Salix nigra</i>	Black Willow	ALL
<i>Tilia americana</i>	American Basswood	ALL
<i>Ulmus americana</i>	American Elm	ALL
<i>Ulmus rubra</i>	Slippery/Red Elm	ALL
<i>Viburnum lentago</i>	Nannyberry	ALL
<i>Picea glauca</i>	White Spruce	ALL
<i>Pinus strobus</i>	Eastern White Pine	ALL
<i>Thuja occidentalis</i>	Northern White-Cedar	ALL
<i>Tsuga canadensis</i>	Eastern Hemlock	ALL

* SLP = Southern Lower Peninsula; NLP = Northern Lower Peninsula; UP = Upper Peninsula; ALL = All Regions of Michigan

** Michigan native species only

Herbaceous Species

Common Name	Scientific Name
Prairie Cordgrass	<i>Spartina pectinata</i>
Virginia Wildrye	<i>Elymus virginicus</i>
Riverbank Wildrye	<i>Elymus riparius</i>
Stout Woodreed	<i>Cinna arundinacea</i>
Switchgrass	<i>Panicum virgatum</i>
Canada Bluejoint	<i>Calamagrostis canadensis</i>
Sedges	<i>Carex</i> spp.
Bulrushes	<i>Scirpus</i> spp., <i>Shoenoplectus</i> spp., <i>Bulboschoenus fluviatilis</i>
Blue Vervain	<i>Verbena hastata</i>
Boneset	<i>Eupatorium perfoliatum</i>
Cardinal Flower	<i>Lobelia cardinalis</i>
Great Blue Lobelia	<i>Lobelia siphilitica</i>
Marsh Marigold	<i>Caltha palustris</i>
New England Aster	<i>Aster novae-angliae</i> (<i>Symphotrichum novae-angliae</i>)
Lined Aster	<i>Aster lanceolatus</i> (<i>Symphotrichum lanceolatum</i>)
Swamp Aster	<i>Aster puniceus</i> (<i>Symphotrichum puniceum</i>)
False Sunflower	<i>Heliopsis helianthoides</i>
Spotted Joe-Pye Weed	<i>Eupatorium maculatum</i> (<i>Eupatoriadelphus maculatus</i>)
Swamp Milkweed	<i>Asclepias incarnata</i>
Northern Blueflag Iris	<i>Iris versicolor</i>
Southern Blueflag Iris	<i>Iris virginica</i> var. <i>shrevei</i>

Contact the State Biologist for further guidance on using Michigan native species in this enhancement not listed in the above tables.