

**Animal Enhancement Activity – ANM13- Non-forested Riparian Zone  
 Enhancement for Fish and Wildlife**



**Enhancement Description**

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 streams, ponds, lakes, or wetlands.

**Land Use Applicability**

This enhancement is applicable on cropland, pasture land and rangeland.

**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.

**Criteria for Non-forested Riparian Zone Enhancement for Fish and Wildlife**

1. For streams, rivers, or floodplains adjacent to pastures, cropland, hayland, or rangeland, 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. 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. In addition, implement at least one of the management actions from the list below.
  
2. For ponds, floodplain wetlands, or lakes adjacent to pastures, cropland, hayland or rangeland, enhance and maintain a well-vegetated riparian zone that is 35 feet wide or greater. 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. In addition, implement at least one of the management actions from the list below.

Additional management actions for enhancing non-wooded riparian zones:

1. Control invasive species thru a grazing management plan or suitable pest management techniques.



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2. Limit livestock use of riparian zone thru a prescribed grazing management plan
3. Control access of people, machinery, and livestock to the riparian zone with fencing.
4. Provide off-site watering source(s) for livestock.

### **Documentation Requirements**

- Provide written documentation, including a map, of all riparian zone activities implemented to meet the requirements of this enhancement.
- List of maintenance activities carried out on riparian acres as prescribed under the practice used, and its specific fish and wildlife considerations.



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**Reference:**

**645 – Upland Wildlife Habitat Management**

- ***Biology Jobsheet 9 – Establishment of Native Grasses and Forbs***

**643 – Restoration and Management of Declining Habitats**

- ***Biology Jobsheet 12 – Tall Grass Prairie***

**657 – Wetland Restoration**

- ***Biology Jobsheet 11 – Wetland Restoration***

**NATIVE GRASSES, FORBS AND LEGUMES**

Native grass seed origin shall be within a 200 mile radius of the project site, unless otherwise identified as an acceptable cultivar.

The following are native grasses that are considered wildlife friendly:

Big Bluestem	Western Wheatgrass
Indiangrass	Blue Grama
Green Needlegrass	Switchgrass
Little Bluestem	Canada Bluejoint
Sideoats Grama	Prairie Cordgrass
Prairie Sandreed	Virginia Wildrye
Canada Wildrye	Kalms Brome
Slender Wheatgrass	



## FORBS AND LEGUMES

Forbs and legumes with origins native to Minnesota are preferred. When local Minnesota seed sources are not available, native forbs and legume seed shall originate from Wisconsin, northern Nebraska, North Dakota, South Dakota, northern Iowa, and the Canadian provinces of southern Manitoba and Ontario. If the true origin of the seed can be certified as one of the accepted states or provinces, then there would be no restriction on where the seed is grown. Certification must be provided by the grower, and responsibility for obtaining certification rests with the producer.

The following list identifies native forbs and wildflowers beneficial to upland wildlife and native habitat restoration. The list is not inclusive, and identifies those species, which are readily available through private vendor seed supplies.

DRY	MESIC to WET	DRY to WET
Bush Clover	Canada Tick Trefoil	Black-eyed Susan
Dotted Blazingstar	Common Ox-eye	Illinois Bundleflower
Purple Coneflower	Giant Sunflower	Purple Prairie Clover
Showy Penstemon	Golden Alexanders	Maximillian Sunflower
Silky Aster	Partridge Pea	Stiff Goldenrod
<b>DRY to MESIC</b>	Rattlesnake Master	Yarrow
Butterfly Weed	Tall Blazingstar	
Compass Plant	Wild Bergamot	
Hoary Vervain	Yellow Coneflower	
Leadplant	<b>WET</b>	
Prairie Smoke	Blue Vervain	
Rough Blazingstar	Boneset	
Showy Goldenrod	Joe-pye Weed	
Smooth Aster	New England Aster	
Stiff Tickseed	Panicled Aster	
	Swamp Milkweed	



## TREES AND SHRUBS

SPECIES		TREE RATING ZONE 1/	FOOD	COVER	NEST
<b>CONIFEROUS TREES</b>					
Balsam Fir	(Abies balsamea)	1-4	F,W	X	
Black Spruce	(Picea mariana)	1-4,5	F,W	X	X
Eastern Red Cedar	(Juniperus virginiana)	1,2,4-6	F,W	X	X
Eastern White Pine	(Pinus strobus)	1-4,6	F,W	X	X
Jack Pine	(Pinus banksiana)	1 - 4	F,W	X	X
Northern White Cedar	(Thuja occidentalis)	1-4	F,W	X	X
Red Pine	(Pinus resinosa)	1-3	F,W	X	X
Tamarack	(Larix laricina)	1-4	F,W	X	
White Spruce	(Picea glauca)	1-5	F,W	X	X
<b>DECIDUOUS TREES</b>					
American Plum	(Prunus americana)	1-6	S,F	X	X
Bigtooth Aspen	(Populus grandidentata)	1-6	F,W		X
Bitternut Hickory	(Carya cordiformis)	1,2,4,6	F,W	X	X
Black Cherry	(Prunus serotina)	1-6	S,F		
Black Walnut	(Juglans nigra)	1,6	F,W	X	X
Bur Oak	(Quercus macrocarpa)	1-6	F,W	X	X
Common Chokecherry	(Prunus virginiana)	1-6	S	X	
E. Cottonwood - Native	(Populus deltoides)	1-6	F,W		
Green Ash	(Fraxinus pennsylvanica)	1-6	F,W		
Hackberry	(Celtis occidentalis)	1-6	W		
Hawthorn	(Crataegus species)	1-4,6	W	X	X
Mountain Ash	(Sorbus americana)	1-4	F,W		
Mountain Maple	(Acer spicatum)	1-3	S,F		X
No. Pin Oak	(Quercus ellipsoidalis)	1-6	F,W	X	X
No. Red Oak	(Quercus rubra)	1-4,6	F,W	X	X
Paper Birch	(Betula papyrifera)	1-4,6	F,W		
Pin Cherry	(Prunus pennsylvanica)	1-6	S,F		
Quaking Aspen	(Populus tremuloides)	1-6	F,W		X
Red Maple	(Acer rubrum)	1-4,6	S,F,W	X	X
Shagbark Hickory	(Carya ovata)	1,2	F,W	X	X
Sugar Maple	(Acer saccharum)	1-6	S,F,W		X
Swamp White Oak	(Quercus bicolor)	1,2,4,6	F,W	X	X
White Oak	(Quercus alba)	1,2,4,6	F,W	X	X
Willows – Native	(Salix spp)	1-6	F,W		X
Yellow Birch	(Betula alleghaniensis)	1-4,6	F,W		

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<b>DECIDUOUS SHRUBS</b>					
<b>American Hazelnut</b>	(Corylus americana)	1-5	W	X	X
<b>Arrow-wood</b>	(Viburnum dentatum)	1-6	F,W	X	
<b>Chokeberry</b>	(Aronia melanocarpa)	1-3	W	X	
<b>False Indigo</b>	(Amorpha fruticosa)	1,2,4-6	F	X	
<b>Gray Dogwood</b>	(Cornus racemosa)	1-6	F	X	X
<b>Highbush Cranberry</b>	(Viburnum trilobum)	1-6	F,W	X	
<b>Nannyberry</b>	(Viburnum lentago)	1-6	F,W	X	
<b>Ninebark</b>	(Physocarpus opulifolius)	1-3	F,W	X	
<b>Red Osier Dogwood</b>	(Cornus stolonifera)	1-6	F	X	X
<b>Serviceberry</b>	(Amelanchier alnifolia)	2-6	S	X	X
<b>Silky Dogwood</b>	(Cornus amomum)	1,2,6	F	X	X
<b>Silver Buffaloberry</b>	(Sheperdia argentea)	5,6	S	X	X
<b>Smooth Sumac</b>	(Rhus glabra)	1-6	W		
<b>Staghorn Sumac</b>	(Rhus typhina)	1-3	W		

Food availability codes: S = summer, F = fall, W = winter