

Practice: 659 - Wetland Enhancement

Scenario # 1 Riverine Levee Removal, ditch plugs and foodplain features

Missouri

Scenario Description:

A Riverine HGM tract on a large floodplain is to be enhanced. It has been converted to agricultural production by surface ditching and clearing of woody vegetation. The size of the tract is 100 acres. The wetland extent is 60 acres, and 40 acres are adjacent non-wetland. Resource Concerns are: 4-SOIL QUALITY DEGRADATION - Organic matter depletion, 11- WATER QUALITY DEGRADATION - Excess nutrients in surface and ground waters, 12 - WATER QUALITY DEGRADATION - Pesticides transported to surface and ground waters, 16 - WATER QUALITY DEGRADATION - Excessive sediment in surface waters, 18 - DEGRADED PLANT CONDITION - Undesirable plant productivity and health, 19 - DEGRADED PLANT CONDITION, Inadequate structure and composition, 22- INADEQUATE HABITAT FOR FISH AND WILDLIFE - Habitat degradation.

Before Practice Situation:

A levee prevents floodwater from entering the tract. The original cover was forest. The site is drained by surface ditches which collect surface water and direct it to the river through a flap gate structure. The site has been completely cleared, and no suitable adjacent seedwall exists for natural regeneration of forest species. The lateral connectivity between the channel and floodplain has been altered by construction of levees along the reach.

After Practice Situation:

The hydrology of the site is enhanced with the installation of ditch plugs, and the excavation of macrotopographic features with an average depth of 6" over 30% of the wetland area. Excavated spoil is placed adjacent to the features on the wetland and adjacent non-wetland area with a maximum depth of 24 inches. The levee has been breached at the upstream and downstream ends of the tract reach, restoring dynamic stream flooding. The breach length is 150 feet long at both locations. Both the wetland and non-wetland areas are planted with a Bottomland Hardwood species mix. The levee breaches are armored with rock riprap. Facilitating practices include Grade Stabilization Structure and Tree and Shrub Planting. Restoration of hydrology and plant community functions will improve the WATER QUALITY and DEGRADED PLANT CONDITION concerns listed above. The hydrologic and vegetative practices will address the SOIL QUALITY DEGRADATION and INADEQUATE HABITAT FOR FISH AND WILDLIFE concerns.

Scenario Feature Measure:

Acres of Tract

Scenario Typical Size:	100	Acre	Tot Unit Cost	\$733.76
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Excavation, Common Earth, side cast, small	16520	Cubic yard	\$1.96	\$32,379.20
Equip./Install.	Earthfill, Roller Compacted	267	Cubic yard	\$3.62	\$966.54
Mobilization	Mobilization, large equipment	3	Each	\$374.89	\$1,124.67
Forgone IncomFI, Corn Dryland		50	Acre	\$392.59	\$19,629.50
Forgone IncomFI, Soybeans Dryland		50	Acre	\$385.53	\$19,276.50

Total Cost: \$73,376.41

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP-MRBI	\$550.32	EQIP-HUMRBI	\$660.39
WHIP-MRBI	\$550.32	WHIP-HUMRBI	\$660.39