

Practice: 391 - Riparian Forest Buffer

Scenario: #2 - Bareroot, with tree tubes

Scenario Description:

Establish a buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of hand planted bare-root shrubs and/or deciduous trees. Planting for shrubs will be done at 6' x 6' spacing, and deciduous tree spacing at 15' x 15'. Tree shelters will be placed on the hardwoods. Resource concerns to be addressed are Soil Erosion - excessive bank erosion; Water Quality - excess sediment and organics in surface waters and elevated temperature; Degraded Plant Condition - inadequate structure and composition; and Inadequate Habitat for Fish and Wildlife - habitat degradation.

Associated Practices: Access Control (472), Fence (382), Filter Strip (3932), Herbaceous Weed Control (315), Mulching (484), Livestock Pipeline (516), Pond (378), Spring Development (574), Streambank Protection (580), Stream Crossing (578), Tree & Shrub Establishment (612), Tree & Shrub Site Preparation (490), Watering Facility (614), Water Well (642)

Before Situation:

Typical sites include former riparian forests and habitat used for forage, cropland, speculation property, or other nonforest condition which contains undesirable amounts or types of vegetation. Active bank erosion is depositing sediment, nutrients and organics in the riparian area. Water temperature is high due to lack of shade. Habitat is not desirable for wildlife.

After Situation:

A buffer of trees and shrubs will be established along the riparian corridor which will provide stability, filtration, shade, and desirable habitat to address the above mentioned resource concerns.

Scenario Feature Measure: Area of planting

Scenario Unit: Acre

Scenario Typical Size: 3

Scenario Cost: \$6,257.12

Scenario Cost/Unit: \$2,085.71

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$42.39	8.8	\$373.03
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$26.74	8.8	\$235.31
Trailer, flatbed, small	1505	Small flatbed trailer (typically less than 30' in length) pulled by a pickup to transport materials and equipment. Truck not included.	Hour	\$6.25	5.6	\$35.00
Mechanical tree planter	1600	Mechanical tree planter. Requires a pulling unit of either tractor or small dozer depending upon site conditions. Does not include labor.	Hour	\$6.60	5.6	\$36.96
Foregone Income						
FI, Wheat Dryland	1963	Dryland Wheat is Primary Crop	Acre	\$248.86	0.75	\$186.65
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	\$343.51	0.75	\$257.63
FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$334.10	1.5	\$501.15
Labor						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$41.91	7	\$293.37
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$20.77	16	\$332.32
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.97	5.6	\$128.63
Materials						
Tree, hardwood, seedling or transplant, bare root, 16-36"	1510	Bare root hardwood trees 18-36" tall. Includes materials and shipping only.	Each	\$0.62	435	\$269.70

Materials

Shrub, seedling or transplant, bare root, 18"-36"	1507	Bare root hardwood trees 18-36" tall. Includes materials and shipping only.	Each	\$0.58	909	\$527.22
Tree shelter, solid tube type, 4" x 60"	1567	4" x 60" tree tube for protection from animal damage. Materials only.	Each	\$5.07	435	\$2,205.45
Stakes, wood, 3/4" x 3/4" x 60"	1583	3/4" x 3/4" x 60" wood stakes to fasten items in place. Includes materials only.	Each	\$1.56	435	\$678.60

Mobilization

Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$196.10	1	\$196.10
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Practice: 391 - Riparian Forest Buffer

Scenario: #3 - Small container, hand planted

Scenario Description:

Establish a buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of hand planted small containerized (1 quart) shrubs and/or deciduous trees. Planting for shrubs will be done at 6' x 6' spacing, and deciduous tree spacing at 15 x 15'. Tree shelters will be placed on the hardwoods. Resource concerns to be addressed are Soil Erosion - excessive bank erosion; Water Quality - excess sediment and organics in surface waters and elevated temperature; Degraded Plant Condition - inadequate structure and composition; and Inadequate Habitat for Fish and Wildlife - habitat degradation.

Associated Practices: Access Control (472), Fence (382), Filter Strip (3932), Herbaceous Weed Control (315), Mulching (484), Livestock Pipeline (516), Pond (378), Spring Development (574), Streambank Protection (580), Stream Crossing (578), Tree & Shrub Establishment (612), Tree & Shrub Site Preparation (490), Watering Facility (614), Water Well (642)

Before Situation:

Typical sites include former riparian forests and habitat used for forage, cropland, speculation property, or other nonforest condition which contains undesirable amounts or types of vegetation. Active bank erosion is depositing sediment, nutrients and organics in the riparian area. Water temperature is high due to lack of shade. Habitat is not desirable for wildlife.

After Situation:

A buffer of trees and shrubs will be established along the riparian corridor which will provide stability, filtration, shade, and desirable habitat to address the above mentioned resource concerns.

Scenario Feature Measure: Area of planting

Scenario Unit: Acre

Scenario Typical Size: 3

Scenario Cost: \$10,792.14

Scenario Cost/Unit: \$3,597.38

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$42.39	12	\$508.68
Hand tools, tree planting	1590	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$11.62	12	\$139.44
Trailer, enclosed, small	1503	Small enclosed trailer (typically less than 30' in length) pulled by a pickup to transport materials and equipment. Truck not included.	Hour	\$3.88	12	\$46.56
Foregone Income						
FI, Wheat Dryland	1963	Dryland Wheat is Primary Crop	Acre	\$248.86	0.75	\$186.65
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	\$343.51	0.75	\$257.63
FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$334.10	1.5	\$501.15
Labor						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$41.91	12	\$502.92
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$20.77	74	\$1,536.98
Materials						
Tree, hardwood, seedling or transplant, potted, 1 qt.	1529	Potted hardwood tree, 1 quart. Includes materials and shipping only.	Each	\$3.20	435	\$1,392.00
Tree shelter, solid tube type, 4" x 60"	1567	4" x 60" tree tube for protection from animal damage. Materials only.	Each	\$5.07	435	\$2,205.45
Shrub, seedling or transplant, potted, 1 qt.	1524	Potted shrub, 1 quart. Includes materials and shipping only.	Each	\$3.12	909	\$2,836.08

Materials

Stakes, wood, 3/4" x 3/4" x 60"	1583	3/4" x 3/4" x 60" wood stakes to fasten items in place. Includes materials only.	Each	\$1.56	435	\$678.60
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