Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Appalachian
State	North Carolina
Discipline Group	Wildlife Wetland
Practice Code/Name	422 - Hedgerow Planting
Scenario ID	1
Scenario Name	Pollinator Habitat
Scenario Description	Where pollinator habitat is an additional wildlife habitat concern this scenario addresses the resource concern of inadequate fish and wildlife habitat. It provides both physical habitat by providing areas that are not disturbed by annual tillage and provides pollen and nector throughout the growing season by establishing a diverse mixture of flowering plants. Typically a mixture of 5 or more species is planted to improve diversity so that pollen and nector are avaiable as long as possible. Typical installation is in or at the edge of cropland or pasture. Typical installation involves tillage to prepare the site for planting. Flowering trees and shrubs adapted for local climatic and edaphic conditions are typically planted at eight foot intervals (this will vary with species selection and density goals). A native grass adapted to the local climatic and edaphic conditions will be drilled into the site at a rate that will achieve a minimum of 20 seeds per square foot. A locally adapted mixture of at 3 pollen and nectar producing plants will be drilled into the site. The species list in the component section of this scenario are strictly for deriving a cost. Species adapted to local climatic and edaphic conditions will be listed in the specification for the site. There is tremendous overlap between this practice and conservation practice 380 Windbreak/Shelterbelt establishment. The main difference is that conservation practice 380 is exclusively woody plants where practice 422 provides for the use of herbaceous materials. If a fence is needed to facilitate establishment use practice 382, Fence.
Before Practice Situation	Pollen and nector sources are lacking or are only availble for part of the growing season. Large cropland tracks lack undisturbed areas for ground nesting bees
After Practice Situation	Flowering plants supply pollen and nector throughout the growing season. Undisturbed areas provide nesting sites for bees and other native pollinators.
Scenario Feature Measure	Length of Hedgerow
Scenario Unit	Feet
Scenario Typical Size	800

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$506.12	$0.63
Equipment/Installation	$7.38	$0.01
Labor	$1,867.00	$2.33
Mobilization	$0.00	$0.00
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$2,380.50	$2.98

Cost Details:

Select Components

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	1507	Shrub, seedling or transplant, bare root, 18"-36"	Bare root hardwood trees 18-36" tall. Materials and shipping.	Each	$0.69	100	$69.00		
Materials	140	Smooth Oxeye False, Sunflower (Heliopsis helianthoides)	Native Forbs and shipping.	Pound	$42.24	1	$42.24		
Materials	152	Showy Goldenrod (Solidago speciosa)	Native Forbs and shipping.	Pound	$239.62	1	$239.62	Plants for habitat creation/restoration	Based on estimate from typical scenario
Materials	151	Stiff Goldenrod (Solidago rigida)	Native Forbs and shipping.	Pound	$143.45	1	$143.45		
Materials	76	Big Blue Stem (Andropogon gerardii)	Native Grasses and shipping.	Pound	$11.81	1	$11.81	Plants for habitat creation/restoration. PLS Seeding rates for drill planting are based on 20 seeds per square foot double that for broadcast seeding.	Based on estimate from typical scenario and 550 standard
Equipment/Installation	946	Tillage, Primary	Includes heavy disking (offset) or chisel plow. Includes equipment, power unit and labor costs.	Acre	$15.04	0.25	$3.76	prepare site for establishment of needed plants	Based on estimate from typical scenario
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	$14.46	0.25	$3.62	Install herbaceous plant seeds	Based on estimate from typical scenario
Labor	231	General Labor	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	$18.67	100	$1,867.00	Install woody plant materials	Based on estimate from typical scenario

Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Appalachian
State	North Carolina
Discipline Group	Wildlife Wetland
Practice Code/Name	422 - Hedgerow Planting
Scenario ID	4
Scenario Name	Wildlife, Warm Season Grass
Scenario Description	Typically installed in or at the edge of cropland or pasture this scenario is used to address the Inadequate Habitat for Fish and Wildlife resource concern. Specifically, the establishment of dense vegetation in a linear design can be used to provide for several habitat elements depending on the needs identified in the habitat assessment. This scenario can provide: habitat conectivity, food, and cover for wildlife depending on design and plant species selection. The 422 standard for wildlife criteria calls for a minimum of two species of ***native*** plants.Typical installation involves tillage to prepare the site for planting. 2 Trees and/or shrubs adapted for local climatic and edaphic conditions are typically plant at eight foot intervals (this will vary with species selection and density goals). A mix of 2 native warm season grasses adapted to the local climatic and edaphic conditions will be drilled into the site at a rate that will achieve a minimum of 20 seeds per square foot. There is tremendous overlap between this practice and conservation practice 380 Windbreak/Shelterbelt establishment. The main difference is that conservation practice 380 is exclusively woody plants where practice 422 provides for the use of herbaceous materials. If a fence is needed to facilitate establishment use practice 382, Fence.
Before Practice Situation	Habitat patches lack connectivity. Cover is inadequate to allow wildlife to exploit cropland food resources. Berries and mast are limited.
After Practice Situation	Inadequate habitat for fish and wildlife is addressed for needs identified in the resource assessment. Habitat patches are connected by dense hedgerow vegetation. Food resources in crop fields are made availble by their proximity to hedgerow cover. Planting may include fruit and mast bearing species, improving food supply, depending on needs being addressed.
Scenario Feature Measure	Length of Hedgerow
Scenario Unit	Feet
Scenario Typical Size	800

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$105.71	$0.13
Equipment/Installation	$7.38	$0.01
Labor	$1,867.00	$2.33
Mobilization	$0.00	$0.00
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$1,980.08	$2.48

Cost Details:

Select Components

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	1507	Shrub, seedling or transplant, bare root, 18"-36"	Bare root hardwood trees 18-36" tall. Materials and shipping.	Each	$0.69	100	$69.00		
Materials	82	Switchgrass, Blackwell (Panicum virgatum)	Native Grasses and shipping.	Pound	$9.62	0.5	$4.81	Plants for habitat creation/restoration. PLS (pure live seed) Seeding rates for drill planting are based on 20 seeds per square foot double that for broadcast seeding.	Based on estimate from typical scenario and 550 standard
Materials	76	Big Blue Stem (Andropogon gerardii)	Native Grasses and shipping.	Pound	$11.81	0.33	$3.90	Plants for habitat creation/restoration. PLS Seeding rates for drill planting are based on 20 seeds per square foot double that for broadcast seeding.	Based on estimate from typical scenario and 550 standard
Materials	1555	Tree shelter, mesh tree tube, 24"	24" tall vexar or other open weave tubular tree shelter to protect from animal damage. Materials only.	Each	$0.28	100	$28.00	To protect trees from animal damage.	Based on estimate from typical scenario
Equipment/Installation	946	Tillage, Primary	Includes heavy disking (offset) or chisel plow. Includes equipment, power unit and labor costs.	Acre	$15.04	0.25	$3.76	prepare site for establishment of needed plants	Based on estimate from typical scenario
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	$14.46	0.25	$3.62	Install herbaceous plant materials	Based on estimate from typical scenario
Labor	231	General Labor	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	$18.67	100	$1,867.00	Install woody plant materials	Based on estimate from typical scenario

Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Appalachian
State	North Carolina
Discipline Group	Wildlife Wetland
Practice Code/Name	422 - Hedgerow Planting
Scenario ID	5
Scenario Name	Wildlife machine plant
Scenario Description	This scenario is for machine planting of woody species.Typically installed in or at the edge of cropland or pasture this scenario is used to address the Inadequate Habitat for Fish and Wildlife resource concern. Specifically, the establishment of dense vegetation in a linear design can be used to provide for several habitat elements depending on the needs identified in the habitat assessment. This scenario can provide: habitat conectivity, food, and cover for wildlife depending on design and plant species selection. The 422 standard for wildlife criteria calls for a minimum of two species of ***native*** plants.Typical installation involves tillage to prepare the site for planting. 2 Trees and/or shrubs adapted for local climatic and edaphic conditions are typically plant at eight foot intervals (this will vary with species selection and density goals). A mix of 2 native grasses adapted to the local climatic and edaphic conditions will be drilled into the site at a rate that will achieve a minimum of 20 seeds per square foot. There is tremendous overlap between this practice and conservation practice 380 Windbreak/Shelterbelt establishment. The main difference is that conservation practice 380 is exclusively woody plants where practice 422 provides for the use of herbaceous materials. If a fence is needed to facilitate establishment use practice 382, Fence.
Before Practice Situation	Habitat patches lack connectivity. Cover is inadequate to allow wildlife to exploit cropland food resources. Berries and mast are limited.
After Practice Situation	Inadequate habitat for fish and wildlife is addressed for needs identified in the resource assessment. Habitat patches are connected by dense hedgerow vegetation. Food resources in crop fields are made availble by their proximity to hedgerow cover. Planting may include fruit and mast bearing species, improving food supply, depending on needs being addressed.
Scenario Feature Measure	Length of Hedgerow
Scenario Unit	Feet
Scenario Typical Size	800

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$63.90	$0.08
Equipment/Installation	$16.14	$0.02
Labor	$39.24	$0.05
Mobilization	$63.20	$0.08
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$182.48	$0.23

Cost Details:

Select Components

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	1510	Tree, hardwood, seedling or transplant, bare root, 16-36"	Bare root hardwood trees 18-36" tall. Materials only.	Each	$0.26	100	$26.00	Plants for habitat creation/restoration	Based on estimate from typical scenario
Materials	82	Switchgrass, Blackwell (Panicum virgatum)	Native Grasses and shipping.	Pound	$9.62	0.5	$4.81	Plants for habitat creation/restoration. PLS (pure live seed) Seeding rates for drill planting are based on 20 seeds per square foot double that for broadcast seeding.	Based on estimate from typical scenario and 550 standard
Materials	79	Little Blue Stem (Schizachyrium scoparium)	Native Grasses and shipping.	Pound	$15.43	0.33	$5.09	Plants for habitat creation/restoration. PLS (pure live seed) Seeding rates for drill planting are based on 20 seeds per square foot double that for broadcast seeding.	Based on estimate from typical scenario and 550 standard
Materials	1555	Tree shelter, mesh tree tube, 24"	24" tall vexar or other open weave tubular tree shelter to protect from animal damage. Materials only.	Each	$0.28	100	$28.00	To protect trees from animal damage.	Based on estimate from typical scenario
Equipment/Installation	946	Tillage, Primary	Includes heavy disking (offset) or chisel plow. Includes equipment, power unit and labor costs.	Acre	$15.04	0.25	$3.76	prepare site for establishment of needed plants	Based on estimate from typical scenario
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	$14.46	0.25	$3.62	Install herbaceous plant materials	Based on estimate from typical scenario
Equipment/Installation	1600	Mechanical tree planter	Mechanical tree planter. Requires a pulling unit of either tractor or small dozer depending upon site conditions. Does not include labor.	Hour	$4.38	2	$8.76	Install woody plant materials	Based on estimate from typical scenario
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$19.62	2	$39.24	Needed labor for installation	Based on estimate from typical scenario
Mobilization	1138	Mobilization, small equipment	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	$63.20	1	$63.20	Get needed equipment to the site	Based on estimate from typical scenario