

Practice: 612 - Tree & Shrub Establishment

Scenario # 1 Individual tree - hand plant w tubes

Scenario Description: Actual Scenario # 1

New York

Tree seedlings will be hand planted in the forested area where few or no forest trees are growing. The existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Seedlings are protected from wildlife browsing. Wildlife habitat is degraded by loss of forest conditions. Associated Practices: Mulching (484), Tree & Shrub Site Preparation (490)

Before Practice Situation:

The stocking level does not meet the minimum recommended number of trees per acre and does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor. Wildlife are known to browse tree seedlings in the area causing great damage. The resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.

After Practice Situation:

The prescribed number of trees are hand planted on 10 acres at a rate of 600 trees per acre, and the objectives of the landowner are met. Seedlings are protected from wildlife browsing by installing some type of protection device. A forest will provide wildlife habitat, provide a long term ground and capture atmospheric carbon.

Scenario Feature Measure:

Each Planted Seedling

Scenario Typical Size:	6000	Each	Tot Unit Cost	\$8.27
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree, hardwood, seedling or	6000	Each	\$0.58	\$3,480.00
Materials	Tree shelter, solid tube type, 4" x 60"	6000	Each	\$4.95	\$29,700.00
Materials	Stakes, wood, 3/4" x 3/4" x 60"	6000	Each	\$1.52	\$9,120.00
Equip./Install.	Truck, Pickup	24	Hour	\$40.77	\$978.48
Equip./Install.	Trailer, enclosed, small	24	Hour	\$3.80	\$91.20
Equip./Install.	Hand tools, tree planting	150	Hour	\$11.22	\$1,683.00
Labor	General Labor	150	Hour	\$23.16	\$3,474.00
Labor	Supervisor or Manager	24	Hour	\$45.77	\$1,098.48

Total Cost: \$49,625.16

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$6.20	EQIP-HU	\$7.44
WHIP	\$6.20	WHIP-HU	\$7.44

Practice: 612 - Tree & Shrub Establishment

Scenario # 2 Individual tree - hand planting

Scenario Description: Actual Scenario # 2

New York

Tree seedlings will be hand planted in the forested area where few or no forest trees are growing. The existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Wildlife habitat is degraded by loss of forest conditions.

Associated Practices: Mulching (484), Tree & Shrub Site Preparation (490)

Before Practice Situation:

The stocking level of the forest does not meet the minimum recommended number of trees per acre. The existing condition of the forest stand does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor. The resource concern is degraded plant condition: inadequate structure and composition, and inadequate wildlife & fish habitat.

After Practice Situation:

The prescribed number of trees are hand planted on 10 acres at a rate of 600 trees per acre, and the objectives of the landowner are met. The forest will provide wildlife habitat, provide a long term ground cover, and capture atmospheric carbon.

Scenario Feature Measure:

Each Planted Seedling

Scenario Typical Size:	6000	Each	Tot Unit Cost	\$0.96
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree, conifer, seedling, bare root, 1-1	6000	Each	\$0.39	\$2,340.00
Materials	Wire flags	3000	Each	\$0.09	\$270.00
Equip./Install.	Truck, Pickup	16	Hour	\$40.77	\$652.32
Equip./Install.	Trailer, enclosed, small	16	Hour	\$3.80	\$60.80
Equip./Install.	Hand tools, tree planting	50	Hour	\$11.22	\$561.00
Labor	General Labor	50	Hour	\$23.16	\$1,158.00
Labor	Supervisor or Manager	16	Hour	\$45.77	\$732.32

Total Cost: \$5,774.44

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$0.72	EQIP-HU	\$0.87
WHIP	\$0.72	WHIP-HU	\$0.87

Practice: 612 - Tree & Shrub Establishment

Scenario # 3 Shrubs Planting

Scenario Description: Actual Scenario # 3

New York

Shrubs are planted to provide a more diverse habitat. Plantings are in either uplands or bottomlands. The site lacks ground level habitat structure and diversity for wildlife.

Associated Practices: Mulching (484), Tree & Shrub Site Preparation (490)

Before Practice Situation:

Little or no shrubby vegetation, is present under the forest overstory. Wildlife species that need shrub cover are not present. An adequate stand of overstory trees is present, but it is a single level, not multi-level. Resource concern is inadequate habitat for fish and wildlife - habitat fragmentation.

After Practice Situation:

A 10 acre area is planted with shrubs. Shrubs are not planted over the entire 10 acres. They are planted in groups or motts. The motts, more or less circular in shape, are 50 feet in diameter, with 50 shrubs planted within each mott. 4 motts are planted per acre for a total of 200 shrubs per acre. Motts are randomly established to take advantage of site conditions and shrub species being planted.

Scenario Feature Measure:

Each Planted shrub

Scenario Typical Size:	2000	Each	Tot Unit Cost	\$1.18
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Shrub, seedling or transplant, bare	2000	Each	\$0.44	\$880.00
Materials	Wire flags	2000	Each	\$0.09	\$180.00
Equip./Install.	Truck, Pickup	8	Hour	\$40.77	\$326.16
Equip./Install.	Trailer, enclosed, small	8	Hour	\$3.80	\$30.40
Equip./Install.	Hand tools, tree planting	17	Hour	\$11.22	\$190.74
Labor	General Labor	17	Hour	\$23.16	\$393.72
Labor	Supervisor or Manager	8	Hour	\$45.77	\$366.16

Total Cost: \$2,367.18

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$0.89	EQIP-HU	\$1.07
WHIP	\$0.89	WHIP-HU	\$1.07

Practice: 612 - Tree & Shrub Establishment

Scenario # 4 Low Density Hand Plant w Tubes

Scenario Description: Actual Scenario # 4

New York

This practice involves planting of tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a medium density planting rate. Newly planted hardwood seedlings are protected from browsing by installing open tree tubes. Trees are planted at 15 foot spacing or greater. Terrain is moderately to steeply sloping, too steep to be planted with a mechanical tree planter so the area is hand planted.

Associated Practices: Mulching (484), Tree & Shrub Site Preparation (490)

Before Practice Situation:

The land has a little/no tree cover, or is stocked with the wrong tree species. Competing vegetation is a before and after planting concern. Soil condition is degraded due to the loss of the native forest ecosystem (organic matter in top soil depleted). The main resource concern is degraded plant condition and inadequate structure and composition

After Practice Situation:

40 acres of land is established with permanent tree cover that will improve degraded plant condition, reduce soil erosion, establish wildlife habitat, sequester carbon and reduce invasive species presence. Establishing forest vegetation also creates corridors for wildlife movement. Half of planted trees have vexar tubes, or similar, installed to protect from animal damage. A maximum planting density of 200 trees per acre is required for the site.

Scenario Feature Measure:

Area of Treatment

Scenario Typical Size:	10	Acre	Tot Unit Cost	\$1,014.40
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree, hardwood, seedling or	2000	Each	\$0.58	\$1,160.00
Materials	Tree shelter, solid tube type, 4" x 60"	1000	Each	\$4.95	\$4,950.00
Materials	Stakes, wood, 3/4" x 3/4" x 60"	1000	Each	\$1.52	\$1,520.00
Equip./Install.	Truck, Pickup	17	Hour	\$40.77	\$693.09
Equip./Install.	Trailer, enclosed, small	17	Hour	\$3.80	\$64.60
Equip./Install.	Hand tools, tree planting	17	Hour	\$11.22	\$190.74
Labor	General Labor	34	Hour	\$23.16	\$787.44
Labor	Supervisor or Manager	17	Hour	\$45.77	\$778.09

Total Cost: \$10,143.96

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$760.80	EQIP-HU	\$912.96
WHIP	\$760.80	WHIP-HU	\$912.96

Practice: 612 - Tree & Shrub Establishment

Scenario # 5 High Density, Mechanical Plant

Scenario Description: Actual Scenario # 5

New York

This practice applies to forestlands that are being actively managed. Seedlings selected are appropriate for the site and site conditions. Tree seedlings are planted after the site has been prepared for seedling establishment and growth. Forest site productivity is high or very high and dense planting is planned. Larger containerized seedlings are planted. Trees are planted at 10 foot spacing or less. Terrain conditions allow for mechanical tree planting. Associated Practices: Mulching (484), Tree & Shrub Site Preparation (490)

Before Practice Situation:

The land lacks forest cover or is stocked with the wrong tree species. Competing vegetation is a before and after planting concern. Soil condition is degraded due to the loss organic matter in top soil. Resource concerns are degraded plant condition (including undesirable plant productivity and health, and inadequate structure) and composition and degraded wildlife habitat.

After Practice Situation:

10 acres of land is established with permanent tree cover that will improve degraded plant condition, establish wildlife habitat, sequester atmospheric carbon. Establishing forest vegetation also creates corridors for wildlife movement. Actions should be planned with competing vegetation concerns. A density of 436 trees per acre or greater is required for the site.

Scenario Feature Measure:

area of treatment

Scenario Typical Size:	10	Acre	Tot Unit Cost	\$360.75
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree, conifer, seedling, bare root, 1-1	4360	Each	\$0.39	\$1,700.40
Equip./Install.	Truck, Pickup	9	Hour	\$40.77	\$366.93
Equip./Install.	Tractor, agricultural, 60 HP	9	Hour	\$25.72	\$231.48
Equip./Install.	Trailer, enclosed, small	9	Hour	\$3.80	\$34.20
Equip./Install.	Mechanical tree planter	9	Hour	\$6.37	\$57.33
Labor	General Labor	9	Hour	\$23.16	\$208.44
Labor	Equipment Operators, Light	9	Hour	\$24.05	\$216.45
Labor	Supervisor or Manager	9	Hour	\$45.77	\$411.93
Mobilization	Mobilization, small equipment	2	Each	\$190.19	\$380.38

Total Cost: \$3,607.54

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$270.57	EQIP-HU	\$324.68
WHIP	\$270.57	WHIP-HU	\$324.68

Practice: 612 - Tree & Shrub Establishment

Scenario # 6 Mechanical plant with tubes

Scenario Description: Actual Scenario # 6

New York

Improving the hardwood forest setting by hand planting hardwood tree seedlings. Prior to planting any needed vegetation control will be conducted first. Seedlings are protected from deer browsing. Trees are planted at 10 foot spacing or less.

Associated Practices: Mulching (484), Tree & Shrub Site Preparation (490)

Before Practice Situation:

In an existing upland forest the present trees are poor quality, at low stocking levels, or are undesirable species. Existing conditions do not meet landowner objectives of growing high quality trees. Wildlife habitat is poor due to the above described conditions. Resource concerns are degrade plant condition - undesirable productivity and health, and Inadequate structure and composition; inadequate habitat for fish and wildlife - habitat degradation.

After Practice Situation:

The area of treatment is 10 acres. Bare root hardwood seedlings are planted by hand in the best locations for seedling survival. Solid tree tubes are installed to protect seedlings from animal browsing damage. Post planting vegetation control is planned to ensure seedling survival. A density of 436 trees per acre or greater is required for the site.

Scenario Feature Measure:

Area of Treatment

Scenario Typical Size:	10	Acre	Tot Unit Cost	\$3,502.24
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree, hardwood, seedling or	4360	Each	\$0.58	\$2,528.80
Materials	Tree shelter, solid tube type, 4" x 60"	4360	Each	\$4.95	\$21,582.00
Materials	Stakes, wood, 3/4" x 3/4" x 60"	4360	Each	\$1.52	\$6,627.20
Equip./Install.	Truck, Pickup	9	Hour	\$40.77	\$366.93
Equip./Install.	Tractor, agricultural, 60 HP	9	Hour	\$25.72	\$231.48
Equip./Install.	Trailer, enclosed, small	9	Hour	\$3.80	\$34.20
Equip./Install.	Mechanical tree planter	9	Hour	\$6.37	\$57.33
Labor	General Labor	82	Hour	\$23.16	\$1,899.12
Labor	Equipment Operators, Light	9	Hour	\$24.05	\$216.45
Labor	Supervisor or Manager	24	Hour	\$45.77	\$1,098.48
Mobilization	Mobilization, small equipment	2	Each	\$190.19	\$380.38

Total Cost: \$35,022.37

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$2,626.68	EQIP-HU	\$3,152.01
WHIP	\$1,821.16	WHIP-HU	\$2,696.72

Practice: 612 - Tree & Shrub Establishment

Scenario # 7 High Density, Hand Plant

Scenario Description: Actual Scenario # 7

New York

This practice involves planting of tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a high density planting rate. Terrain is moderatey to steeply sloping, too steep to be planted with a mechanical tree planter so the area is hand planted. Trees are planted at 10 foot spacing or less.

Associated Practices: Mulching (484), Tree & Shrub Site Preparation (490)

Before Practice Situation:

The land has a little/no tree cover. Competing vegetation is a before and after planting concern. Soil condition is degraded due to the lose of the native forest ecosystem (organic matter in top soil depleted). The main resource concerns are degraded plant condition and inadequate structure and composition

After Practice Situation:

10 acres of land is established with permanent tree cover that will improve degraded plant condition, reduce soil erosion, establish wildlife habitat, sequester carbon and reduce invasive species presence. A density of 436 trees per acre or greater is required for the site. Establishing forest vegetation also creates corridors for wildlife movement.

Scenario Feature Measure:

Area of Treatment

Scenario Typical Size:	10	Acre	Tot Unit Cost	\$394.91
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree, conifer, seedling, bare root, 1-1	4360	Each	\$0.39	\$1,700.40
Materials	Wire flags	2180	Each	\$0.09	\$196.20
Equip./Install.	Truck, Pickup	12	Hour	\$40.77	\$489.24
Equip./Install.	Trailer, enclosed, small	12	Hour	\$3.80	\$45.60
Equip./Install.	Hand tools, tree planting	12	Hour	\$11.22	\$134.64
Labor	General Labor	36	Hour	\$23.16	\$833.76
Labor	Supervisor or Manager	12	Hour	\$45.77	\$549.24

Total Cost: \$3,949.08

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$296.18	EQIP-HU	\$355.42
WHIP	\$296.18	WHIP-HU	\$355.42

Practice: 612 - Tree & Shrub Establishment

Scenario # 8 Planting Lg. Container 1-3 gal

New York

Scenario Description: Actual Scenario # 8

Hardwood seedlings (potted) to be planted to reestablish an upland hardwood forest. Planting will be by hand. The resource setting is an area that historically was an upland hardwood forest.

Associated Practices: Mulching (484), Tree & Shrub Site Preparation (490)

Before Practice Situation:

The native forest that has been removed and the land is either row cropped, grazed or hayed or brushy forest. If any upland trees exist they are poor quality trees or undesirable species. Terrain is gently to moderately sloping with soil erosion-sheet and rill occurring. Resource concerns are degraded plant condition - undesirable productivity and health, and inadequate structure and composition; inadequate habitat for fish and wildlife.

After Practice Situation:

The area of treatment is 5 acres. Potted/containerized hardwood seedlings are planted by hand at a rate of 120 trees per acre. Post vegetation control should be evaluated and conducted it necessary.

Scenario Feature Measure:

Area of Treatment

Scenario Typical Size:	5	Acre	Tot Unit Cost	\$2,000.17
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree, hardwood, seedling or	600	Each	\$6.89	\$4,134.00
Materials	Tree shelter, solid tube type, 4" x 60"	600	Each	\$4.95	\$2,970.00
Materials	Stakes, wood, 3/4" x 3/4" x 36"	600	Each	\$0.70	\$420.00
Equip./Install.	Truck, Pickup	16	Hour	\$40.77	\$652.32
Equip./Install.	Trailer, enclosed, small	16	Hour	\$3.80	\$60.80
Equip./Install.	Hand tools, tree planting	30	Hour	\$11.22	\$336.60
Labor	General Labor	30	Hour	\$23.16	\$694.80
Labor	Supervisor or Manager	16	Hour	\$45.77	\$732.32

Total Cost: \$10,000.84

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$1,500.13	EQIP-HU	\$1,800.15
WHIP	\$1,500.13	WHIP-HU	\$1,800.15

Practice: 612 - Tree & Shrub Establishment

Scenario # 9 Hand Plant with Tubes

Scenario Description: Actual Scenario # 9

New York

This practice involves planting of tree seedlings after the site has been prepared for seedling growth and establishment. Tree tubes are employed to minimize deer browsing. The productivity of the site is good and will handle a high density planting rate. R Terrain is moderate to steeply sloping, too steep to be planted with a mechanical tree planter so the area is hand planted. Trees are planted at 10 foot spacing or less. Associated Practices: Mulching (484), Tree & Shrub Site Preparation (490)

Before Practice Situation:

The land has a little/no tree cover. Competing vegetation is a before and after planting concern. Soil condition is degraded due to the loss of the native forest ecosystem (organic matter in top soil depleted). Resource concerns are degraded plant condition -- undesirable plant productivity and health, and inadequate structure and composition and degraded wildlife habitat.

After Practice Situation:

10 acres of land is established with permanent tree cover that will improve degraded plant condition, reduce soil erosion, establish wildlife habitat, sequester carbon and reduce invasive species presence. A density of 436 trees per acre or greater is required for the site. Establishing forest vegetation also creates corridors for wildlife movement.

Scenario Feature Measure:

Area of planting

Scenario Typical Size:	10	Acre	Tot Unit Cost	\$3,701.49
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree, hardwood, seedling or	4360	Each	\$0.58	\$2,528.80
Materials	Tree shelter, solid tube type, 4" x 60"	4360	Each	\$4.95	\$21,582.00
Materials	Stakes, wood, 3/4" x 3/4" x 60"	4360	Each	\$1.52	\$6,627.20
Equip./Install.	Truck, Pickup	28	Hour	\$40.77	\$1,141.56
Equip./Install.	Trailer, enclosed, small	28	Hour	\$3.80	\$106.40
Equip./Install.	Hand tools, tree planting	109	Hour	\$11.22	\$1,222.98
Labor	General Labor	109	Hour	\$23.16	\$2,524.44
Labor	Supervisor or Manager	28	Hour	\$45.77	\$1,281.56

Total Cost: \$37,014.94

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$2,776.12	EQIP-HU	\$3,331.34
WHIP	\$1,813.73	WHIP-HU	\$2,739.11

Practice: 612 - Tree & Shrub Establishment

Scenario # 10 Hand Plant Conifers

Scenario Description: **Actual Scenario # 10**

New York

Tree seedlings will be hand planted in the forested area where few or no forest trees are growing. The existing stand of trees or the previously planted seedling tree stocking level is below desirable conditions. Wildlife habitat is degraded by loss of forest conditions.

Associated Practices: Mulching (484), Tree & Shrub Site Preparation (490)

Before Practice Situation:

The stocking level of the forest does not meet the minimum recommended number of trees per acre. The existing condition of the forest stand does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor. The resource concern is degraded plant condition: inadequate structure and composition, and inadequate wildlife & fish habitat.

After Practice Situation:

The prescribed number of trees are hand planted on 10 acres at a rate of 605 trees per acre, and the objectives of the landowner are met. The forest will provide wildlife habitat, provide a long term ground cover, and capture atmospheric carbon.

Scenario Feature Measure:

Number of trees planted

Scenario Typical Size:	6050	Each	Tot Unit Cost	\$0.64
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Hand tools, tree planting	8	Hour	\$11.22	\$89.76
Labor	General Labor	32	Hour	\$23.16	\$741.12
Labor	Supervisor or Manager	8	Hour	\$45.77	\$366.16
Materials	Tree, conifer, seedling, bare root, 1-1	6050	Each	\$0.39	\$2,359.50
Equip./Install.	Truck, Pickup	8	Hour	\$40.77	\$326.16

Total Cost: \$3,882.70

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$0.48	EQIP-HU	\$0.58
WHIP	\$0.48	WHIP-HU	\$0.58