

Practice: 666 - Forest Stand Improvement

Scenario: #1 - Pre-commercial Thinning - Hand tools

Scenario Description:

Adjusting the stocking of a young, non-merchantable stand of trees. The operation is supervised by a consultant forester and is carried out using hand tools such as chainsaws. Resource concerns include Undesirable plant productivity and health; Wildlife habitat degradation; Wildfire hazard; and Inadequate structure and composition.

Before Situation:

The stocking of a stand of trees that are too small to make a commercial thinning exceeds the recommended fully stocked level for the species and site. The effect is much slower growth than is reasonable or expected for the site, increased susceptibility to insects and disease, and an unacceptable devastating wildfire risk.

After Situation:

After adjusting the stocking to an acceptable level, stand growth, condition, and overall quality is improved. In addition, wildlife habitat is improved with the resulting increase of sunlight reaching the forest floor.

Scenario Feature Measure: Area treated

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: \$2,749.16

Scenario Cost/Unit: \$274.92

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	\$39.91	8	\$319.28
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	\$6.76	48	\$324.48
Labor						
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	\$18.92	48	\$908.16
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$99.77	12	\$1,197.24

Practice: 666 - Forest Stand Improvement

Scenario: #2 - Thinning for Wildlife and Forest Health

Scenario Description:

Hand and treatments used to open the canopy of a stand to improve the wildlife habitat and tree health. Resource concerns include: Inadequate structure and composition, Undesirable plant productivity and health, and Habitat degradation.

Before Situation:

The stand of mature trees is overstocked resulting in a closed canopy. This condition is causing a lack of structure, herbaceous layer, and diversity that is needed to meet the landowner's objectives for improved wildlife habitat and forest health. Under the supervision of a consultant forester, it will be marked for thinning and timber stand improvement applications that will include cutting with hand tools (chainsaws). Costs involved in any commercial harvesting including marking, access, and transportation are not included in this scenario. However the costs involved in marking trees to be treated or left and supervising the TSI work is included.

After Situation:

The stand is treated to favor diversity of important commercial and wildlife species. The canopy is opened to the extent necessary to promote herbaceous growth and the work is performed without excessive damage to the residual trees and site.

Scenario Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: \$3,743.90

Scenario Cost/Unit: \$374.39

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	\$6.76	40	\$270.40
All terrain vehicles, ATV	965	Includes equipment, power unit and labor costs.	Hour	\$32.97	20	\$659.40
Labor						
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	\$18.92	40	\$756.80
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$99.77	20	\$1,995.40
Materials						
Tree Marking Paint	313	Trees to be cut through tree marking are physically identified through the application of paint on the tree. Typically one quart of paint is used to mark one acre of trees. Includes materials and shipping only.	Acre	\$6.19	10	\$61.90

Practice: 666 - Forest Stand Improvement

Scenario: #3 - Creating Patch Clearcuts

Scenario Description:

Creating 2 acre patches in over-mature and/or degraded stands using hand tools such as chainsaws. The operation is supervised by a consultant forester and is carried out using hand tools such as chainsaws. Resource concerns include: Undesirable plant productivity and health, Inadequate structure and composition, and habitat degradation.

Before Situation:

The existing stand is overly mature and/or has been degraded in value by past harvesting practices. The level of acceptable growing stock is too low to justify managing this stand in its present condition. The present form, species composition and structure cannot meet the resource concerns and landowner objectives. Creating small openings by cutting all trees greater than 2" in diameter will foster the regeneration of high-value shade intolerant species. The work will be done with chainsaws.

After Situation:

A new, young stand of desirable species is established. In addition, early successional wildlife habitat as well as forest type diversity are created.

Scenario Feature Measure: Area treated

Scenario Unit: Acre

Scenario Typical Size: 2

Scenario Cost: \$710.19

Scenario Cost/Unit: \$355.10

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	\$6.76	16	\$108.16
Labor						
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	\$18.92	16	\$302.72
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$99.77	3	\$299.31

Practice: 666 - Forest Stand Improvement

Scenario: #4 - Aspen Regeneration

Scenario Description:

Mechanical treatments used to stimulate the growth of aspen to improve the wildlife habitat and tree health. Resource concerns include: Inadequate structure and composition, Undesirable plant productivity and health, and Habitat degradation.

Before Situation:

The stand of mature aspen trees is not regenerating. This condition is causing a lack of structure, herbaceous layer, and age class diversity that is needed to meet the landowner's objectives for improved wildlife habitat and forest health. Under the supervision of a consultant forester, it will be treated with a ripper and/or dozing to stimulate suckering.

After Situation:

The stand is treated to favor suckering and regeneration of aspen. The growth to young aspen shoots is promoted.

Scenario Feature Measure:

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: \$2,861.89

Scenario Cost/Unit: \$286.19

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Dozer, 140 HP	927	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	\$133.49	12	\$1,601.88
Labor						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$99.77	4	\$399.08
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$27.70	12	\$332.40
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$528.53	1	\$528.53

Practice: 666 - Forest Stand Improvement

Scenario: #5 - Competition Control - Mechanical, Heavy Equipment

Scenario Description:

Using equipment such as a masticator or mulcher to control vegetation that is competing with desirable trees and species or to reduce the stocking level of a stand of desirable trees. The trees to be retained will be marked by a consultant. Resource concerns include Undesirable plant productivity and health; Wildlife habitat degradation; Wildfire hazard; and Inadequate structure and composition.

Before Situation:

A stand of desirable trees is adversely affected by competition either from undesirable species, cull trees, or because the stand is overstocked. The vegetation to be controlled is too large to be mowed or shredded. Therefore other mechanical methods such as using masticators or mulchers is necessary.

After Situation:

The released stand of trees contains the composition and quality needed to meet the landowner's objectives and address the resource concerns.

Scenario Feature Measure: Area treated

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: \$8,118.87

Scenario Cost/Unit: \$811.89

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Mechanical cutter, chopper	943	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$137.90	40	\$5,516.00
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.19	40	\$767.60
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$99.77	15	\$1,496.55
Materials						
Tree Marking Paint	313	Trees to be cut through tree marking are physically identified through the application of paint on the tree. Typically one quart of paint is used to mark one acre of trees. Includes materials and shipping only.	Acre	\$6.19	10	\$61.90
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$276.82	1	\$276.82

Practice: 666 - Forest Stand Improvement

Scenario: #6 - Competition Control - High Density-Difficult Terrain

Scenario Description:

Using equipment such as a masticator or mulcher and hand labor to control vegetation that is competing with desirable trees and species or to reduce the stocking level of a stand of desirable trees. The trees to be retained will be marked by a consultant. Difficult terrain and/or high density stands require mixed hand labor and mechanical treatment. Resource concerns include Undesirable plant productivity and health; Wildlife habitat degradation; Wildfire hazard; and Inadequate structure and composition.

Before Situation:

A stand of desirable trees is adversely affected by competition either from undesirable species, cull trees, or because the stand is overstocked. The vegetation to be controlled is too large to be mowed or shredded, and mechanical methods such as using masticators, mulchers and hand labor is necessary.

After Situation:

The released stand of trees contains the composition and quality needed to meet the landowner's objectives and address the resource concerns.

Scenario Feature Measure: Area treated

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: \$16,926.22

Scenario Cost/Unit: \$1,692.62

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	\$6.76	40	\$270.40
Mechanical cutter, chopper	943	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$137.90	80	\$11,032.00
Labor						
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	\$18.92	40	\$756.80
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.19	80	\$1,535.20
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$99.77	30	\$2,993.10
Materials						
Tree Marking Paint	313	Trees to be cut through tree marking are physically identified through the application of paint on the tree. Typically one quart of paint is used to mark one acre of trees. Includes materials and shipping only.	Acre	\$6.19	10	\$61.90
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$276.82	1	\$276.82