

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Forestry
Practice Code/Name	383 - Fuel Break
Scenario ID	1
Scenario Name	FuelBreak

Scenario Description	Fuel Break installation requires tree thinning, treating woody residue, pruning, and mowing. Thinning treatment and pruning is done by hand, treating woody residue (piling/burning, crushing, or off-site removal) and mowing are mechanized. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.	
Before Practice Situation	Forest stand is overstocked with desirable and undesirable trees. Overstocking creates conditions conducive to wildfire movement across the landscape, and severe loss/damage of the forest stand. Shrub levels are high and significantly increase wildfire risk. Tree crowns are touching, trees retain limbs down to understory vegetation creating a "ladder" for fire movement into the overstory, and understory vegetation (brush and grasses) create a significant fuel load to rate a high to severe fire hazard. The terrain is moderately to steeply sloped (1-30%), increasing difficulty as slope steepens.	
After Practice Situation	Fuel Break is installed at the property line or a key locations to reduce crown fire spread. Size of fuel break is 4 acres; the width varies due to site conditions. The trees are thinned so open gaps are created in crown overstory, branches on remaining trees are pruned to 8 to 10 feet in height, all woody residue (thinned trees and pruned branches) are treated (piled/burned or lopped/scattered) so little remains in the fuel break and understory vegetation is mowed down to less than 1 foot in height. Cut stumps have been chemically treated to control sprouting.	
Scenario Feature Measure	Area of Treatment	
Scenario Unit	Acre	
Scenario Typical Size	4	

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$264.12	\$66.03
Equipment/Installation	\$2,506.10	\$626.53
Labor	\$2,907.12	\$726.78
Mobilization	\$1,116.99	\$279.25
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$6,794.33	\$1,698.58

Cost Details:									
Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	338	Herbicide, Triclopyr	Triclopyr butoxyethyl ester (BEE) is a selective foliar and root absorbed, translocated herbicide used for control of woody and broadleaf plants. Product is typically used in these practices 595, 314, 645 and 666. Refer to WIN-PST for product names and active ingredients. Materials only.	Acre	\$61.01	4	\$244.04		
Materials	313	Tree Marking Paint	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.	Acre	\$5.02	4	\$20.08		
Equipment/Installation	940	Mower, Bush Hog	Equipment and power unit costs. Labor not included.	Hour	\$42.57	8	\$340.56		
Equipment/Installation	964	Chemical, spot treatment, single stem application	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$55.87	8	\$446.96		
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$26.16	8	\$209.28		
Equipment/Installation	1319	Pruning tool, pole saw	Gasoline powered pole chainsaw. Labor not included.	Hour	\$6.00	8	\$48.00		
Equipment/Installation	1318	Pruning tools, hand tools	Pruning tools, hand tools, shears, loppers, pole saw, handsaw Equipment costs only. Labor not included.	Hour	\$2.00	8	\$16.00		
Equipment/Installation	927	Dozer, 140 HP	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	\$101.33	10	\$1,013.30		
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$5.40	80	\$432.00		
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	\$22.79	80	\$1,823.20		
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.76	10	\$377.60		
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$44.00	12	\$528.00		
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.29	8	\$178.32		
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$43.59	4	\$174.36		
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.09	4	\$88.36		
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$22.77	12	\$273.24		
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$285.90	1	\$285.90		

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Forestry
Practice Code/Name	383 - Fuel Break
Scenario ID	2
Scenario Name	Fuel Break-steep slopes

Scenario Description	Fuel Break installation requires tree thinning, treating woody residue, pruning, and brush cutting. Thinning treatment, tree pruning and brush cutting are done by hand, treating woody residue (piling/burning, crushing, or off-site removal) is mechanized and hand treatment. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.	
Before Practice Situation	The forest stand is overstocked with trees (desirable and undesirable) and is at risk of loss if a wildfire should occur. Tree crowns are touching, trees retain limbs down to understory vegetation creating a "ladder" for fire movement into the overstory, and understory vegetation (brush and grasses) create a significant fuel load to rate a high to severe fire hazard. A fuel break is implemented to reduce the risk of a crown spreading wildfire. The terrain is steep, 40+%, which significantly reduces efficiency and increases cost of installation. More cutting of trees & brush and treatment of woody residue is accomplished using labor due to very steep slopes.	
After Practice Situation	Fuel Break is installed at the property line or key locations to reduce crown fire spread. Size of fuel break is 4 acres; the width varies due to site conditions. The trees are thinned so open gaps are created in crown overstory; branches on remaining trees are pruned to a minimum of 8 to 10 feet in height; all woody residue, thinned trees, pruned branches and cut brush, are treated.	
Scenario Feature Measure	Area of Treatment	
Scenario Unit	Acre	
Scenario Typical Size	4	

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$264.12	\$66.03
Equipment/Installation	\$4,176.88	\$1,044.22
Labor	\$5,126.90	\$1,281.73
Mobilization	\$1,307.09	\$326.77
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$10,874.99	\$2,718.75

Cost Details:									
Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	338	Herbicide, Triclopyr	Triclopyr butoxyethyl ester (BEE) is a selective foliar and root absorbed, translocated herbicide used for control of woody and broadleaf plants. Product is typically used in these practices 595, 314, 645 and 666. Refer to WIN-PST for product names and active ingredients. Materials only.	Acre	\$61.01	4	\$244.04		
Materials	313	Tree Marking Paint	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.	Acre	\$5.02	4	\$20.08		
Equipment/Installation	943	Mechanical cutter, chopper	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$117.98	10	\$1,179.80		
Equipment/Installation	964	Chemical, spot treatment, single stem application	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$55.87	14	\$782.18		
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$26.16	10	\$261.60		
Equipment/Installation	1319	Pruning tool, pole saw	Gasoline powered pole chainsaw. Labor not included.	Hour	\$6.00	8	\$48.00		
Equipment/Installation	1318	Pruning tools, hand tools	Pruning tools, hand tools, shears, loppers, pole saw, handsaw Equipment costs only. Labor not included.	Hour	\$2.00	14	\$28.00		
Equipment/Installation	927	Dozer, 140 HP	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	\$101.33	10	\$1,013.30		
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$5.40	160	\$864.00		
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	\$22.79	160	\$3,646.40		
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.29	10	\$222.90		
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.76	10	\$377.60		
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$44.00	20	\$880.00		
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$22.77	10	\$227.70		
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$285.90	1	\$285.90		
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	\$195.13	1	\$195.13		
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$43.59	8	\$348.72		

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Forestry
Practice Code/Name	383 - Fuel Break
Scenario ID	3
Scenario Name	Fuel Break- Masticator

Scenario Description	Fuel Break installation requires tree thinning, treating woody residue, pruning, and mowing. Thinning treatment and pruning is done by hand; treating woody residue (piling/burning, crushing, or off-site removal) and mowing are mostly mechanized. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.	
Before Practice Situation	The forest stand is overstocked with trees (desirable and undesirable) and is at risk of loss if a wildfire should occur. Tree crowns are touching, trees retain limbs down to understory vegetation creating a "ladder" for fire movement into the overstory, and understory vegetation (brush and grasses) create a significant fuel load to rate a high to severe fire hazard. Slope of terrain increases fire hazard. The terrain moderately sloped, 1-30+% increasing difficulty as slope steepens.	
After Practice Situation	Fuel Break is installed at the property line or key locations to reduce crown fire spread. Size of fuel break is 4 acres; the width varies due to site conditions. The trees are thinned so open gaps are created in crown overstory, branches on remaining trees are pruned to 8 to 10 feet in height, all woody residue (thinned trees, pruned branches and brush) are mostly masticated but some is piled/burned, hauled of site or lopped/scattered) understory vegetation is cut down to less than 1 foot in height. Cut stumps have been chemically treated to control sprouting.	
Scenario Feature Measure	Area of Treatment	
Scenario Unit	Acre	
Scenario Typical Size	4	

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$264.12	\$66.03
Equipment/Installation	\$3,144.77	\$786.19
Labor	\$2,462.65	\$615.66
Mobilization	\$1,292.01	\$323.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$7,163.55	\$1,790.89

Cost Details:									
Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	338	Herbicide, Triclopyr	Triclopyr butoxyethyl ester (BEE) is a selective foliar and root absorbed, translocated herbicide used for control of woody and broadleaf plants. Product is typically used in these practices 595, 314, 645 and 666. Refer to WIN-PST for product names and active ingredients. Materials only.	Acre	\$61.01	4	\$244.04		
Materials	313	Tree Marking Paint	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.	Acre	\$5.02	4	\$20.08		
Equipment/Installation	940	Mower, Bush Hog	Equipment and power unit costs. Labor not included.	Hour	\$42.57	5	\$212.85		
Equipment/Installation	943	Mechanical cutter, chopper	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$117.98	16	\$1,887.68		
Equipment/Installation	964	Chemical, spot treatment, single stem application	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$55.87	8	\$446.96		
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$26.16	8	\$209.28		
Equipment/Installation	1319	Pruning tool, pole saw	Gasoline powered pole chainsaw. Labor not included.	Hour	\$6.00	8	\$48.00		
Equipment/Installation	1318	Pruning tools, hand tools	Pruning tools, hand tools, shears, loppers, pole saw, handsaw Equipment costs only. Labor not included.	Hour	\$2.00	8	\$16.00		
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$5.40	60	\$324.00		
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	\$22.79	80	\$1,823.20		
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.29	5	\$111.45		
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$44.00	12	\$528.00		
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$22.77	6	\$136.62		
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.09	4	\$88.36		
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$285.90	1	\$285.90		
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	\$195.13	1	\$195.13		
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$43.59	6	\$261.54		

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Forestry
Practice Code/Name	383 - Fuel Break
Scenario ID	4
Scenario Name	Fuel Break-Masticator, steep slopes

Scenario Description	Fuel Break installation requires tree thinning, treating woody residue, pruning, and brush cutting. Thinning is mechanized and hand cutting, tree pruning and brush cutting are done by hand, treating woody residue (piling/burning, crushing, or off-site removal) is mechanized and some hand treatment. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.	
Before Practice Situation	The forest stand is overstocked with trees (desirable and undesirable) and is at risk of loss if a wildfire should occur. Tree crowns are touching, trees retain limbs down to understory vegetation creating a "ladder" for fire movement into the overstory, and understory vegetation (brush and grasses) create a significant fuel load to rate a high to severe fire hazard. Slope of terrain significantly increases fire hazard rating due to preheating effect. The terrain is steeply sloped, 40+%, which significantly reduces implementation efficiency. More hand cutting and treatment of woody residue is accomplished using labor due to very steep slopes.	
After Practice Situation	Fuel Break is installed a the property line or a key locations to reduce crown fire spread. Size of fuel break is 4 acres; the width varies due to site conditions. The trees are thinned so open gaps are created in crown overstory, branches on remaining trees are pruned to 8 to 10 feet in height, all woody residue (thinned trees, pruned branches and brush) are mostly masticated but some is piled/burned, hauled of site or lopped/scattered) so little remains in the fuel break and understory vegetation is cut down to less than 1 foot in height. Cut stumps have been chemically treated to control sprouting.	
Scenario Feature Measure	Area of Treatment	
Scenario Unit	Acre	
Scenario Typical Size	4	

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$264.12	\$66.03
Equipment/Installation	\$4,061.96	\$1,015.49
Labor	\$4,285.48	\$1,071.37
Mobilization	\$1,587.91	\$396.98
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$10,199.47	\$2,549.87

Cost Details:									
Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	338	Herbicide, Triclopyr	Triclopyr butoxyethyl ester (BEE) is a selective foliar and root absorbed, translocated herbicide used for control of woody and broadleaf plants. Product is typically used in these practices 595, 314, 645 and 666. Refer to WIN-PST for product names and active ingredients. Materials only.	Acre	\$61.01	4	\$244.04		
Materials	313	Tree Marking Paint	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.	Acre	\$5.02	4	\$20.08		
Equipment/Installation	943	Mechanical cutter, chopper	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$117.98	20	\$2,359.60		
Equipment/Installation	964	Chemical, spot treatment, single stem application	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$55.87	12	\$670.44		
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$26.16	12	\$313.92		
Equipment/Installation	1319	Pruning tool, pole saw	Gasoline powered pole chainsaw. Labor not included.	Hour	\$6.00	7	\$42.00		
Equipment/Installation	1318	Pruning tools, hand tools	Pruning tools, hand tools, shears, loppers, pole saw, handsaw Equipment costs only. Labor not included.	Hour	\$2.00	14	\$28.00		
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$5.40	120	\$648.00		
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	\$22.79	120	\$2,734.80		
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.29	12	\$267.48		
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.76	20	\$755.20		
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$44.00	12	\$528.00		
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$22.77	8	\$182.16		
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.09	8	\$176.72		
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$285.90	1	\$285.90		
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	\$195.13	1	\$195.13		
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$43.59	8	\$348.72		

