

Practice: 383 - Fuel Break

Scenario #1 - Dozer, flat terrain

**Scenario Description:**

A dozer is used to thin trees and brush for the purpose of opening the forest canopy and creating gaps in the crown of the overstory on 0-30% slopes, along a predetermined strip at the edge of forestland to be protected from wildfire. Branches on the remaining trees are pruned to 8-10 feet in height and all woody debris is piled/burned or lopped/scattered so that little woody fuel remains.

**Before Situation:**

A pine forest stand is overstocked with desirable and undesirable trees on relatively flat to moderately sloped terrain (0-30% slopes). 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. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

**After Situation:**

A fuel break is installed at the property line or at key locations to reduce the threat of crown fire spread. Size of fuel break is 4 acres, but can increase or decrease depending up the size of the tract; the width varies due to site conditions but should be no less than 66 feet. The trees are thinned with heavy equipment, such as a dozer, 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.

Feature Measure: Area of Treatment

Scenario Unit:: Acre

Scenario Typical Size: 4

Total Scenario Cost: \$2,145.20

Scenario Cost/Unit: \$536.30

**Cost Details:**

Component Name	ID	Description	Unit	Cost	QTY	Total
<b>Equipment Installation</b>						
Dozer, 140 HP	927	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	\$102.51	8	\$820.08
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	\$3.61	16	\$57.76
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$18.01	8	\$144.08
Pruning tools, hand tools	1318	Pruning tools, hand tools, shears, loppers, pole saw, handsaw. Material costs only. Labor not included.	Hour	\$4.94	8	\$39.52
Pruning tool, pole saw	1319	Gasoline powered pole chainsaw. Labor not included.	Hour	\$8.32	8	\$66.56
<b>Labor</b>						
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	\$19.35	24	\$464.40
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	\$25.22	8	\$201.76
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	\$40.55	8	\$324.40
<b>Materials</b>						
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	\$6.66	4	\$26.64

Practice: 383 - Fuel Break

Scenario #2 - Dozer, steep slopes

**Scenario Description:**

A dozer is used to thin trees and brush for the purpose of opening the forest canopy and creating gaps in the crown of the overstory on >30% slopes, along a predetermined strip at the edge of forestland to be protected from wildfire. Branches on the remaining trees are pruned to 8-10 feet in height and all woody debris is piled/burned or lopped/scattered so that little woody fuel remains. More cutting of trees & brush and treatment of woody residue is accomplished using labor due to very steep slopes.

**Before Situation:**

A pine forest stand is overstocked with desirable and undesirable trees on steep sloped terrain (30+% slopes). 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. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

**After Situation:**

A fuel break is installed at the property line or at key locations to reduce the threat of crown fire spread. Size of fuel break is 4 acres, but can increase or decrease depending up the size of the tract; the width varies due to site conditions but should be no less than 66 feet. The trees are thinned with heavy equipment, such as a dozer, 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.

Feature Measure: Area of Treatment

Scenario Unit:: Acre

Scenario Typical Size: 4

Total Scenario Cost: \$2,822.94

Scenario Cost/Unit: \$705.74

**Cost Details:**

Component Name	ID	Description	Unit	Cost	QTY	Total
<b>Equipment Installation</b>						
Dozer, 140 HP	927	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	\$102.51	14	\$1,435.14
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	\$3.61	16	\$57.76
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$18.01	8	\$144.08
Pruning tools, hand tools	1318	Pruning tools, hand tools, shears, loppers, pole saw, handsaw. Material costs only. Labor not included.	Hour	\$4.94	16	\$79.04
Pruning tool, pole saw	1319	Gasoline powered pole chainsaw. Labor not included.	Hour	\$8.32	8	\$66.56
<b>Labor</b>						
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	\$19.35	16	\$309.60
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	\$25.22	14	\$353.08
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	\$40.55	8	\$324.40
<b>Materials</b>						
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	\$6.66	8	\$53.28

Practice: 383 - Fuel Break

Scenario #3 - Masticator or brush cutter, flat terrain

**Scenario Description:**

A mechanical brush cutter, shredder, hydro-ax or similar piece of equipment is used to thin trees and brush for the purpose of opening the forest canopy and creating gaps in the crown of the overstory on 0-30% slopes, along a predetermined strip at the edge of forestland to be protected from wildfire. Branches on the remaining trees are pruned to 8-10 feet in height and all woody debris is piled/burned or lopped/scattered so that little woody fuel remains.

**Before Situation:**

A pine forest stand is overstocked with desirable and undesirable trees on relatively flat to moderately sloped terrain (0-30% slopes). 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. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

**After Situation:**

A fuel break is installed at the property line or at key locations to reduce the threat of crown fire spread. Size of fuel break is 4 acres, but can increase or decrease depending up the size of the tract; the width varies due to site conditions but should be no less than 66 feet. The trees are thinned with a mechanical brush cutter, shredder, hydro-ax or similar piece of equipment 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.

Feature Measure: Area of Treatment

Scenario Unit:: Acre

Scenario Typical Size: 4

Total Scenario Cost: \$2,241.32

Scenario Cost/Unit: \$560.33

**Cost Details:**

Component Name	ID	Description	Unit	Cost	QTY	Total
<b>Equipment Installation</b>						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$18.01	8	\$144.08
Mechanical cutter, chopper	943	Forestry mulcher, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$84.38	16	\$1,350.08
<b>Labor</b>						
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	\$19.35	8	\$154.80
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	\$25.22	16	\$403.52
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	\$40.55	4	\$162.20
<b>Materials</b>						
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	\$6.66	4	\$26.64

Practice: 383 - Fuel Break

Scenario #4 - Masticator or brush cutter, steep slopes

**Scenario Description:**

A mechanical brush cutter, shredder, hydro-ax or similar piece of equipment is used to thin trees and brush for the purpose of opening the forest canopy and creating gaps in the crown of the overstory on >30% slopes, along a predetermined strip at the edge of forestland to be protected from wildfire. Branches on the remaining trees are pruned to 8-10 feet in height and all woody debris is piled/burned or lopped/scattered so that little woody fuel remains.

**Before Situation:**

A pine forest stand is overstocked with desirable and undesirable trees on steeply sloped terrain (30+% slopes). 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. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

**After Situation:**

A fuel break is installed at the property line or at key locations to reduce the threat of crown fire spread. Size of fuel break is 4 acres, but can increase or decrease depending up the size of the tract; the width varies due to site conditions but should be no less than 66 feet. The trees are thinned with a mechanical brush cutter, shredder, hydro-ax or similar piece of equipment 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.

Feature Measure: Area of Treatment

Scenario Unit:: Acre

Scenario Typical Size: 4

Total Scenario Cost: \$2,868.56

Scenario Cost/Unit: \$717.14

**Cost Details:**

Component Name	ID	Description	Unit	Cost	QTY	Total
<b>Equipment Installation</b>						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$18.01	8	\$144.08
Mechanical cutter, chopper	943	Forestry mulcher, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$84.38	20	\$1,687.60
<b>Labor</b>						
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	\$19.35	8	\$154.80
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	\$25.22	20	\$504.40
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	\$40.55	8	\$324.40
<b>Materials</b>						
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	\$6.66	8	\$53.28

Practice: 383 - Fuel Break

Scenario #5 - Hand Cutting

**Scenario Description:**

Hand tools will be used to thin trees and brush for the purpose of opening the forest canopy and creating gaps in the crown of the overstory, along a predetermined strip at the edge of forestland to be protected from wildfire. Branches on the remaining trees are pruned to 8-10 feet in height and all woody debris is piled/burned or lopped/scattered so that little woody fuel remains.

**Before Situation:**

A pine 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. 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. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

**After Situation:**

A fuel break is installed at the property line or at key locations to reduce the threat of crown fire spread. Size of fuel break is 4 acres, but can increase or decrease depending up the size of the tract; the width varies due to site conditions but should be no less than 66 feet. The trees are thinned with hand cutting tools, 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) so little remains in the fuel break.

Feature Measure: Area of Treatment

Scenario Unit:: Acre

Scenario Typical Size: 4

Total Scenario Cost: \$1,164.72

Scenario Cost/Unit: \$291.18

**Cost Details:**

Component Name	ID	Description	Unit	Cost	QTY	Total
<b>Equipment Installation</b>						
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	\$3.61	24	\$86.64
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$18.01	8	\$144.08
Pruning tools, hand tools	1318	Pruning tools, hand tools, shears, loppers, pole saw, handsaw. Material costs only. Labor not included.	Hour	\$4.94	24	\$118.56
<b>Labor</b>						
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	\$19.35	24	\$464.40
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	\$40.55	8	\$324.40
<b>Materials</b>						
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	\$6.66	4	\$26.64

Practice: 383 - Fuel Break

Scenario #6 - Non-forest areas

**Scenario Description:**

A mower/bushhog is used to reduce standing vegetation to a low height leaving the few trees or selected shrubs in place. A non forest fuel break occurs outside of forestlands where brush, grass and forbs dominate with an occasional tree or groups of trees.

**Before Situation:**

Herbaceous and semi-woody vegetation is tall, dense and continuous creating conditions conducive for fire movement across the landscape. There are no breaks in the vegetation to slow down a wildfire. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

**After Situation:**

A fuel break is installed by shredding/mowing/bushhogging a defined width at property lines, around structures, at roadways, or other key locations to reduce continuity and height of vegetation cover. Width of fuel break varies based on site conditions but should be at least 66 feet wide and typically around 4 acres is treated on 40 acres of land.

Feature Measure: Area of Treatment

Scenario Unit:: Acre

Scenario Typical Size: 4

Total Scenario Cost: \$538.70

Scenario Cost/Unit: \$134.68

**Cost Details:**

Component Name	ID	Description	Unit	Cost	QTY	Total
<b>Equipment Installation</b>						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$18.01	2	\$36.02
Mower, Bush Hog	940	Equipment and power unit costs. Labor not included.	Hour	\$42.90	6	\$257.40
<b>Labor</b>						
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	\$19.35	6	\$116.10
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$21.53	6	\$129.18