

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Forestry
Practice Code/Name	394 - Firebreak
Scenario ID	1
Scenario Name	FireBreak-Disked
Scenario Description	Installation of a bare-ground firebreak of a minimum width of 20' around a 20 acre field/farm using farm equipment. Generally water control devices such as water bars are not needed due either to the lack of steep terrain or the temporary nature of the firebreak. This practice is typically implemented to control fire during a prescribed burn of a field with shrubs and/or warm season grasses managed for wildlife. Resource concerns include Wildfire hazard from excessive biomass accumulation, Undesirable plant productivity and health, Inadequate plant structure and composition, and Habitat degradation.
Before Practice Situation	Tract, field, or farm lacks adequate firebreaks to either reduce the spread of wildfires or contain a prescribed burn. Installation will be accomplished by making two passes with the use of typical farm equipment such as tractors, plows, disks, or similar implements.
After Practice Situation	Associated Practices: 338-Prescribed Burning; 383-Fuelbreak; 643- Restoration and Management of Declining Habitats; 645-Upland Habitat Development and Management; 647-Early Successional Habitat
Scenario Feature Measure	Length of firebreak
Scenario Unit	Foot
Scenario Typical Size	5000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$72.48	\$0.01
Labor	\$154.11	\$0.03
Mobilization	\$63.20	\$0.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$289.79	\$0.06

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$26.31	2	\$52.62
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$9.93	2	\$19.86
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	3	\$56.01
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	5	\$98.10
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

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Region	Appalachian
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Discipline Group	Forestry
Practice Code/Name	394 - Firebreak
Scenario ID	2
Scenario Name	Constructed - Medium equipment, flat-medium slopes
Scenario Description	Use of medium equipment such as small dozers to blade, disk, plow, etc. bare-soil firebreaks on slopes less than 15%. Generally, water control devices such as water bars are limited to 10 or less per 1,000 feet when properly planned and installed using the same equipment. Resource concerns include Wildfire hazards from excessive biomass accumulation, Undesirable plant productivity and health, Inadequate plant structure and composition, and Habitat degradation.
Before Practice Situation	Tract, field, or farm lacks adequate firebreaks to either reduce the spread of wildfires or contain a prescribed burn. Conditions such as topography, the presence of brush and trees, etc. make the use of typical farm equipment impractical.
After Practice Situation	The property is adequately protected from wildfire or can be safely prescribe burned and the potential for excessive erosion from the firebreak is negligible.
Scenario Feature Measure	Length of firebreak
Scenario Unit	Foot
Scenario Typical Size	3000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$382.64	\$0.13
Labor	\$87.92	\$0.03
Mobilization	\$114.37	\$0.04
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$584.93	\$0.19

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.08	150	\$162.00
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.16	4	\$220.64
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	\$21.98	4	\$87.92
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$21.77	1	\$21.77
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$92.60	1	\$92.60

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Region	Appalachian
State	North Carolina
Discipline Group	Forestry
Practice Code/Name	394 - Firebreak
Scenario ID	3
Scenario Name	Constructed - Medium equipment, steep slopes
Scenario Description	Use of equipment such as small dozers to blade bare-soil firebreaks on slopes greater than 15%. Water control devices such as water bars placed at approximately 15 to 25 per 1,000 ft section of firebreak, are necessary to control erosion. These will be installed with the same equipment. Resource concerns include Wildfire hazard from excessive biomass accumulation, Undesirable plant productivity and health, Inadequate plant structure and composition, Habitat degradation, Soil erosion, and Excessive sediment in surface waters.
Before Practice Situation	Tract, field, or farm lacks adequate firebreaks to either reduce the spread of wildfires or contain a prescribed burn. Conditions such as topography, the presence of brush and trees, etc. make the use of typical farm equipment impractical. As slopes increase, the potential for excessive erosion increases from soil disturbances. Therefore the installation of water control devices such as water bars will be important in protecting the resource base.
After Practice Situation	The property is adequately protected from wildfire or can be safely prescribe burned and the potential for excessive erosion from the firebreak is minimized.
Scenario Feature Measure	Length of firebreak
Scenario Unit	Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$679.64	\$0.68
Labor	\$87.92	\$0.09
Mobilization	\$114.37	\$0.11
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$881.93	\$0.88

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.08	425	\$459.00
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.16	4	\$220.64
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	\$21.98	4	\$87.92
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$21.77	1	\$21.77
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$92.60	1	\$92.60

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Discipline Group	Forestry
Practice Code/Name	394 - Firebreak
Scenario ID	6
Scenario Name	FireBreak-Dozer-Fire Plow
Scenario Description	Practice is installed to facilitate a prescribed burn which will help maintain or enhance habitat (cover, shelter and forage) as well as connecting fragmented habitats. This practice scenario will be implemented to enhance plant condition by improving productivity, health and vigor of desired tree species. Habitat quality will also be improved as a result of reducing the stocking density of plants in the understory by and enabling regeneration of ground level vegetation
Before Practice Situation	A stand of forestland age 12-40+ with prescribed burning planned. Some border or property line firebreaks exist but additional firebreaks are needed to facilitate planned
After Practice Situation	After Practice Implementation: Firebreaks are installed by a contractor using a bulldozer/Fireplow and push blade to clear flammable debris and vegetation along the planned location. Raking and hand work is used to tie bladed firebreaks into streams, wetlands and other sensitive areas. Planned firebreaks are installed according design bladed width. Associated Practices: 338-Prescribed Burning; 383-Fuelbreak; 643- Restoration and Management of Declining Habitats; 645-Upland Habitat Development and Management; 647-Early Successional Habitat
Scenario Feature Measure	Length of feet
Scenario Unit	Foot
Scenario Typical Size	5000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$734.56	\$0.15
Labor	\$125.26	\$0.03
Mobilization	\$115.75	\$0.02
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$975.57	\$0.20

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1306	Fire Plow	Heavy wildland plow or disk used for installing firebreaks. Equipment costs only for plow, use with a dozer component. Labor not included.	Hour	\$28.65	4	\$114.60
Equipment/Installation	928	Dozer, 200 HP	Track mounted Dozer with horsepower range of 160 to 250. Equipment and power unit costs. Labor not included.	Hour	\$154.99	4	\$619.96
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	\$21.98	4	\$87.92
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	2	\$37.34
Mobilization	1141	Mobilization, Skilled labor	Mobilization of skilled labor: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$23.15	1	\$23.15
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$92.60	1	\$92.60

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Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Forestry
Practice Code/Name	394 - Firebreak
Scenario ID	5
Scenario Name	Constructed - Wide, bladed or disked firebreak
Scenario Description	Installing a bare-ground firebreak with a width of 30' or more on gently to strongly sloping slopes with equipment such as a dozer with a heavy disk. Using smaller equipment, erosion control devices such as water bars will be installed at approximately 15 to 25 per 1,000 feet of firebreak length. Devices will have stable outlets. Resource concerns include Wildfire hazard from excessive biomass accumulation, Undesirable plant productivity and health, Inadequate plant structure and composition, Habitat degradation, Soil erosion, and Excessive sediment in surface waters.
Before Practice Situation	Tract, field, or farm lacks adequate firebreaks to either reduce the spread of wildfires or contain a prescribed burn. Wide firebreaks are needed due to topography, high wildfire risk or to their use as down-wind breaks for prescribed burns. Conditions such as topography, the presence of brush and trees, etc. make the use of typical farm equipment impractical. As slopes increase, the potential for excessive erosion increases from soil disturbances. Therefore the installation of water control devices such as water bars will be important in protecting the resource base.
After Practice Situation	The property is adequately protected from wildfire or can be safely prescribe burned and the potential for excessive erosion from the firebreak is minimized.
Scenario Feature Measure	Length of firebreak
Scenario Unit	Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$1,014.88	\$1.01
Labor	\$703.36	\$0.70
Mobilization	\$3,507.54	\$3.51
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$5,225.78	\$5.23

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1306	Fire Plow	Heavy wildland plow or disk used for installing firebreaks. Equipment costs only for plow, use with a dozer component. Labor not included.	Hour	\$28.65	4	\$114.60
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.08	425	\$459.00
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.16	8	\$441.28
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	\$21.98	32	\$703.36
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$21.77	2	\$43.54
Mobilization	1140	Mobilization, large equipment	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$173.20	20	\$3,464.00