

Practice: 314 - Brush Management

Scenario: #1 - Mechanical

Scenario Description: Removal of small woody vegetation. The practice entails the removal of brush by the use of mechanical cutter, chopper or other light equipment in order to reduce fuel loading and improve ecological site condition. Brush density has exceeded desired levels based on ecological site potential. It has been determined that the brush is a infestation. Typical unit is 40 acres.

Before Situation: Area consist of excessive stands of shrub species degrading health and vigor of native herbaceous species promoting noxious and invasive species and degrading wildlife habitat.

After Situation: Woody species are removed to achieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site condition is progressing in an upward trend, hydrology and plant health and vigor is returning to near normal levels, and improved wildlife habitat.

Scenario Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 40

Total Scenario Cost: \$1,629.96

Scenario Cost/Unit: \$40.75

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.70	12	\$272.41
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Equipment Installation

Mechanical cutter, chopper	943	Forestry mulcher, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$84.38	12	\$1,012.56
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$19.39	2	\$38.77

Mobilization

Mobilization, small equipment	1138	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	\$153.11	2	\$306.22
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Scenario: #2 - Chemical, Spot

Scenario Description: This Practice is for the implementation of brush management on range, pasture or native pasture using spot or Individual Plant Treatment (IPT). The typical method of control is application of herbicides (basal or foliar location) on selected individual plants.

Before Situation: Brush species exceed desired levels resulting in degraded plant condition, loss of forage production, or degraded wildlife habitat. Densities of brush exceed levels indicated in the ecological site descriptions.

After Situation: Brush has been treated to a level which results in improved plant condition, forage production, or wildlife habitat. The typical method of control is application of herbicides (basal or foliar location) on selected individual plants.

Scenario Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 40

Total Scenario Cost: \$2,236.15

Scenario Cost/Unit: \$55.90

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Materials

Herbicide, Surfactant	1095	Surfactants reduce the surface tension of water to produce more uniform coverage and penetration of herbicides, and weed killers. Paraffin Based Petroleum Surfactant. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$1.30	40	\$51.82
Herbicide, Triclopyr	338	Refer to WIN-PST for product names and active ingredients. Materials and shipping	Acre	\$42.30	40	\$1,691.95

Equipment Installation

All terrain vehicles, ATV	965	Includes equipment, power unit and labor costs.	Hour	\$29.08	4	\$116.32
Chemical, spot treatment, single stem application	964	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$52.89	4	\$211.57
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$19.39	2	\$38.77

Mobilization

Mobilization, very small equipment	1137	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$62.86	2	\$125.72
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Scenario: #3 - Chemical, Ground Applied, Light

Scenario Description: Apply brush management on 40 acres of pasture thru the use of broadcast application of material using low cost chemical(s) to reduce or remove undesirable deciduous species (brush) in uplands and other areas not in or directly adjacent to streams, ponds, or wetlands. Light competition is defined as woody brush stocking less than 100 stems per acre or height less than 12 inches. .

Before Situation: Plant, animal, or wildlife resource concerns associated with uplands and other areas not in or adjacent to stream, ponds, or wetland on pasture which are adversely affected by brush.

After Situation: A 40 acre unit of pasture where reduction or removal of undesirable deciduous species have been accomplished by broadcast or spot treatment chemical application to address plant, animal, and wildlife resource concerns.

Scenario Feature Measure: Acres planned

Scenario Unit: Acre

Scenario Typical Size: 40

Total Scenario Cost: \$813.21

Scenario Cost/Unit: \$20.33

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Materials

Herbicide, 2,4-D	330	Broadleaf herbicide labeled for cropland and pasture. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$6.92	40	\$276.62
Herbicide, Surfactant	1095	Surfactants reduce the surface tension of water to produce more uniform coverage and penetration of herbicides, and weed killers. Paraffin Based Petroleum Surfactant. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$1.30	40	\$51.82

Equipment Installation

Chemical, ground application	948	Chemical application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$5.46	40	\$218.35
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$19.39	2	\$38.77

Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$227.64	1	\$227.64
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Scenario: #4 - Chemical, Ground Applied, Medium

Scenario Description: Apply brush management on 40 acres of pasture thru the use of broadcast application of material using medium cost chemical(s) to reduce or remove undesirable deciduous species (brush) in uplands and other areas not in or directly adjacent to streams, ponds, or wetlands. Medium competition is defined as woody brush stocking between 100 to 300 per acre or height less than 36 inches.

Before Situation: Plant, animal, or wildlife resource concerns associated with uplands and other areas not in or adjacent to stream, ponds, or wetland on pasture which are adversely affected by brush.

After Situation: A 40 acre unit of pasture where reduction or removal of undesirable deciduous species have been accomplished by broadcast or spot treatment chemical application to address plant, animal, and wildlife resource concerns.

Scenario Feature Measure: Acres planned

Scenario Unit: Acre

Scenario Typical Size: 40

Total Scenario Cost: \$1,564.04

Scenario Cost/Unit: \$39.10

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Materials

Herbicide, 2,4-D	330	Broadleaf herbicide labeled for cropland and pasture. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$6.92	40	\$276.62
Herbicide, Picloram	337	Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$18.77	40	\$750.83
Herbicide, Surfactant	1095	Surfactants reduce the surface tension of water to produce more uniform coverage and penetration of herbicides, and weed killers. Paraffin Based Petroleum Surfactant. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$1.30	40	\$51.82

Equipment Installation

Chemical, ground application	948	Chemical application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$5.46	40	\$218.35
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$19.39	2	\$38.77

Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$227.64	1	\$227.64
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Scenario: #5 - Chemical, Ground Applied, Heavy

Scenario Description: Apply brush management on 40 acres of pasture thru the use of broadcast application of material using high cost chemical(s) to reduce or remove undesirable deciduous species (brush) in uplands and other areas not in or directly adjacent to streams, ponds, or wetlands. Heavy competition is defined as woody brush stocking more than 300 stems per acre or height greater than 48 inches.

Before Situation: Plant, animal, or wildlife resource concerns associated with uplands and other areas not in or adjacent to stream, ponds, or wetland on pasture which are adversely affected by brush.

After Situation: A 40 acre unit of pasture where reduction or removal of undesirable deciduous species have been accomplished by broadcast or spot treatment chemical application to address plant, animal, and wildlife resource concerns.

Scenario Feature Measure: Acres planned

Scenario Unit: Acre

Scenario Typical Size: 40

Total Scenario Cost: \$2,442.39

Scenario Cost/Unit: \$61.06

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Materials

Herbicide, 2,4-D	330	Broadleaf herbicide labeled for cropland and pasture. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$6.92	40	\$276.62
Herbicide, Imazapyr	336	Pre and post-emergent, non-selective herbicide for control of undesirable vegetation in non-crop areas. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$40.73	40	\$1,629.18
Herbicide, Surfactant	1095	Surfactants reduce the surface tension of water to produce more uniform coverage and penetration of herbicides, and weed killers. Paraffin Based Petroleum Surfactant. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$1.30	40	\$51.82

Equipment Installation

Chemical, ground application	948	Chemical application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$5.46	40	\$218.35
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$19.39	2	\$38.77

Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$227.64	1	\$227.64
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Scenario: #7 - Forestry, Woody Control Using Broadcast Application of Chemical

Scenario Description: This scenario is a follow-up to mechanical site preparation. The site has a lot of undesirable hardwoods that can have a profusion of sprouts. This practice is a herbicide application to minimize the sprouts. The resource concerns include: Air Quality - airborne chemical drift; Plant Suitability - adaptability to the site; Plant Condition - plant health and vigor

Before Situation: An area that was recently mechanically site prepared has the potential for significant and undesirable woody sprouts. The area needs woody vegetation control to favor the desirable plant species and this will be accomplished using herbicides. The herbicide(s) can be applied by aerial, ground broadcast or ground individual stems. The specific herbicide needs to be determined based upon the species comprising the woody vegetation to remove or control.

After Situation: The typical size of the tract is 40 acres, however, larger and smaller acreages do occur. Once the practice has been installed, the number of undesirable woody plants will be reduced and the desirable plant species will be visible and free to grow.

Scenario Feature Measure: acres

Scenario Unit: Acre

Scenario Typical Size: 40

Total Scenario Cost: \$5,177.20

Scenario Cost/Unit: \$129.43

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.70	16	\$363.22
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	\$22.04	16	\$352.69
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$28.79	16	\$460.71
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	\$39.85	4	\$159.39

Materials

Herbicide, Glyphosate	334	A broad-spectrum, non-selective systemic herbicide. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$15.93	10	\$159.26
Herbicide, Imazapyr	336	Pre and post-emergent, non-selective herbicide for control of undesirable vegetation in non-crop areas. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$40.73	10	\$407.30
Herbicide, Sulfometuron & metsulfuron	344	A residual sulfonylurea herbicide that kills broadleaf weeds and some annual grasses. It is a systemic compound with foliar and soil activity. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$22.61	10	\$226.13
Herbicide, Sulfometuron-methyl	340	Used for the control of annual and perennial grasses and broad leaved weeds in non-crop land. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$38.78	10	\$387.81
Herbicide, Surfactant	1095	Surfactants reduce the surface tension of water to produce more uniform coverage and penetration of herbicides, and weed killers. Paraffin Based Petroleum Surfactant. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$1.30	10	\$12.96
Herbicide, Triclopyr	338	Refer to WIN-PST for product names and active ingredients. Materials and shipping	Acre	\$42.30	10	\$422.99

Equipment Installation

All terrain vehicles, ATV	965	Includes equipment, power unit and labor costs.	Hour	\$29.08	8	\$232.64
Chemical, ground application	948	Chemical application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$5.46	40	\$218.35
Chemical, spot treatment, single stem application	964	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$52.89	20	\$1,057.83
Tractor, agricultural, 120 HP	962	Agricultural tractor with horsepower range of 90 to 140. Equipment and power unit costs. Labor not included.	Hour	\$51.34	8	\$410.76
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$19.39	4	\$77.54

Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$227.64	1	\$227.64
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