

**Practice: 647 - Early Successional Habitat Development and Management**

**Scenario: #1 - Mowing**

**Scenario Description:**

This scenario address inadequate habitat for fish and wildlife where setting back succession by mowing incoming woody species will improve habitat for the target species. Mowing can be used to increase structural diversity by creating areas of shorter vegetation preferred by some species or certain life stages of species. The typical setting for this scenario is woodlands and shrublands at the edge of crop fields, in pastures, hayland, at the edge of woodlands or brushy areas, and in odd areas such as pivot corners. Where chemical control of weeds, including invasives, is required to reduce competition for the desired plant community conservation practice 315 herbaceous weed control should be used. Where the seedbank is inadequate for natural regeneration and seeding is required use conservation practice 327 Conservation Cover.

**Before Situation:**

The site is static or trending to later successional plant community. The disturbance regime to maintain an earlier successional plant community is lacking. Pastures are often monotypic, lacking in diversity. Competition for sunlight from dense grass stands prevents seedling establishment. Stands are often dense and inhibit the movements of young wildlife such as game bird chicks. Area lacks diversity in the height of vegetation.

**After Situation:**

Early successional habitat maintained. Mowing has provided more sun light for forb establishment. The heterogeneity of the habitat structure has been increased.

**Scenario Feature Measure:** width and length of treated area

**Scenario Unit:** Acres

**Scenario Typical Size:** 2

**Scenario Cost:** \$472.29

**Scenario Cost/Unit:** \$236.15

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Mower, Bush Hog	940	Equipment and power unit costs. Labor not included.	Hour	\$50.29	4	\$201.16
<b>Labor</b>						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$24.86	4	\$99.44
<b>Mobilization</b>						
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	\$171.69	1	\$171.69

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**Scenario: #2 - Light Brush hogging**

**Scenario Description:**

This scenario address inadequate habitat for wildlife where setting back succession by mowing incoming woody species will improve habitat for the target species. Brush hogging can be used to increase structural diversity by creating areas of shorter vegetation while maintaining brushy beneficial areas preferred by some species or certain life stages of species. The typical setting for this scenario is old fields.

**Before Situation:**

Describe the setting where the practice will be installed.

The site is lacking vertical and horizontal diversity and trending to later successional plant community. The disturbance regime to maintain an earlier successional plant community is lacking or is being implemented improperly or during the prime nesting period.

**After Situation:**

The field has been improved through better timed and implemented management to create a vertically and horizontally diverse habitat for species of concern providing necessary cover and nesting/rearing habitat.

**Scenario Feature Measure:** Acre

**Scenario Unit:** Acre

**Scenario Typical Size:** 5

**Scenario Cost:** \$547.44

**Scenario Cost/Unit:** \$109.49

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Mower, Bush Hog	940	Equipment and power unit costs. Labor not included.	Hour	\$50.29	5	\$251.45
<b>Labor</b>						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$24.86	5	\$124.30
<b>Mobilization</b>						
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	\$171.69	1	\$171.69

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**Scenario: #3 - Hand Cutting with Chainsaw**

**Scenario Description:**

Using a brush saw and/or chainsaw to clear woody vegetation on pasture or wildlife openings that is 1 to 3" or less in diameter on ground with poor access and/or that is too steep or rocky for rotary mowing. Typical rate 1 acre per day.

**Before Situation:**

The site is static or trending to later successional plant community. The disturbance regime to maintain an earlier successional plant community is lacking. Area lacks diversity in the height of vegetation. Early successional wildlife are leaving the area.

**After Situation:**

Early successional habitat maintained. Clearing has provided more light for early successional vegetation reestablishment. The heterogeneity of the habitat structure has been increased. The early successional wildlife are returning.

**Scenario Feature Measure:** width and length of treated area

**Scenario Unit:** Acre

**Scenario Typical Size:** 2

**Scenario Cost:** \$1,535.69

**Scenario Cost/Unit:** \$767.85

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	\$6.23	32	\$199.36
Brush Chipper, 6" capacity	938	Brush Chipper, 6" capacity, typically 35 HP. Includes chipper and power unit. Labor not included.	Hour	\$21.88	8	\$175.04
<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	\$24.74	40	\$989.60
<b>Mobilization</b>						
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	\$171.69	1	\$171.69

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**Scenario: #4 - Mowing with foregone income**

**Scenario Description:**

This scenario address inadequate habitat for fish and wildlife where setting back succession by delayed mowing incoming woody species will improve habitat for the target species. Mowing can be used to increase structural diversity by creating areas of shorter vegetation preferred by some species or certain life stages of species. The typical setting for this scenario is in hay fields, in pastures, at the edge of woodlands or brushy areas, and in odd areas such as pivot corners.

**Before Situation:**

The site is static or trending to later successional plant community. The disturbance regime to maintain an earlier successional plant community is lacking. Pastures are often monotypic, lacking in diversity. Competition for sunlight from dense grass stands prevents seedling establishment. Stands are often dense and inhibit the movements of young wildlife such as game bird chicks. Area lacks diversity in the height of vegetation.

**After Situation:**

Early successional habitat maintained. Mowing has provided more sun light for forb establishment. The heterogeneity of the habitat structure has been increased.

**Scenario Feature Measure:** width and length of treated area

**Scenario Unit:** Acres

**Scenario Typical Size:** 5

**Scenario Cost:** \$473.59

**Scenario Cost/Unit:** \$94.72

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Mower, Bush Hog	940	Equipment and power unit costs. Labor not included.	Hour	\$50.29	3	\$150.87
<b>Foregone Income</b>						
FI, Grazing AUMs	2079	Grazing is the Primary Land Use	AUM	\$15.29	5	\$76.45
<b>Labor</b>						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$24.86	3	\$74.58
<b>Mobilization</b>						
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	\$171.69	1	\$171.69

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**Scenario: #5 - Light Mechanical**

**Scenario Description:**

Practice to be used in old fields and forests where size class is 2 inches DBH or less. Control is achieved with a brontosaurus, Davco mower, gyrotrac or other mechanical means.

**Before Situation:**

Area is reverting to forest from early successional. Mechanical treatment is needed to control woody vegetation. Wildlife needing early successional habitat is leaving the area.

**After Situation:**

Appropriate habitat is restored and wildlife needing early successional habitat is able to return.

**Scenario Feature Measure:** acre

**Scenario Unit:** Acre

**Scenario Typical Size:** 20

**Scenario Cost:** \$10,165.39

**Scenario Cost/Unit:** \$508.27

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Mechanical cutter, chopper	943	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$127.16	60	\$7,629.60
<b>Labor</b>						
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	\$34.14	60	\$2,048.40
<b>Mobilization</b>						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$487.39	1	\$487.39

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**Scenario: #6 - Medium Mechanical**

**Scenario Description:**

Practice to be used in old fields and forests where size class is between 2 inches and 4 inches DBH. Control is achieved with a brontosaurus, Davco mower, gyrotrac or other mechanical means and takes more time per acre.

**Before Situation:**

Area is reverting to pole sized forest from early successional. Mechanical treatment is needed to control woody vegetation. Wildlife needing early successional habitat is leaving the area.

**After Situation:**

Appropriate habitat is restored and wildlife needing early successional habitat is able to return.

**Scenario Feature Measure:** acre of treatment

**Scenario Unit:** Acre

**Scenario Typical Size:** 10

**Scenario Cost:** \$9,018.59

**Scenario Cost/Unit:** \$901.86

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Mechanical cutter, chopper	943	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$127.16	50	\$6,358.00
Brush Chipper, 6" capacity	938	Brush Chipper, 6" capacity, typically 35 HP. Includes chipper and power unit. Labor not included.	Hour	\$21.88	10	\$218.80
<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	\$24.74	10	\$247.40
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	\$34.14	50	\$1,707.00
<b>Mobilization</b>						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$487.39	1	\$487.39

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**Scenario: #7 - Heavy Mechanical low intensity cut**

**Scenario Description:**

A moderately forested area greater than 4 inches DBH is cut to achieve early successional vegetation. Control is achieved with a brontosaurus or other mechanical means. Land has low saw timber value and limited firewood capability and low stocking rates.

**Before Situation:**

Area is completely forested. Mechanical treatment is needed to control woody vegetation. Wildlife needing early successional habitat has left the area.

**After Situation:**

Appropriate habitat is restored and wildlife needing early successional habitat is able to return.

**Scenario Feature Measure:** acrea treated

**Scenario Unit:** Acre

**Scenario Typical Size:** 10

**Scenario Cost:** \$12,184.58

**Scenario Cost/Unit:** \$1,218.46

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<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	\$123.10	20	\$2,462.00
Mechanical cutter, chopper	943	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$127.16	50	\$6,358.00
<b>Labor</b>						
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	\$34.14	70	\$2,389.80
<b>Mobilization</b>						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$487.39	2	\$974.78

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**Scenario: #8 - Heavy Mechanical High intensity cut**

**Scenario Description:**

A heavily forested area is cut to achieve early successional vegetation. Control is achieved with a brontosaurus or other mechanical means. Land has limited saw timber or firewood value. Trees are larger than 6 inches DBH and stocking rates are less than desirable.

**Before Situation:**

Area is completely forested. Mechanical treatment is needed to control woody vegetation. Wildlife needing early successional habitat has left the area.

**After Situation:**

Appropriate habitat is restored and wildlife needing early successional habitat is able to return.

**Scenario Feature Measure:** acrea treated

**Scenario Unit:** Acre

**Scenario Typical Size:** 10

**Scenario Cost:** \$18,806.90

**Scenario Cost/Unit:** \$1,880.69

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<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	\$123.10	20	\$2,462.00
Mechanical cutter, chopper	943	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$127.16	90	\$11,444.40
<b>Labor</b>						
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	\$34.14	110	\$3,755.40
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	\$42.58	4	\$170.32
<b>Mobilization</b>						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$487.39	2	\$974.78