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 prefered 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 regeme 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 successsional 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: $482.53 **Scenario Cost/Unit:** $241.27

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Mower, Bush Hog	940	Equipment and power unit costs. Labor not included.	Hour	$52.17	4	$208.68
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12”, Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$24.30	4	$97.20
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	$176.65	1	$176.65

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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 benefiicial areas prefered 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 regeme 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 managmeent 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: $559.00 **Scenario Cost/Unit:** $111.80

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Mower, Bush Hog	940	Equipment and power unit costs. Labor not included.	Hour	$52.17	5	$260.85
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$24.30	5	$121.50
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	$176.65	1	$176.65

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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 regeme 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 successsional habitat maintained. Colearing has provided more light for early successional vetetation 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: $2,024.49 **Scenario Cost/Unit:** $1,012.25

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	$6.46	32	$206.72
Brush Chipper, 6" capacity	938	Brush Chipper, 6" capacity, typically 35 HP. Includes chipper and power unit. Labor not included.	Hour	$22.70	8	$181.60
Labor						
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	$24.48	8	$195.84
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	$39.49	32	$1,263.68
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	$176.65	1	$176.65

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Scenario: #4 - Mowing with foregone income

Scenario Description:

This scenario address inadequate habitat for fish and wildlife where harvesting a crop by delayed mowing/grazing will improve habitat for the target species. Delay in the mowing allows grass nesting species time to raise their young. Mowing is generally not permitted from April 15 to August 1. The typical setting for this scenario is in quality hay fields and pastures.

Before Situation:

The site is a productive hay field or pasture. Grassland birds attempt to nest in the crop but are disturbed by mowing/grazing before the young are old enough to leave the nest. Mortality is high and affects the population of birds in the area.

After Situation:

Mowing of the hay field/pasture is delayed until the young are grown and able to escape (August 1). Careful mowing allows all animals to escape to the field edges.

Scenario Feature Measure: acres delayed

Scenario Unit: Acres

Scenario Typical Size: 5

Scenario Cost: $791.81 **Scenario Cost/Unit:** $158.36

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Mower, Bush Hog	940	Equipment and power unit costs. Labor not included.	Hour	$52.17	3	$156.51
Foregone Income						
FI, Grazing AUMs	2079	Grazing is the Primary Land Use	AUM	$15.43	25	$385.75
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12”, Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$24.30	3	$72.90
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	$176.65	1	$176.65

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Scenario: #5 - Light Mechanical Early Successional Habitat

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: $10,438.05 **Scenario Cost/Unit:** $521.90

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Mechanical cutter, chopper	943	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	$131.92	60	$7,915.20
Labor						
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	$33.69	60	$2,021.40
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	$501.45	1	$501.45

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Scenario: #6 - Medium Mechanical Early Successsional Habitat

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. For New England Cottontail projects - Sufficient amounts of course and fine woody debris will be left behind as protection for wildlife and regeneration.

Scenario Feature Measure: acre of treatment

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: $9,253.75 **Scenario Cost/Unit:** $925.38

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Mechanical cutter, chopper	943	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	$131.92	50	$6,596.00
Brush Chipper, 6" capacity	938	Brush Chipper, 6" capacity, typically 35 HP. Includes chipper and power unit. Labor not included.	Hour	$22.70	10	$227.00
Labor						
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	$24.48	10	$244.80
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	$33.69	50	$1,684.50
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	$501.45	1	$501.45

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Scenario: #7 - Heavy Mechanical low intensity cut (Lg Patch 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. For New England Cottontail projects - Sufficient amounts of course and fine woody debris will be left behind as protection for wildlife and regeneration.

Scenario Feature Measure: acrea treated

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: $12,511.20 **Scenario Cost/Unit:** $1,251.12

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Mechanical cutter, chopper	943	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	$131.92	50	$6,596.00
Dozer, 140 HP	927	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	$127.70	20	$2,554.00
Labor						
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	$33.69	70	$2,358.30
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	$501.45	2	$1,002.90

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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. For New England Cottontail projects - Sufficient amounts of course and fine woody debris will be left behind as protection for wildlife and regeneration.

Scenario Feature Measure: acrea treated

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: $19,298.88 **Scenario Cost/Unit:** $1,929.89

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Mechanical cutter, chopper	943	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	$131.92	90	$11,872.80
Dozer, 140 HP	927	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	$127.70	20	$2,554.00
Labor						
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	$40.82	4	$163.28
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	$33.69	110	$3,705.90
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	$501.45	2	$1,002.90