

**Practice: 666 - Forest Stand Improvement**

**Scenario # 1 Forest Stand Improvement - Single stem-Hand tools**

**Scenario Description:**

**Louisiana**

Adjust species composition and/or density of a stand of trees to meet objectives. The operation is carried out using hand tools such as chainsaws, weed eaters with saw blades, or machetes. Species that do NOT sprout are targeted (i.e. cedar and pine). This scenerio is NOT appropriate to target species that sprout. Resource concerns can include: Forage Quality and Palatability, Noxious and Invasive Plants, Plants not adapted or suited, Productivity, Health and Vigor, Wildfire Hazard, Inadequate Cover/Shelter, Inadequate Quantities and Quality of Feed and Forage, Excessive Greenhouse Gas - CO2 (carbon dioxide), or Classic Gully.

**Before Practice Situation:**

The density and/or species composition of a stand of trees is inconsistent with desired objectives. The stand could have poor health and vigor because of overstocking or undesirable species to be compatible with objectives for timber, wildlife, or aesthetics.

**After Practice Situation:**

Density and/or species composition of the stand is consistent with desired objectives. Stand will have good health and vigor with desirable species.

**Scenario Feature Measure:**

Area treated

<b>Scenario Typical Size:</b>	40	Acre	Unit Cost	\$198.26
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Chainsaw	160	Hour	\$4.85	\$776.00
Labor	Specialist Labor	40	Hour	\$75.80	\$3,032.00
Labor	General Labor	160	Hour	\$18.57	\$2,971.20
Mobilization	Mobilization, Specialist Labor	10	Hour	\$78.06	\$780.60
Mobilization	Mobilization, General labor	20	Hour	\$18.52	\$370.40
				Total Cost:	\$7,930.20

**Practice: 666 - Forest Stand Improvement**

**Scenario # 2 Forest Stand Improvement - Single Stem - Chemical**

Scenario Description:

Louisiana

Adjust species composition and/or density of a stand of trees to meet objectives. The operation is carried out using hand tools with chemical treatment such as cut stump treatment, hack and squirt, basal spray. or back pack spray. Species that sprout are targeted (i.e. oak, hickory, elm, etc.). This scenerio is NOT appropriate to target species that DO NOT sprout. Resource concerns can include: Forage Quality and Palatability, Noxious and Invasive Plants, Plants not adapted or suited, Productivity, Health and Vigor, Wildfire Hazard, Inadequate Cover/Shelter, Inadequate Quantities and Quality of Feed and Forage, Excessive Greenhouse Gas - CO2 (carbon dioxide), or Classic Gully.

**Before Practice Situation:**

The existing condition of the stand cannot meet the landowners objectives because the composition consists of unwanted species and the stocking exceeds the recommended level.

**After Practice Situation:**

The composition of the stand can meet the landowners objectives and the growth, condition and quality of the remaining trees is improved.

**Scenario Feature Measure:**

Acres treated

<b>Scenario Typical Size:</b>	40	Acres	Unit Cost	\$204.34
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Herbicide, Picloram	40	Acre	\$12.63	\$505.20
Equip./Install.	Chemical, spot treatment, single stem application	110	Hour	\$55.87	\$6,145.70
Labor	Specialist Labor	10	Hour	\$75.80	\$758.00
Mobilization	Mobilization, Specialist Labor	6	Hour	\$78.06	\$468.36
Mobilization	Mobilization, General labor	16	Hour	\$18.52	\$296.32
				Total Cost:	\$8,173.58

**Practice: 666 - Forest Stand Improvement**

**Scenario # 3 Forest Stand Improvement - Chemical-Ground-Heavy Equipment**

Louisiana

**Scenario Description:**

Using ground applied herbicides to release young desirable trees from competing and/or overtopping vegetation using ground-based machinery (dozers or skidders and NOT typical farm equipment). Typical sites include forestland with terrain too rough and uneven or vegetation too big or thick to be sprayed with normal farm equipment. Resource concerns can include: Forage Quality and Palatability, Noxious and Invasive Plants, Plants not adapted or suited, Productivity, Health and Vigor, Wildfire Hazard, Inadequate Cover/Shelter, Inadequate Quantities and Quality of Feed and Forage, Excessive Greenhouse Gas - CO2 (carbon dioxide), or Classic Gully.

**Before Practice Situation:**

An adequately stocked stand of desirable species is not meeting objective due to undesirable vegetation. If left uncontrolled, undesirable vegetation will inhibit desired species. Noxious and invasive species may also be present on the site. Application of herbicides will be by ground equipment as an over-the-top spray.

**After Practice Situation:**

The released stand of trees contains the composition and quality needed to meet the landowner's objectives and address the resource concerns.

**Scenario Feature Measure:**

Acres treated

<b>Scenario Typical Size:</b>	40	Acre	Unit Cost	\$210.51
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Herbicide, Surfactant	40	Acre	\$1.09	\$43.60
Materials	Herbicide, Imazapyr	40	Acre	\$79.31	\$3,172.40
Equip./Install.	Log skidder	32	Hour	\$105.88	\$3,388.16
Labor	Equipment Operators, Heavy	32	Hour	\$25.62	\$819.84
Labor	General Labor	32	Hour	\$18.57	\$594.24
Mobilization	Mobilization, large equipment	1	Each	\$249.71	\$249.71
Mobilization	Mobilization, Heavy Equipment Operator	6	Hour	\$25.38	\$152.28
				<b>Total Cost:</b>	<b>\$8,420.23</b>

**Practice: 666 - Forest Stand Improvement**

**Scenario # 4 Forest Stand Improvement - Chemical, Aerial**

**Scenario Description:**

**Louisiana**

Using aeri ally applied chemicals to release desirable trees from competing and/or overtopping vegetation. Resource concerns can include: Forage Quality and Palatability, Noxious and Invasive Plants, Plants not adapted or suited, Productivity, Health and Vigor, Wildfire Hazard, Inadequate Cover/Shelter, Inadequate Quantities and Quality of Feed and Forage, Excessive Greenhouse Gas - CO2 (carbon dioxide), or Classic Gully.

**Before Practice Situation:**

An adequately stocked stand of desirable species and trees is not growing to its potential for the site due to severe competition from undesirable trees and brush. Releasing the desirable trees from the competition will be achieved through the application of appropriate herbicides according to label directions. Application will be by helicopter as an over-the-top spray. The work will be professionally planned and supervised.

**After Practice Situation:**

The released stand of trees contains the composition and quality needed to meet the landowner's objectives and address the resource concerns.

**Scenario Feature Measure:**

Area treated

<b>Scenario Typical Size:</b>	40	Acre	Unit Cost	\$123.66
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Herbicide, Surfactant	40	Acre	\$1.09	\$43.60
Materials	Herbicide, Imazapyr	40	Acre	\$79.31	\$3,172.40
Equip./Install.	Chemical, aerial application, helicopter	40	Acre	\$29.58	\$1,183.20
Labor	General Labor	8	Hour	\$18.57	\$148.56
Labor	Supervisor or Manager	8	Hour	\$36.21	\$289.68
Mobilization	Mobilization, General labor	2	Hour	\$18.52	\$37.04
Mobilization	Mobilization, Supervisor or Manager	2	Hour	\$35.87	\$71.74
				Total Cost:	\$4,946.22

**Practice: 666 - Forest Stand Improvement**

**Scenario # 5 Forest Stand Improvement- Mechanical, Light Equipment**

**Scenario Description:**

**Louisiana**

Using light equipment (typically tractors used in normal farming operations) to control undesirable vegetation (disk or bush hog) competing with desirable species. Resource concerns can include: Forage Quality and Palatability, Noxious and Invasive Plants, Plants not adapted or suited, Productivity, Health and Vigor, Wildfire Hazard, Inadequate Cover/Shelter, Inadequate Quantities and Quality of Feed and Forage, Excessive Greenhouse Gas - CO2 (carbon dioxide), or Classic Gully.

**Before Practice Situation:**

A stand of young, desirable trees is adversely affected by competition either from undesirable species or because the stand is overstocked. The vegetation to be controlled is small enough that it can be mowed or shredded. The work can be done by mowing or shredding strips through the stand, mowing between planted rows, etc.

**After Practice Situation:**

After adjusting the stocking to an acceptable level and/or controlling the competing vegetation, stand growth, condition, and overall quality is improved. In addition, wildlife habitat is improved with the resulting increase of sunlight reaching the forest floor.

**Scenario Feature Measure:**

Area Treated

**Scenario Typical Size:**

40	Acre	Unit Cost	\$52.14
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Mower, Bush Hog	32	Hour	\$38.21	\$1,222.72
Labor	Equipment Operators, Light	32	Hour	\$19.22	\$615.04
Mobilization	Mobilization, Light Equipment Operator	6	Hour	\$19.04	\$114.24
Mobilization	Mobilization, medium equipment	1	Each	\$133.51	\$133.51
				Total Cost:	\$2,085.51

**Practice: 666 - Forest Stand Improvement**

**Scenario # 6 Forest Stand Improvement- Mechanical, Medium Equipment**

**Scenario Description:**

**Louisiana**

Using medium equipment (usually hydroax & not typical farming equipment) to control undesirable competing vegetation that is competing with desirable species or to reduce the stocking level of a stand of desirable trees too big to be mowed with a bush hog. Resource concerns can include: Forage Quality and Palatability, Noxious and Invasive Plants, Plants not adapted or suited, Productivity, Health and Vigor, Wildfire Hazard, Inadequate Cover/Shelter, Inadequate Quantities and Quality of Feed and Forage, Excessive Greenhouse Gas - CO2 (carbon dioxide), or Classic Gully.

**Before Practice Situation:**

A stand of desirable trees is adversely affected by competition either from undesirable species, cull trees, or because the stand is overstocked. The vegetation to be controlled is too large to be mowed.

**After Practice Situation:**

The released stand of trees contains the composition and quality needed to meet the landowner's objectives and address the resource concerns.

**Scenario Feature Measure:**

Area treated

<b>Scenario Typical Size:</b>	40	Acre	Unit Cost	\$130.99
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Brush Chipper, 6" capacity	80	Hour	\$15.80	\$1,264.00
Labor	Specialist Labor	10	Hour	\$75.80	\$758.00
Labor	Equipment Operators, Heavy	80	Hour	\$25.62	\$2,049.60
Mobilization	Mobilization, Specialist Labor	10	Hour	\$78.06	\$780.60
Mobilization	Mobilization, medium equipment	1	Each	\$133.51	\$133.51
Mobilization	Mobilization, Heavy Equipment Operator	10	Hour	\$25.38	\$253.80
				<b>Total Cost:</b>	<b>\$5,239.51</b>

**Practice: 666 - Forest Stand Improvement**

**Scenario # 7 Forest Stand Improvement - Mechanical, Heavy Equipment**

**Scenario Description:**

**Louisiana**

Using heavy equipment (usually bull dozers, masticator, or mulcher & not typical farming equipment) to control undesirable competing vegetation that is competing with desirable species or to reduce the stocking level of a stand of desirable trees too big to be mowed. Resource concerns can include: Forage Quality and Palatability, Noxious and Invasive Plants, Plants not adapted or suited, Productivity, Health and Vigor, Wildfire Hazard, Inadequate Cover/Shelter, Inadequate Quantities and Quality of Feed and Forage, Excessive Greenhouse Gas - CO2 (carbon dioxide), or Classic Gully.

**Before Practice Situation:**

A stand of desirable trees is adversely affected by competition either from undesirable species, cull trees, or because the stand is overstocked. The vegetation to be controlled is too large to be mowed or shredded. Therefore other mechanical methods such as using masticators or mulchers is necessary.

**After Practice Situation:**

The released stand of trees contains the composition and quality needed to meet the landowner's objectives and address the resource concerns.

**Scenario Feature Measure:**

Area treated

<b>Scenario Typical Size:</b>	40	Acre	Unit Cost	\$379.69
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Mechanical cutter, chopper	110	Hour	\$105.88	\$11,646.80
Labor	Specialist Labor	15	Hour	\$75.80	\$1,137.00
Labor	Equipment Operators, Light	110	Hour	\$19.22	\$2,114.20
Mobilization	Mobilization, Specialist Labor	2	Hour	\$78.06	\$156.12
Mobilization	Mobilization, medium equipment	1	Each	\$133.51	\$133.51
				<b>Total Cost:</b>	<b>\$15,187.63</b>

**Practice: 666 - Forest Stand Improvement**

**Scenario # 8 Forest Stand Improvement - Chemical-Ground-Light Equipment**

**Scenario Description:**

**Louisiana**

Using ground applied herbicides to release young desirable trees from competing and/or overtopping vegetation using ground-based machinery (typical farm equipment). Typical sites include abandoned fields, pastures, or agricultural fields. Resource concerns can include: Forage Quality and Palatability, Noxious and Invasive Plants, Plants not adapted or suited, Productivity, Health and Vigor, Wildfire Hazard, Inadequate Cover/Shelter, Inadequate Quantities and Quality of Feed and Forage, Excessive Greenhouse Gas - CO2 (carbon dioxide), or Classic Gully.

**Before Practice Situation:**

An adequately stocked stand of desirable species is not meeting objective due to undesirable vegetation. If left uncontrolled, undesirable vegetation will inhibit desired species. Noxious and invasive species may also be present on the site. Application of herbicides will be by ground equipment as an over-the-top spray.

**After Practice Situation:**

The released stand of trees contains the composition and quality needed to meet the landowner's objectives and address the resource concerns.

**Scenario Feature Measure:**

Acres treated

**Scenario Typical Size:**

40	Acre	Unit Cost	\$93.08
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Herbicide, Surfactant	40	Acre	\$1.09	\$43.60
Materials	Herbicide, Imazapyr	40	Acre	\$79.31	\$3,172.40
Equip./Install.	Chemical, ground application	40	Acre	\$3.93	\$157.20
Labor	Supervisor or Manager	4	Hour	\$36.21	\$144.84
Mobilization	Mobilization, medium equipment	1	Each	\$133.51	\$133.51
Mobilization	Mobilization, Supervisor or Manager	2	Hour	\$35.87	\$71.74
				Total Cost:	\$3,723.29