## Practice: 391 - Riparian Forest Buffer

**Scenario # 1** **Bare-root, hardwood and shrubs**

**Scenario Description:** **Louisiana**

Establish a buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of hand planted bare-root shrubs and deciduous trees. Generally, planting for shrubs will be done at 6' x 6' spacing and deciduous tree spacing at 12' x 12'; however, other spacings may be used depending on the objective. Resource concerns to be addressed are Soil Erosion - excessive bank erosion; Water Quality - excess sediment and organics in surface waters and elevated temperature; Degraded Plant Condition - inadequate structure and composition; and Inadequate Habitat for Fish and Wildlife - habitat degradation.

**Before Practice Situation:**

Typical sites include former riparian forests and habitat used for forage, cropland, speculation property, or other nonforest condition which contains undesirable amounts or types of vegetation. Active bank erosion is depositing sediment, nutrients and organics in the riparian area. Water temperature is high due to lack of shade. Habitat is not desirable for wildlife.

**After Practice Situation:**

A buffer of trees and shrubs will be established along the riparian corridor which will provide stability, filtration, shade, and desirable habitat to address the above mentioned resource concerns.

**Scenario Feature Measure:**

Number planted

| **Scenario Typical Size:** | 2000 | Each | Unit Cost | $0.76 |
|---|---|---|---|---|

| Cost Category | Component Name | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|---|
| Materials | Tree, hardwood, seedling or transplant, bare root, 6-18" | 1000 | Each | $0.25 | $250.00 |
| Materials | Shrub, seedling or transplant, bare root, 6-18" | 1000 | Each | $0.70 | $700.00 |
| Equip./Install. | Hand tools, tree planting | 10 | Hour | $9.44 | $94.40 |
| Equip./Install. | All terrain vehicles, ATV | 5 | Hour | $25.66 | $128.30 |
| Equip./Install. | Trailer, enclosed, small | 5 | Hour | $3.11 | $15.55 |
| Labor | General Labor | 10 | Hour | $18.57 | $185.70 |
| Mobilization | Mobilization, General labor | 2 | Hour | $18.52 | $37.04 |
| Mobilization | Mobilization, Material, distance > 50 miles | 100 | Dollar | $1.00 | $100.00 |
| | | | | Total Cost: | $1,510.99 |

**Practice: 391 - Riparian Forest Buffer**

**Scenario # 2** **Bare-root, hardwood only**

**Scenario Description:** **Louisiana**

Establish a buffer of hardwood trees into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of hand planted bare-root deciduous trees. Generall, tree spacing is 12' x 12'; however, other spacing may be used depending on the objectives. Resource concerns to be addressed are Soil Erosion - excessive bank erosion; Water Quality - excess sediment and organics in surface waters and elevated temperature; Degraded Plant Condition - inadequate structure and composition; and Inadequate Habitat for Fish and Wildlife - habitat degradation.

**Before Practice Situation:**

Typical sites include former riparian forests and habitat used for forage, cropland, speculation property, or other nonforest condition which contains undesirable amounts or types of vegetation. Active bank erosion is depositing sediment, nutrients and organics in the riparian area. Water temperature is high due to lack of shade. Habitat is not desirable for wildlife.

**After Practice Situation:**

A buffer of trees will be established along the riparian corridor which will provide stability, filtration, shade, and desirable habitat to address the above mentioned resource concerns.

**Scenario Feature Measure:**

Number planted

| **Scenario Typical Size:** | 1500 | Each | Unit Cost | $0.62 |
|---|---|---|---|---|

| Cost Category | Component Name | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|---|
| Materials | Tree, hardwood, seedling or transplant, bare root, 6-18" | 1500 | Each | $0.25 | $375.00 |
| Equip./Install. | Hand tools, tree planting | 10 | Hour | $9.44 | $94.40 |
| Equip./Install. | All terrain vehicles, ATV | 5 | Hour | $25.66 | $128.30 |
| Equip./Install. | Trailer, enclosed, small | 5 | Hour | $3.11 | $15.55 |
| Labor | General Labor | 10 | Hour | $18.57 | $185.70 |
| Mobilization | Mobilization, General labor | 2 | Hour | $18.52 | $37.04 |
| Mobilization | Mobilization, Material, distance > 50 miles | 100 | Dollar | $1.00 | $100.00 |
| | | | | Total Cost: | $935.99 |

**Practice: 391 - Riparian Forest Buffer**

**Scenario # 3** **Bare-root, hardwood and pine**

**Scenario Description:** **Louisiana**

Establish a buffer of hardwood and pine trees into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of hand planted bare-root pine and deciduous trees. Generally, planting spacing is at 12' x 12'; however, other spacing may be used depending on the objectives. Resource concerns to be addressed are Soil Erosion - excessive bank erosion; Water Quality - excess sediment and organics in surface waters and elevated temperature; Degraded Plant Condition - inadequate structure and composition; and Inadequate Habitat for Fish and Wildlife - habitat degradation.

**Before Practice Situation:**

Typical sites include former riparian forests and habitat used for forage, cropland, speculation property, or other nonforest condition which contains undesirable amounts or types of vegetation. Active bank erosion is depositing sediment, nutrients and organics in the riparian area. Water temperature is high due to lack of shade. Habitat is not desirable for wildlife.

**After Practice Situation:**

A buffer of trees will be established along the riparian corridor which will provide stability, filtration, shade, and desirable habitat to address the above mentioned resource concerns.

**Scenario Feature Measure:**

Number planted

| **Scenario Typical Size:** | 2000 | Each | Unit Cost | $0.44 |
|---|---|---|---|---|

| Cost Category | Component Name | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|---|
| Materials | Tree, hardwood, seedling or transplant, bare root, 6-18" | 1000 | Each | $0.25 | $250.00 |
| Materials | Tree, conifer, seedling, bare root, 1-0 | 1000 | Each | $0.06 | $60.00 |
| Equip./Install. | Hand tools, tree planting | 10 | Hour | $9.44 | $94.40 |
| Equip./Install. | All terrain vehicles, ATV | 5 | Hour | $25.66 | $128.30 |
| Equip./Install. | Trailer, enclosed, small | 5 | Hour | $3.11 | $15.55 |
| Labor | General Labor | 10 | Hour | $18.57 | $185.70 |
| Mobilization | Mobilization, General labor | 2 | Hour | $18.52 | $37.04 |
| Mobilization | Mobilization, Material, distance > 50 miles | 100 | Dollar | $1.00 | $100.00 |
| | | | | Total Cost: | $870.99 |

## Practice: 391 - Riparian Forest Buffer

**Scenario # 4** **Bare-root, hardwood and shrubs with foregone income from crops**

**Scenario Description:** **Louisiana**

Establish a buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of hand planted bare-root shrubs and deciduous trees. Generally, planting for shrubs will be done at 6' x 6' spacing and deciduous tree spacing at 12' x 12'; however, other spacings may be used depending on the objective. Resource concerns to be addressed are Soil Erosion - excessive bank erosion; Water Quality - excess sediment and organics in surface waters and elevated temperature; Degraded Plant Condition - inadequate structure and composition; and Inadequate Habitat for Fish and Wildlife - habitat degradation.

**Before Practice Situation:**

Typical sites include former riparian forests and habitat used for forage, cropland, speculation property, or other nonforest condition which contains undesirable amounts or types of vegetation. Active bank erosion is depositing sediment, nutrients and organics in the riparian area. Water temperature is high due to lack of shade. Habitat is not desirable for wildlife.

**After Practice Situation:**

A buffer of trees and shrubs will be established along the riparian corridor which will provide stability, filtration, shade, and desirable habitat to address the above mentioned resource concerns.

**Scenario Feature Measure:**

Area of planting

| **Scenario Typical Size:** | 5 | Acre | Unit Cost | $499.21 |
|---|---|---|---|---|

| Cost Category | Component Name | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|---|
| Materials | Shrub, seedling or transplant, bare root, 6-18" | 1000 | Each | $0.70 | $700.00 |
| Equip./Install. | Hand tools, tree planting | 10 | Hour | $9.44 | $94.40 |
| Equip./Install. | All terrain vehicles, ATV | 5 | Hour | $25.66 | $128.30 |
| Equip./Install. | Trailer, enclosed, small | 5 | Hour | $3.11 | $15.55 |
| Labor | General Labor | 10 | Hour | $18.57 | $185.70 |
| Mobilization | Mobilization, General labor | 2 | Hour | $18.52 | $37.04 |
| Mobilization | Mobilization, Material, distance > 50 miles | 100 | Dollar | $1.00 | $100.00 |
| Forgone Income | FI, Cotton Dryland | 5 | Acre | $197.01 | $985.05 |
| Materials | Tree, hardwood, seedling or transplant, bare root, 6-18" | 1000 | Each | $0.25 | $250.00 |
| | | | | Total Cost: | $2,496.04 |

## Practice: 391 - Riparian Forest Buffer

**Scenario # 5** **Bare-root, hardwood only with foregone income from crops**

**Scenario Description:** **Louisiana**

Establish a buffer of hardwood trees into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of hand planted bare-root deciduous trees. Generall, tree spacing is 12' x 12'; however, other spacing may be used depending on the objectives. Resource concerns to be addressed are Soil Erosion - excessive bank erosion; Water Quality - excess sediment and organics in surface waters and elevated temperature; Degraded Plant Condition - inadequate structure and composition; and Inadequate Habitat for Fish and Wildlife - habitat degradation.

**Before Practice Situation:**

Typical sites include former riparian forests and habitat used for forage, cropland, speculation property, or other nonforest condition which contains undesirable amounts or types of vegetation. Active bank erosion is depositing sediment, nutrients and organics in the riparian area. Water temperature is high due to lack of shade. Habitat is not desirable for wildlife.

**After Practice Situation:**

A buffer of trees will be established along the riparian corridor which will provide stability, filtration, shade, and desirable habitat to address the above mentioned resource concerns.

**Scenario Feature Measure:**

Area of planting

| **Scenario Typical Size:** | 5 | Acre | Unit Cost | $384.21 |
|---|---|---|---|---|

| Cost Category | Component Name | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|---|
| Materials | Tree, hardwood, seedling or transplant, bare root, 6-18" | 1500 | Each | $0.25 | $375.00 |
| Equip./Install. | Hand tools, tree planting | 10 | Hour | $9.44 | $94.40 |
| Equip./Install. | All terrain vehicles, ATV | 5 | Hour | $25.66 | $128.30 |
| Equip./Install. | Trailer, enclosed, small | 5 | Hour | $3.11 | $15.55 |
| Labor | General Labor | 10 | Hour | $18.57 | $185.70 |
| Mobilization | Mobilization, General labor | 2 | Hour | $18.52 | $37.04 |
| Mobilization | Mobilization, Material, distance > 50 miles | 100 | Dollar | $1.00 | $100.00 |
| Forgone Income | FI, Cotton Dryland | 5 | Acre | $197.01 | $985.05 |
| | | | | Total Cost: | $1,921.04 |

## Practice: 391 - Riparian Forest Buffer

**Scenario # 6** **Bare-root, hardwood and pine with foregone income from crops**

**Scenario Description:** **Louisiana**

Establish a buffer of hardwood and pine trees into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of hand planted bare-root pine and deciduous trees. Generally, planting spacing is at 12' x 12'; however, other spacing may be used depending on the objectives. Resource concerns to be addressed are Soil Erosion - excessive bank erosion; Water Quality - excess sediment and organics in surface waters and elevated temperature; Degraded Plant Condition - inadequate structure and composition; and Inadequate Habitat for Fish and Wildlife - habitat degradation.

**Before Practice Situation:**

Typical sites include former riparian forests and habitat used for forage, cropland, speculation property, or other nonforest condition which contains undesirable amounts or types of vegetation. Active bank erosion is depositing sediment, nutrients and organics in the riparian area. Water temperature is high due to lack of shade. Habitat is not desirable for wildlife.

**After Practice Situation:**

A buffer of trees will be established along the riparian corridor which will provide stability, filtration, shade, and desirable habitat to address the above mentioned resource concerns.

**Scenario Feature Measure:**

Area of planting

| **Scenario Typical Size:** | 5 | Acre | Unit Cost | $342.61 |
|---|---|---|---|---|

| Cost Category | Component Name | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|---|
| Materials | Tree, hardwood, seedling or transplant, bare root, 6-18" | 1000 | Each | $0.25 | $250.00 |
| Materials | Tree, conifer, seedling, bare root, 1-0 | 1000 | Each | $0.06 | $60.00 |
| Equip./Install. | Hand tools, tree planting | 10 | Hour | $9.44 | $94.40 |
| Equip./Install. | All terrain vehicles, ATV | 5 | Hour | $25.66 | $128.30 |
| Equip./Install. | Trailer, enclosed, small | 5 | Hour | $3.11 | $15.55 |
| Labor | General Labor | 10 | Hour | $18.57 | $185.70 |
| Mobilization | Mobilization, General labor | 2 | Hour | $18.52 | $37.04 |
| Mobilization | Mobilization, Material, distance > 50 miles | 100 | Dollar | $1.00 | $100.00 |
| Forgone Income | FI, Soybeans Dryland | 5 | Acre | $168.41 | $842.05 |
| | | | | Total Cost: | $1,713.04 |

**Practice: 391 - Riparian Forest Buffer**

**Scenario # 7** **Bare-root, hardwood and pine with foregone income from pasture**

**Scenario Description:** **Louisiana**

Establish a buffer of hardwood and pine trees into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of hand planted bare-root pine and deciduous trees. Generally, planting spacing is at 12' x 12'; however, other spacing may be used depending on the objectives. Resource concerns to be addressed are Soil Erosion - excessive bank erosion; Water Quality - excess sediment and organics in surface waters and elevated temperature; Degraded Plant Condition - inadequate structure and composition; and Inadequate Habitat for Fish and Wildlife - habitat degradation.

**Before Practice Situation:**

Typical sites include former riparian forests and habitat used for forage, cropland, speculation property, or other nonforest condition which contains undesirable amounts or types of vegetation. Active bank erosion is depositing sediment, nutrients and organics in the riparian area. Water temperature is high due to lack of shade. Habitat is not desirable for wildlife.

**After Practice Situation:**

A buffer of trees will be established along the riparian corridor which will provide stability, filtration, shade, and desirable habitat to address the above mentioned resource concerns.

**Scenario Feature Measure:**

Area of planting

| **Scenario Typical Size:** | 5 | Acre | Unit Cost | $204.78 |
|---|---|---|---|---|

| Cost Category | Component Name | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|---|
| Materials | Tree, conifer, seedling, bare root, 1-0 | 1000 | Each | $0.06 | $60.00 |
| Materials | Tree, hardwood, seedling or transplant, bare root, 6-18" | 1000 | Each | $0.25 | $250.00 |
| Equip./Install. | Hand tools, tree planting | 10 | Hour | $9.44 | $94.40 |
| Equip./Install. | Trailer, enclosed, small | 5 | Hour | $3.11 | $15.55 |
| Equip./Install. | All terrain vehicles, ATV | 5 | Hour | $25.66 | $128.30 |
| Labor | General Labor | 10 | Hour | $18.57 | $185.70 |
| Mobilization | Mobilization, Material, distance > 50 miles | 100 | Dollar | $1.00 | $100.00 |
| Mobilization | Mobilization, General labor | 2 | Hour | $18.52 | $37.04 |
| Forgone Income | FI, Grazing AUMs | 10 | AUM | $15.29 | $152.90 |
| | | | | Total Cost: | $1,023.89 |