

FOREST STEWARDSHIP MANAGEMENT PLAN

Prepared For: Leake County BOE

Prepared By: Howard Wayne Ornsbey MS Forestry Commission

Time Period Covered by This Plan: 2012 - 2021

Date Plan Prepared: 2012-02-13

Plan Type: Stewardship / Stewardship

This plan was developed in accordance with the rules of the Stewardship program.

Property Name: Section 16 Township 11 North Range 09 East

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LANDOWNER INFORMATION

Name: Leake County BOE

Mailing Address: P.O. Box 478

City, State, Zip: Carthage, MS 39051
Country: United States of America

Contact Numbers: Home Number:

Office Number: 601-267-4579 Fax Number: 601-267-5283

E-mail Address:

Social Security Number (optional):

FORESTER INFORMATION

Name: Howard Wayne Ornsbey, Service Forester

Forester Number: 01820

Organization: MS Forestry Commission

Street Address: PO Box 24

City, State, Zip: Carthage, MS 39051

Contact Numbers: Office Number: 601-267-9357

Fax Number: 601-267-9357

E-mail Address: wornsbey@mfc.state.ms.us

PROPERTY LOCATION

County: Leake Total Acres: 646 Latitude: -89.38 Longitude: 32.81

Section: 16 Township: 11N Range: 9E

INTRODUCTION

This Forest Stewardship Management Plan will serve as a guide for accomplishing the goals and objectives for your property. In addition to addressing your specific goals and objectives, this plan includes recommendations for maintaining soil and water quality and protecting your forest from insects, disease, and wildfire. Recommendations are based on observation and assessment of the site.

DISCLAIMER

This information was derived from a small sampling of the forest resources. It reflects a statistical estimation that is only intended to be accurate enough for the purposes of making decisions for the short-term management of these resources. These estimations are temporally static. Events and circumstances may occur within the survey area that will physically alter the forest resources and therefore will not be reflected in this plan.

OBJECTIVES

Timber Production

The goal is to produce high quality sawtimber. This will be accomplished through reforestation and timber stand improvement practices such as herbicide applications, prescribed burning, thinning at specified intervals, and other silvicultural practices. Forestry Best Management Practices will be implemented to prevent erosion and protect water quality.

Water Quality

Water resources that were identified during a reconnaissance of this property, was Rice Creek. Along with Rice Creek, intermittent streams and drains will be managed in accordance with Mississippi's Best Management Practices.

Wildlife Management - General

The goal is to provide a diversity of habitats suitable for a variety of game and non-game wildlife species. Habitat management will focus on developing a variety of food, cover, water, and space. This will be accomplished by establishing and maintaining access roads and firelanes, providing openings within the forest, and the management of trees located within the Streamside Management Zone.

PROPERTY DESCRIPTION

General Property Information

The property is located in the Eastern part of Leake County along Coosa Road, and Rice Creek Road. This property is 646 acres. The major stand type is mixed Loblolly Pine and hardwood. There is 80 acres of pine plantation, 390 acres of sawtimber, and 176 acres is open.

No Archeological or Cultural Resources Were Identified:

No Archeological or Cultural Resources Were Identified:

No Archeological or Cultural resources were identified during a reconnaissance of the property. However, if Archeological or Cultural resources are discovered anytime on the property special managements measures will be applied immediately in order preserve these sensitive areas.

Water Resources

No perennial water resources were identified during a reconnaissance of the property. However, intermittent streams and drains identified will be managed in accordance with Mississippi's Best Management Practices.

Timber Production

The goal is to maximize the production of high quality timber. This will be accomplished through the application of timely thinning and other silvicultural practices designed to

enhance timber quality and growth. Forestry Best Management Practices will be implemented to prevent erosion and protect water quality.

Threatened and Endangered Species

No threatened and endangered species were identified during the reconnaissance and evaluation of your property.

Interaction with Surrounding Property

Prescribed practices should be carried out in a manner that will minimize adverse impacts on surrounding properties. Consideration should be given to potential air, water, visual, and other impacts. In addition, practices carried out should have positive effects on the surrounding community such as improved wildlife habitat and soil stabilization.

Soils General

Soils were evaluated on the property to determine the suitability of the site for the proposed activities. Forest practices were planned so as to minimize erosion or other adverse effects on the soil. The following soils are identified for this property: Neshoba, Smithdale, and Williamsville.

GENERAL PROPERTY RECOMMENDATIONS

Forest Protection

A healthy vigorously growing stand is the best defense to an attack from a variety of forest insects, plants and pathogens.

Insects and Diseases

Trees are subject to attack from insects and diseases. Different insects and diseases affect trees according to the age, species, and condition of the trees. Planted stands of pines and pure stands of hardwoods are particularly susceptible to attack. Since there are many different insects and diseases, no attempt will be made here to explain all of them. The property should be inspected at least annually for possible signs of insect and disease activity. Some things to look for are:

- Unseasonable leaf fall
- Discoloration of leaves or needles
- Pitch pockets on pine trees
- Heavy defoliation of hardwood leaves
- Groups of three or more dying trees within a stand

This list does not cover all instances of insect or disease attacks. If anything unusual is noticed, report it to a forester. In most cases, insect and disease problems can be controlled if discovered early.

Fire Protection

Your forest should be protected from wildfire at all times. The best way to protect your investment is by establishing and maintaining firebreaks around the property. Guidelines

for establishment and maintenance of firebreaks may be found in Mississippi Forestry Commission publication #107, *Mississippi's Best Management Practices*.

Grazing

Tree seedlings should be protected from grazing until such time as the terminal bud of the sapling is beyond reach of livestock. Domestic livestock should be denied access to the tree planting area.

Boundary Lines

It is the responsibility of the landowner to ensure that all property lines and boundaries designating areas to receive forestry work are clearly identified and visible to all contractors.

Note: Some forest practices may cause temporary adverse environmental or aesthetic impacts. These practices will only cause short-term adverse impacts where they are installed. Special efforts will be made to minimize adverse effects when carrying out any of the practices. Examples include: site preparation, planting, prescribed fires, firebreak installation and maintenance, road installation and maintenance, pesticide applications and timber harvesting.

Water Quality Protection

The objective of the landowner is to protect, preserve and enhance all water sources on or transecting the property. This can best be achieved by implementation of Best Management Practices in all aspects of the management of the property.

Aesthetics

The goal is to assure that the property is managed in such a way that is aesthetically pleasing to the landowner as well as the community. Activities could include, maintaining buffer strips along the road and adjacent to the home site, planting wildflowers along the road, and trees with attractive fall and spring color along the drive and near the home site.

Wildlife Management General

The goal is to provide a diversity of habitats suited for a variety of game and non-game wildlife species. Habitat management will focus on providing a variety of food, cover, water, and space. This will be accomplished, in part, by establishing and maintaining access roads and firelanes, providing openings within the forest, and leaving mast producing and den trees.

Timber Management

Timber management goals for this property are to manage timber resources in such a manner as to maximize timber production throughout the life of the stand.

SOIL TYPES

Smithdale

The Smithdale component makes up 100 percent of the map unit. Slopes are 8 to 12 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. Loblolly Site Index = 80.

Neshoba

The Neshoba component makes up 100 percent of the map unit. Slopes are 2 to 5 percent. This component is on coastal plains. The parent material consists of Glauconitic Alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. Loblolly Site Index = 90.

Williamsville

The Williamsville component makes up 85 percent of the map unit. Slopes are 8 to 17 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. Loblolly Site Index = 88.

STRATA

Strata 1: Stands 3, 5, 6, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, and 23 Strata Description

Mixed Sawtimber

Acres: 390

This is a 53+ year-old mixed pine-hardwood sawtimber stand. At present, pine basal area averages 65 square feet per acre and average merchantable heights average 56 feet. At present, the average dbh of the residual stand is 12.5 inches. Species found includes: water oak, willow oak, sweetgum, red oak, white oak, and pine.

Strata Recommendations

These stands will be managed to a 35 year rotation. During this time frame, management activities such as thinning to remove poor quality trees and improve growth, vegetative control to control undesirable species, and prescribed burning to improve wildlife habitat will be used to keep stands at full production.

Monitor this stand annually. At this time there are scheduled activities planned in 2016, and 2020. The activities are regeneration harvest and regeneration with improved loblolly seedlings. Routine inspections and general maintenance of the roads, Firelanes, and boundary lines will ensure overall appearance and aesthetics of the property. In order to produce high quality sawtimber the stand should be managed under existing recommendations. This will be accomplished on a thirty-five-year rotation. At the end of thirty-five-years the stand will have a final harvest done on it followed by site prep and artificial regeneration to Loblolly Pine. This strata should be harvested when the adjoining area's have a final harvest.

Activity Recommendations

Harvest

In order to enhance the productivity of this site, a regeneration harvest should be conducted followed by regeneration with more desirable tree species. In a regeneration harvest, all merchantable timber is cut from the site and the site is either planted or site prepared for natural regeneration. This will occur in fiscal year 2016 and 2020.

Site Preparation

<u>Aerial Application of Herbicide</u> - Site preparation in the form of an aerial application of a herbicide should be applied to the tract to control competing vegetation. The herbicide should conform to the manufacturer recommendation rates and specifications. A herbicide representative should be contacted to write a rate and application method recommendation. This will occur after the regeneration harvest and adequate sprouting has occurred, approximately in the summer of 2013, 2017, and 2021.

Site Preparation

<u>Site Preparation Burn</u> - A prescribed burn should be conducted to further prepare the site and to enhance the herbicide effectiveness and reducing the likelihood of re-sprouting. A burn will reduce debris that may otherwise impede tree planting. The result will enable better accessibility by tree planters, improving overall uniformity and quality of the planting job. A prescribed burning plan should be developed and followed in the application of the burn. A certified prescribed burning manager should be employed to conduct the burn.

Regeneration

<u>Planting</u> - Following site preparation, the area should be Hand planted with genetically improved loblolly pine. Seedlings will be planted at a rate of 691 trees per acre at a spacing of 6 x 9 feet. A deviation from the recommended planting rates will

be limited to plus or minus 40 trees per acre. Planting should be done between December and March. Adverse weather conditions such as prolonged dry or cold periods should be taken into consideration when planting. **Seedling Survival Checks** - A seedling survival check will be conducted in late fall to ensure adequate stocking of the stand. This planting will occur in the years of 2013, 2017, and 2021.

Strata 3: Stands 7, 8, 9, and 10 Strata Description Pine Plantation

Acres: 80

This is a 21 year-old Loblolly pine plantation that averages 155 trees per acre, and has an average merchantable height of 44 feet. At present, the average dbh of this stand is 7.5 inches.

Strata Recommendations

These stands will be managed to a 35 year rotation. During this time frame, management activities such as thinning to remove poor quality trees and improve growth, vegetative control to control undesirable species, and prescribed burning to improve wildlife habitat will be used to keep stands at full production.

In 2018, the stand will need to be evaluated to determine if it can be thinned. In order to produce high quality sawtimber the stand should be managed under existing recommendations. This will be accomplished on a thirty-five-year rotation. At the end of thirty-five-years the stand will have a final harvest done on it followed by site prep and artificial regeneration to Loblolly Pine.

This will be a second thinning of this pine plantation. The stand will be marked to remove the defective and lower quality trees. It will be thinned to produce a well-spaced stand with a basal area of 75 square feet per acre. Priority will be placed on removal of trees that are forked, less than 7 inches dbh, or otherwise undesirable.

Activity Recommendations

Fire Protection

A prescribed burn should be carried out on this property in the late fall or early winter of 2012 and be repeated on a two or three year rotation thereafter. Prescribed fire when used correctly can greatly benefit the health and vigor of a stand. It reduces the undesirable tree species that often crowd out or suppress pines. These unwanted understory trees and shrubs species not only compete for water, nutrients, and growing space, but often contain dead needles and leaves that act as ladder fuels allowing a fire to climb into the overstory crowns. Prescribed fire also reduces the hazardous fuel loads within the stand and prevents damage in the event of a wildfire.

A Prescribed burning program benefits wildlife by maintaining the forest understory in early stages of plant succession. It is utilized by bobwhite quail, turkey, white-tailed deer, and many other nongame species. This is accomplished by keeping the forage within the reach of the wildlife. Openings left in the forest, firebreaks, and the edge effect created adjacent to these openings will serve to provide feeding (food plots), nesting, and dusting areas for many different species of wildlife. Both game and non-game species will concentrate in these areas, thereby increasing opportunities for wildlife viewing.

Harvest

In order to enhance the productivity of this site, **Stand 7** will have a regeneration harvest should be conducted followed by regeneration with more desirable tree species. In a regeneration harvest, all merchantable timber is cut from the site and the site is either planted or site prepared for natural regeneration. This will occur in fiscal year 2016.

Harvest

The stand should be evaluated in 5 to 8 years for a second thinning. The stand should be evaluated by crown closure and 10 year growth rate. The stand basal area should be reduced at that time of the thinning to approximately 95 square feet. Mechanical thinning would still be a viable option on this stand. This harvest will take place in 2016.

Site Preparation

<u>Aerial Application of Herbicide</u> - Site preparation in the form of an aerial application of a herbicide should be applied to the tract to control competing vegetation. The herbicide should conform to the manufacturer recommendation rates and specifications. A herbicide representative should be contacted to write a rate and application method recommendation. This will occur after the regeneration harvest and adequate sprouting has occurred, approximately in the summer of 2017.

Regeneration

<u>Planting</u> - Following site preparation, the area should be Hand planted with genetically improved loblolly pine. Seedlings will be planted at a rate of 691 trees per acre at a spacing of 6 x 9 feet. A deviation from the recommended planting rates will be limited to plus or minus 40 trees per acre. Planting should be done between December and March. Adverse weather conditions such as prolonged dry or cold periods should be taken into consideration when planting. **Seedling Survival Checks** - A seedling survival check will be conducted in late fall to ensure adequate stocking of the stand. This planting will occur in the years of 2017, and 2020.

OTHER PLAN ACTIVITIES

Boundary Lines

Line Description

The section boundary line's have been established and painted on a five year rotation.

Line Recommendations

The section boundary line are to be painted with **Orange** boundary line paint. The are to be painted on a five year rotation.

Activity Recommendations

Property Activities

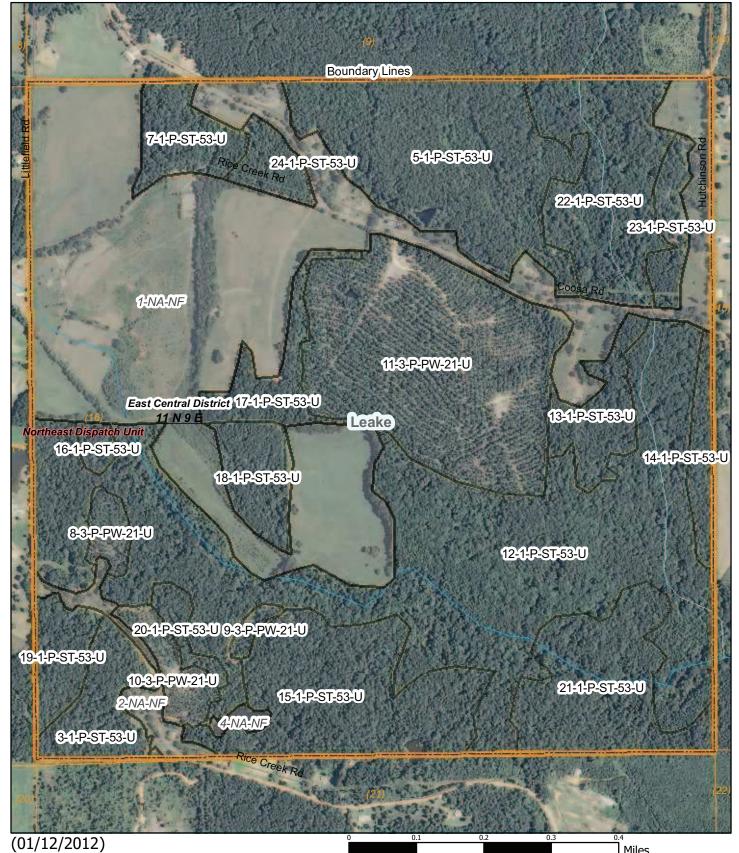
Routine inspections and general maintenance of the roads, Firelanes, and boundary lines will ensure overall appearance and aesthetics of the property.



Leake County Schools

Sec. 16 Twn 11 North Rge 09 East Managment Map (Coosa-Rice Creek Section) 646.12 Acres





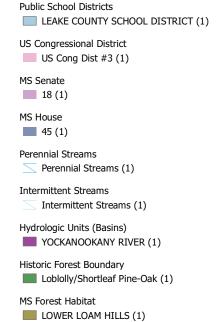
Sec. 16 Twn 11 North Rge 09 East (Coosa-Rice Creek Section)

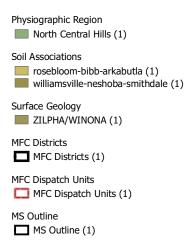


Property Property (1)
Category 1: Stands Sawtimber (16) Pulpwood (4)
Category 3: Non-Forest Stands Non-Forest (3)
Management Compartment Harvest (5) SMZ (1)

MFC Baseman

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County Boundary County Boundary (1)
Quadrangle Grid USGS Quad (2)
PLS Townships PLS Townships (1)
Survey Districts District 2 (1)
Blockgroup (Census 2000) Blockgroup (Census 2000) (1)
Block (Census 2000) Block (Census 2000) (5)
Tract/BNA (Census 2000) Tract/BNA (Census 2000) (1)
County Roads County Roads (8)
School Sections School Sections (1)





Stand Activity Summary for Leake County BOE 16 11N 9E

Filters Applied: County: Leake

District: East Central District Client Class: School Trust Land

Client: Leake County BOE

Activity:
Year: 2012 Through 2021

STR	Strata	Stand	d	Acre	Est. Cost	Est. Revenue
2012						
16 11N 9E	1	5	Site Preparation, Chemical, Broadcast, Aerial, Woody	52	\$4,160.00	\$0.00
16 11N 9E	1	5	Site Preparation, Other, Burn, Hand, Cut-Over	52	\$1,300.00	\$0.00
16 11N 9E	1	5	Regeneration, Artificial, Plant, Hand, Loblolly	52	\$4,160.00	\$0.00
16 11N 9E	1	9	Regeneration, Artificial, Plant, Hand, Loblolly	11	\$1,210.00	\$0.00
16 11N 9E	1	9	Site Preparation, Other, Burn, Hand, Cut-Over	11	\$275.00	\$0.00
16 11N 9E	1	9	Site Preparation, Chemical, Broadcast, Aerial, Combination	11	\$880.00	\$0.00
16 11N 9E	1	21	Site Preparation, Chemical, Broadcast, Aerial, Woody	32	\$2,589.60	\$0.00
16 11N 9E	1	21	Site Preparation, Other, Burn, Hand, Cut-Over	32	\$809.25	\$0.00
16 11N 9E	1	21	Regeneration, Artificial, Plant, Hand, Loblolly	32	\$3,520.00	\$0.00
16 11N 9E	1	22	Regeneration, Artificial, Plant, Hand, Loblolly	7	\$773.30	\$0.00
16 11N 9E	1	22	Site Preparation, Chemical, Broadcast, Aerial, Woody	7	\$562.40	\$0.00
16 11N 9E	1	22	Site Preparation, Other, Burn, Hand, Cut-Over	7	\$175.75	\$0.00
16 11N 9E	1	23	Site Preparation, Other, Burn, Hand, Debris	9	\$150.00	\$0.00
16 11N 9E	1	23	Site Preparation, Chemical, Broadcast, Aerial, Combination	9	\$476.00	\$0.00
16 11N 9E	1	23	Regeneration, Artificial, Plant, Hand, Loblolly	9	\$660.00	\$0.00
16 11N 9E	3	7	Fire Protection, Other, Burn, Hand, Hazard Mitigation	4	\$140.00	\$0.00
16 11N 9E	3	∞	Fire Protection, Other, Burn, Hand, Hazard Mitigation	2	\$70.00	\$0.00
16 11N 9E	3	6	Fire Protection, Other, Burn, Hand, Hazard Mitigation	7	\$245.00	\$0.00

STR	Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue
16 11N 9E	3	10	Fire Protection, Other, Burn, Hand, Hazard Mitigation	29	\$2,345.00	\$0.00
			Yearly Totals	405	\$24,501.30	\$0.00
2016						
16 11N 9E	1	3	Harvest, Mechanical, Final, Machine, Loblolly	13	\$455.00	\$13,065.00
16 11N 9E	1	11	Harvest, Mechanical, Final, Machine, Loblolly	22	\$770.00	\$39,930.00
16 11N 9E	1	15	Harvest, Mechanical, Final, Machine, Loblolly	2	\$70.00	\$3,490.00
16 11N 9E	1	18	Harvest, Mechanical, Final, Machine, Loblolly	6	\$315.00	\$11,025.00
16 11N 9E	3	7	Harvest, Mechanical, Final, Machine, Loblolly	4	\$140.00	\$1,772.00
			Yearly Totals	20	\$1,750.00	\$69,282.00
2017						
16 11N 9E	1	3	Site Preparation, Chemical, Broadcast, Aerial, Woody	13	\$1,040.00	\$0.00
16 11N 9E	1	3	Site Preparation, Other, Burn, Hand, Cut-Over	13	\$325.00	\$0.00
16 11N 9E	1	3	Regeneration, Artificial, Plant, Hand, Loblolly	13	\$1,430.00	\$0.00
16 11N 9E	1	11	Site Preparation, Chemical, Broadcast, Aerial, Combination	22	\$1,760.00	\$0.00
16 11N 9E	1	11	Regeneration, Artificial, Plant, Hand, Loblolly	22	\$2,420.00	\$0.00
16 11N 9E	1	15	Site Preparation, Chemical, Broadcast, Aerial, Combination	2	\$160.00	\$0.00
16 11N 9E	1	15	Regeneration, Artificial, Plant, Hand, Loblolly	2	\$220.00	\$0.00
16 11N 9E	1	18	Site Preparation, Chemical, Broadcast, Aerial, Woody	6	\$720.00	\$0.00
16 11N 9E	1	18	Regeneration, Artificial, Plant, Hand, Loblolly	6	\$990.00	\$0.00
16 11N 9E	1	18	Site Preparation, Other, Burn, Hand, Cut-Over	6	\$225.00	\$0.00
16 11N 9E	3	7	Regeneration, Artificial, Plant, Hand, Loblolly	4	\$440.00	\$0.00
16 11N 9E	3	7	Site Preparation, Chemical, Broadcast, Aerial, Combination	4	\$320.00	\$0.00
			Yearly Totals	122	\$10,050.00	\$0.00
2019						

STR	Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue
16 11N 9E	3	10	Harvest, Mechanical, Thin, Machine, Loblolly	29	\$2,345.00	\$17,085.00
			Yearly Totals	67	\$2,345.00	\$17,085.00
2020						
16 11N 9E	1	11	Harvest, Mechanical, Final, Machine, Loblolly	38	\$1,330.00	\$54,910.00
16 11N 9E	П	12	Harvest, Mechanical, Final, Machine, Loblolly	11	\$385.00	\$16,049.00
16 11N 9E	1	13	Harvest, Mechanical, Final, Machine, Loblolly	7	\$245.00	\$11,095.00
			Yearly Totals	26	\$1,960.00	\$82,054.00
2021						
16 11N 9E	1	11	Site Preparation, Chemical, Broadcast, Aerial, Combination	38	\$3,040.00	\$0.00
16 11N 9E	П	11	Regeneration, Artificial, Plant, Hand, Loblolly	38	\$4,180.00	\$0.00
16 11N 9E	1	12	Site Preparation, Chemical, Broadcast, Aerial, Combination	11	\$880.00	\$0.00
16 11N 9E	1	12	Regeneration, Artificial, Plant, Hand, Loblolly	11	\$1,210.00	\$0.00
16 11N 9E	1	13	Site Preparation, Chemical, Broadcast, Aerial, Combination	7	\$525.60	\$0.00
16 11N 9E	П	13	Regeneration, Artificial, Plant, Hand, Loblolly	7	\$770.00	\$0.00
			Yearly Totals	112	\$10,605.60	\$0.00
			Grand Totals	811	\$51,211.90	\$168,421.00