Vision • Commitment • Pride

FOREST STEWARDSHIP MANAGEMENT PLAN

Prepared For:
Grenada County BOE

Prepared By:
Kenneth E. Cline
MFC

Time Period Covered by This Plan:
2012 - 2021

Date Plan Prepared:
2012-02-15

Plan Type:
Stewardship / Stewardship

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

Property Name: S16-T21N-R3E

MISSISSIPPI FOREST STEWARDSHIP PROGRAM

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LANDOWNER INFORMATION

Name:	Grenada County BOE	
Mailing Address:	Grenada School District	
	P.O. Box 1940	
City, State, Zip:	Grenada, MS 38902	
Country:	United States of America	
Contact Numbers:	Home Number:	
	Office Number:	662-226-1606
	Fax Number:	662-226-7994
E-mail Address:	ddaigneault@gsd.k12.ms.us	
Social Security Number (optional):		

FORESTER INFORMATION

Name:	Kenneth E. Cline , SF	
Forester Number:	01333	
Organization:	MFC	
Street Address:	50 E. Pecan St.	
	Suite-A	
City, State, Zip:	Grenada, MS 38901	
Contact Numbers:	Office Number:	662-226-1973
	Fax Number:	662-226-1973
E-mail Address:	kcline@mfc.state.ms.us	

PROPERTY LOCATION

County:	Grenada	Total Acres:	634	Latitude:	-89.99	Longitude:	33.68
Section:	16	Township:	21N	Range:	3E		

DISCLAIMER

Stewardship Plan 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.

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.

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.

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

This section is located approximately 5 miles South of Holcomb and 2 miles West of Hwy. 35 South in Granada County, and consist of 634.06 acres, of which 619.23 acres are forested. The section consists of the following stands:

STRATUM #1 [**Stand** # 10] (205.1 ac.); Clear-cut, established in June 2011.

STRATUM #2 [**Stand** # 1, 4, & 13] (87.53ac.); Pine Reproduction established in Feburary 2011.

STRATUM #3 [**Stand** #2 & 14] (142.55ac.); 41 yr. old Mixed Pine & Hardwood Sawtimber, estab. 1970.

STRATUM #4 [**Stand** # 5 & 15] (81.11 ac.); 9 yr. old Pine Sub. Merch., estab. 2001.

STRATUM #5 [**Stand** # 3] (2.85 ac.); Cogon Grass Area.

STRATUM #6 [**Stand #**7, 11 &12] (100.1 ac.); SMZ-Mixed Pine & Hardwood Sawtimber.

The section will be inspected annually to assess the overall condition of the stands, roads and firelanes. Any and all maintenance to the section will be done as needed.

Water Resources

Perennial water resources were identified during a reconnaissance of the property. These will be managed in accordance with Mississippi's Best Management Practices. The watershed drainages of this section are in the South Yalobusha River watershed, a part of the Yazoo River Watershed Basin. The objective is to protect, preserve and enhance all water sources and drainages on or transecting the property. Mississippi's Best Management

Practices will be implemented during all aspects of the management of this property to minimize the impact on any water source.

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.

Archeological and Cultural Resources
No Archeological and Cultural Resources were identified during a reconnaissance of the property.

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:

SOIL TYPES

Sa - Sandy alluvial land
Generated brief soil descriptions are created for major soil components. The Sandy alluvial land is a miscellaneous area.

Cm, Cn - Collins silt loam
The Collins component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty alluvium deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 42 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The Site Index for Loblolly Pine = 105 ft., and for Cherrybark Oak = 115 ft.

MeF - Memphis silt loam
The Memphis component makes up 90 percent of the map unit. Slopes are 17 to 40 percent. This component is on uplands. The parent material consists of loess deposits. 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 very 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 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. Loblolly Site Index = 100, Cherrybark Oak = 114.

Gu - Gullied land, silty
Generated brief soil descriptions are created for major soil components. The Gullied land is a miscellaneous area. Loblolly Site Index = 68.

W - Water
Generated brief soil descriptions are created for major soil components. The Water area is a miscellaneous area.

LoD3 - Loring silt loam
The Loring component makes up 90 percent of the map unit. Slopes are 8 to 12 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 14 to 35 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 28 inches during January, February, March, December. 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 = 85.

MgF - Memphis-Guin complex
The Memphis component makes up 50 percent of the map unit. Slopes are 17 to 40 percent. This component is on uplands. The parent material consists of loess deposits. 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 very 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 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The Guin component makes up 45 percent of the map unit. Slopes are 17 to 50 percent. This component is on hillslopes on hills. The parent material consists of gravelly 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 low. 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 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. Loblolly Site Index = 82.

MeC3 - Memphis silt loam
The Memphis component makes up 90 percent of the map unit. Slopes are 5 to 8 percent. This component is on uplands. The parent material consists of loess deposits. 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 very 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 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. Loblolly Site Index = 85.

GENERAL PROPERTY RECOMMENDATIONS

Forest Protection
A vigorous 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.

Ecological Restoration
Ecological restoration is the process of assisting the recovery of an ecosystem that has be degraded, damaged, or destroyed. A reconnaissance of the property has been conducted and no ecological restoration activities are recommended at this time.

Wildlife Mgt. Target Species
The objective of this practice is to provide habitat best suited for the featured or target species. Habitat management will focus on providing food, cover, water, and space to facilitate the target species.

Environmental Education
Environmental educational goals are to provide educational opportunities for children and adults through the development of items such as nature trails with tree identification markers, wildlife viewing areas, picnic areas, parking, public restroom facilities.

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.

Recreation
According to landowner objectives the recreational use of the property could prove to be an avenue for personal enjoyment or for generating income. An evaluation of your property should be conducted and a plan developed to accomplish your specific goals for recreational activities on your property.

STRATA

Strata 1

Strata Description

Clear-cut (205.1 acres), established - June 2011 . **Stand #10 = Strata 1.**

Strata Recommendations

This strata will be chemically site prep sprayed to control competing vegetation, in preparation for tree planting in the winter of 2013. Following the chemical application, a site prep burn will be conducted to further improve the site for tree planting.

Activity Recommendations

Site Preparation

A Chemical Spray Site Prep will be scheduled for July 15, 2012 - Sept. 30, 2012. The purpose will be to improve the site for tree planting and to control competition vegetation.

A chemical prescription will be made, based on a site inspection that reveals the species that need to be controlled.

Site Preparation

A Site Prep Burn will be scheduled in 2012, following the chemical application, to further improve the site for planting.

Regeneration

The tract will be hand planted in Improved Loblolly Pine on a 7 ft. X 9 ft. spacing (691 trees per acre) during the Winter of 2013.

Strata 2

Strata Description

Loblolly Pine Reproduction (87.53 acres); established Feb. 2011. Current stocking is 710 trees per acre. **Stand # 1, 4 & 13 = Strata 2**.

Strata Recommendations

A Survival Check is scheduled for the Fall of 2011. {The minimum stocking requirement is 350 trees per acre.} No other activities are scheduled for this strata at this time.

Activity Recommendations

Survival Check

A Survival Check is scheduled for Fall 2011.

Strata 3

Strata Description

Mixed Pine & Hardwood Sawtimber - (142.55 acres), established 1970. **Stand # 2 & 14 = Strata 3**.

Strata Recommendations

These stands will be managed on a 45 year rotation. They will be replanted in Loblolly Pine following final harvest.

Activity Recommendations

Harvest

A final Harvest is scheduled for 2015. All merchantable timber on these stands will be harvested during this operation.

Strata 4

Strata Description

Submerchantable Pine (81.11 acres), established 2001. Current stocking is 540 trees per acre with an average diameter of 5 inches and an average height of approximately 23 feet. The average Basal Area is 75 square feet per acre. **Stand # 5 & 15 = Strata 4**.

Strata Recommendations

This strata will be managed on a 35 year rotation. Thinnings will be scheduled when needed, to maintain the health and vigor of the stand. (Generally, thinnings are scheduled when stand Basal Area exceeds 100 square feet per acre.) The stand will be replanted in Loblolly Pine, following the final harvest.

Activity Recommendations

Harvest

A First Thinning is scheduled for this stand in 2014, to maintain the health and vigor of the stand, with a goal of reducing the stand Basal Area to 80 square feet per acre (+/- 5).

Fire Protection

A prescribed fire is recommended for this site in order to reduce fuel loading and the potential for wildfire. A prescribed burning plan must be developed and followed in the application of the burn. Because of equipment, personnel and weather requirements, the application of a prescribed fire is limited to only those days that meet requirements of the burning plan. A certified prescribed burning manager should be employed to conduct the burn. The Mississippi Forestry Commission (on a limited basis) and other certified prescribed burning vendors are available to conduct prescribed burning.

A Prescribed Burn is scheduled for **2016**.

Strata 5

Strata Description

Cogon Grass (2.85 acres). **Stand #3 = Strata 5**.

Strata Recommendations

This area should be chemically treated to eradicate the Cogon Grass. Once the Cogon Grass has been eradicated, the tract will be planted in Loblolly Pine.

Activity Recommendations

Invasive Species Control

A series of herbicide applications is recommended to treat and control the cogon grass found on this site. Cogon grass control is difficult and requires both a commitment of time and financial resources. A broadcast application of a prescribed herbicide is recommended with follow up broadcast or spot treatments. Spot treatment applications must be continued until the Cogon grass is controlled or eliminated. Control may take two years or more. The herbicide should conform to the manufacturer recommended rates and specifications. Contact a herbicide representative for specific recommendations.

Cogon Grass Treatment is scheduled for 2012.

Strata 6

Strata Description

Mixed Hardwood-Pine Sawtimber SMZ (100.1 acres), established 1970. *[This is a restricted management zone.]* **Stand # 7,11 & 12 = STRATA 6**.

Strata Recommendations

This strata will be managed on a 70 year rotation with *selective harvesting* only. Natural regeneration will be utilized when needed.

No activities are scheduled for this strata at this time.

OTHER PLAN ACTIVITIES

Property Activities

Routine inspections and general maintenance of the Roads, Firelanes and Bondary Lines will ensure overall appearance and aesthetics of the property.

This work is scheduled for **2016**, when the boundary lines are painted.

Boundary Line Description

The Boundary Lines on this section were last painted in October 2008. They were marked with Blue paint.

Boundary Line Recommendations

Boundary Line Maintenance is scheduled for **2016**.

S16-T21N-R3E GRENADA COUNTY

Sparta Section

2012 to 2021
634.05 Acres

(08/16/2011)

S16-T21N-R3E LEGEND

Property
Property (1)

Category 1: Stands
Sawtimber (5)
Non-Stocked (1)
Reproduction (3)
Sub-Merchantable (2)
Clear Cut (1)

Category 3: Non-Forest Stands
Non-Forest (3)

MFC Basemap

County Boundary
County Boundary (1)

Quadrangle Grid
USGS Quad (1)

PLS Townships
PLS Townships (1)

Survey Districts
District 2 (1)

Blockgroup (Census 2000)
Blockgroup (Census 2000) (1)

Block (Census 2000)
Block (Census 2000) (6)

Tract/BNA (Census 2000)
Tract/BNA (Census 2000) (1)

County Roads
County Roads (6)

School Sections
School Sections (1)

Public School Districts
GRENADA SCHOOL DISTRICT (1)

US Congressional District
US Cong Dist #1 (1)

MS Senate
14 (1)

MS House
46 (1)

Intermittent Streams
Intermittent Streams (1)

Hydrologic Units (Basins)
YALOBUSHA RIVER ABOVE GRENADA DAM (1)

Historic Forest Boundary
Oak-Hickory-Magnolia-Poplar (1)

MS Forest Habitat
DEEP LOESS HILLS AND BLUFFS (1)

Physiographic Region
LOESS HILLS (1)

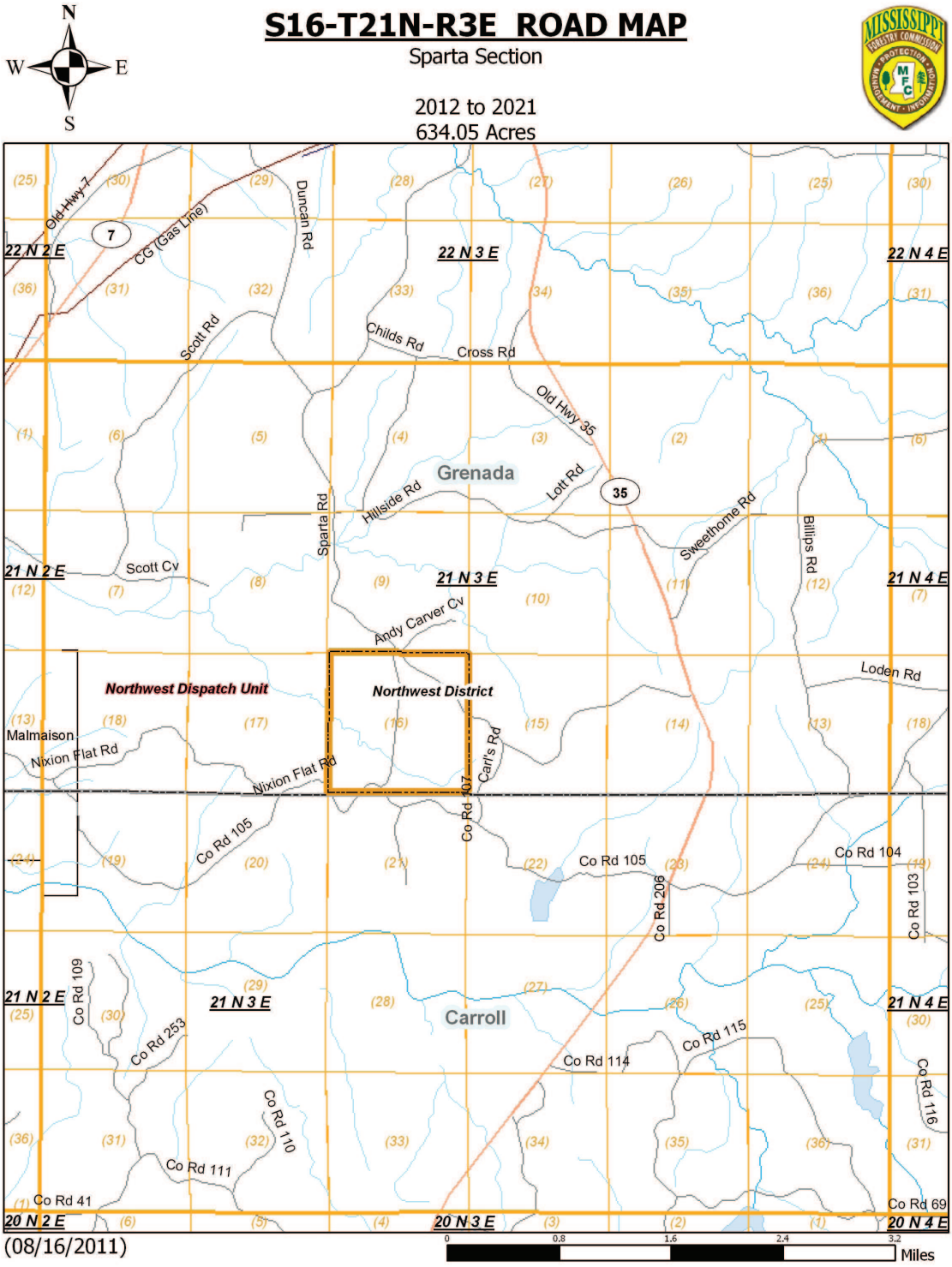
Soil Associations
memphis-saffell-loring (1)
memphis-collins-lucy (1)
memphis-loring-collins (1)

Surface Geology
KOSCIUSKO (2)

MFC Districts
MFC Districts (1)

MFC Dispatch Units
MFC Dispatch Units (1)

MS Outline
MS Outline (1)


S16-T21N-R3E ROAD MAP
Sparta Section
2012 to 2021
634.05 Acres
N
W
E
S
MISSISSIPPI FORESTRY COMMISSION
22 N 2 E
22 N 3 E
22 N 4 E
21 N 2 E
21 N 3 E
21 N 4 E
20 N 2 E
20 N 3 E
20 N 4 E
Old Hwy 7
CG (Gas Line)
Duncan Rd
Scott Rd
Childs Rd
Cross Rd
Old Hwy 35
Grenada
Hillside Rd
Lott Rd
Sparta Rd
Sweethome Rd
Billips Rd
Scott Cv
Andy Carver Cv
Loden Rd
Northwest Dispatch Unit
Northwest District
Malmaison
Nixion Flat Rd
Carl's Rd
Co Rd 407
Co Rd 105
Co Rd 104
Co Rd 206
Co Rd 103
Co Rd 109
Co Rd 253
Carroll
Co Rd 114
Co Rd 115
Co Rd 116
Co Rd 110
Co Rd 111
Co Rd 41
Co Rd 69
(08/16/2011)
0
0.8
1.6
2.4
3.2
Miles

Stand Activity Schedule for
Grenada County BOE
16 21N 3E

Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue
2012					
5	3	Invasive Species Control, Chemical, Broadcast, Hand, Cogan Grass	3	$500.01	$0.00
		Yearly Totals	3	$500.01	$0.00
2013					
1	10	Regeneration, Artificial, Plant, Hand, Loblolly	205	$17,425.00	$0.00
1	10	Site Preparation, Other, Burn, Hand, Combination	205	$5,125.00	$0.00
1	10	Site Preparation, Chemical, Broadcast, Aerial, Combination	205	$20,500.00	$0.00
		Yearly Totals	615	$43.050.00	$0.00
2014					
4	5	Harvest, Mechanical, Thin, Machine, Loblolly	72	$2,520.00	$7,200.00
4	15	Harvest, Mechanical, Thin, Machine, Loblolly	9	$315.00	$900.00
		Yearly Totals	81	$2.835.00	$8.100.00
2015					
3	2	Harvest, Mechanical, Final, Machine, Loblolly	60	$2,100.00	$84,540.00
3	14	Harvest, Mechanical, Final, Machine, Loblolly	82	$2,870.00	$115,538.00
		Yearly Totals	142	$4.970.00	$200.078.00
2016					
4	5	Fire Protection, Other, Burn, Hand, Fuel Reduction	72	$1,806.75	$0.00
4	15	Fire Protection, Other, Burn, Hand, Fuel Reduction	9	$221.00	$0.00
		Yearly Totals	81	$2.027.75	$0.00
		Grand Totals	**922**	**$53.382.76**	**$208.178.00**