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# 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-R2E**

## TABLE OF CONTENTS

LANDOWNER INFORMATION .....	3
FORESTER INFORMATION .....	3
DISCLAIMER .....	3
INTRODUCTION .....	3
OBJECTIVES .....	4
PROPERTY DESCRIPTION .....	4
SOIL TYPES .....	5
GENERAL PROPERTY RECOMMENDATIONS .....	6
STRATA .....	8
OTHER PLAN ACTIVITIES .....	10
PLAN MAP .....	11
PLAN MAP .....	12
PLAN MAP .....	13
STRATA ACTIVITY SCHEDULE .....	14

## 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  
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E-mail Address: ddaigneault@gsd.k12.ms.us  
Social Security Number (optional):

## FORESTER INFORMATION

Name: Kenneth E. Cline , SF  
Forester Number: 01333  
Organization: MFC  
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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: 635 Latitude: -90.09 Longitude: 33.68  
Section: 16 Township: 21N Range: 2E

## 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 6 miles Southwest of Holcomb and 1 mile West of Hwy. 7 in Grenada County, and consist of 635.31 acres, of which 630.77 acres are forested. The section consists of the following stands:

**STRATUM #1**-[Stand # 3 & 20] (368.97 ac.) ; 72 yr. old Hardwood Sawtimber, estab. 1939.

**STRATUM #2**-[Stand # 5, 7, 11, 13, 14, 15, 16 & 18] (99.84ac.) ; 3 yr. old Pine Reproduction, estab. 2008.

**STRATUM #3**-[Stand # 1, 6, 9 & 12] (93.10 ac.) ; 8 yr. old Hardwood Submerchantable, estab. 2003.

**STRATUM #4**-[Stand # 2 & 4] (68.86 ac.) ; 5 yr. old Mixed Oak & Pine Submerchantable, estab. 2006.

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. The watershed drainages of this section are in the *Will Neill* 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.

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*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.

## **SOIL TYPES**

*Soils Identification*

The soils evaluation done on this property identified the following soil types.

*Ws, Wf - Waverly silt loam & Waverly-Falaya assoc.*

The Waverly component makes up 80 - 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces. The parent material consists of silty alluvium deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly 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 9 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. The Loblolly Site Index = 98, the average Oak Site Index = 103 and the Green Ash Site Index = 92.

*Ff - Falaya silt loam*

The Falaya 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. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. 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 18 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The Loblolly Site Index = 98, the average Oak Site Index = 103 and the Green Ash Site Index = 92.

## 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 been 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.

Leasing the property for hunting, with the lease holder having the right to establish and maintain food plots, in designated areas is also an option.

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*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*

Stand Description

Hardwood Sawtimber - 72 yr. old (368.97 ac.) estab. 1939. The primary species are Red oak, White oak, Sweetgum and Hickory. Stand stocking is 118 trees per acre with an average diameter of 13 inches and the average merchantable height of 30 feet. The Basal Area is 109 square feet per acre. The estimated yield is 88 tons per acre. **Stand # 3 & 20 = STRATUM #1.**

Stand Recommendations

These stands will be managed on an 80 year rotation. Two (2) shelterwood cuts are scheduled within the time frame of this plan [a 77 ac.-2012 and a 90 ac.-2016]. The remaining 202 acres will be scheduled for harvest during the next 10 year management plan cycle. Natural regeneration will be utilized as needed, with supplemental planting utilized when needed to enhance species composition.

Activity Recommendations

Harvest

A Shelterwood cut of approximately 77 acres is scheduled for 2012. The harvesting prescription consists of leaving approximately 50 square feet of Basal Area per acre, favoring dominant and codominant trees. Den trees will be favored when possible.

Harvest

A second area of approximately 90 acres is scheduled for a *Shelterwood* cut in **2016**.

*Strata 2*

Stand Description

Loblolly Pine Reproduction - 3 yr. old (99.84 ac.), estab. 2008. This stand has a stocking of approximately 715 trees per acre.

**Stand # 5, 7, 11, 13, 14, 15, 16 & 18 = STRATUM #2.**



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FOREST STEWARDSHIP MANAGEMENT PLAN

Stand Recommendations

This stand will be managed on a 35 year rotation with thinnings scheduled when needed. They will be replanted in Loblolly Pine following final harvest. **{There are no Activities scheduled at this time.}**

*Strata 3*

Stand Description

Hardwood Submerchantable - 8 yr. old (93.10 ac.), estab. 2003. This stand was hand planted with Nuttall oak, Swamp Chestnut oak and Cherrybark oak at a rate of 178 trees per acre. Natural sprouting, that has occurred since 2003, has increased the stocking level to 455 trees per acre. Species include Hickory, Sweetgum, Red Maple, Green Ash and Persimmon. The Basal Area is 25 square feet per acre.

**Stand #5, 6, 9 & 12 = STRATUM #3.**

Stand Recommendations

These stands will be managed on a 70 year rotation with thinnings scheduled when needed. Natural regeneration will be utilized as needed. **{There are no Activities scheduled at this time.}**

*Strata 4*

Stand Description

Mixed Oak - Pine Submerchantable, 5 yr. old (68.86 ac.), estab. 2006. This stand is composed of a total stocking of 382 trees per acre, consisting of 261 Loblolly pine per acre and 121 Cherrybark oak per acre. The total Basal Area is 22 square feet per acre.

**Stand # 2 & 4 = STRATUM #4.**

Stand Recommendations

These stands will be managed on a 70 year rotation. The primary function of the pine trees is to be trainer trees for the oaks. Thinnings will be scheduled when needed. The method of regeneration to use will be determined based on the site conditions at the time of need.

Activity Recommendations

Harvest

A Thinning is scheduled for this stand in 2021, to maintain the health and vigor of the stand. The condition of the hardwood component of the stand will determine whether the Loblolly pine will be thinned or totally removed during this thinning.

## OTHER PLAN ACTIVITIES

### *Property Activities*

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

This work is scheduled in **2018**, when the boundary lines are painted.

### Boundary Line Description

The Boundary Lines on this section were last painted in December of 2010. They were marked with Orange paint.

### Boundary Line Recommendations

*Boundary Line Maintenance* is scheduled for **2018**.

### Activity Recommendations

***This section will, also, be inspected for Beaver Dams, with demolition of any dams scheduled as needed. The estimated cost of this work is \$500 per demolition. Because the actual need for this work is unpredictable, this cost is NOT included in the Expense & Revenue Spread Sheets included in this plan.***

# S16-T21N-R2E GRENADA COUNTY ROAD MAP

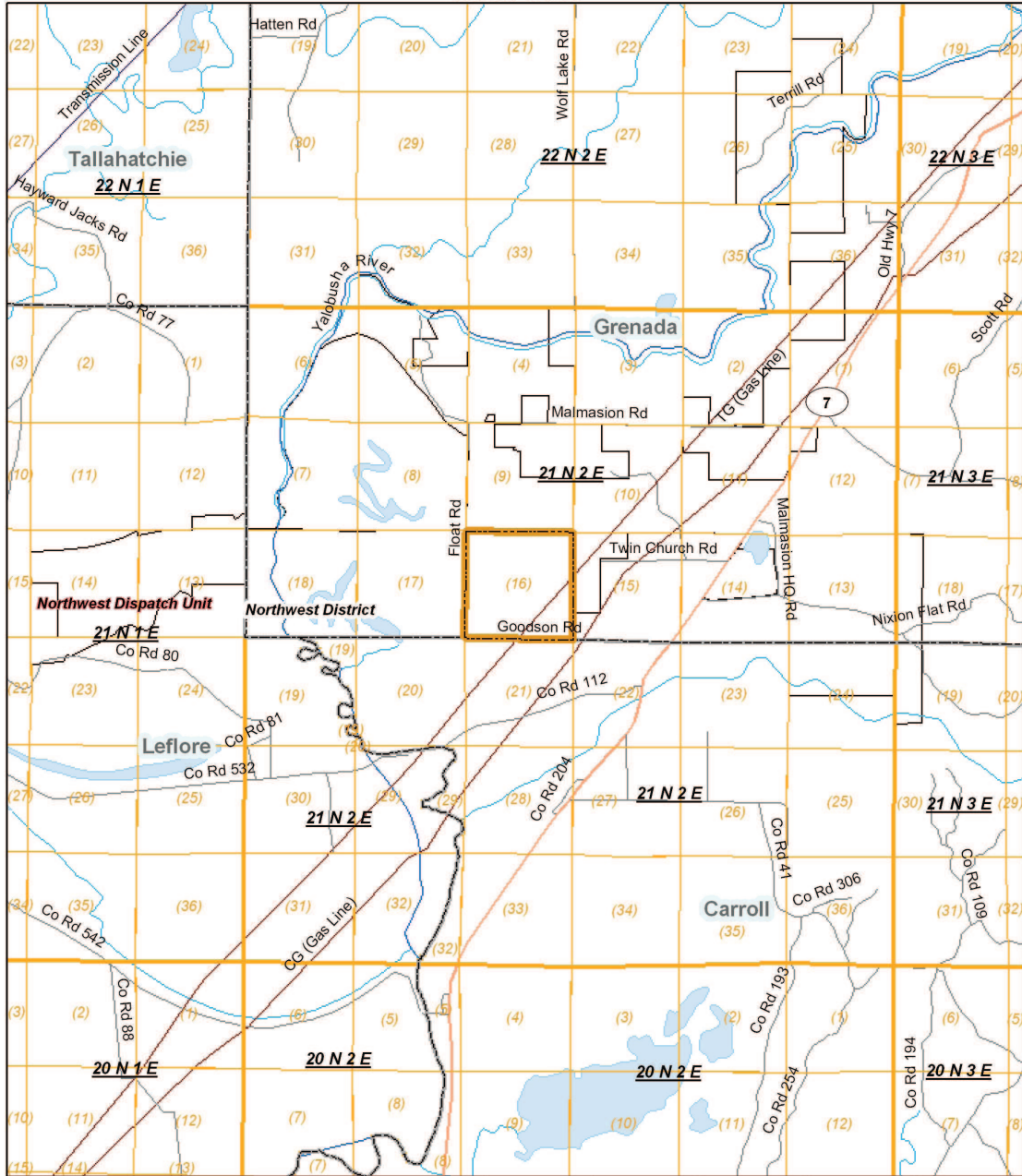


## S16-T21N-R2E GRENADA COUNTY ROAD MAP

Malmasion Section



2012 to 2021  
635.30 Acres



(01/13/2012)

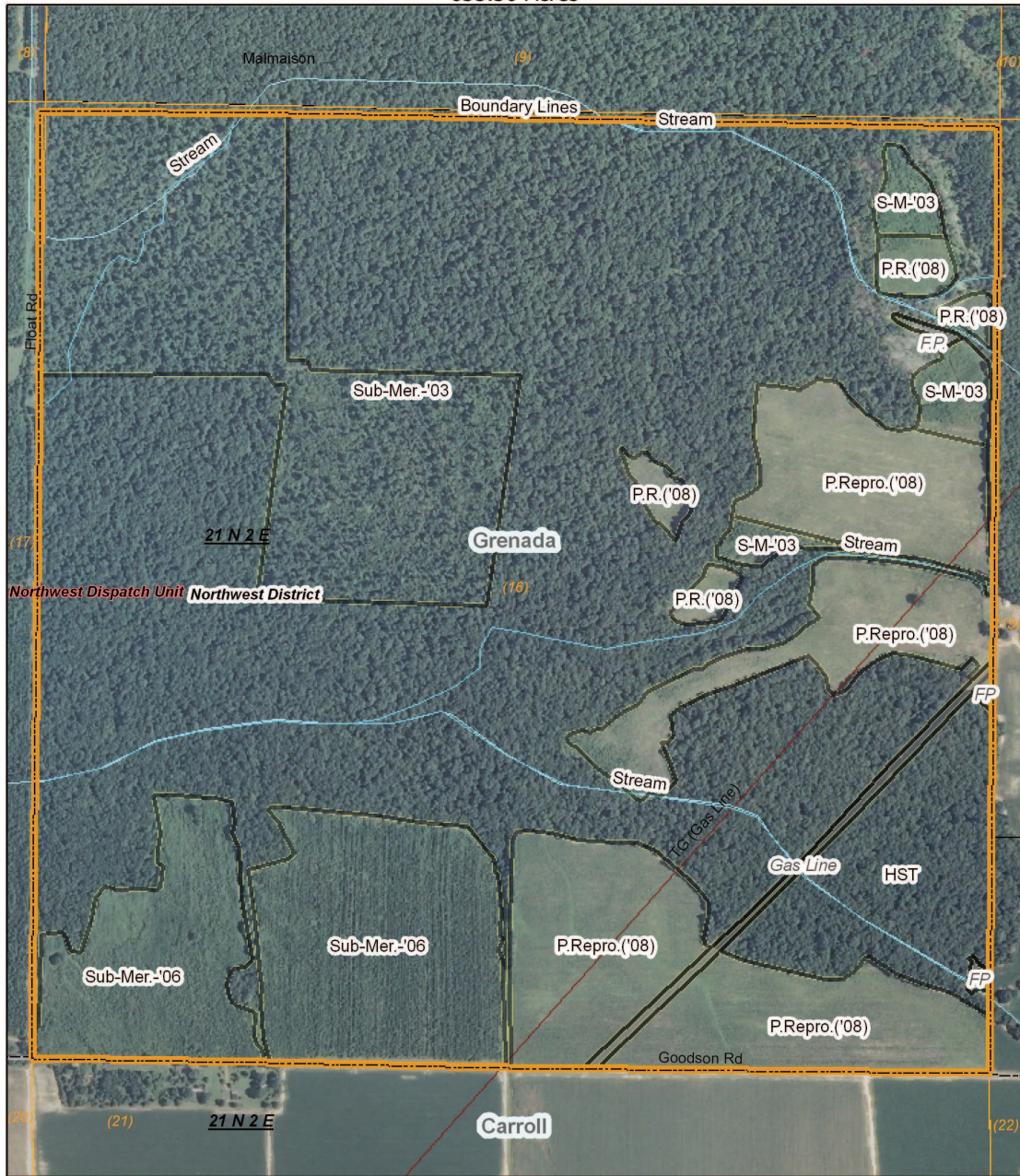
0 1 2 3 4 Miles



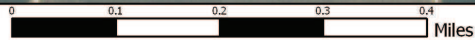
**S16-T21N-R2E, Grenada County PLAN MAP**

Malmaison Section

2012 to 2021  
635.30 Acres



(07/14/2011)





## S16-T21N-R2E, Grenada County MAP LEGEND

**Property**

Property (1)

**Category 1: Stands**

- Sub-Merchantable (6)
- Reproduction (8)
- Sawtimber (2)

**Category 3: Non-Forest Stands**

Non-Forest (4)

**Boundary Lines**

Property (1)

**Hydrology (Lines)**

Intermittent Stream (5)

### MFC Basemap

**County Boundary**

County Boundary (2)

**Quadrangle Grid**

USGS Quad (2)

**PLS Townships**

PLS Townships (2)

**Survey Districts**

District 2 (2)

**Blockgroup (Census 2000)**

Blockgroup (Census 2000) (2)

**Block (Census 2000)**

Block (Census 2000) (5)

**Tract/BNA (Census 2000)**

Tract/BNA (Census 2000) (2)

**County Roads**

County Roads (4)

**Natural Gas Lines**

Natural Gas Lines (2)

**School Sections**

School Sections (1)

**Public School Districts**

- GRENADA SCHOOL DISTRICT (1)
- CARROLL COUNTY SCHOOL DISTRICT (2)

**US Congressional District**

- US Cong Dist #2 (1)
- US Cong Dist #1 (1)

**MS Senate**

14 (2)

**MS House**

46 (2)

**Intermittent Streams**

Intermittent Streams (2)

**Hydrologic Units (Basins)**

YALOBUSHA RIVER ABOVE GRENADA DAM (2)

**Historic Forest Boundary**

- Oak-Hickory-Magnolia-Poplar (2)
- Bottomland Hardwood (Oak-Gum-Cottonwood-Cypress) (1)

**MS Forest Habitat**

- MISCELLANEOUS ALLUVIAL FLOODPLAINS (2)
- YAZOO BLUFFLAND FRINGE (1)

**Physiographic Region**

Delta (2)

**Soil Associations**

- waverly-forestdale-calhoun (2)
- falaya-collins-waverly (1)

**Surface Geology**

ALLUVIUM (2)

**Wildlife Management Areas**

Wildlife Management Areas (1)

**MFC Districts**

MFC Districts (1)

**MFC Dispatch Units**

MFC Dispatch Units (1)

**MS Outline**

MS Outline (1)

Stand Activity Schedule for  
Grenada County BOE  
16 21N 2E

Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue
<b>2012</b>					
1	3	Harvest, Mechanical, Thin, Machine, Misc Hardwood	77	\$1,540.00	\$54,285.00
Yearly Totals			77	\$1,540.00	\$54,285.00
<b>2016</b>					
1	3	Harvest, Mechanical, Thin, Machine, Misc Red Oak	90	\$1,800.00	\$7,200.00
Yearly Totals			90	\$1,800.00	\$7,200.00
<b>2021</b>					
4	2	Harvest, Mechanical, Thin, Machine, Loblolly	28	\$560.00	\$1,680.00
4	4	Harvest, Mechanical, Thin, Machine, Loblolly	41	\$820.00	\$2,460.00
Yearly Totals			69	\$1,380.00	\$4,140.00
<b>Grand Totals</b>			<b>236</b>	<b>\$4,720.00</b>	<b>\$65,625.00</b>