



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-T22N-R2E

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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: 645 Latitude: -90.09 Longitude: 33.77
Section: 16 Township: 22N 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 East of Holcomb on Hwy. 8 and consists of 645.06 acres, of which 615.08 acres are forested. The section consists of the following stands:

STRATUM #1: Hardwood Shelterwood Reproduction - 6 yr. old (214.92 ac.), estab. 2005. **Stand # 8, 9 & 17.**

STRATUM #2: Hardwood Sawtimber Slew - 75 yr. old (196.11 ac.), estab. 1936. **Stand # 3, 6, 121, 14, 15 & 18.**

STRATUM #3: Hardwood Sub. Merch. - 16 yr. old (139.7 ac.), estab. 1995. **Stand # 19.**

STRATUM #4: Hardwood Sub. Merch. - 12 yr. old (64.35 ac.), estab. 1999. **Stand # 4 & 5.**

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 Yalobusha River watershed. The Yalobusha River is a tributary of the Yazoo River. 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

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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

W - Water

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

Wf - Waverly-Falaya association

The Waverly component makes up 80 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 frequently 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 5w. This soil meets hydric criteria. Loblolly Site Index = 98, Cherrybark Oak = 110.

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.

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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.

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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.

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

Hardwood Shelterwood Reproduction - 6 yr. old (214.92 ac.), estab. 2005. **Stand # 8, 9 & 17.**

This strata is composed of *two* stands of hardwood reproduction, with the overstory shelterwood still in place [stand 8 & 9] and *one* stand of hardwood reproduction without

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an overstory shelterwood [stand 17]. Current stocking consists of approximately 1,250 trees per acre, composed of a variety of oak species, ash, sweetgum, elm, and other miscellaneous species. These stands are being managed on a 70 year rotation.

Strata Recommendations

The shelterwood overstory of this strata will be removed in two stages. A *Final Harvest* of **Stand 8** (103.63 ac.) is scheduled for **2013**. The *Final Harvest* of **Stand 9** (102.77 ac.) is scheduled for **2016**. Following both harvests, a Chemical Injection Site Prep may be done in these stands [scheduled for **2015** in **Stand 8** and **2018** in **Stand 9**]. Natural regeneration methods will be utilized for reforestation, supplemented with artificial (seedling planting) methods when needed, following final harvests. *{A **Stocking Check** will be scheduled in 2014 and 2017, to ensure that the new stands are adequately stocked. The estimated cost is \$5/ac. (\$520 total, each). This cost is **NOT** included in the Expense Spread Sheet or in the Stand Activity Schedule.}*

No activities are scheduled for **Stand 17**; this stand need time to grow and develop into a merchantable stand.

Activity Recommendations

Harvest

A Final Harvest (Shelterwood Removal), for *Stand 8* (103.63 ac.) and *Stand 9* (102.77 ac.), is scheduled for **2013** and **2016** respectively. All merchantable timber will be harvested at this time. Stand and market conditions will dictate the actual timing of these sales.

Site Preparation

Upon completion of the final harvests, a Chemical Injection Site Prep may be scheduled for **2015**, in *Stand 8* (103.63 ac.) and for **2018**, in *Stand 9* (102.77 ac.). The objective will be to remove undesirable species from the new stand, depending on the *severity* of undesirable competition.

Strata 2

Strata Description

Hardwood Sawtimber Slew-75 yr. old (196.11ac.), estab. 1936. Stand #3, 6, 12, 14, 15 & 18.

Current stocking consists of approximately 22 trees per acre with a Basal Area of 50 square feet per acre. The total estimated yield is 68 tons per acre. Species include a variety of oaks, ash, gums, hickories, maple and miscellaneous other hardwoods. This strata is being managed on an 85 year rotation.

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Strata Recommendations

{Management activities are dependent on dry site conditions (this site is usually too wet for logging activity)}.

A 100 acre Shelterwood thinning harvest is scheduled for **2017** in Stand #18 of this Strata. The objective will be to open the stand up to allow more sunlight to reach the forest floor, thereby allowing the development of advanced regeneration (new seedlings that will develop into a new forest stand, once the shelterwood trees are removed at a later date.) This will be, primarily, a thin from below operation, targeting poorly formed, diseased and damaged trees, however, some overmature dominant trees will also be removed. The target residual stand will consist mainly of Cherrybark Oak, Nuttall Oak, Sweetgum and Green Ash, with a stocking of approximately 40 square feet of Basal Area per acre.

Prior to harvest, undesirable submerchantable stems will be deadened by a chemical injection and basal spray operation. This is scheduled for **2016**. This will improve logging efficiency and reduce competition for the new seedlings. If needed, supplemental tree planting will be utilized to insure adequate stocking levels are achieved. *{This will be scheduled, if needed, after a stocking check is done.}*

Activity Recommendations

Site Preparation

A Chemical Injection and Basal Spray site prep is scheduled for **2016** in Stand #18. The objective will be to remove undesirable submerchantable trees from the stand, prior to the Shelterwood harvest. This will improve logging efficiency and reduce competition, for the desirable new seedlings that will develop and form the new stand, after the Shelterwood harvest is completed.

Harvest

A Shelterwood thinning harvest (to establish a shelterwood) is scheduled in Stand #18 for **2017**. Cherrybark Oak, Nuttall Oak, Sweetgum and Green Ash will be favored for leave trees. This will be, primarily, a thin from below, targeting poorly formed, diseased and damaged tree. Some overmature dominant trees will, also, be removed, however, in order to achieve the stocking target of 40 square feet of Basal Area per acre.

The purpose of the Shelterwood harvest will be to open the stands canopy up to allow more sunlight to reach the forest floor, thereby allowing new seedlings to grow and develop into a new forest stand.

Strata 3

Strata Description

Hardwood Sub. Merchantable - 16 yr. old (139.7 ac.), estab. 1995. **Stand # 19.**

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Current condition consists of approximately 1,313 trees per acre with a Basal Area of 17 square feet per acre. Species include a variety of oaks, ash, elm, hickory, maple and miscellaneous other hardwoods. This strata is being managed on a 70 year rotation.

Strata Recommendations

No activities are planned at this time. Current markets do not allow for thinning a hardwood stand this young. The strata needs time to grow and develop into a merchantable stand. The next plan revision will address the timing of a 1st thinning.

Strata 4

Strata Description

Hardwood Sub. Merchantable - 12 yr. old (64.35 ac.), estab. 1999. **Stand # 4 & 5.**

Current condition consists of 1,325 trees per acre with a Basal Area of 15 square feet per acre. Species include various oaks, hickory, maple, ash, elm and miscellaneous other hardwoods. This strata is being managed on a 70 year rotation.

Strata Recommendations

No activities are planned at this time. Current markets do not allow for thinning a hardwood stand this young. The strata needs time to grow and develop into a merchantable stand. The next plan revision will address the timing of a 1st thinning.

OTHER PLAN ACTIVITIES

Boundary Lines

Line Description

The Boundary Lines were last painted in March 2010. They were marked with Blue paint.

Line Recommendations

Boundary Line Maintenance is scheduled for **2014** and **2018**. They will be marked with *Orange* paint.

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.

This work is scheduled for **2014** and **2018**, when the boundary lines are painted.

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.

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Because the actual need for this work is unpredictable, this cost is NOT included in the Expense & Revenue Spread Sheets included in this plan.



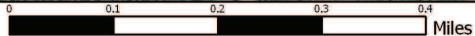
S16-T22N-R2E GRENADA COUNTY

Oxberry Section

2012 to 2021
645.06 Acres




(11/14/2011)








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Property

 Property (1)

Category 1: Stands


 Sawtimber (6)
 Sub-Merchantable (3)
 Reproduction (3)

Category 3: Non-Forest Stands


 Non-Forest (7)

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) (5)


Tract/BNA (Census 2000)

 Tract/BNA (Census 2000) (1)


County Roads

 County Roads (1)


US/State Highways

 State Highway (1)


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

 24 (1)



Perennial Streams

 Perennial Streams (1)


Hydrologic Units (Basins)

 YALOBUSHA RIVER ABOVE GRENADA DAM (1)


Historic Forest Boundary

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



MS Forest Habitat

 MISCELLANEOUS ALLUVIAL FLOODPLAINS (1)

Physiographic Region

 Delta (1)

Soil Associations

 waverly-falaya-henry (1)
 falaya-collins-waverly (1)

Surface Geology

 ALLUVIUM (1)


MFC Districts

 MFC Districts (1)

MFC Dispatch Units

 MFC Dispatch Units (1)

MS Outline

 MS Outline (1)

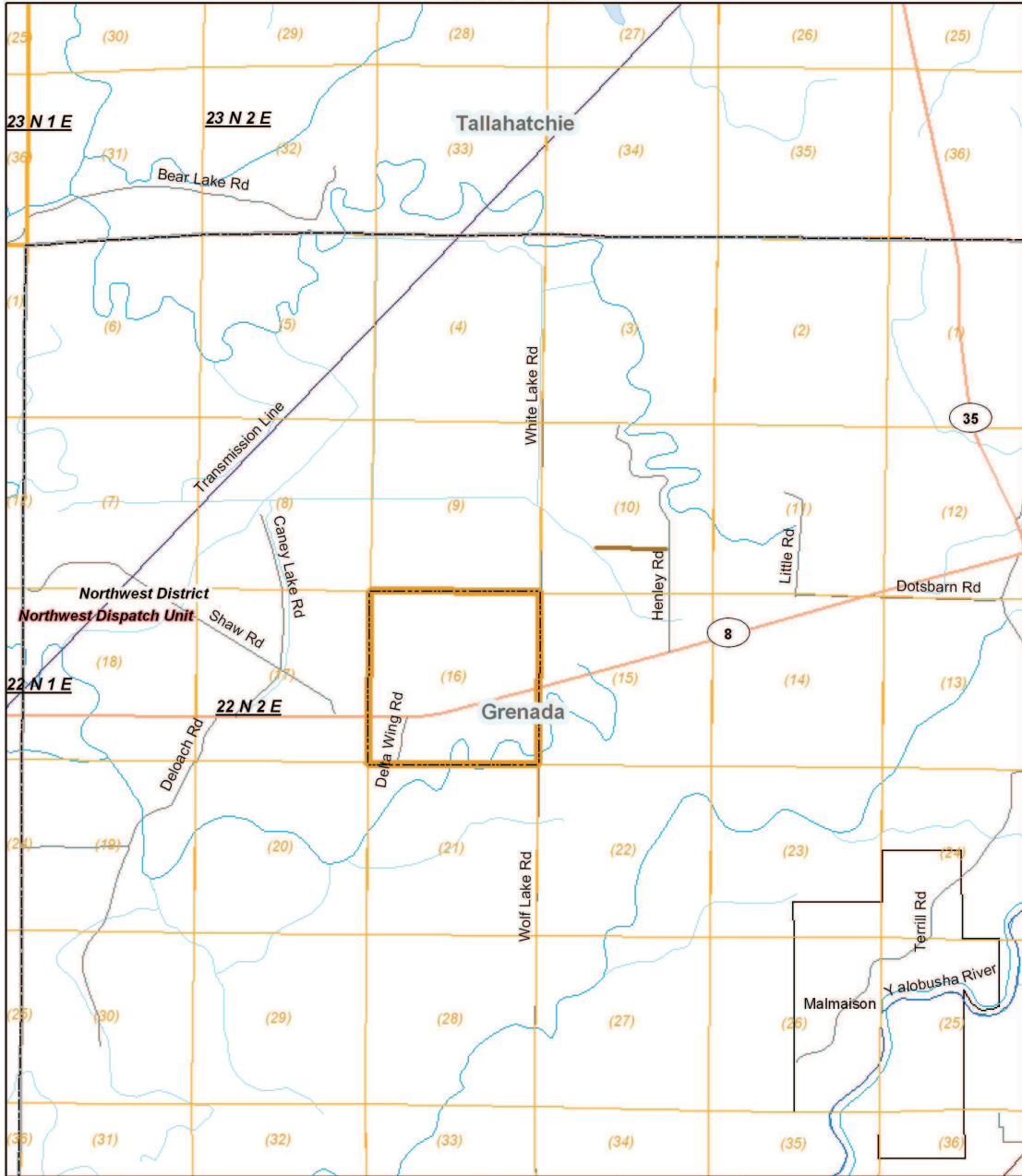
S16-T22N-2E ROAD MAP



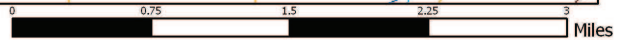
S16-T22N-2E ROAD MAP

Oxberry Section

2012 to 2021
645.06 Acres



(11/14/2011)



Stand Activity Schedule for
Grenada County BOE
16 22N 2E

Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue
2013					
1	8	Harvest, Mechanical, Final, Machine, Cherrybark Oak	104	\$3,640.00	\$104,000.00
Yearly Totals			104	\$3,640.00	\$104,000.00
2015					
1	8	Site Preparation, Chemical, Inject, Hand, Woody	104	\$12,480.00	\$0.00
Yearly Totals			104	\$12,480.00	\$0.00
2016					
1	9	Harvest, Mechanical, Final, Machine, Cherrybark Oak	103	\$3,605.00	\$103,000.00
2	18	Site Preparation, Chemical, Inject, Hand, Woody	100	\$10,000.00	\$0.00
Yearly Totals			203	\$13,605.00	\$103,000.00
2017					
2	18	Harvest, Mechanical, Shelter Wood, Machine, Misc Pine	100	\$3,500.00	\$64,400.00
Yearly Totals			100	\$3,500.00	\$64,400.00
2018					
1	9	Site Preparation, Chemical, Inject, Hand, Woody	103	\$12,360.00	\$0.00
Yearly Totals			103	\$12,360.00	\$0.00
Grand Totals			614	\$45,585.00	\$271,400.00