

FOREST STEWARDSHIP MANAGEMENT PLAN

Prepared For: Calhoun County BOE

Prepared By: Lee Eaton MS Forestry Commission

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: Sabougla S16-22N-8E

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LANDOWNER INFORMATION

Name: Calhoun County BOE

Mailing Address: 119 W. Main St.
City, State, Zip: Pittsboro, MS 38951
Country: United States of America

Contact Numbers: Home Number:

Office Number: 662-412-3152

Fax Number:

E-mail Address:

Social Security Number (optional): 646000191

FORESTER INFORMATION

Name: Lee Eaton, Service Forester

Forester Number: 02046

Organization: MS Forestry Commission Street Address: 405 E. Washington St. City, State, Zip: Houston, MS 38851

Contact Numbers: Office Number: 662-456-3255

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PROPERTY LOCATION

County: Calhoun Total Acres: 642 Latitude: -89.46 Longitude: 33.77

Section: 16 Township: 22N Range: 8E

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

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 burning, fire break installation and maintenance, road installation and maintenance, pesticide applications, and timber harvesting.

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

Fire Protection

The goal is to protect the resource from wildfires, by establishing and maintaining firebreaks around the property; annually inspect possible signs of insect infestations and disease; and prohibit grazing until terminal bud is beyond reach of livestock.

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.

PROPERTY DESCRIPTION

General Property Information

This section is known as the "Sabougla" section and is located on Highway 8 approximately 2 miles east of the Grenada County line. The forested portions of this section are approximately 2/3 in pulpwood classed pine plantation and 1/3 in sub-merchantable pine plantation. The Sabougla section has approximately 490 forested acres. The remaining 150 acres consists of crop land, highway right-of-ways, and private residences.

Water Resources

There are three small intermittent streams located on this tract. A streamside management zone (SMZ) of at least 30 feet wide should be left along either side of the streams to protect water quality. Any management activity performed near an SMZ should be done 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.

Houses and agricultural fields are located on and adjacent to the property. Management activities, especially prescribed burning and herbicide applications, will be conducted in a manner which will minimize impacts to these areas.

Historical, Cultural, or Archeological Features

There are two churches located on this property. Any management activities will be conducted in a manner that will not negatively impact these two sites.

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

Boundary lines have been established and will be maintained on a four year interval.

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.

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

Soil Types

Cuthbert

This is an upland soil with 8 to 12 percent slopes. It is comprised of 1/2 foot of fine sandy loam over 2/3 foot of sandy clay, overlying 4 feet or more of sandy clay loam to sandy loam. This soil has a site index of 78 for loblolly pine.

Dulac

This is a moderately well drained, highly erodable upland soil with 5 to 8 percent slopes. It is comprised of 2 feet of silt loam over a silty clay loam fragipan about 1 foot thick, underlain by clay more than 2 feet thick. This soil has a site index of 76 for loblolly pine.

Falaya

This is a moderately well drained alluvial soil that formed from loessal materials. This soil has a silt loam surface layer and a silt loam or a silty clay loam subsoil. Falaya soils have a site index of 110 for loblolly pine.

STRATA

Strata 1 - Stands 8, 9, 15, & 16

Strata Description

This strata contains a total of 111 acres of hand planted loblolly pine. The pines were established in 1990. A first thinning harvest was performed in 2010. The present stocking level averages 146 trees per acre. The average basal area is 74 square feet per acre and there are approximately 22 tons of pulpwood, 17 tons of chip-n-saw, and 12 tons of sawtimber per acre.

Stand Recommendations

This strata should be managed to age 30 to 35 and then replanted with genetically improved loblolly pine. Typically, a pine plantation is inspected for first thinning needs at age 12 to 14. A second thinning may be implemented 6 to 8 years after the first thinning. The final harvest should occur at age 30 to 35 depending on stand conditions.

Activity Recommendations

Vegetation Control

This strata should be treated with a mid-rotation herbicide application at the labelled rate during the late summer of 2013. The purpose of this practice is to control the hardwood understory and reduce competition.

Harvest

This strata should receive a second thinning in 2019. Small, poorly formed, and low quality trees should be harvested resulting in a residual Basal Area of 75 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 a wildfire to occur. Prescribed burns should be implemented on a three year rotation. The burns should be performed in 2013, 2016, and 2021. 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.

Strata 2 - Stands 1, 5, & 6

Strata Description

The stands within this strata contain a total of 130 acres of hand planted loblolly pine. The pines were established in 2001 and there is an average of 500 trees per acre.

Stand Recommendations

This strata should be managed to age 30 to 35 and then replanted with genetically improved loblolly pine. Typically, a pine plantation is inspected for first thinning needs at age 12 to 14. A second thinning may be implemented 6 to 8 years after the first thinning. The final harvest should occur at age 30 to 35 depending on stand conditions.

Activity Recommendations

Harvest

The pine plantations within this strata should be thinned in 2014. Every fifth row should be harvested and the residual stand should be thinned to a basal area of 75 square feet by removing smaller, poorly-formed trees to favor sawlog-quality trees.

Vegetation Control

This strata should be treated with herbicide at the labelled rate during the late summer of 2015. The purpose of this practice is to control the hardwood understory and reduce competition.

Fire Protection

A prescribed fire is recommended for this site in order to reduce fuel loading and the potential for a wildfire to occur. Prescribed burns should be implemented on a three year rotation. The burns should be performed in 2015 and 2018. 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.

Strata 3 - Stands 2 & 3

Strata Description

This strata contains 80 acres of pine plantation which was established in 1991. The pines have been thinned for the first time. A mid-rotation herbicide application and prescribed burn have been applied to the stands. The average basal area if 92 square feet per acre and there are approximately 200 trees per acre. The average volumes present are 46 tons of pulpwood, 8 tons of chip-n-saw, and 6 tons of sawtimber per acre.

Stand Recommendations

This strata should be managed to age 30 to 35 and then replanted with genetically improved loblolly pine. Typically, a pine plantation is inspected for first thinning needs at age 12 to 14. A second thinning may be implemented 6 to 8 years after the first thinning. The final harvest should occur at age 30 to 35 depending on stand conditions.

Activity Recommendations

Harvest

This strata should receive a second thinning in 2018. Small, poorly formed, and low quality trees should be harvested resulting in a residual Basal Area of 75 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 a wildfire to occur. Prescribed burns should be implemented on a three year rotation. The burns should be performed in 2013, 2016, and 2020. 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.

Strata 4 - Stand 7

Strata Description

This strata contains a total of 93 acres of hand planted loblolly pine. The pines were established in 1990. A first thinning harvest was performed in 2010. The present stocking level averages 146 trees per acre. The average basal area is 74 square feet per acre and there are approximately 22 tons of pulpwood, 17 tons of chip-n-saw, and 12 tons of sawtimber per acre.

Stand Recommendations

This strata should be managed to age 30 to 35 and then replanted with genetically improved loblolly pine. Typically, a pine plantation is inspected for first thinning needs at age 12 to 14. A second thinning may be implemented 6 to 8 years after the first thinning. The final harvest should occur at age 30 to 35 depending on stand conditions.

Activity Recommendations

Vegetation Control

This strata should be treated with herbicide at the labelled rate during the late summer of 2014. The purpose of this practice is to control the hardwood understory and reduce competition.

Harvest

This strata should receive a second thinning in 2020. Small, poorly formed, and low quality trees should be harvested resulting in a residual Basal Area of 75 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 a wildfire to occur. Prescribed burns should be implemented on a three year rotation. The burns should be performed in 2014 and 2017. 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.

Strata 5 - Stand 13

Strata Description

This strata consists of 23 acres of loblolly pine which was planted in 1995. There are approximately 400 trees per acre and the basal area averages 100 square feet per acre. There are approximately 60 tons of pine pulpwood per acre.

Stand Recommendations

This strata should be managed to age 30 to 35 and then replanted with genetically improved loblolly pine. Typically, a pine plantation is inspected for first thinning needs at age 12 to 14. A second thinning may be implemented 6 to 8 years after the first thinning. The final harvest should occur at age 30 to 35 depending on stand conditions.

Activity Recommendations

Harvest

The pine plantations within this strata should be thinned in 2014. Every fifth row should be harvested and the residual stand should be thinned to a basal area of 75 square feet by removing smaller, poorly-formed trees to favor sawlog-quality trees.

Vegetation Control

This strata should be treated with herbicide at the labelled rate during the late summer of 2015. The purpose of this practice is to control the hardwood understory and reduce competition.

Fire Protection

A prescribed fire is recommended for this site in order to reduce fuel loading and the potential for a wildfire to occur. Prescribed burns should be implemented on a three year rotation. The burns should be performed in 2015 and 2018. 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.

Strata 6 - Stands 10 & 11

Strata Description

This strata consists of Streamside Management Zones and contains a total of 15 acres. The timber present includes naturally regenerated hardwood. There are approximately 188 trees per acre with an average basal area of 75 square feet. An average volume of 47 tons of pulpwood per acre is present.

Strata Recommendations

Where the width and the timber volume allows, harvests will be scheduled for these stands. These harvests will correspond with harvests in adjacent stands.

Strata 7 - Stand 4

Strata Description

This stand consists of 13 acres of hand planted loblolly pines which were established in 2008. There are approximately 690 trees per acre of reproduction present.

Stand Recommendations

This stand should be managed to age 30 to 35 and then replanted with genetically improved loblolly pine. Typically, a pine plantation is inspected for first thinning needs at age 12 to 14. A second thinning may be implemented 6 to 8 years after the first thinning. The final harvest should occur at age 30 to 35 depending on stand conditions.

Non-Forest

The balance of the property contains 178 acres of non-forested land consisting of agricultural fields, ponds, road and utility rights of way, and farm-residential leases.

OTHER PLAN ACTIVITIES

Boundary Lines

Line Recommendations

Boundary lines should be re-painted with orange paint on a four year cycle.

Activity Recommendations

Property Activities

Boundary line maintenance will be perfored in the years 2013 and 2017.



Sabougla 16th Section

S16-22N-8E 2012 to 2021 641.62 Acres





Sabougla Legend

US/State Highways

State Highway (1)



Property Property (1)	Category 3: Non-Forest Stands Non-Forest (2)
Category 1: Stands Sub-Merchantable (3)	Boundary Lines Property (1)
Pulpwood (10) Reproduction (1)	Transportation (Lines) State Highway (1)
MFC Basemap	
County Boundary County Boundary (1)	School Sections School Sections (1)
Quadrangle Grid USGS Quad (1)	Public School Districts CALHOUN COUNTY SCH
PLS Townships PLS Townships (1)	US Congressional District US Cong Dist #1 (1)
Survey Districts District 2 (1)	MS Senate 15 (1) 8 (1)
Blockgroup (Census 2000) Blockgroup (Census 2000) (2)	MS House 23 (1)
Block (Census 2000) Block (Census 2000) (7)	Intermittent Streams Intermittent Streams (3
Tract/BNA (Census 2000) Tract/BNA (Census 2000) (1)	Hydrologic Units (Basins) VALOBUSHA RIVER ABO
County Roads County Roads (7)	Historic Forest Boundary



Transportation (Lines) (cont)

County Roads (5)

Stand Activity Schedule for

16 22N 8E

Strata	Stand	Activity		Est. Cost	Est. Revenue
2013					
1	8	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$1,124.25	\$0.00
1	8	Vegetation Control, Chemical, MRVM (Mid Rotation Vegetative Mgmt), Machine, Woody		\$4,047.30	\$0.00
1	9	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$667.75	\$0.00
1	9	Vegetation Control, Chemical, MRVM (Mid Rotation Vegetative Mgmt), Machine, Woody		\$2,403.90	\$0.00
1	15	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$575.00	\$0.00
1	15	Vegetation Control, Chemical, MRVM (Mid Rotation Vegetative Mgmt), Machine, Woody		\$2,093.40	\$0.00
1	16	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$410.25	\$0.00
1	16	Vegetation Control, Chemical, MRVM (Mid Rotation Vegetative Mgmt), Machine, Woody		\$1,476.90	\$0.00
3	2	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$1,090.50	\$0.00
3	3	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$893.25	\$0.00
		Yearly Totals	302	\$14,782.50	\$0.00
2014					
2	1	Harvest, Mechanical, Thin, Machine, Loblolly		\$3,640.00	\$39,454.48
2	5	Harvest, Mechanical, Thin, Machine, Loblolly		\$130.90	\$1,418.84
2	6	Harvest, Mechanical, Thin, Machine, Loblolly		\$754.25	\$8,175.42
4	7	Vegetation Control, Chemical, MRVM (Mid Rotation Vegetative Mgmt), Machine, Woody		\$8,370.00	\$0.00
4	7	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$2,325.00	\$0.00
5	13	Harvest, Mechanical, Thin, Machine, Loblolly		\$805.00	\$4,830.00
		Yearly Totals	338	\$16,025.15	\$53,878.75
2015					

Strata	Stand	Activity		Acre	Est. Cost	Est. Revenue
2	1	Vegetation Control, Chemical, MRVM (Mid Rotation Vegetative Mgmt), Machine, Woody		104	\$9,355.50	\$0.00
2	1	Forest Health, Other, Burn, Hand, Southern Pine Beetle		104	\$2,598.75	\$0.00
2	5	Forest Health, Other, Burn, F	land, Southern Pine Beetle	4	\$93.50	\$0.00
2	5	Vegetation Control, Chemical, MRVM (Mid Ro	otation Vegetative Mgmt), Machine, Woody	4	\$336.60	\$0.00
2	6	Forest Health, Other, Burn, Hand, Southern Pine Beetle		22	\$538.75	\$0.00
2	6	Vegetation Control, Chemical, MRVM (Mid Rotation Vegetative Mgmt), Machine, Woody		22	\$1,939.50	\$0.00
5	13	Vegetation Control, Chemical, MRVM (Mid Rotation Vegetative Mgmt), Machine, Combination		23	\$1,840.00	\$0.00
5	13	Fire Protection, Other, Burn	, Hand, Hazard Mitigation	23	\$575.00	\$0.00
			Yearly Totals	304	\$17.277.60	\$0.00
2016						
1	8	Fire Protection, Other, Burn, Hand, Fuel Reduction		45	\$1,124.25	\$0.00
1	9	Fire Protection, Other, Burn, Hand, Fuel Reduction		27	\$667.75	\$0.00
1	15	Fire Protection, Other, Burn, Hand, Fuel Reduction		23	\$575.00	\$0.00
1	16	Fire Protection, Other, Burn, Hand, Fuel Reduction		16	\$410.25	\$0.00
3	2	Fire Protection, Other, Burn, Hand, Fuel Reduction		44	\$1,090.50	\$0.00
3	3	Fire Protection, Other, Burn, Hand, Fuel Reduction		36	\$893.25	\$0.00
			Yearly Totals	190	\$4.761.00	\$0.00
2017						
4	7	Fire Protection, Other, Bur	n, Hand, Fuel Reduction	93	\$2,325.00	\$0.00
			Yearly Totals	93	\$2.325.00	\$0.00
2018						
2	1	Fire Protection, Other, Burn, Hand, Fuel Reduction		104	\$2,598.75	\$0.00
2	5	Fire Protection, Other, Burn, Hand, Fuel Reduction		4	\$93.50	\$0.00
2	6	Fire Protection, Other, Burn, Hand, Fuel Reduction		22	\$538.75	\$0.00

Strata	Stand	Activity		Est. Cost	Est. Revenue
3	2	Harvest, Mechanical, Thin, Machine, Loblolly		\$1,540.00	\$43,910.24
3	3	Harvest, Mechanical, Thin, Machine, Loblolly		\$1,250.55	\$35,657.11
5	13	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$575.00	\$0.00
		Yearly Totals		\$6.596.55	\$79.567.35
2019					
1	8	Harvest, Mechanical, Thin, Machine, Loblolly	45	\$1,573.95	\$13,913.72
1	9	Harvest, Mechanical, Thin, Machine, Loblolly	27	\$934.85	\$8,264.07
1	15	Harvest, Mechanical, Thin, Machine, Loblolly		\$805.00	\$7,116.20
1	16	Harvest, Mechanical, Thin, Machine, Loblolly		\$574.35	\$5,077.25
		Yearly Totals	111	\$3.888.15	\$34.371.25
2020					
3	2	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$1,090.50	\$0.00
3	3	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$893.25	\$0.00
4	7	Harvest, Mechanical, Thin, Machine, Loblolly		\$3,255.00	\$28,774.20
		Yearly Totals	172	\$5,238.75	\$28.774.20
2021					
1	8	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$1,124.25	\$0.00
1	9	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$667.75	\$0.00
1	15	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$581.50	\$0.00
1	16	Fire Protection, Other, Burn, Hand, Fuel Reduction		\$410.25	\$0.00
		Yearly Totals	111	\$2,783.75	\$0.00
		Grand Totals	1,855	\$73.678.45	\$196.591.54