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FOREST STEWARDSHIP MANAGEMENT PLAN

Prepared For: George County BOE

Prepared By: Vernon Eugene Cooper MFC

Time Period Covered by This Plan: 2012 - 2021

Date Plan Prepared: 2012-02-21

Plan Type: Stewardship / Stewardship

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

Property Name: S16 3S 5W

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LANDOWNER INFORMATION

Name: George County BOE

Mailing Address: 5152

Main St.

City, State, Zip: Lucedale, MS 39452 Country: United States of America

Contact Numbers: Home Number:

Office Number: 601-947-6993

Fax Number:

E-mail Address:

Social Security Number (optional): 646000379

FORESTER INFORMATION

Name: Vernon Eugene Cooper, Service Forester

Forester Number: 00960 Organization: MFC Street Address: 1165

Fig Farm Rd.

City, State, Zip: Lucedale, MS 39452

Contact Numbers: Office Number: 601-947-4961

Fax Number:

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

PROPERTY LOCATION

County: George Total Acres: 641 Latitude: -88.49 Longitude: 30.79

Section: 16 Township: 3S Range: 5W

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 located in southeast portion of the George County. The section located about one mile the the east of Highway 613 off of Ronald Williams road which leads into the Northwest corner of the section. There is no other access to the the section.

The section is comprised of mutiply age slash pine stands with the 232 acres that was planted in 1969. There are 133 acres in Slash pine plantations that was planted in 1989 and 84 acres in Slash plantation was planted in 1992.

There are 189 acres in bottomlands with a species composition of Slash pine, yellow-poplar, black gum, red maple, white bay and others. There is 3 acres in non-produtive land. There are no utility easements located on the section.

This section contains a total of \pm -640 acres of this \pm -6 acres are non-forested with no management activities currently planned, and \pm -634 acres are in timber production.

Cogan grass will be controlled as necessary on the section with harvest areas being a priority during the life of this plan.

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.

Archeological and Cultural Resources

There are no known archeological or cultural sites on this section. These sites would include churches, cemeteries, natural springs, Indian mounds or old home sites and other historic sites of significance.

Prescribed practices should be carried out in a manner that will minimize adverse impacts on archeological and or cultural resources. All laws, regulations, and guidelines will be followed if such areas are identified, and all management practices will be carried out in a manner to have positive effects on these resources.

These areas can range from churches, old cemeteries or Indian mounds to old home sites or other areas of historical significance.

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:

SOIL TYPES

Benndale

The Benndale component makes up 90 percent of the map unit. Slopes are 2 to 5 percent. This component is on coastal plains. The parent material consists of sandy loam alluvium 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 moderate. 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 2e. This soil does not meet hydric criteria. Loblolly Site Index = 94. Longleaf Site Index = 79. Slash Site Index = 94.

Dorovan

The Dorovan component makes up 63 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions. The parent material consists of decomposed organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage

class is very 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 frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface. The Johnston component makes up 22 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, November, December. Organic matter content in the surface horizon is about 13 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria.

Atmore

The Atmore component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions. The parent material consists of loamy marine 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 high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, October, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. Loblolly Site Index = 90. Longleaf Site Index = 72. Slash Site Index = 90.

Eustis

The Eustis component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on hillslopes. The parent material consists of Sandy Marine Deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is 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 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. Loblolly Site Index = 80. Longleaf Site Index = 65. Slash Site Index = 80.

McLaurin

The McLaurin component makes up 90 percent of the map unit. Slopes are 5 to 8 percent. This component is on coastal plains. The parent material consists of loamy fluviomarine 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 moderate. 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 3e. This soil does not meet hydric criteria. Loblolly Site Index = 90. Longleaf Site Index = 72. Slash Site Index = 90.

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.

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.

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.

STANDS

1-1-M-ST-51-B Stand acres 168

Stand Description

This stand is a Smz with a species composition of Slash pine, red maple, black gum, white bay and tupelo gum making up the species composition of the stand. Access to the stand is limited to extreme dry periods any harvesting operations in the stand will done in conjuction with harvest on the adjoining stands.

Stand Recommendations

This stand will be harvested has part of other harvesting operations on adjoining stands removing timber that can be removed with minimiun soil and water disturbance. This will mean harvesting all merchantable pine and hardwood but leaving a average basal area of 55 to 65 square feet in the residual stand . All MS. BMP's should be followed has regards to this stand. Wildlife enhancement and protection of the water quaility should be maintained.

2-3-P-PW-19-U Stand acres 39

Stand Description

This is a upland pine site which was planted in 1993 with slash pine that will need thinning during the life of this plan. This stand is estimated to have approximatily 31 tons per acre of pine with a stem merchantable stem count of 165 and basal area of 50. The topography of the stand rolling with slopes of 5 to 8 percent with the primary soil type being McLauren sandy loam containing 38 acres.

Stand Recommendations

This stand is understocked at 50 basal area for the age of the stand because severe hardwood competition during the life of the stand.

This stand is scheduled for a first thinning in 2017 but will be monitored for thinning before this date.

Activity Recommendations

Harvest

This stand will be mechically thinned removing every fifth row while thinning the remaining four rows removing only the suppressed, forked, disease and intermeddiate stems. This should leave the stand with approximatily 160 stems/ acre and basal area of 60 sq. ft.

3-4-P-ST-42-U Stand acres 166

Stand Description

The stand is a upland pine stand containing approximatily 166 acres. The stand composition is comprised of a Slash Plantation that was planted in 1969 and thinned in 1990. The topography of the stand is flat to gently rolling with slopes of least than 5 percent. The primary soils on this stand are Eutis and Benedale with a site index of 85 for slash pine.+

At the present time the stand contains approximatily 6.4 MBF of pine sawtimber and chip-n- saw with a average diameter of 11.3 inches and basal area of 87 sq ft/ acre. At the present time this is a fully stocked stand with no harvesting actitivies until invasive species control has been completed.

Cogan grass will need to be controlled prior to any harvesting operation in this stand due the heavy infestation in the stand.

Access to the stand is along Ronald Williams Road to the Northwest corner of the section.

Stand Recommendations

This stand will be burned at four year intervals leading up to a final harvest on the stand in 2020 removing all merchantable timber.

The stand should be replanted in containerized seedlings in 2022 or 2023 at a rate of 622 seedlings per acre after site prep has been completed.

Activity Recommendations

Harvest

The stand should have a final harvest conducted on it in 2020 and remove all merchantable timber. This first sale on this stand will conducted on timber on the east side of road main road running north to south through the section. The sale will be 98 to 100 acres in size. The remainder of the stand will be harvested will when reforestation is completed on first sale.

4-3-P-PW-19-U Stand acres 23

Stand Description

This is a upland pine site which was planted in 1993 with slash pine that will need thinning during the life of this plan. This stand is estimated to have approximatily 31 tons per acre of pine with a stem merchantable stem count of 165 and basal area of 50 The topography of the stand rolling with slopes of 5 to 8 percent with the primary soil type being McLauren sandy loam.

Stand Recommendations

This stand is understocked at 50 basal area for the age of the stand because severe hardwood competition during the life of the stand.

This stand is scheduled for a first thinning in 2017 but will be monitored for thinning before this date.

Activity Recommendations

Harvest

This stand will be mechically thinned removing every fifth row while thinning the remaining four rows removing only the suppressed, forked, disease and intermeddiate stems. This should leave the stand with approximatily 100-120 stems/ acre and basal area of 60 sq. ft.

5-1-P-ST-61-B Stand acres 10

Stand Description

This stand is a drainage with a species composition of pine/hardwood mix containing 9.7 acres. The soil type on this stand is Dorvan-Johnson that is a highly productive soil but extremely wet. Any silvicultural activities on the stand will need to be during extremely dry periods.

Stand Recommendations

This stand will be harvested has part of other harvesting operations on adjoining stands removing timber that can be removed with minimiun soil and water disturbance. This will mean harvesting all merchantable pine and hardwood but leaving a average basal area of 55 to 65 square feet in the residual stand . All MS. BMP's should be followed has regards to this stand. Wildlife enhancement and protection of the water quaility should be maintained.

6-2-P-PW-23-U Stand acres 14

Stand Description

This is upland pine site planted in 1989 with slash pine. The topography of the site is flat to slightly rolling with slopes of less than 5 percent. The primary soil type on this stand is McLauren fine sandy loam which has a site index of 85 for slash and longleaf pine. The stand is slightly under stock with a estimated basal area of 78 and 245 stems/acre. The average stem diameter for the stand is 8.9 inches with a merchanable height of 50 feet.

Stand Recommendations

The stand is recommended to be thinned in 2015. A prescribe burn should be carried out every three or four years to control undesirable vegetation and hardwood species.

Activity Recommendations

Harvest

This stand will be thinned removing every fifth row while thinning the remaining four rows removing only the suppressed, forked, diseased and intermeddiate stems. This should leave the stand with approximatily 160 stems/ acre and basal area of 65 sq. ft.

7-2-P-PW-23-U Stand acres 118

Stand Description

This is upland pine site planted in 1989 with slash pine. The topography of the site is flat to slightly rolling with slopes of less than 5 percent. The primary soil type on this stand is McLauren fine sandy loam which has a site index of 85 for slash and longleaf pine. The stand is slightly under stock with a estimated basal area of 78 and 245 stems/acre. The average stem diameter for the stand is 8.9 inches with a merchanable height of 50 feet.

Stand Recommendations

The stand is recommended to be thinned in 2015. A prescribe burn should be carried out every three or four years to control undesirable vegetation and hardwood species.

Activity Recommendations

Harvest

This stand will be thinned removing every fifth row while thinning the remaining four rows removing only the suppressed, forked, diseased and intermeddiate stems. This should leave the stand with approximatily 160 stems/ acre and basal area of 65 sq. ft.

8-1-M-ST-61-B Stand acres 11

Stand Description

This stand is a drainage with a species composition of pine/hardwood mix containing 10.5 acres. The soil type on this stand is Dorvan-Johnson that is a highly productive soil but extremely wet. Any silvicultural activities on the stand will need to be during extremely dry periods.

Stand Recommendations

This stand will be harvested has part of other harvesting operations on adjoining stands removing timber that can be removed with minimiun soil and water disturbance. This will mean harvesting all merchantable pine and hardwood but leaving a average basal area of 55 to 65 square feet in the residual stand . All MS. BMP's should be followed has regards to this stand. Wildlife enhancement and protection of the water quaility should be maintained.

11-3-P-PW-19-U Stand acres 22

Stand Description

This is a upland pine site which was planted in 1993 with slash pine that will need thinning during the life of this plan. This stand is estimated to have approximatily 31 tons per acre of pine with a stem merchantable stem count of 165 and basal area of 50 The topography of the stand flat to slightly rolling with slopes of 0 to 3 percent with the primary soil type being McLauren sandy loam.

Stand Recommendations

This stand is understocked at 50 basal area for the age of the stand because severe hardwood competition during the life of the stand.

This stand is scheduled for a first thinning in 2017 but will be monitored for thinning before this date.

Activity Recommendations

Harvest

This stand will be mechically thinned removing every fifth row while thinning the remaining four rows removing only the suppressed, forked, diease and intermeddiate stems. This should leave the stand with approximatily 100/120 stems/ acre and basal area of 65 sq. ft.

13-4-P-ST-42-U Stand acres 65

Stand Description

The stand is a upland pine stand containing approximatily 66 acres. The stand composition is comprised of a Slash Plantation that was planted in 1969 and thinned in 1990. The topography of the stand is flat to gently rolling with slopes of least than 5 percent. The primary soils on this stand are Eutis and Benedale with a site index of 85 for slash pine.+

At the present time the stand contains approximatily 6.4 MBF of pine sawtimber and chip-n- saw with a average diameter of 11.3 inches and basal area of 87 sq ft/ acre. At the present time this is a fully stocked stand with no harvesting actitivies until invasive species control has been completed.

Cogan grass will need to be controlled prior to any harvesting operation in this stand due the heavy infestation in the stand.

Access to the stand is along Ronald Williams Road to the Northwest corner of the section.

Stand Recommendations

This stand is recommended to be chemically sprayed for control of cogan grass following a prescribed burn with a final harvest to be carried out in 2017. Following harvest the will be site prepped and planted with longleaf seedling to follow 2 years later.

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.

Harvest

The stand will be harvested of all merchanable timber in the Winter of 2016.

Site Preparation

Prior to planting the stand will chemically treated through arieal application of herbicide using a mixture of arsenel, glyphosate, garlon, and Arensal AC for removal of undesirable vegatation and woody stems. The stand then will burned 40 to 45 days after chemical spray to clear the site of logging slash and improve planting conditions.

Site Preparation

The site will need to be burned 4 to 6 weeks after spraying to remove logging slash or debris and for better access to the site for the planting crews.

Regeneration

This site will need to be planted in winter of 2018 with containerized loblolly seedlings. The seedlings will need to planted at a rate of 605 seedlings per acre on a 6X12 spacing. The seedlings should be planting with no more than 3/8 of a inch of the plug exposed above the ground. The only time that more of the plug should be exposed is when seedling may possibly be covered by sediment due to runoff or because of site prep actitivies.

A plug bar should be used in planting seedlings but a dibble bar may be used when conditions are unfavorable for using the plug bar.

OTHER PLAN ACTIVITIES

Boundary Lines

Line Recommendations

The section's boundary lines are well established and recommended to be maintained on a five year rotation. They were last painted in 2011 and will be repainted in 2016 and again in 2021.

Activity Recommendations

Property Activities

The woods roads will be maintained on a 5 year cycle. Routine inspections and general maintenance of the roads will ensure overall appearance and aesthetics of the property.



Section 16 3 South 5 West

Agricola 2012 to 2021 640.92 Acres





Legend

Legend





Stand Activity Schedule for George County Boe 16 3S 5W

Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue	
2015						
2	7	Harvest, Mechanical, Thin, Machine, Slash	116	\$4,060.00	\$98,676.56	
		Yearly Totals	116	\$4,060.00	\$98,676.56	
2016						
4	13	Harvest, Mechanical, Final, Machine, Loblolly	65	\$2,275.00	\$92,515.80	
		Yearly Totals	65	\$2,275.00	\$92,515.80	
2017						
2	6	Harvest, Mechanical, Thin, Machine, Slash	14	\$490.00	\$4,955.72	
3	2	Harvest, Mechanical, Thin, Machine, Slash	39	\$1,365.00	\$13,805.22	
3	4	Harvest, Mechanical, Thin, Machine, Slash	23	\$803.95	\$8,130.92	
3	11	Harvest, Mechanical, Thin, Machine, Slash	22	\$756.35	\$7,649.51	
		Yearly Totals	98	\$3.415.30	\$34.541.37	
2018						
4	13	Regeneration, Artificial, Plant, Hand, Longleaf	65	\$10,400.00	\$0.00	
4	13	Site Preparation, Other, Burn, Hand, Cut-Over	65	\$1,625.00	\$0.00	
4	13	Site Preparation, Chemical, Broadcast, Aerial, Woody	65	\$6,500.00	\$0.00	
	,	Yearly Totals	195	\$18.525.00	\$0.00	
2020						
4	3	Harvest, Mechanical, Final, Machine, Longleaf	166	\$5,810.00	\$236,271.12	
		Yearly Totals	166	\$5.810.00	\$236.271.12	
		Grand Totals	640	\$34,085.30	\$462,004.85	