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FOREST STEWARDSHIP MANAGEMENT PLAN

Prepared For:
Attala County Schools BOE

Prepared By:
James Wade McCulloch
Ms. Forestry Commission

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: Harmonia Church Section 16-13-5

MISSISSIPPI FOREST STEWARDSHIP PROGRAM

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LANDOWNER INFORMATION

Name:	Attala County Schools BOE	
Mailing Address:	100 Courthouse Bldg.	
	Suite 3	
City, State, Zip:	Kosciusko, MS 39090	
Country:	United States of America	
Contact Numbers:	Home Number:	
	Office Number:	662-289-2801
	Fax Number:	
E-mail Address:		
Social Security Number (optional):		

FORESTER INFORMATION

Name:	James Wade McCulloch , Attala Co. Service Forester	
Forester Number:	02329	
Organization:	Ms. Forestry Commission	
Street Address:	P.O. Box 576	
City, State, Zip:	Kosicusko, MS 39090	
Contact Numbers:	Office Number:	662-289-6803
	Fax Number:	662-289-2627
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PROPERTY LOCATION

County:	Attala	Total Acres:	650	Latitude:	-89.79	Longitude:	32.98
Section:	16	Township:	13N	Range:	5E		

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 purpose 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

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.

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

There are approximately 162 non-forested acres in this section under leases that prohibit proper forestry activity. Access to and on the section is by way of Attala Roads 4127 and 4135. Soils on this section are best suited for Loblolly Pine production. Harmonia Methodist Protestant Church and cemetery occupy a portion of this section on the south end.

Archeological or Cultural Resources:

Archeological or Cultural Resources Were Identified:
A church and cemetery exists on the South boundary line as indicated on the attached map. No forest management activities will occur inside of this protected area.

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.

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

60D2
The Smithdale component makes up 50 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes. 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 high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The Sweatman component makes up 35 percent of the map unit. Slopes are 8 to 15 percent. This component is on uplands. The parent material consists of loamy marine 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 high. Shrink-swell potential is moderate. 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 7e. This soil does not meet hydric criteria.

44D3
The Providence component makes up 90 percent of the map unit. Slopes are 8 to 12 percent. This component is on uplands. The parent material consists of silty loess over sandy marine deposits. Depth to a root restrictive layer, fragipan, is 18 to 38 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. Loblolly Site Index = 87. Longleaf Site Index = 73.

44C2
The Providence component makes up 90 percent of the map unit. Slopes are 5 to 8 percent. This component is on uplands. The parent material consists of silty loess over sandy marine deposits. Depth to a root restrictive layer, fragipan, is 18 to 38 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. Loblolly Site Index = 87. Longleaf Site Index = 73.

44B2
The Providence component makes up 90 percent of the map unit. Slopes are 2 to 5 percent. This component is on uplands. The parent material consists of silty loess over sandy marine deposits. Depth to a root restrictive layer, fragipan, is 18 to 38 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March. 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 = 87. Longleaf Site Index = 73.

32D
The Smithdale component makes up 90 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes. 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 high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. Loblolly Site Index = 80.

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.

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
Stands: 8,17

Acres: 149

This area consists of Loblolly pine planted in 1997. There are 680 trees per acre in this stand. A few hardwoods are scattered throughout the stand competing for the soil nutrients.

Strata Recommendations

This area should be thinned when the average pine DBH is ~6 inches and average basal area exceeds 110 square feet per acre. Either thin using a fourth or fifth row thinning or a cutter select corridor thin that represents a fourth or fifth row thinning scheme. Thin back to an average basal area of 70 square feet per acre, plus or minus 5 square feet per acre.

Activity Recommendations

Harvest

A thinning should take place in or around 2013. Follow in approximately seven years with a second thinning in 2020.

Strata 2

Strata Description

Stands: 1,2,3,5,11,12,21,14,15,20

Acres: 298

This area consists of natural mixed pine and hardwood sawtimber stands established in ~1948. There are 93 pine trees per acre with 105 square feet of basal area per acre and 45 hardwood trees per acre with 26 square feet of basal area per acre in this stand.

Strata Recommendations

This is a mixed stand of pine and hardwood that is reaching a mature level. Biologically, this timber should be harvested within the next few years. Economically, the stands should not be harvested until stumpage prices increase. After harvesting, site preparations should be completed and then the area should be planted back with loblolly pine seedlings.

Activity Recommendations

Harvest

Stand 5 should have a final harvest cut done in or around 2012.

Harvest

Stands 3,21 should have a final harvest cut done in or around 2014.

Harvest

Stand 12 should have a final harvest done in or around 2016.

Site Preparation

Site preparation in the form of aerial chemical application is recommended for stand 20.

Site Preparation

Site preparation in the form of burning by hand is recommended for stand 20.

Regeneration

Planting - Following site preparation, the area should be planted with genetically improved loblolly pine. Seedlings will be planted at a rate of 691 trees per acre at a spacing of 7x9 feet. A deviation from the recommended planting rates will be limited to plus or minus 50 trees per acre. Planting should be done between December and March. Adverse weather conditions such as prolonged dry or cold periods should be taken into consideaation when planting.

Strata 3

Strata Description

Stands: 9,10

Acres: 41

This strata consist of stands 9, and10 which has a total of 41 acres of open pasture land. These stands will be planted in 2012 with Loblolly Pine seedlings.

Stand Recommendations

Due to the compaction of the soil, the trees planted on stands 9 and 10 should be machine planted.

Activity Recommendations

Regeneration

This area will be planted at a rate of 691 Loblolly Pine seedlings per acre, on a 7x9 spacing.

OTHER PLAN ACTIVITIES

Boundary Lines

Line Description

These are the outside boundary lines of Sec.16-T13N-R5E.

Line Recommendations

The boundary lines need permanent lines pushed around them and the boundary trees need to be marked in paint every six years.

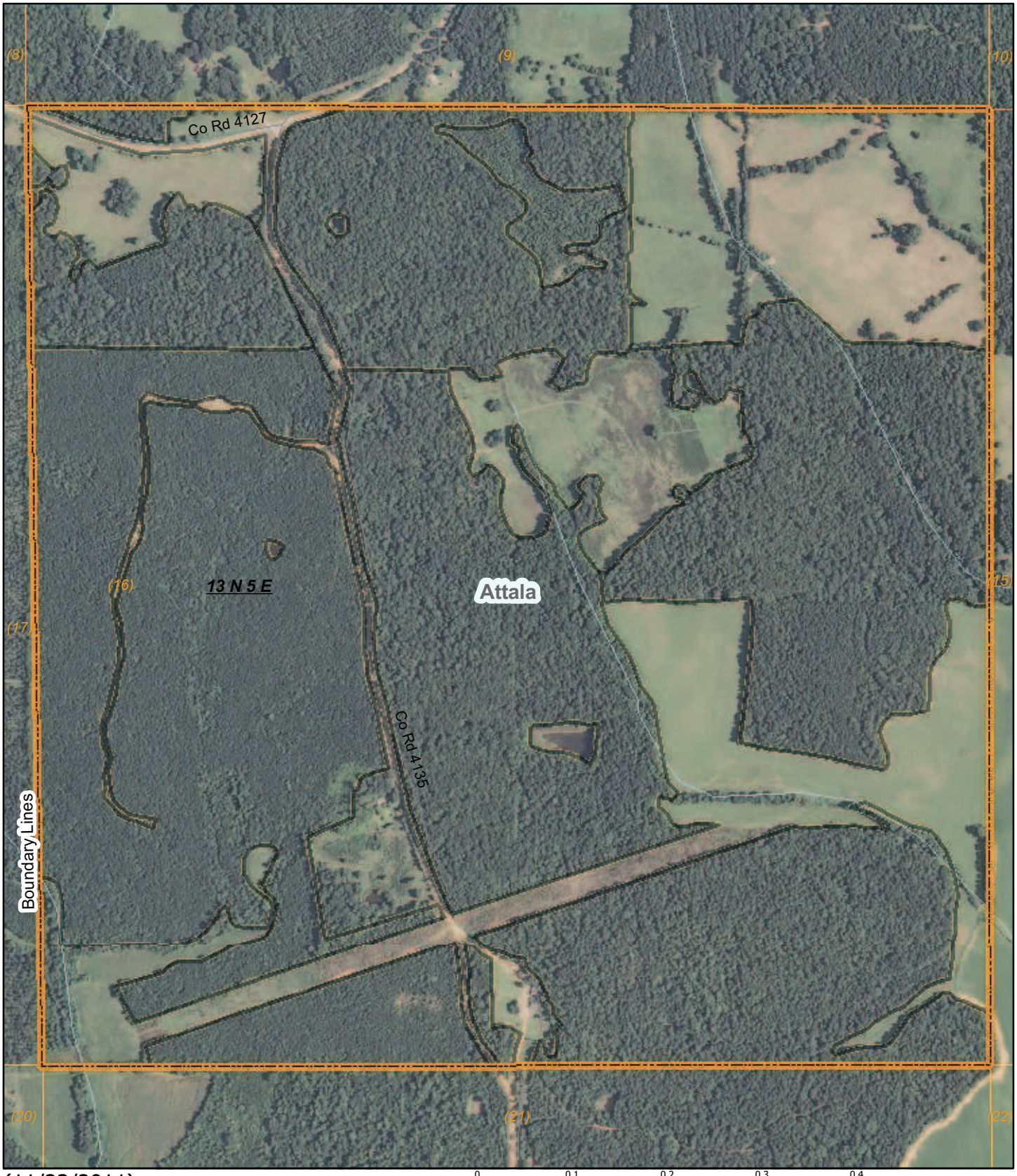
Activity Recommendations

Property Activities

Routine inspections and general maintenance of the roads, Firelanes, and boundary lines will ensure overall appearance and aesthetics of the property. The boundary lines will need to be painted in 2013 and again in 2019.

Attala Co. BOE - Harmonia Section

S16 T13N R5E
2012 to 2021
650.12 Acres

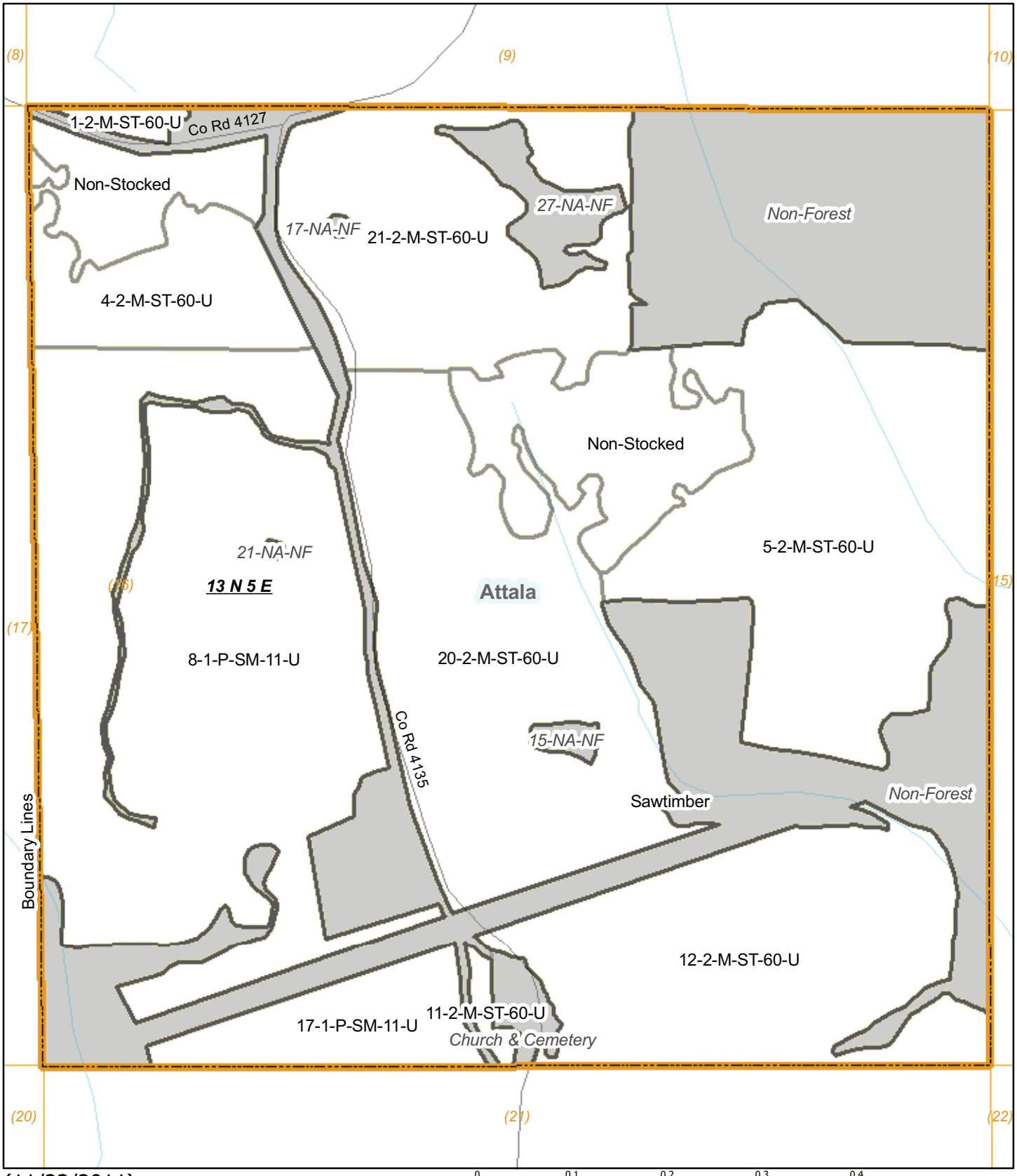


(11/23/2011)

0 0.1 0.2 0.3 0.4 Miles

Attala Co. BOE - Harmonia Section

S16 T13N R5E
2012 to 2021
650.12 Acres



(11/23/2011)

0 0.1 0.2 0.3 0.4 Miles

Plan::0045_00015_28007_05022008104512 Harmonia Section

Property
- Property

Category 1: Stands
- Clear Cut
- Non-Stocked
- Reproduction
- Sub-Merchantable
- Pulpwood
- Chip-n-Saw
- Sawtimber
- Poles

Category 2: Stands
- Clear Cut
- Non-Stocked
- Reproduction
- Sub-Merchantable
- Pulpwood
- Chip-n-Saw
- Sawtimber
- Poles

Category 3: Non-Forest Stands
- Non-Forest

Category 4: Not in Plan Stands
- Not in Plan

Category 5: Features Only Plan Stand
- Features Only Plan

Restricted Sites
- Archeology
- Cemetery
- Red-Cockaded Woodpecker
- Gopher Tortoise
- Picture Bogg Plant

Forest Health (Points)
- Cogan Grass
- Kudzu
- Japanese Climbing Fern
- Chinese Tallow
- Privet
- Southern Pine Beetle
- Sirex Wasp
- IPPS

Hydrology (Points)
- Concrete Dam
- Beaver Dam
- Earthen Dam
- Permanent
- Temporary
- Wooden
- Other
- Culvert
- Pond

Wildlife (Points)
- Food Plot
- Water Hole
- Feeder

Boundary Corners
- Property
- Section
- Quarter Section
- Areas

Structures
- Barn
- Tractor Shed
- Out Building
- Single-Family
- Multi-Family
- Camp House
- Club House
- Office Building
- Manufacturing
- Warehouse
- Chicken House
- Horse Stall
- Milking Parlor
- Hog Pen
- Blind
- Stand
- Hospital
- Nursing Home
- Dr. Clinic
- State Facility
- Office
- Work Center
- Materials Depot
- Prison
- School
- Church
- Mosque
- Synagogue
- Other

Cruise Plots
- Pre-Cruise
- Post-Cruise

Other
- Towers
- Logging Deck
- Locked
- UnLocked
- Water
- Oil
- Natural Gas

Property Roads/Trails
- Drive Ways
- Access Road
- Logging Road
- Skid Trail
- Farm Road
- Hiking Trail
- Horseback Riding Trail

Boundary Lines
- Archeology
- Cemetery
- Drilling Sites
- Education

Boundary Lines (cont)
- Forest Health
- Invasive Species
- Management Compartment
- Military Area
- Natural Area
- Property
- Recreation
- Rights of Way
- SMZ
- Special Use
- Stand
- Surface Mining
- Threatened/Endangered Species
- Visual Buffer

Fire Control
- Temporary Line
- Permanent Fire Break

Wildlife (Lines)
- Green Strip

Fire
- Mitigation Burn
- Silviculture Burn
- Site-Prep Burn
- Wildfire

School Land Lease
- Hunting
- Minerals
- Recreation

Restricted Area
- SMZ
- Archeology,
- Cemetery
- Visual Buffer
- Special Use
- Natural Area
- Education
- Recreation
- Military Area
- Large Utility
- Red-Cockaded Woodpecker
- Gopher Tortoise
- Picture Bogg Plant
- Coal
- Gravel
- Dirt
- Water
- Oil
- Natural Gas

Forest Health (Polygons)
- Cogan Grass
- Kudzu
- Japanese Climbing Fern
- Chinese Tallow
- Privet
- Southern Pine Beetle
- Sirex Wasp
- IPPS

School Land Classification
- Forest Land
- Farm/Residential Land
- Residential Land
- Agricultural Land
- Industrial Land
- Recreational Land
- Catfish Farming Land
- Other Land
- Commercial Land

Management Compartment
- Management
- Regeneration
- Site Preparation
- Post Plant
- Site Improvement
- Vegetation Control
- Stand Improvement
- Invasive Species Control
- Harvest
- Fire Protection
- Technical
- Wildlife Management
- Property Activities
- Roads
- SMZ
- Forest Health
- Recreation
- Site Restoration

Transportation (Lines)
- City Streets
- County Roads
- 3 Digit Highway
- Interstate Highway
- US Highway
- State Highway
- Natchez Trace Parkway
- Runways/Airports
- Active RR
- Abandoned RR

Hydrology (Lines)
- Mississippi River
- Major River
- Primary Stream
- Intermittent Stream
- Canal
- Ditch
- Earthen Dam
- Concrete Dam

Utilities (Lines)
- Large Electrical
- Local Utility
- Large Pipeline
- Small Pipeline
- Gas Line
- Utility Line
- Water Line

Stand Activity Schedule for
Attala County Schools BOE
16 13N 5E

Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue
2012					
2	5	Harvest, Mechanical, Final, Machine, Loblolly	78	$2,730.00	$124,878.00
3	9	Regeneration, Artificial, Plant, Machine, Loblolly	27	$2,349.00	$0.00
3	10	Regeneration, Artificial, Plant, Machine, Loblolly	14	$1,218.00	$0.00
		Yearly Totals	119	$6,297.00	$124,878.00
2013					
1	8	Harvest, Mechanical, 1st Thin, Machine, Loblolly	132	$4,620.00	$25,872.00
1	17	Harvest, Mechanical, 1st Thin, Machine, Loblolly	17	$590.10	$3,304.56
2	20	Site Preparation, Chemical, Broadcast, Machine, Combination	77	$6,930.00	$0.00
2	20	Site Preparation, Other, Burn, Hand, Cut-Over	77	$1,925.00	$0.00
2	20	Regeneration, Artificial, Plant, Hand, Loblolly	77	$6,699.00	$0.00
		Yearly Totals	380	$20,764.10	$29,176.56
2014					
2	2	Harvest, Mechanical, Final, Machine, Loblolly	21	$735.00	$36,036.00
2	3	Harvest, Mechanical, Final, Machine, Loblolly	1	$35.00	$1,716.00
2	5	Site Preparation, Chemical, Broadcast, Aerial, Combination	78	$7,020.00	$0.00
2	5	Regeneration, Artificial, Plant, Hand, Loblolly	78	$6,630.00	$0.00
2	5	Site Preparation, Other, Burn, Hand, Cut-Over	78	$1,950.00	$0.00
2	21	Harvest, Mechanical, Final, Machine, Loblolly	53	$1,855.00	$90,948.00
		Yearly Totals	309	$18,225.00	$128,700.00
2015					

Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue
2	2	Site Preparation, Chemical, Broadcast, Aerial, Combination	21	$1,890.00	$0.00
2	2	Regeneration, Artificial, Plant, Hand, Loblolly	21	$1,785.00	$0.00
2	2	Site Preparation, Other, Burn, Hand, Cut-Over	21	$525.00	$0.00
2	3	Regeneration, Artificial, Plant, Hand, Loblolly	1	$85.00	$0.00
2	3	Site Preparation, Other, Burn, Hand, Cut-Over	1	$25.00	$0.00
2	3	Site Preparation, Chemical, Broadcast, Aerial, Combination	1	$90.00	$0.00
2	21	Regeneration, Artificial, Plant, Hand, Loblolly	53	$4,505.00	$0.00
2	21	Site Preparation, Chemical, Broadcast, Aerial, Combination	53	$4,770.00	$0.00
2	21	Site Preparation, Other, Burn, Hand, Cut-Over	53	$1,325.00	$0.00
		Yearly Totals	225	$15,000.00	$0.00
2016					
2	11	Harvest, Mechanical, Final, Machine, Loblolly	2	$70.00	$3,432.00
2	12	Harvest, Mechanical, Final, Machine, Loblolly	64	$2,240.00	$109,824.00
		Yearly Totals	66	$2,310.00	$113,256.00
2017					
2	11	Regeneration, Artificial, Plant, Hand, Loblolly	2	$172.55	$0.00
2	11	Site Preparation, Other, Burn, Hand, Cut-Over	2	$50.75	$0.00
2	11	Site Preparation, Chemical, Broadcast, Aerial, Combination	2	$182.70	$0.00
2	12	Site Preparation, Other, Burn, Hand, Cut-Over	64	$1,591.25	$0.00
2	12	Site Preparation, Chemical, Broadcast, Aerial, Combination	64	$5,728.50	$0.00
2	12	Regeneration, Artificial, Plant, Hand, Loblolly	64	$5,410.25	$0.00
		Yearly Totals	197	$13,136.00	$0.00
2020					
1	8	Harvest, Mechanical, 2nd Thin, Machine, Loblolly	132	$4,620.00	$43,296.00

Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue
1	17	Harvest, Mechanical, 2nd Thin, Machine, Loblolly	17	$590.10	$5,530.08
		Yearly Totals	149	$5,210.10	$48,826.08
		Grand Totals	**1,445**	**$80,942.20**	**$444,836.64**