FOREST MANAGEMENT PLAN

Prepared For: **Kevin Ogle**
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Property Location: **SE ¼ SW ¼ Sec. 31 T12S, R6E**
Pope County

Plan Acreage: **60 acres**

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Date Prepared: **July 27, 2012** **Expiration Date:** **July 27, 2022**

Approvals:

Landowner: _____ Date: _____

Preparer: _____ Date: _____

Approving Agency: _____ Date: _____

LAND OWNER GOALS AND OBJECTIVES

- **Maintain and improve the long term health, productivity, and beauty of the forested landscape.**
- **Protect soil and water quality.**
- **Provide habitat forage and cover for native wildlife.**
- **Provide periodic income from the sale of forest products.**
- **Provide for recreational activities such as wildlife viewing and hunting.**

The recommendations contained in this plan are designed to achieve these goals while minimizing conflict among them.

WOODLAND AREA

Property Location and Description:

This property is located within the SE ¼ SW ¼ of Section 31 T12S R6E in Pope County Illinois. This property can be accessed by heading south on Hwy 145 from Eddyville, then turning left (south) on Waltersburg Road, proceed south approximately five miles and then turn left (east) onto a gated farm lane just south of quarrel creek. The ecosystem type for this property is classified as Eastern Broadleaf Forest. This landholding is within the Oak/Hickory dominated physiographic region, and sustains important game and non-game wildlife species. The property is bound by forest service property on the north and west, these properties are of similar topography and site characteristics. Privately owned field and pasture lands border this property on the south and east. A stand and soil map are included in the plan **(Appendix C and D)**.

No significant right-of-way easements, land designations, or other legal encumbrances exist.

The area in this plan will be managed as two units with a total area of approximately 60 acres.

Description and Analyses of Stand One:

The total area of stand one is approximately 28 acres

Topography: This stand is characterized by areas of moderate to steep, moderately drained loess ridges that feed numerous intermittent and ephemeral streams.

Aspect: Mostly western facing with drainage into Quarrel Creek.

Soils: The following soils are found within the forested area of the property; Grantsburg silt loam, Wellstone silt loam, Zanesville silt loam, and Wellstone-Berks complex. The approximate site index for these soils is between 76 and 90. Site index is a measure of productivity based on the expected height of dominant trees when they are fifty years old. Please see the attached Custom Soil Resource Report **(Appendix D)** for a soil map and detailed description of soil characteristics.

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Forest Cover Type: Oak/Hickory. The predominant species on the site at the present time are Oak/Hickory with associated species of Ash, Cherry, Sugar Maple and Sweet Gum. No evidence of recent logging (within the last ten years) was found within the stand.

Stand Age Class: Uneven-aged stand

Invasive Species: This stand contains a small amount of Japanese honeysuckle, multiflora rose, and Autumn Olive. Although these species are invasive they are present in almost all Illinois forests in varying degrees. The small numbers of invasive species present at this time do not require control actions. However, their populations should be monitored to ensure they do not increase to a level that would harm the overall health of the forest stand.

Understory Conditions: All the plots contained some tree regeneration with oak, hickory, ash, elm, Sassafras, and Maple being the predominate species regenerating. Advance oak regeneration was observed in two of the nine sample plots.

The following specific information was obtained from a forest inventory of Stand One. A species level summary can be found in **Appendix A**.

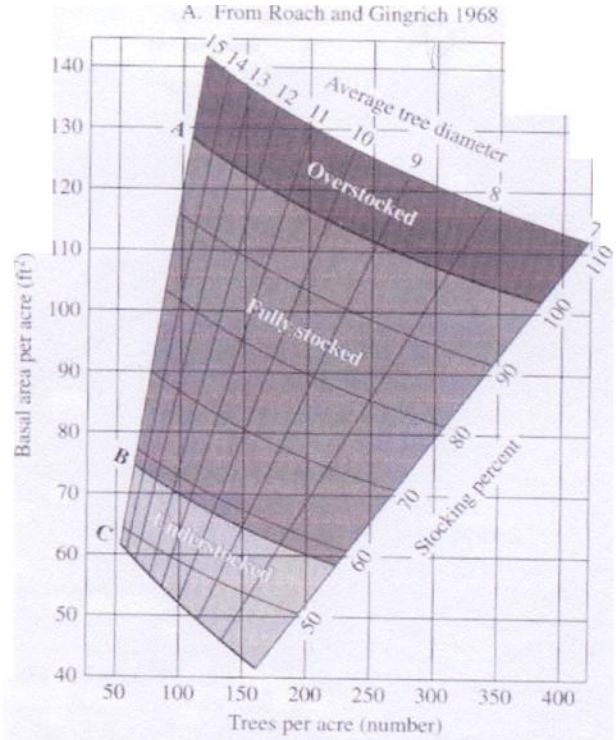
Size Class:	Pole Size Timber (8.5 – 11.5”)
Average DBH:	9.76 inches
Trees per acre:	516
Basal Area (BA):	84
Volume per acre:	1,365 bd/ft
Timber Quality:	Medium
Stocking:	Young fully stocked stand containing mostly Oak, Hickory, Ash, Cherry, Sweet Gum, Locust, and Red Cedar in the pole and small sawlog size classes. This stand is approximately 75% stocked at this time.

MANAGEMENT RECOMMENDATIONS FOR STAND ONE

Implement a Forest Stand Improvement (FSI) and prescribed fire to manipulate the composition of the newly developing forest stand. FSI is the removal of selected trees from a stand of trees to improve the health and growth rate of the remaining more desirable trees. FSI can be used to reduce competition and allow the landowner to decide which trees should be kept to grow under the improved conditions. FSI allows young forest stands to increase acorn production at an earlier age, improves growth rate of timber, and allows sunlight to reach the forest floor which will increase both browse and oak regeneration.

The spacing of those trees left after FSI is very important. If trees are left too close together they will soon become crowded again and the benefits of ample growing space will not be realized. Conversely, leaving trees spaced too far apart wastes growing spaces and encourages the remaining trees to grow larger crowns at the expense of taller, straighter trunks. A good rule of thumb is to estimate the average diameter of trees in the stand. The diameter should be measured at a height of 4 ½ feet above the ground (diameter at breast height or D.B.H.).Multiply that figure by two, but call the answer in feet rather than inches. For example if a tree is ten inches in diameter (DBH), multiply ten by two, this equals twenty. Twenty feet would be the proper spacing between it and its nearest competitor tree. It is important that den trees are left throughout the landscape following the FSI since we are interested in both timber production and wildlife habitat. As a general rule, seven den trees per acre provide an adequate number of cavities. Both live and dead den trees can be left. Live den trees will last longer and are often fruit and nut producers. Standing dead trees attract insects but they also do not compete with other trees for water, nutrients, and sunlight. The option of deadening undesirable trees but not removing them should also be considered.

The basal area of this stand is 84 square feet per acre. This BA amount indicates the stand is approximately 75% stocked at this time. The stand is near the low end of what is considered to be a fully stocked stand (figure 1) and is in need of a FSI primarily to affect species composition and not to reduce the stocking of the overall stand. No more than 20-25 square feet of basal area per acre should be removed in order to ensure the stand remains fully stocked (60% or above). Approximately 150 undesirable trees should be removed per acre to bring the total trees per acre to approximately 350-400 TPA. When the FSI is initiated Sugar Maple, Sweet Gum, Locust, and Elm should be the primary targeted species, along with any unacceptable growing stock of desirable species. This should increase the growth of the residual stand, increase mast production and improve forest health and vigor with little or no impact on soil or water quality.



Relation of basal area, number of trees, and average diameter to stocking percentage for upland central hardwoods

FIGURE 1
Commonly used stocking guides portray patterns of stand development using easily measured attributes and provide recommendations for minimum and maximum stocking of managed stands *(A. from Roach and Gingrich 1968; B. from Drew and Flewelling 1979).*

Encouraging the growth and establishment of high quality oak and hickory species will help to meet the goals of producing periodic income from the sale of forest products while improving and increasing forage and cover for native wildlife. Following the FSI prescribed fire can be used to reduce the number of oak competitors and prepare the forest floor for the natural regeneration of oak seedlings. The property currently has a number of well maintained roads and trails which can be used as fire lines when the prescribed burns are initiated. In order to affectively limit the number of oak competitors two or three growing season prescribed fires should be conducted within a five year period. After this five year period the use of prescribed fire should be restricted while the young oak seedlings become established throughout the stand.

Description and Analyses of Stand Two:

The total area of stand two is approximately 32 acres

Topography: This stand is characterized by areas of flat to gently sloped, moderately drained loess ridges that feed intermittent and ephemeral streams.

Aspect: A slight mostly western facing slope with drainage into Quarrel Creek.

Soils: The following soils are found within stand two of this property; Grantsburg silt loam and Zanesville silt loam. The approximate site index for these soils is between 76 and 90. Please see the attached Custom Soil Resource Report **(Appendix D)** for a soil map and detailed description of soil characteristics.

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Forest Cover Type: Oak/Red Cedar/Pine. The predominant species on the site at the present time are Oak, Red Cedar, and Shortleaf Pine. Other prominent species include Ash, Sweet Gum, Hickory and Sassafras. No evidence of recent logging was found within this stand.

Stand Age Class: Uneven-aged stand

Invasive Species: This stand contains a small amount of Japanese honeysuckle, multiflora rose, and Autumn Olive. These species make up less than 10% of the total vegetation cover in the understory.

Understory Conditions: Most plots contained some tree regeneration with oak, hickory, ash, elm, Sassafras, and Maple being the predominate species regenerating. Advance oak regeneration was observed in one of the eleven sample plots. In areas containing the most Red Cedar little or no tree regeneration is taking place.

The following specific information was obtained from a forest inventory of Stand One. A species level summary can be found in **Appendix B**.

Size Class:	Pole Size Timber (8.5 – 11.5”)
Average DBH:	8.27 inches
Trees per acre:	635
Basal Area (BA):	102
Volume per acre:	789 bd/ft
Timber Quality:	Medium
Stocking:	Fully stocked stand containing mostly Red Cedar, Oak, Pine, Ash, Hickory, Gum, Elm and Sassafras in the sapling and pole size classes. This stand is approximately 90% stocked at this time.

MANAGEMENT RECOMMENDATIONS FOR STAND TWO

Implement a Forest Stand Improvement (FSI), prescribed fire and tree planting. These actions will help to manipulate the composition of the newly developing forest stand. Once again FSI can be used to reduce competition and manipulate species composition while allowing this young forest stands to increase acorn production, growth rate of timber, browse, and oak regeneration. The recommendations given above on how to conduct a Forest Stand Improvement can be followed for stand two also. During the FSI particular attention should be given to the removal of undesirable trees overtopping oak seedling and saplings.

The basal area of this stand is 102 square feet per acre. This BA amount indicates the stand is approximately 90% stocked at this time (figure 1). Anywhere from 30-50 square feet of basal area per acre should be removed in order to allow enough light to reach the forest floor to encourage the growth and establishment of desirable oak and hickory seedlings. Approximately 250-300 undesirable trees should be removed per acre to bring the total trees per acre to approximately 350-400 TPA. When the FSI is initiated Red Cedar should be the primary targeted species followed by Sweet Gum, Locust, Elm and Maple. The number of desirable species is very low within this stand; because of this all desirable species (i.e. oak and hickory) should be kept to assist in the production of new seedlings.

As with stand one encouraging the growth and establishment of high quality oak and hickory species will help to meet the goals of producing periodic income from the sale of forest products while improving and increasing forage and cover for native wildlife. Following the FSI prescribed fire can be used to reduce the number of oak competitors and prepare the forest floor for the natural regeneration of oak seedlings. Additionally prescribed burning will help to reduce the amount of woody debris left behind from the FSI. As with stand one; two or three growing season burns should be conducted within a five year period. After this five year period the use of prescribed fire should be restricted while the young oak seedlings become established throughout the stand.

Natural regeneration of favorable tree species may be adequate in many areas of this forest stand. However artificial regeneration (tree planting) may be necessary in some areas to encourage the establishment of oak species. Planting of oak species following the final prescribed fire will help to ensure these species make up a significant portion of the future forest stand. A mix of locally grown red and white oak should be planted in those areas that do not contain adequate oak regeneration. Each forested acre should contain approximately 400-500 trees per acre with at least half of those trees being desirable species. This target number will help determine how many total trees will need to be planted. The final spacing will depend on the stand density and composition following the FSI and prescribed fire. However, the goal should be to space planted trees approximately 10 x 10 feet apart in order to ensure the proper density of the planted trees.

CONSERVATION OPPORTUNITIES AND CONCERNS

Recreation and Aesthetics:

1.) The recreational value of this forest stand is very important to the property owner and consideration has been given to ensure all management activities improve the recreational opportunities and aesthetics of the future stand.

2.) FSI can result in a large amount of wood and brush in the understory of the existing forest. Removal of this debris by stacking and burning or prescribed fire should be considered to help reduce the amount of debris left on the forest floor and to improve the access and aesthetics of the forest.

Air, Soil, and Water Quality Conservation:

1.) Many of the soils that make up this forested area are prone to erosion. Care should be given when conducted FSI and especially when harvesting timber to ensure that these management practices do not cause soil loss into the surrounding waterways.

2.) Illinois Forestry Best Management Practices should be used when implementing all management practices to ensure that the soil and water quality is not adversely affected. Specifically the follow actions should be followed. (a) Stream crossings should be minimized, if a stream crossing cannot be avoided appropriate structures should be built to protect the stream bed and banks and to permit water flow. (b) Leave buffer strips between areas being cleared and streams and remove all woody debris from waterways promptly. (c) When possible conduct harvest and FSI when the soil is dry or frozen and locate log landing areas on level well drained sites away from streams and other drainages.

3.) Follow all federal and state regulations for herbicide and pesticide use to prevent contamination of surface and ground water.

Wetland Protection:

1.) No wetlands were observed throughout the forest stand.

2.) When conducting FSI, timber harvest, and brush removal limit the disturbance to streams and other drainages. Retain a riparian buffer surrounding all streams and drainages to help prevent soil erosion.

3.) Consult Illinois Forestry Best Management Practices to conserve streams, ponds, and wetlands.

Wildlife and Biodiversity:

1.) When conducting FSI or timber harvests build brush piles near the forest edge for small game cover.

2.) Maintain a diverse mixture of food producing trees, shrubs, and other vegetation such as oak, hickory, mulberry, raspberry, and blackberries.

3.) Leave at least three live trees containing cavities suitable as animal dens per acre. Also create or protect at least three standing snags per acre.

4.) Create a diverse landscape mosaic suitable for multiple wildlife species.

Forest Health and Protection:

1.) No existing insect or disease damage was found within the forested area.

2.) Continue to monitor the existing invasive species that currently exist within the stand. By following the management recommendations laid out within this plan these invasive species should decrease in number and healthy natural forest ecosystem should develop.

Threatened and Endangered Species:

1.) No threatened or endangered species were observed nor evidence found to indicate there have been any present on this tract.

Identify and Protect Special Sites:

1.) No historical, archeological, or culturally significant sites were found within this tract.

MANAGEMENT ACTIVITY SCHEDULE

The following schedule has been included to help give you direction in the implementation of the recommended practices included in this forest management plan. This schedule is flexible and may vary depending on your financial and labor constraints.

YEAR	PRACTICE	STAND	ACRES	DATE APPLIED
2012	Forest Stand Improvement (FSI)	1	28	
2013	Forest Stand Improvement (FSI)	2	32	
2013-2018	Prescribed Fire (two or three fires conducted within this period)	1 & 2	60	
2020	Under-planting of Oak species	2	32	
2022	Update Forest Management Plan	1 & 2	60	

IMPORTANT CONSIDERATIONS

Financial assistance is available to accomplish the recommended conservation practices. This is beneficial for landowners hiring work to be completed or used as an incentive for landowners to complete the work themselves. These are reimbursement programs, all expenses must be documented and bills paid before payment can be made. Cost share payments are also subject to practices being completed as recommended in your forest management plan and approved by reimbursing agency.

***CAUTION:** IN ORDER TO RECEIVE REIMBURSEMENT, YOU MUST ENROLL AND BE APPROVED PRIOR TO IMPLEMENTING ANY OF THE RECOMMENDED ACTIVITIES.

Important Considerations Specific to IDNR Programs

1.) Management Plan entitles owner or subsequent owners, pending availability

2.) Eligible for technical assistance from the IDNR forester

3.) Eligible for no-cost IDNR state nursery stock, pending availability

4.) Eligible for cost-share funds to help implement planned practices

A. Management Plan requires owner or subsequent owners

1.) Afforested/reforested areas must maintain minimum stocking level of 300 live, desirable trees per acre during establishment

2.) Repay all cost-share monies if property is decertified

3.) Never remove IDNR state nursery stock with the roots attached

4.) Approve timber harvest marking or operations with your IDNR Forester if not specifically outlined in approved plan

5.) Modify the plan or practices within plan period only with approval by both the landowner and IDNR Forester and documented in writing

6.) Return biennial review letter to retain participation in the IFDA program

7.) Protect plan acreage from wildfire

8.) Exclude any plan acreage accessible to livestock unless approved

9.) To implement this plan according to the activity schedule and not contingent upon state or federal funding

10.) Notify IDNR within 30 days of address or ownership changes

Important Considerations Specific to USDA-NRCS Programs

A. All practices installed under NRCS programs and assistance must achieve IL NRCS Practice Standards and Specifications as posted in the Illinois FOTG Section IV

B. All practices installed under NRCS assistance must be maintained throughout the practice life to avoid repayment of program dollars

C. Forest Management Plans (FMP) funded for development under NRCS-EQIP must meet all Client and NRCS Field Office deliverables stated in the FMP CAP-106 Criteria as posted in the Illinois FOTG Section III

D. The IFMP is not an official determination of wetlands. If plans exist to make an area possible to plant a crop, inquiry should be made at the local USDA Service Center to determine the impact on eligibility for USDA benefits. If any activity that constitutes a discharge of dredged or fill material into wetlands or other waters, request for a jurisdictional determination from the local office of the Corps of Engineers should be made prior to starting the work.

Appendix A

Compartment #	Ogle	Stand #	1	Stand Acres	28

# Sample Plots	9	Basil Area Factor	10

# Sample Trees	76
# Sample Trees AGS	34
# Sample Trees UGS	42

Stand & Stock Table Data							
Species	DBH	A/U	# 16' Log	CF	TPA	Vol. Scale	Total vol. bd/ft./ac.
DW	4	A		114.59	12.73	-17.58	
RC	5	U		73.34	8.15	-14.43	
WE	2	U		458.37	50.93	-23.65	
WE	5	U		73.34	8.15	-14.43	
RC	4	U		114.59	12.73	-17.58	
DW	5	A		73.34	8.15	-14.43	
DW	4	A		114.59	12.73	-17.58	
RC	11	U		15.15	1.68	6.27	
RC	10	U		18.33	2.04	2.61	
RC	9	U		22.64	2.52	-0.97	
BC	13	U	1.0	10.85	1.21	38.38	46.27
GA	2	U		458.37	50.93	-23.65	
GA	3	U		203.72	22.64	-20.66	
GA	3	U		203.72	22.64	-20.66	
BC	14	A	1.5	9.35	1.04	62.24	64.69
GA	5	A		73.34	8.15	-14.43	
RC	6	U		50.93	5.66	-11.19	
BC	13	A	1.5	10.85	1.21	48.64	58.63
RE	6	U		50.93	5.66	-11.19	
BC	8	U		28.65	3.18	-4.46	
HL	16	U		7.16	0.80	25.81	20.54
RC	6	U		50.93	5.66	-11.19	
WO	31	A	0.5	1.91	0.21	261.44	55.42
RE	4	U		114.59	12.73	-17.58	
RE	6	U		50.93	5.66	-11.19	
RC	13	U		10.85	1.21	13.83	16.67
GA	2	A		458.37	50.93	-23.65	
BO	13	A	1.5	10.85	1.21	48.64	58.63
BO	10	A	1.0	18.33	2.04	13.96	
RO	15	A	1.0	8.15	0.91	60.83	55.07
WO	11	A	0.5	15.15	1.68	14.03	
RE	6	U		50.93	5.66	-11.19	
HI	2	A		458.37	50.93	-23.65	
RE	7	U		37.42	4.16	-7.86	
PO	26	A	0.5	2.71	0.30	174.61	52.62
PO	15	A	1.0	8.15	0.91	60.83	55.07
RO	15	A	1.0	8.15	0.91	60.83	55.07
GA	16	U		7.16	0.80	25.81	20.54
DW	5	A		73.34	8.15	-14.43	
RC	6	U		50.93	5.66	-11.19	
WE	6	U		50.93	5.66	-11.19	
WO	13	A	0.5	10.85	1.21	26.78	32.28

Stock Table bd/ft. by Species / Acre		
Species	Abv.	Total bd/ft.
White Oak	WO	295.3
Red Oak	RO	110.1
Black Oak	BO	58.6
Pin Oak	PO	107.7
Shingle Oak	SO	0.0
Yellow Poplar	YP	0.0
Ash	GA	101.1
Sycamore	Sy	0.0
Sugar Maple	SM	141.7
Silver Maple	SiM	0.0
Red Maple	RM	0.0
Sweet Gum	SG	0.0
Black Walnut	BW	0.0
Pecan	Pec	0.0
Hickory	Hi	274.3
Persimon	Per	0.0
Sasafrass	Sa	0.0
Dogwood	Dw	0.0
Redbud	Rb	0.0
Black Locust	BL	0.0
Honey Locust	HL	20.5
Bald Cypress	Cy	0.0
Black Cherry	BC	169.6
Black Gum	BG	69.4
American Elm	AE	0.0
Cottonwood	Cw	0.0
Red Cedar	RC	16.7
Red Elm	RE	0.0
Basswood	AB	0.0
Boxelder	Bx	0.0
Hackberry	Hb	0.0
Mulberry	Mu	0.0
White Pine	WP	0.0
Loblolly Pine	LP	0.0
Shortleaf Pine	SP	0.0
American Beech	AB	0.0
Black Willow	Wi	0.0

Total Merchant Vol/Acre bd.ft.	1365.2
Total Merchant Vol/Stand bd.ft.	38225.0

Trees Per Acre Total	515.8

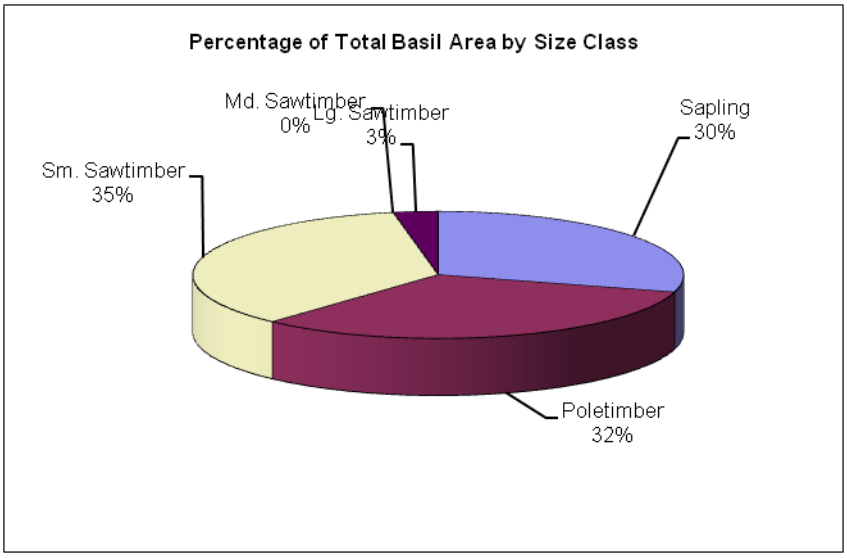
WO	14	A	0.5	9.35	1.04	34.16	35.50
WO	12	A	1.0	12.73	1.41	29.01	41.04
WO	14	A	1.0	9.35	1.04	48.99	50.92
WO	8	U		28.65	3.18	-4.46	
WE	7	U		37.42	4.16	-7.86	
HI	11	A	1.5	15.15	1.68	26.79	
HI	12	A	1.5	12.73	1.41	36.82	52.09
GA	17	A	1.0	6.34	0.70	88.20	62.17
BG	12	A	2.5	12.73	1.41	49.05	69.40
GA	8	U		28.65	3.18	-4.46	
RE	6	U		50.93	5.66	-11.19	
GA	4	U		114.59	12.73	-17.58	
BG	5	U		73.34	8.15	-14.43	
GA	14	U		9.35	1.04	17.74	18.44
SM	15	U		8.15	0.91	21.73	19.68
AE	5	U		73.34	8.15	-14.43	
RO	7	A		37.42	4.16	-7.86	
HI	13	A	1.5	10.85	1.21	48.64	58.63
HI	11	A	1.5	15.15	1.68	26.79	
SM	5	U		73.34	8.15	-14.43	
HI	10	A	1.0	18.33	2.04	13.96	
GA	10	U		18.33	2.04	2.61	
SM	10	U		18.33	2.04	2.61	
HI	15	A	2.0	8.15	0.91	92.58	83.83
HI	17	U		6.34	0.70	29.97	21.12
SM	16	U	0.5	7.16	0.80	50.90	40.51
SM	16	U	0.50	7.16	0.80	50.90	40.51
SM	6	U		50.93	5.66	-11.19	
WO	17	A	1.5	6.34	0.70	113.74	80.18
BC	4	A		114.59	12.73	-17.58	
SM	12	U	1.0	12.73	1.41	29.01	41.04
HI	13	A	1.5	10.85	1.21	48.64	58.63
SM	9	U	1.0	22.64	2.52	8.29	
WO	11	A	1.5	15.15	1.68	26.79	

Trees Per Acre by AGS	198.4
Trees Per Acre by UGS	317.3
Trees Per Acre (Sapling)	325.4
Trees Per Acre (Pole)	88.2
Trees Per Acre (Sawtimber)	28.6

Size Class & Condition	BA/Ac.	BA Percent
Sapling AGS	9	11%
Sapling UGS	13	16%
Poletimber AGS	3	4%
Poletimber UGS	21	25%
Sm.Sawtimber AGS	17	20%
Sm.Sawtimber UGS	10	12%
Med.Sawtimber AGS	0	
Med.Sawtimber UGS	0	
Lg. Sawtimber AGS	2	3%
Lg. Sawtimber UGS	0	
All Sawtimber AGS	19	22%
All Sawtimber UGS	10	12%

Size Class	Total BA/Ac.	Total BA Percent
Sapling	22	26%
Poletimber	24	29%
Sm. Sawtimber	27	32%
Md. Sawtimber	0	
Lg. Sawtimber	2	3%
All Sawtimber	29	34%

Basil Area per Acre (Total)	84.4
Basil Area per Acre (AGS)	37.8
Basil Area per Acre (UGS)	46.7



Appendix B

Compartment #	Ogle	Stand #	2	Stand Acres	32

# Sample Plots	11	Basil Area Factor	10

# Sample Trees	112
# Sample Trees AGS	20
# Sample Trees UGS	92

Stand & Stock Table Data							
Species	DBH	A/U	# 16' Log	CF	TPA	Vol. Scale	Total vol. bd/ft./ac
SA	5	U		73.34	6.67	-14.43	
SA	2	U		458.37	41.67	-23.65	
RC	8	U		28.65	2.60	-4.46	
RC	9	U		22.64	2.06	-0.97	
RC	9	U		22.64	2.06	-0.97	
RC	10	U		18.33	1.67	2.61	
SP	14	A	2.5	9.35	0.85	83.98	71.42
RC	12	U		12.73	1.16	10.01	11.58
RC	9	U		22.64	2.06	-0.97	
GA	14	A	1	9.35	0.85	48.99	41.66
RE	9	U	1	22.64	2.06	8.29	
SA	5	U		73.34	6.67	-14.43	
RC	2	U		458.37	41.67	-23.65	
RC	8	U		28.65	2.60	-4.46	
SA	5	U		73.34	6.67	-14.43	
RC	6	U		50.93	4.63	-11.19	
SA	6	U		50.93	4.63	-11.19	
RC	12	U		12.73	1.16	10.01	11.58
SA	4	U		114.59	10.42	-17.58	
RC	14	U		9.35	0.85	17.74	15.09
RC	10	U		18.33	1.67	2.61	
RC	9	U		22.64	2.06	-0.97	
RC	4	U		114.59	10.42	-17.58	
RC	5	U		73.34	6.67	-14.43	
SA	6	U		50.93	4.63	-11.19	
SA	3	U		203.72	18.52	-20.66	
SA	7	U		37.42	3.40	-7.86	
GA	9	U		22.64	2.06	-0.97	
SA	2	U		458.37	41.67	-23.65	
SA	10	U		18.33	1.67	2.61	
SA	8	U		28.65	2.60	-4.46	
SA	8	U		28.65	2.60	-4.46	
SA	7	U		37.42	3.40	-7.86	
SA	6	U		50.93	4.63	-11.19	
SA	10	U		18.33	1.67	2.61	
DW	9	A		22.64	2.06	-0.97	
RE	6	U		50.93	4.63	-11.19	
GA	11	A	0.5	15.15	1.38	14.03	
GA	14	A	1	9.35	0.85	48.99	41.66
RE	5	U		73.34	6.67	-14.43	
GA	14	U		9.35	0.85	17.74	15.09
RC	11	U		15.15	1.38	6.27	

Stock Table bd/ft. by Species / Acre		
Species	Abv.	Total bd/ft.
White Oak	WO	0.0
Red Oak	RO	168.5
Black Oak	BO	0.0
Pin Oak	PO	0.0
Shingle Oak	SO	0.0
Yellow Poplar	YP	0.0
Ash	GA	110.0
Sycamore	Sy	0.0
Sugar Maple	SM	0.0
Silver Maple	SiM	0.0
Red Maple	RM	0.0
Sweet Gum	SG	74.0
Black Walnut	BW	0.0
Pecan	Pec	0.0
Hickory	Hi	42.6
Persimon	Per	0.0
Sasafrass	Sa	11.6
Dogwood	Dw	0.0
Redbud	Rb	0.0
Black Locust	BL	0.0
Honey Locust	HL	0.0
Bald Cypress	Cy	0.0
Black Cherry	BC	0.0
Black Gum	BG	45.1
American Elm	AE	0.0
Cottonwood	Cw	0.0
Red Cedar	RC	173.8
Red Elm	RE	0.0
Basswood	AB	0.0
Boxelder	Bx	0.0
Hackberry	Hb	0.0
Mulberry	Mu	0.0
White Pine	WP	0.0
Loblolly Pine	LP	0.0
Shortleaf Pine	SP	163.2
American Beech	AB	0.0
Black Willow	Wi	0.0

Total Merchant Vol/Acre bd.ft.	788.8
Total Merchant Vol/Stand bd.ft.	25240.1

Trees Per Acre Total	634.5

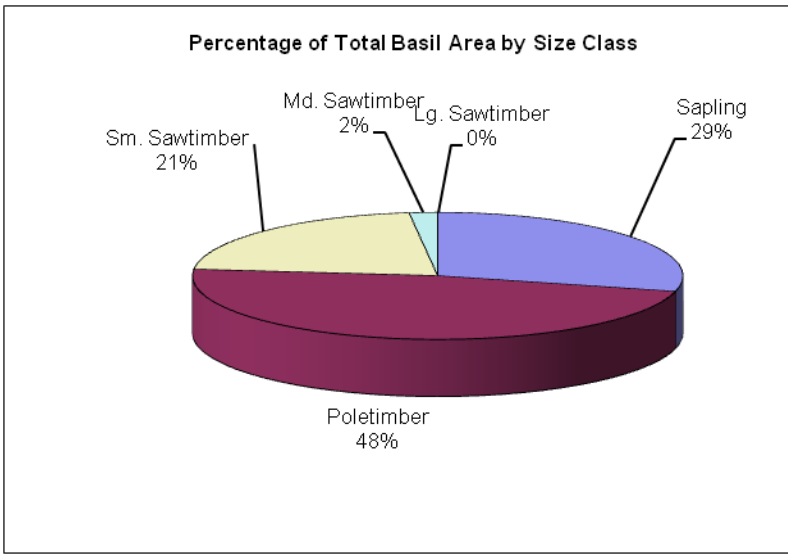
RC	8	U		28.65	2.60	-4.46	
RC	6	U		50.93	4.63	-11.19	
SA	8	U		28.65	2.60	-4.46	
SG	7	U		37.42	3.40	-7.86	
RC	6	U		50.93	4.63	-11.19	
SA	12	U		12.73	1.16	10.01	11.58
SA	11	U		15.15	1.38	6.27	
BG	8	A		28.65	2.60	-4.46	
RC	9	U		22.64	2.06	-0.97	
RC	12	U		12.73	1.16	10.01	11.58
RE	5	U		73.34	6.67	-14.43	
RC	6	U		50.93	4.63	-11.19	
SP	16	A	2.5	7.16	0.65	130.27	84.82
DW	6	A		50.93	4.63	-11.19	
RC	7	U		37.42	3.40	-7.86	
BC	9	U		22.64	2.06	-0.97	
BG	15	A	1	8.15	0.74	60.83	45.06
DW	7	A		37.42	3.40	-7.86	
RC	9	U		22.64	2.06	-0.97	
RC	5	U		73.34	6.67	-14.43	
RC	8	U		28.65	2.60	-4.46	
RC	11	U		15.15	1.38	6.27	
RC	2	U		458.37	41.67	-23.65	
RC	5	U		73.34	6.67	-14.43	
RC	12	U		12.73	1.16	10.01	11.58
RC	8	U		28.65	2.60	-4.46	
RC	7	U		37.42	3.40	-7.86	
RO	21	A	2.5	4.16	0.38	295.65	111.74
PO	7	A		37.42	3.40	-7.86	
RO	7	A		37.42	3.40	-7.86	
RC	5	U		73.34	6.67	-14.43	
RO	12	A	2.5	12.73	1.16	49.05	56.78
RC	8	U		28.65	2.60	-4.46	
RO	9	U		22.64	2.06	-0.97	
HI	12	A	1.5	12.73	1.16	36.82	42.62
SG	16	U	2	7.16	0.65	113.58	73.95
SG	9	U		22.64	2.06	-0.97	
RC	13	U		10.85	0.99	13.83	13.64
RE	4	U		114.59	10.42	-17.58	
RC	12	U		12.73	1.16	10.01	11.58
RC	12	U		12.73	1.16	10.01	11.58
RC	10	U		18.33	1.67	2.61	
RC	8	U		28.65	2.60	-4.46	
RC	4	U		114.59	10.42	-17.58	
RC	4	U		114.59	10.42	-17.58	
RC	8	U		28.65	2.60	-4.46	
GA	12	U		12.73	1.16	10.01	11.58
RC	11	U		15.15	1.38	6.27	
RC	12	U		12.73	1.16	10.01	11.58
RC	13	U		10.85	0.99	13.83	13.64
RC	2	U		458.37	41.67	-23.65	
RC	4	U		114.59	10.42	-17.58	

Trees Per Acre by AGS	66.6
Trees Per Acre by UGS	567.9
Trees Per Acre (Sapling)	368.1
Trees Per Acre (Pole)	149.3
Trees Per Acre (Sawtimber)	23.6

Size Class & Condition	BA/Acre	BA Percent
Sapling AGS	4	4%
Sapling UGS	25	24%
Poletimber AGS	5	5%
Poletimber UGS	41	40%
Sm.Sawtimber AGS	7	7%
Sm.Sawtimber UGS	14	13%
Med.Sawtimber AGS	1	1%
Med.Sawtimber UGS	1	1%
Lg. Sawtimber AGS	0	
Lg. Sawtimber UGS	0	
All Sawtimber AGS	8	8%
All Sawtimber UGS	15	14%

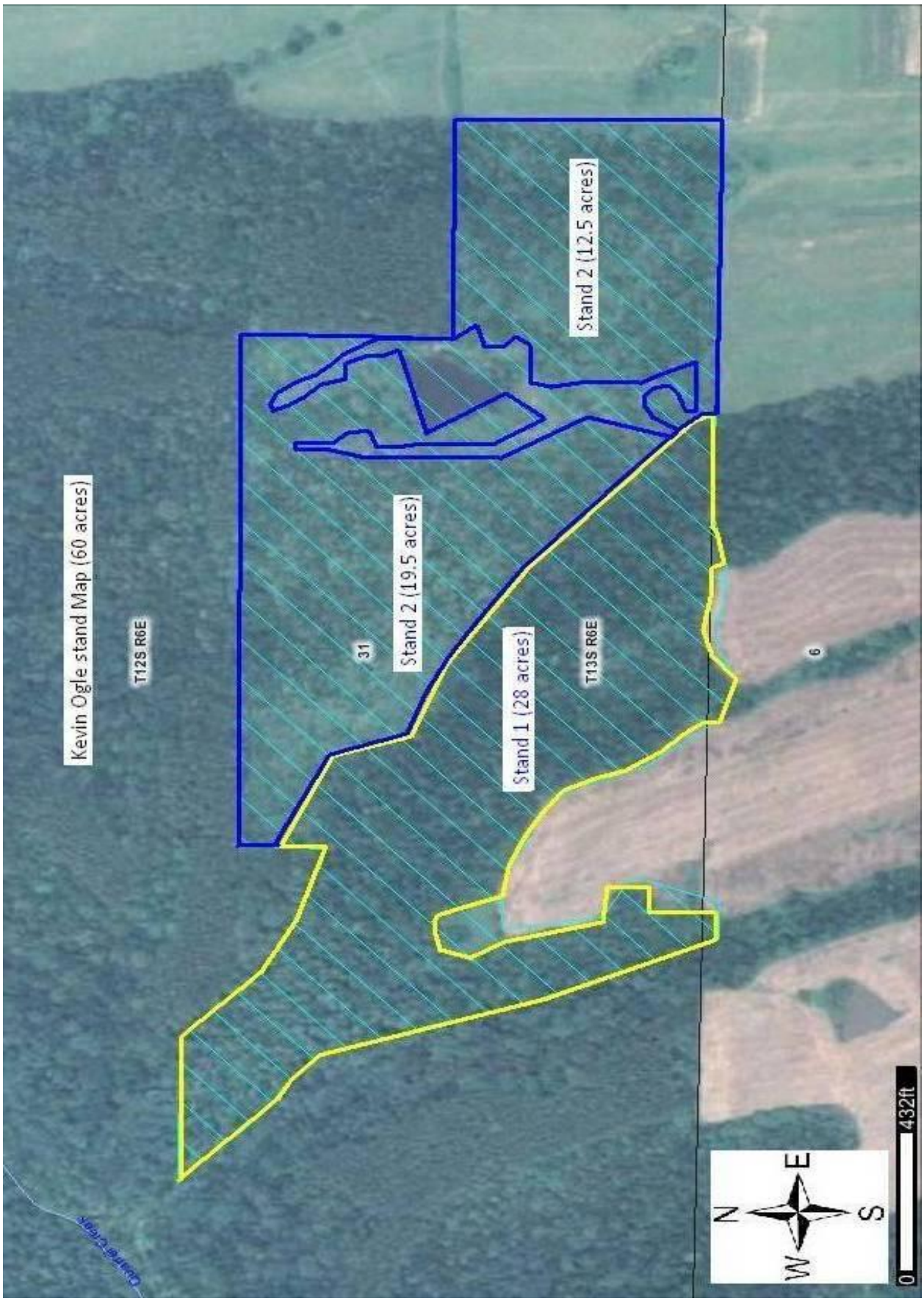
Size Class	Total BA/Ac	Total BA Percent
Sapling	28	28%
Poletimber	46	46%
Sm. Sawtimber	21	21%
Md. Sawtimber	2	2%
Lg. Sawtimber	0	
All Sawtimber	23	22%

Basil Area per Acre (Total)	101.8
Basil Area per Acre (AGS)	18.2
Basil Area per Acre (UGS)	83.6



WE	8	U		28.65	2.60	-4.46	
PER	4	A		114.59	10.42	-17.58	
DW	5	A		73.34	6.67	-14.43	
RC	10	U		18.33	1.67	2.61	
RC	16	U		7.16	0.65	25.81	16.80
RC	6	U		50.93	4.63	-11.19	
WE	8	U		28.65	2.60	-4.46	
RC	6	U		50.93	4.63	-11.19	
DW	4	A		114.59	10.42	-17.58	
DW	5	U		73.34	6.67	-14.43	
DW	3	U		203.72	18.52	-20.66	
RC	12	A	1.0	12.73	1.16	29.01	33.58
DW	5	U		73.34	6.67	-14.43	
DW	4	U		114.59	10.42	-17.58	
DW	3	U		203.72	18.52	-20.66	
SP	21	U	1.5	4.16	0.38	207.39	78.38
SA	5	U		73.34	6.67	-14.43	
DW	4	A		114.59	10.42	-17.58	

Appendix C


Kevin Ogle stand Map (60 acres)
T12S R6E
31
Stand 2 (19.5 acres)
Stand 2 (12.5 acres)
Stand 1 (28 acres)
T13S R6E
6
N
E
S
W
0
432ft

Appendix D