Athens Co. Auditor Copy

Woodland Stewardship Management Plan

Owner's Information:

Owners: Charles (Chuck) O. Murray Debra J. Murray

Signed: Charles O. Murray Signed: Debra J. Murray

Date: 3-28-24 County: Athens Farm Bill Program: EQIP

Case Number: _____ Contract Number & Item Number: 745E34240X1 1

Preparer's Information:

Prepared by: Dean A. Berry TSP Number & Expiration Date: #10-6547 12/27/24.

I, as a TSP for NRCS Farm Bill Programs, certify that services provided: comply with all Federal, State, Tribal, and Local laws and requirements; meet applicable program requirements and recommended planned practices are based on NRCS conservation practice standards and specifications; are consistent with and meet the conservation program goals and objectives for which the program contract was entered into by the client; and incorporate alternatives that are both cost effective and appropriate to address the resource issues.

Signature: Dean A. Berry

Dean A. Berry, ACF
Woodland Management Service LLC
10935 Rosewood Land
Athens, Ohio 45701
740-541-4647, fatlabtreefarm@gmail.com

Date: 3/26/2024

NRCS Representative Signature: _____ Date: _____

This plan is valid for the period beginning 3/26/2024 and ending 3/25/2034.

Plan Status: New

CPA 106 Forest Management Plan Template FFY23

Woodland Stewardship Management Plan

Owners	Chuck & Debra Murray		
Address	2700 Bailey Rd.		
	Athens, Ohio 45701		
Phone		Case Number	
Cell	740- 677-9014	Email Address	chuckmurray49@gmail.com
County	Athens	Township/Village/City:	Sec 23, Lee Twp.
Parcel(s):	H010010040601 & H010010038801		
Location:	Located along north side of Bailey Rd. (Twp Rd 10).		

Woodland Stewardship Acreage: 50.4 Non-woodland Stewardship Acreage*: 11.64

Total Property Acres 62.04

* Non-woodland acres for which stewardship recommendations are made. **Stands: 1 & 6**

This plan was written to qualify the landowner's woodland for the programs checked below:

☐ Ohio Forest Tax Law ☐ American Tree Farm Program

☒ Environmental Quality Incentives Program (EQIP) ☒ CAUV

Property coordinates (report in WGS 84, decimal degrees.)

Longitude: W-82.2488 Latitude: N39.2650

Landowner Objectives

1. Manage the property for all attributes and opportunities that exist in a forest ecosystem of interest to the owner including recreation, wildlife management, soil and water management, forest protection, timber products management, and other compatible conservation uses.
2. Maintain healthy woods by limiting the impact of non-native invasive species identified in the forest landscape.
3. Improve habitat for game and non-game species of wildlife.

General Woodland Description

Chuck & Debra purchased the first portion of this ownership in 1984 and then a second adjacent tract in 1993. In 1988 they planted 1000 White Pine seedlings in open areas near the house. This entire tract is utilized for hunting and has hosted archery skills events. Over the years timber stand improvement work was completed. Emerald Ash Borer had a significant impact in some areas, but the dead trees were utilized as fuelwood for their outdoor wood burner. A selective harvest was done 33 years ago, and another just completed in the Winter of 2023. Looking forward, the major issue that is affecting the future development of the woods is the number of grapevines in the future "crop" trees, populations of non-native invasive shrubs becoming established in the forest understory. These are things to be addressed in the next 10-year period.

Inventory Method: Plot Sampling

Woodland Stand Description and Management Recommendations

General Definitions

Stand: A contiguous group of trees sufficiently uniform in age-class distribution, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable and manageable unit.

Diameter: Diameter breast height (DBH) is measured at 4.5 feet above ground.

Seedling – DBH is not measurable.
Sapling – 1" to 4" DBH
Poletimber – 5" to 11.5" DBH
Small Sawtimber – 12" to 16" DBH
Medium Sawtimber – 18" to 22" DBH
Large Sawtimber – 24" DBH and larger

Topography: Refers to the slope of the land.

Aspect: Is the direction that a slope faces.

Stocking Level/Basal Area: An indication of growing space of the stand. Basal area is the cross-sectional area of all stems of a species or all stems in a stand measured at DBH. Low basal areas are considered to be understocked which can lead to negative impacts on the residual trees in a stand. High basal areas are considered to be overstocked and can lead to negative impacts on the residual trees in a stand.

Silviculture: The art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands to meet the diverse needs and values of landowners and society on a sustainable basis.

Invasive Species: Species not native to Ohio and in most cases not native to the United States. Invasive species can inhibit growth and establishment of native hardwoods if they are not controlled.

Timber Stand Improvement (TSI): Improving the quality of a forest stand by removing or deadening undesirable species to achieve desired stocking levels and species composition.

Crown Classes:

Dominate – Crown extends above canopy, direct sunlight to the top and sides of crowns
Co-Dominate – Crown within the main canopy, direct sunlight to the top and limited on sides
Intermediate – Crown in the lower part of main canopy, limited sunlight
Overtopped – Crown entirely under the main canopy, no direct sunlight

Forestry Terms – Forestry Terminology for Landowners, Professional foresters, and others:

Consistent forestry terminology is essential to anyone interested and involved in the science, management, and conservation of forests.

The Society of American Foresters (SAF) offers a great resource for such forestry terminology: "The Dictionary of Forestry". This dictionary is an excellent tool available for anyone to learn more about the language used in forestry. The dictionary provides precision, clarity, and consistency in communication of forestry terms.

You may access "The Dictionary of Forestry" for free at SAF at www.dictionaryofforestry.org. If internet access is not available, one may purchase a printed version from SAF (toll free 866-897-8760).

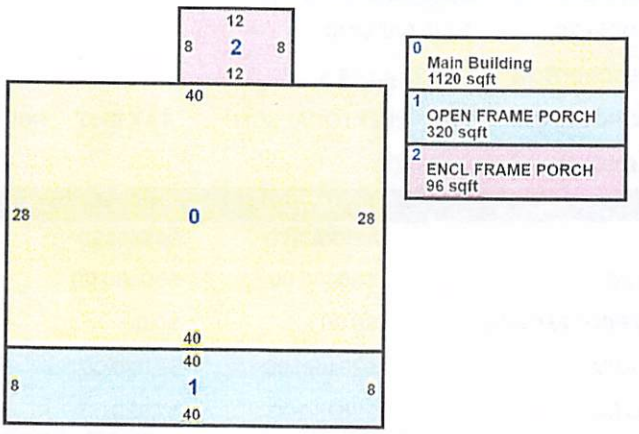
A list of common forestry terms is included as a handout in this plan.

H010010040601

1/19/2024

Jill A. Davidson
County Auditor
Athens County, Ohio
www.athenscountyauditor.org

FIRST SKETCH



LEGAL

OWNER	MURRAY CHARLES O & DEBRA J		
ADDRESS	2700 BAILEY RD		
DESCRIPTION	SEC 23 18.20A		
SCHOOL DIST	ALEXANDER LOCAL SCH	**TAX DIST**	H01
ACREAGE	18.2000		

VALUATION

	APPRAISED	ASSESSED
LAND	$57,180.00	$20,010.00
IMPROVEMENTS	$149,540.00	$52,340.00
CAUV	$0.00	$0.00
TOTAL	$206,720.00	$72,350.00

TAXES

TAXABLE VALUE	$72,350.00
ROLLBACKS	NONE
HALF (1ST / 2ND)	$1,468.31 / $1,468.31
YEAR (TOTAL / BALANCE)	$2,936.62 / $2,936.62

SPECIAL ASSESSMENTS

COUNT	0
DELINQUENT / BALANCE	$0.00 / $0.00
TOTAL / BALANCE	$0.00 / $0.00

MOST RECENT SALES

DATE	BUYER	SELLER	# PARCELS	PRICE	VALIDITY

LAND

CODE	FRONTAGE	DEPTH	ACREAGE	SQFT	VALUE
ACREAGE Primary Site	0	0	10.000	435,600	$23,000.00
ACREAGE Secondary Site	0	0	7.200	313,632	$13,250.00
ACREAGE Building Site	0	0	1.000	43,560	$20,930.00

IMPROVEMENTS

DESCRIPTION	BUILT	DIMS	VALUE
(AP2) - 4 SIDES CLOSED, WOOD POLE BLDG	1992	24x30	$2,150.00
(RC2) - CANOPY	1994	16x30	$310.00
(RC2) - CANOPY	1994	11x19	$140.00

RESIDENTIAL

Building (CARD: 1)	OTHER BUILT **1994**	**Baths (Full / Half)**	2 / 0
Area	2,240 sqft	**Rooms (Bedroom / Family)**	3 / 0
Basement (Code / Finished / Total)	FULL / 0 sqft / 0 sqft	**Stories**	2.0
Heat Full Type	GAS	**Cooling**	CENTRAL AIR CONDITION
External Wall	FRAME	**Fireplace Stacks**	0

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1/19/2024

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County Auditor
Athens County, Ohio
www.athenscountyauditor.org

MOST RECENT PHOTO

LEGAL

OWNER	MURRAY CHARLES O & DEBRA J
ADDRESS	2420 BAILEY RD
DESCRIPTION	SEC 23 43.84 AC
SCHOOL DIST	ALEXANDER LOCAL SCH
TAX DIST	H01
ACREAGE	43.8400

VALUATION

	APPRAISED	ASSESSED
LAND	$86,180.00	$30,160.00
IMPROVEMENTS	$0.00	$0.00
CAUV	$20,090.00	$7,030.00
TOTAL	$86,180.00	$7,030.00

TAXES

TAXABLE VALUE	$7,030.00
ROLLBACKS	NONE
HALF (1ST / 2ND)	$158.41 / $158.41
YEAR (TOTAL / BALANCE)	$316.82 / $316.82

SPECIAL ASSESSMENTS

COUNT	0
DELINQUENT / BALANCE	$0.00 / $0.00
TOTAL / BALANCE	$0.00 / $0.00

MOST RECENT SALES

DATE	BUYER	SELLER	# PARCELS	PRICE	VALIDITY
4/20/1993	MURRAY CHARLES O & DEBRA J		0	$20,000.00	NOT OPEN MARKET

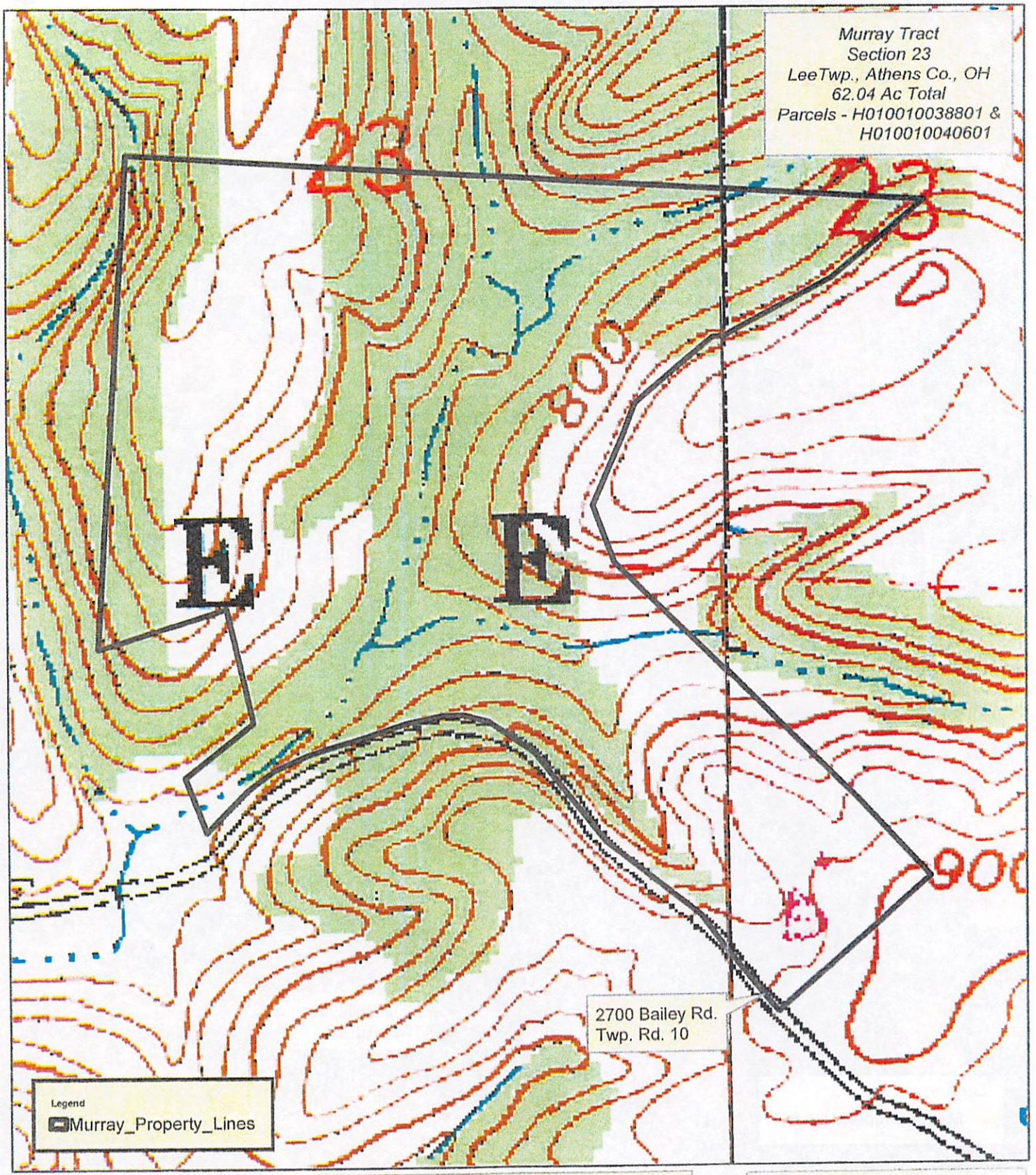
LAND

CODE	FRONTAGE	DEPTH	ACREAGE	SQFT	VALUE
ACREAGE Secondary Site	0	0	31.850	1,387,386	$58,600.00
ACREAGE Primary Site	0	0	11.990	522,284	$27,580.00

IMPROVEMENTS

AGRICULTURAL

Woodland Location Map



March 2023

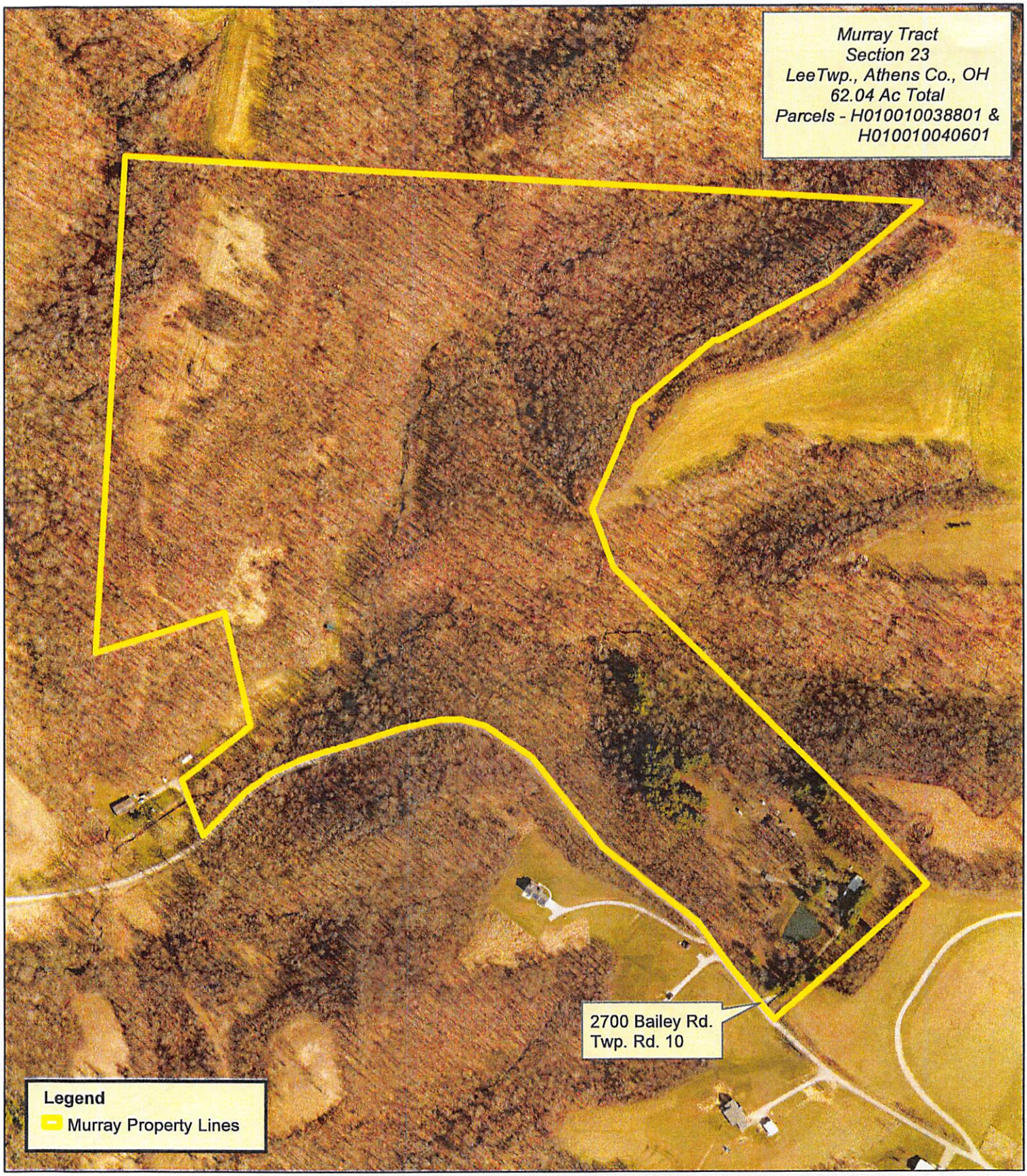
-82.2488 39.2650

Prepared with the assistance from
USDA - Natural Resource Conservation Service.
The Plains Service Center
Athens Soil & Water Conservation District
Assisted by Dean A. Berry TSP 10-6547

0 145 290 580 Feet

Disclaimer: This drawing is not an actual survey, and is for general information purposes only

Woodland Location Map



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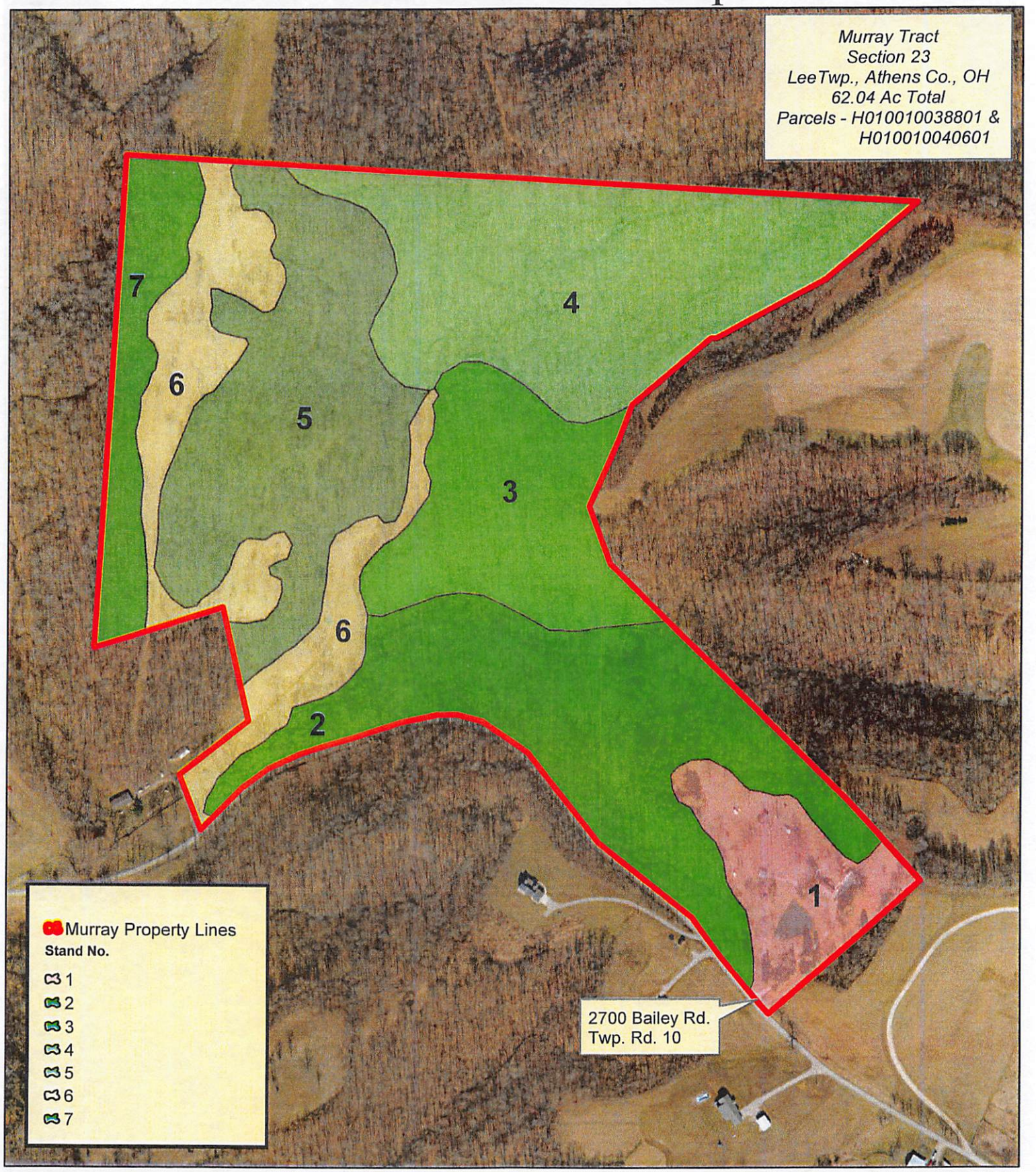
Forest Stand Map



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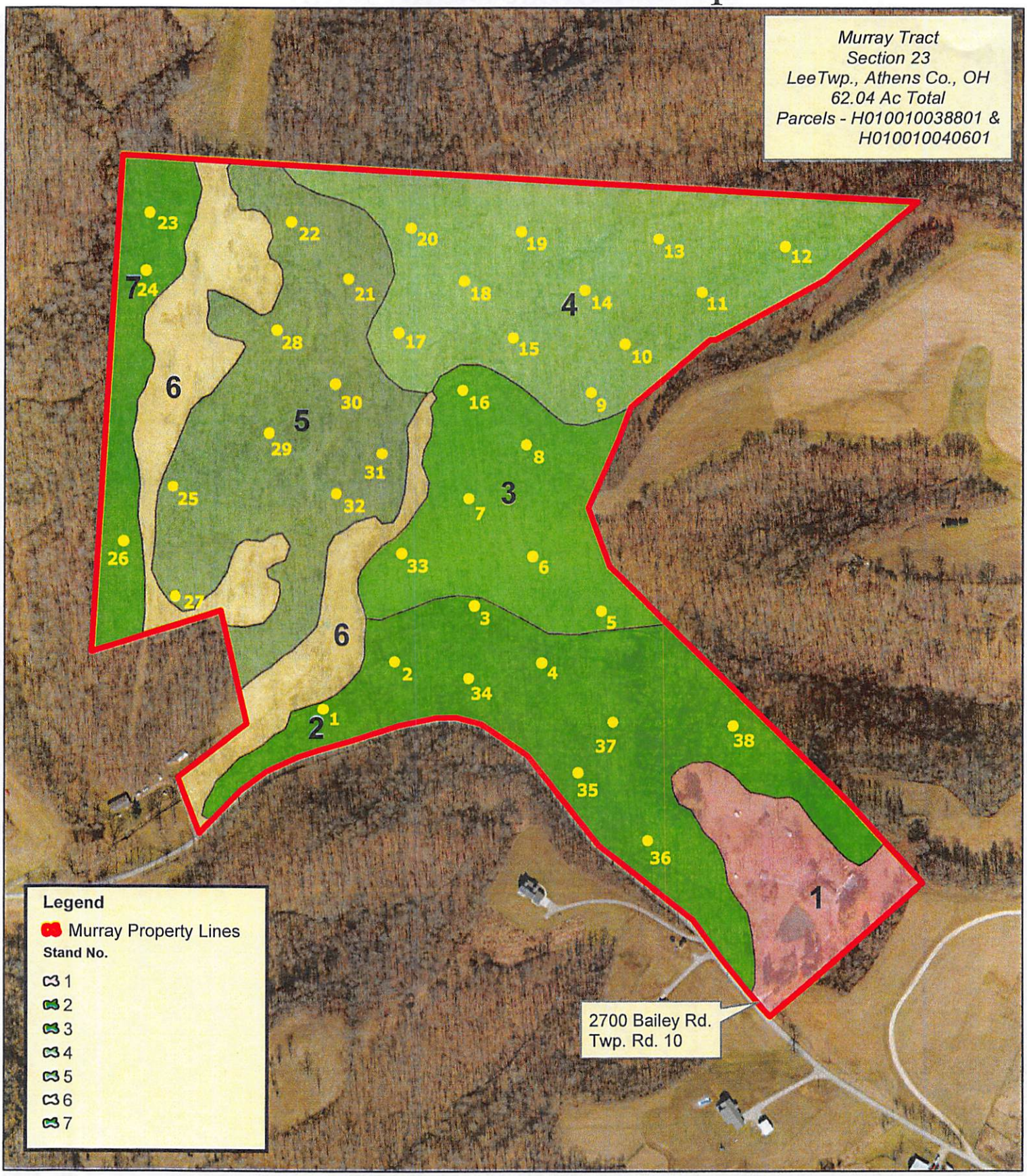

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0 145 290 580 Feet

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Woodland Stand Description and Management Recommendations

Stand # 1 - **4.14** acres Non-Forest Stewardship Area – residential (1.0 ac), pond (½ ac), outbuildings, driveway & mowed areas

Dominant Species: N/A

Forest Type or Dominant Vegetation: N/A

Stand Diameter or Size Class: N/A

Stocking Level: **Basal Area:** **(ft2/acre) Trees per acre:**

Diameter Distribution by Species: N/A

Stand History: Other residential use area

Topography: Gently sloping

Site Index Value and Species: N/A **Stand Age Estimation:** N/A

Average Canopy Height: N/A

Invasive plants or insects impacting this stand: Addressed in adjacent stand descriptions.

Level of invasive plants in the stand: N/A

Client Objectives: Maintain as personal residential use area.

Stand Description: This Stand covers the driveway, house, outbuildings, pond area and surrounding mowed area. The area is semi-wooded with a variety of trees and shrubs. Outdoor wood burner utilized all year round – firewood source is dead trees, treetops and cull trees.

Past management activities completed in this stand: 1000 White Pines planted in this area and in part of adjacent Stand 2, in1988. Entire area is well maintained; shelter house used for hosting outdoor events.

Management Recommendations:	*EQIP Practice Code:*	*EQIP Practice Name:*
Work on any identified Japanese Stiltgrass infestation along driveway or in yard area.	315	Herbaceous Weed Control

Is a timber harvest recommended? N/A

Comments: Great secluded setting. Mr. & Mrs. Murray reside here. This area will not qualify for OFTL real estate tax reduction program. Numerous improvements have been made in this area to enhance the recreational use by family and friends, (pond, shelter house).

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: N/A
Desired Stand Structure: N/A

Descriptions of Alternatives and Preferred Alternative to meet desired future conditions:

1. Landowner does nothing and allows area to become overgrown.
   Populations of Japanese stiltgrass, autumn olive, barberry, winged burning bush and privet populate will explode in this area. **Not a preferred (or recommended) option.**

2. Landowner cuts/treats with approved herbicides any non-native invasive shrubs/grasses identified in this area. **Preferred Alternative**

Woodland Stand Description and Management Recommendations

Stand #2 - **13.1** acres

Dominant Species: Native Species - Red Oak spp., White Oak spp., Yellow Poplar, Sugar Maple, Am. Beech, Black Cherry, Hickory spp., Sycamore, Yellow Buckeye & Black Walnut. Planted – White Pine

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: All size classes

Stocking Level: Fully stocked 63% **Basal Area:** 66 **(ft2/acre)** 4" & > dbh

Trees per acre: 204_4" & > dbh **Note** –understory composition mainly: hickory, beech, maple, buckeye seedlings/saplings at adequate populations for site.

Diameter Distribution by Species: See attached Stand Summary.

Stand History: Harvesting - Diameter limit parts- 2023

Topography: Draws/Ravines low ridgetop and 2 drainages – steep hollow along twp. rd.

Site Index Value and Species: See in Plan Addendum – DtE, DtF, WhC, WhD, PpS1AF Tuliptree & Red Oak Site Indexes

Stand Age Estimation: W. Pine -36 yrs. old- surrounding Hwds. 45-55yrs.

Average Canopy Height: 50'-65'

Invasive plants or insects impacting this stand: Privet, winged burning bush, bush honeysuckle, Japanese barberry, Japanese vine honeysuckle & multi flora rose in canopy openings, scattered grapevines.

Level of invasive plants in the stand: light in most of the stand, with limited number of grapevines throughout area (except area near Plot 38 – slope heavily infested with winged burning bush).

Client Objectives: Allow area to develop into a mixed hwd/white pine species stand, reduce the non-native invasive shrubs & grapevines in this area to increase hard mast production.

Stand Description: This hardwood forest area includes the small white pine stands established by the landowner in 1988. The conifer patches are surrounded by native hardwood trees that vary in size and species composition. The steep hollow along the road has somewhat limited access because of the terrain. The remainder of this area is somewhat younger trees, and areas of thick Japanese vine honeysuckle in the understory. A perennial stream drainage is included in this area. Scattered small sawlog Black Walnut trees were found throughout stand.

Past management activities completed in this stand: Property lines located but need remarked, numerous trails maintained, bow challenge course established, some invasive control completed, some grapevines cut in part of the area.

Management Recommendations:	***EQIP Practice Code:***	***EQIP Practice Name:***
Continue to locate and mark property lines with paint/signage to deter trespass.		
Maintain grass/leaf cover on the trails to reduce erosion potential. Finish final skid trail reclamation in Spring 2024 by smoothing and seeding trails.		
Work on reducing the impact of invasive shrubs in this area. Cut grapevines from all the oak, sugar maple, walnut and white pine trees.	314	Brush Management

Is a timber harvest recommended? No Not in this 10yr. management period.

Comments: The slope area near Plot 38 has the heaviest invasive plant infestation on the entire farm - winged burning bush.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: As Listed in Dominant Species
Desired Stand Structure: Uneven Aged

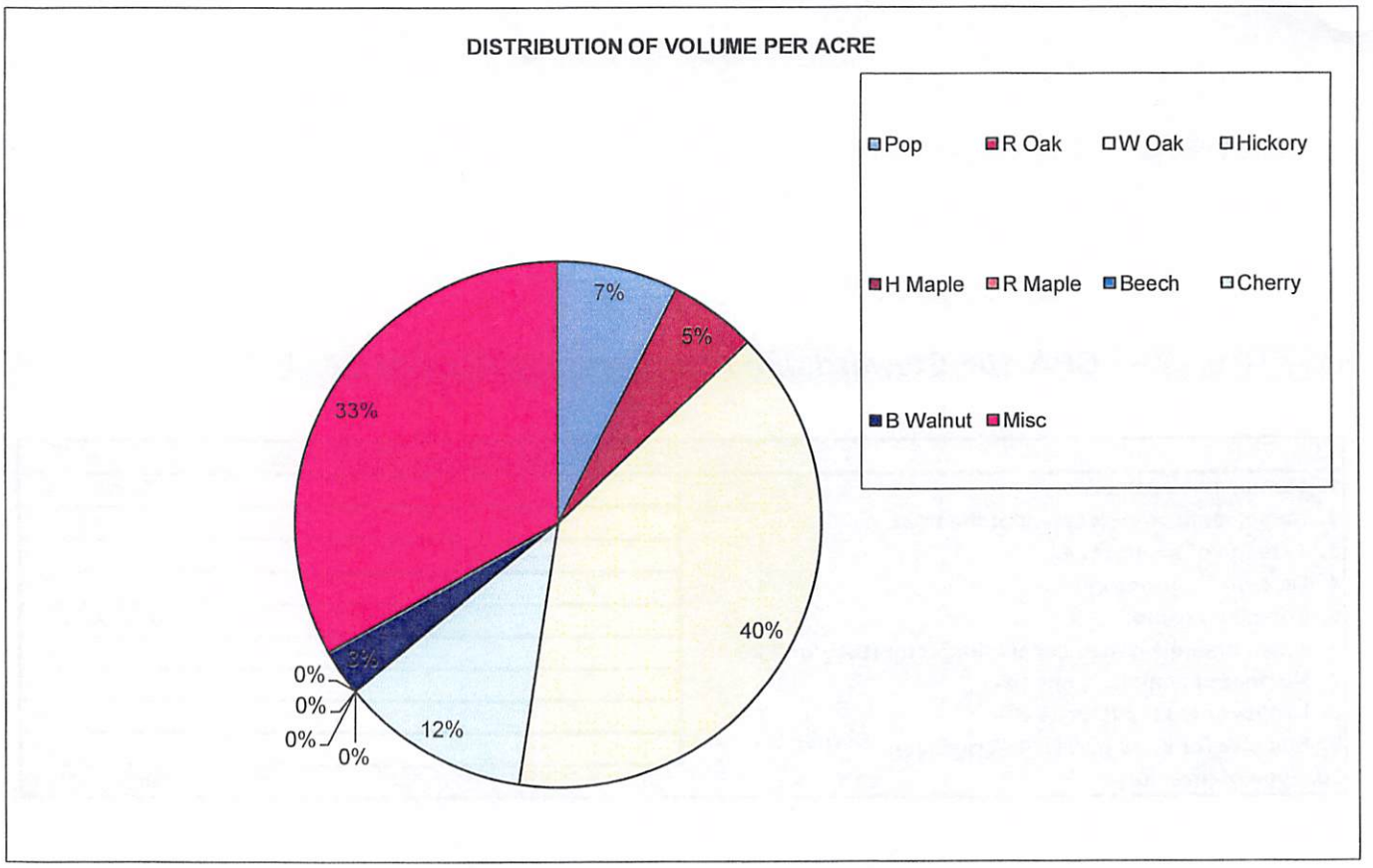
Descriptions of Alternatives and Preferred Alternative to meet desired future conditions:

1. Landowner does nothing and allows area to continue to develop naturally. Populations of autumn olive, barberry, winged burning bush and privet will increase. Trails will become rutted and overgrown with invasive shrubs and be impassable. **Not a preferred (or recommended) option.**

2. Landowner cuts/treats with approved herbicides any non-native invasive shrubs identified in this area (per USDA 314 Brush Management specifications). Grapevines will be cut from "crop" trees. Landowner oversees skid trails being graded and seeded **Preferred Alternative**

CPA-106 Stewardship Plan Forest Inventory (2024)

1. Landowner's name:	Murray Tract
2. Name, number, or location of the tract:	Stand 2
3. Acreage of the tract (*A*):	13.10
4. Date of the inventory:	3/20/2024
5. Forester's name:	Dean A. Berry
6. Prism or angle gauge basal area factor (*BAF* or *F*):	10.0
7. Number of sample points (*n*):	9
8. Length of log (12 ft. or 16 ft.):	16
9. Plot size for vines (Ex. 1/20 Acre=0.05):	N/A
10. Type of inventory:	Variable plot size


DISTRIBUTION OF VOLUME PER ACRE
Pop
R Oak
W Oak
Hickory
H Maple
R Maple
Beech
Cherry
B Walnut
Misc
7%
5%
33%
40%
3%
12%
0%
0%
0%
0%

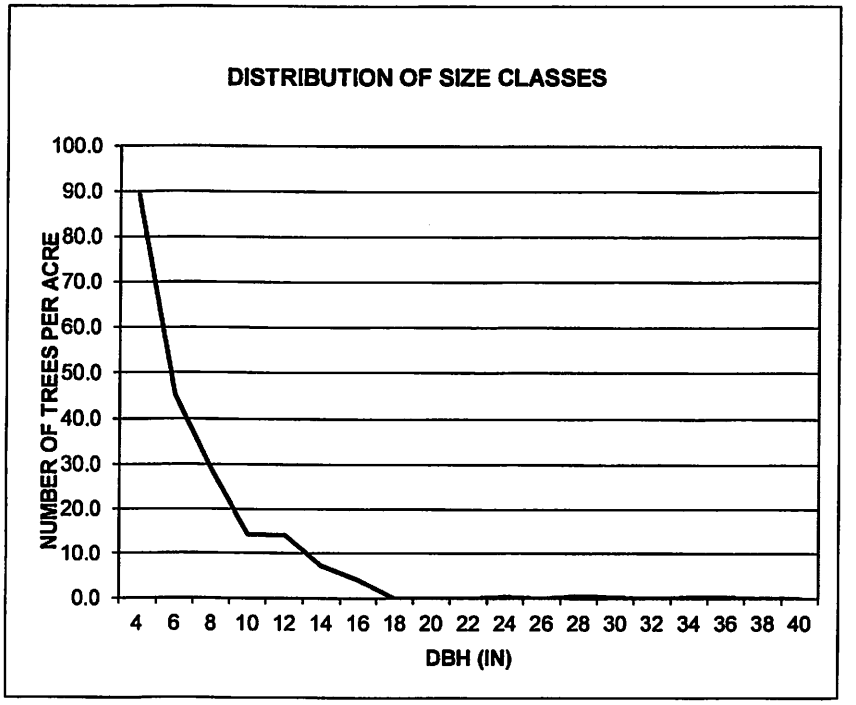
CPA-106 Stewardship Plan Forest Inventory (2024)
SUMMING ALL TREES

OWNER: Murray Tract **DATE:** 3/20/2024
TRACT: Stand 2 **FORESTER:** Dean A. Berry
ACRES: 13.10

This inventory was accomplished using a wedge prism or angle gauge with a basal area factor of **10** over **9** sample points. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in feet^2, and all figures for diameter at breast height (dbh) are in inches.

SUMMARY BY SIZE CLASS

DBH	VOL. PER ACRE	TREES PER ACRE	BASAL AREA / ACRE
4		89.1	7.8
6		45.3	8.9
8		28.6	10.0
10		14.3	7.8
12	296	14.1	11.1
14	312	7.3	7.8
16	279	4.0	5.6
18			
20			
22			
24	131	0.4	1.1
26			
28	162	0.5	2.2
30	149	0.2	1.1
32			
34	53	0.2	1.1
36	55	0.2	1.1
38			
40			
TOTAL	1436	204.1	65.6



SUMMARY BY SPECIES

SPECIES	VOL. PER ACRE	PCT. OF PER ACRE VOL.	TREES PER ACRE	PCT. OF PER ACRE TREES	BASAL AREA/ ACRE	PCT. OF PER ACRE BA	AVG. DBH		TOTAL STAND VOLUME
Pop	106	7.4%	3.9	1.9%	3.3	5.1%	12.6		1,395
R Oak	78	5.4%	52.0	25.5%	7.8	11.9%	5.2		1,024
W Oak	568	39.6%	23.3	11.4%	15.6	23.7%	11.1		7,442
Hickory	167	11.6%	11.3	5.5%	7.8	11.9%	11.2		2,183
H Maple			31.8	15.6%	4.4	6.8%	5.1		-
R Maple									-
Beech									-
Cherry			4.1	2.0%	2.2	3.4%	10.0		-
B Walnut	41	2.9%	6.6	3.3%	3.3	5.1%	9.6		537
Misc	475	33.1%	71.2	34.9%	21.1	32.2%	7.4		6,229
PER ACRE TOTALS	1436	100.0%	204.1	100.0%	65.6	100.0%	7.7		**18,810**

SUMMARY OF VINES	#VALUE!	vines per acre

Misc. Species - Yellow Buckeye, Elm, Red Bud, Sycamore
Invasive Species - Privet, Japanese Vine Honeysuckle, Bush Honeysuckle
Winged Burning Bush, Japanese Barberry
Scattered grapevines in the area.

OWNER: Murray Tract
TRACT: Stand 2
ACRES: 13.10

DATE: 3/20/2024
FORESTER: Dean A. Berry

SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS

DBH	*** SPECIES LISTING ***										VOL. PER ACRE
	Pop	R Oak	W Oak	Hickory	H Maple	R Maple	Beech	Cherry	B Walnut	Misc	
12	57	28	85	85					41		296
14	50	50	81	50						81	312
16			132	32						115	279
18											
20											
22											
24										131	131
26											
28			162								162
30										149	149
32											
34			53								53
36			55								55
38											
40											
VOL./ACRE	106	78	568	167					41	475	1436

Woodland Stand Description and Management Recommendations

Stand # 3 - **7.6** acres

Dominant Species: White Oak spp., Hickory spp., Sugar Maple, Red Maple, Red Oak spp., Black Cherry, Sassafras

Forest Type or Dominant Vegetation: Oak-Hickory

Stand Diameter or Size Class: Poletimber/Small sawtimber

Stocking Level: Fully stocked (72%) **Basal Area:** 75 **(ft2/acre)** 4"& > dbh

Trees per acre: 250_ 4" & > dbh trees

Diameter Distribution by Species: See attached Stand Summary.

Stand History: Harvesting - Diameter limit in 2024.

Topography: Gently sloping side slope areas of different slope aspect

Site Index Value and Species: See in Plan Addendum – PpS1AF, DuF, WhC
Tuliptree & Red Oak Site Indexes

Stand Age Estimation: 60 yrs.

Average Canopy Height: 55' -60' on small sawtimber trees

Invasive plants or insects impacting this stand: Privet, Japanese Vine honeysuckle identified at scattered in locations, scattered grapevines found in entire area (some beneficial to wildlife).

Level of invasive plants in the stand: only 1 small area of privet located near stream but suspect more scattered plants present.

Client Objectives: Develop this area into a maturing white oak stand for future timber products and acorn production.

Stand Description: This area is a side slope around the ridge point. As expected, this south/west slope aspect area has a higher composition of oak & hickory trees, but close to the stream drainage are a mixture maples and cherry can also be found. Most of the sassafras has died out in this area, replace with maples and white oak trees. Unfortunately, many of the white oak trees exhibit some level of epicormic branching, which reduces the future value of the tree. This entire area was lightly harvested in 2023 with large diameter oak trees being removed.

Past management activities completed in this stand: property lines located but need painted, some grapevines cut, trails maintained, timber harvest 2023.

Management Recommendations:	*EQIP Practice Code:*	*EQIP Practice Name:*
Continue to locate and mark property lines with paint/signage to deter trespass.		
Maintain grass cover on the skid trails to reduce erosion potential, grade rutting & install final water bars.		
Work on reducing the impact of invasive shrubs in this area. Cut grapevines from all "crop" trees (oak trees).	314	Brush Management

Is a timber harvest recommended? No Landowner may remove some damaged trees at some point if the opportunity/market conditions are favorable.

Comments: Chinkapin Oak trees found in Plot 8. Large sugar maple trees not harvested in this area when white oaks were removed.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Oak-Hickory
Desired Stand Structure: Uneven Aged

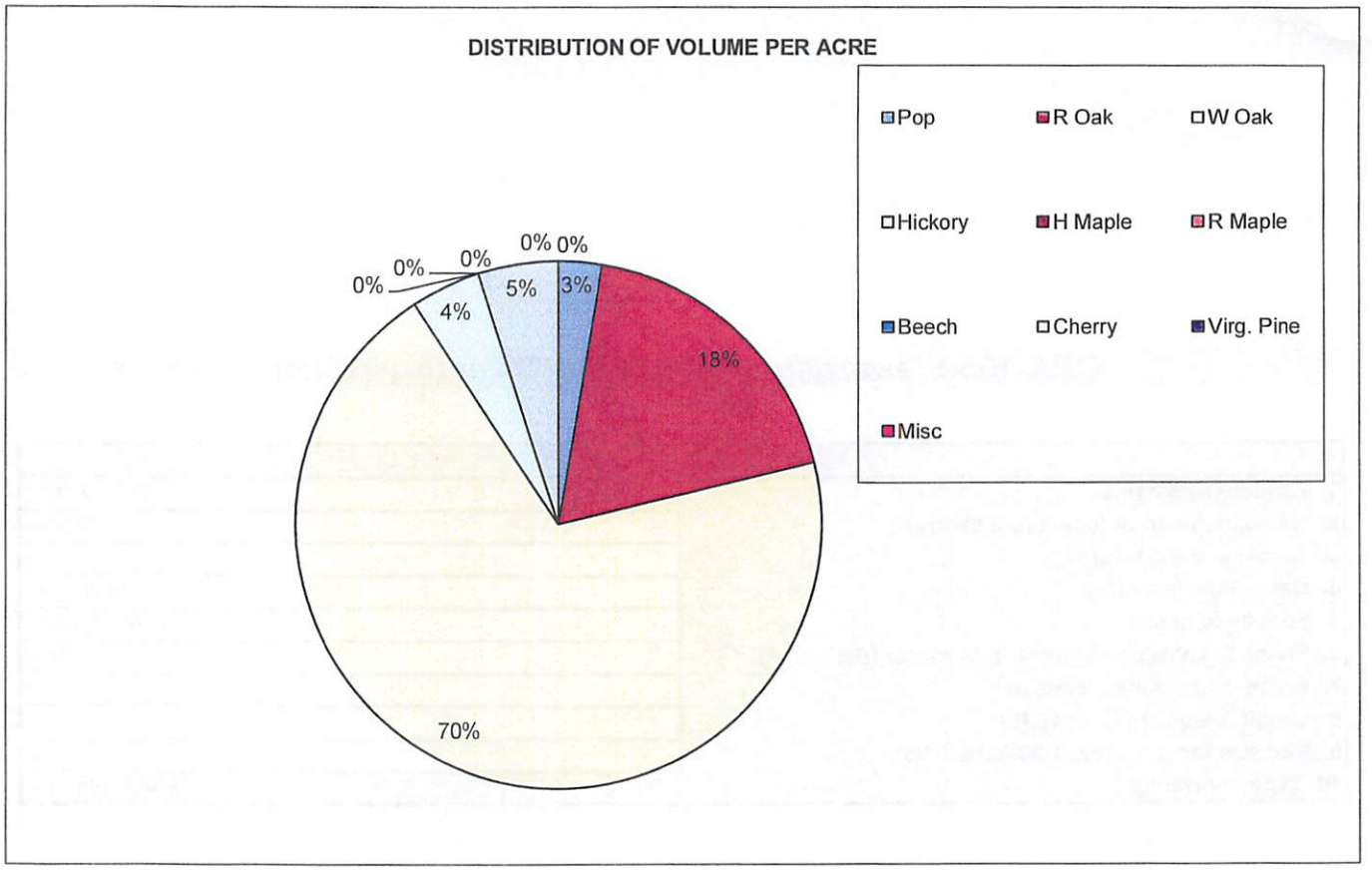
Descriptions of Alternatives and Preferred Alternative to meet desired future conditions: (Include potential impacts to resource concerns for preferred alternative)

1. Landowner does nothing and allows area to continue to develop naturally. Populations of privet will increase. Grapevines will continue to restrict canopy development of future crop trees.
   Not a preferred (or recommended) option.

2. Landowner cuts/treats with approved herbicides any non-native invasive shrubs identified in this area and cuts grapevines from all "crop" trees (per USDA 314 Brush Management specifications).
   Preferred Alternative

CPA-106 Stewardship Plan Forest Inventory (2024)

1. Landowner's name:	Murray Tract
2. Name, number, or location of the tract:	Stand 3
3. Acreage of the tract (*A*):	7.60
4. Date of the inventory:	3/20/2024
5. Forester's name:	Dean A. Berry
6. Prism or angle gauge basal area factor (*BAF* or *F*):	10.0
7. Number of sample points (*n*):	6
8. Length of log (12 ft. or 16 ft.):	16
9. Plot size for vines (Ex. 1/20 Acre=0.05):	N/A
10. Type of inventory:	Variable plot size


DISTRIBUTION OF VOLUME PER ACRE
Pop
R Oak
W Oak
Hickory
H Maple
R Maple
Beech
Cherry
Virg. Pine
Misc
0%
0%
0%
0%
0%
0%
5%
3%
4%
18%
70%

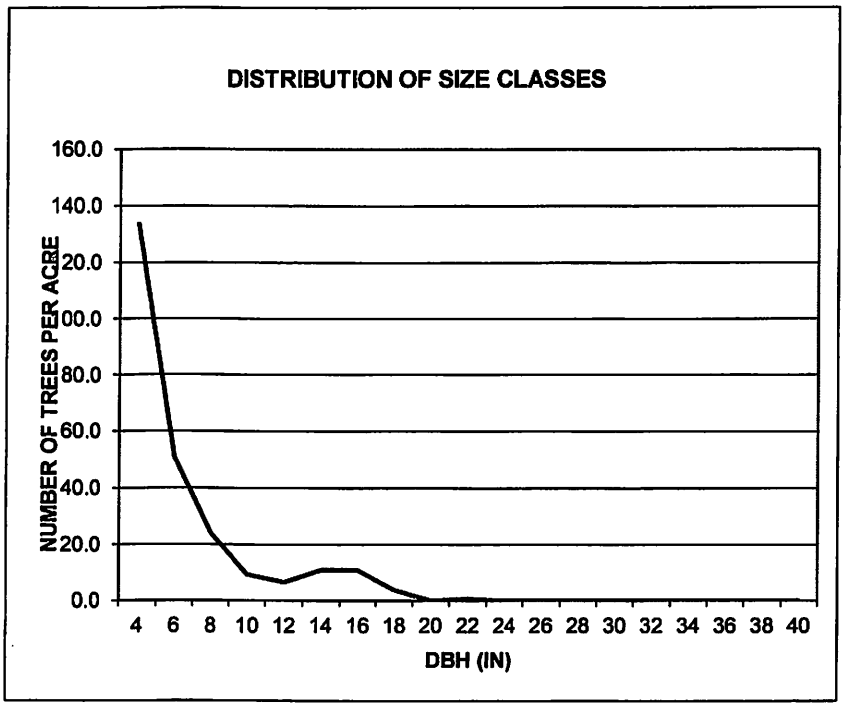
CPA-106 Stewardship Plan Forest Inventory (2024)
SUMMING ALL TREES

OWNER: Murray Tract **DATE:** 3/20/2024
TRACT: Stand 3 **FORESTER:** Dean A. Berry
ACRES: 7.60

This inventory was accomplished using a wedge prism or angle gauge with a basal area factor of **10** over **6** sample points. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in feet^2, and all figures for diameter at breast height (dbh) are in inches.

SUMMARY BY SIZE CLASS

DBH	VOL. PER ACRE	TREES PER ACRE	BASAL AREA / ACRE
4		133.7	11.7
6		50.9	10.0
8		23.9	8.3
10		9.2	5.0
12	85	6.4	5.0
14	440	10.9	11.7
16	723	10.7	15.0
18	438	3.8	6.7
20			
22	63	0.6	1.7
24			
26			
28			
30			
32			
34			
36			
38			
40			
TOTAL	1749	250.1	75.0



SUMMARY BY SPECIES

SPECIES	VOL. PER ACRE	PCT. OF PER ACRE VOL.	TREES PER ACRE	PCT. OF PER ACRE TREES	BASAL AREA/ ACRE	PCT. OF PER ACRE BA	AVG. DBH		TOTAL STAND VOLUME
Pop	47	2.7%	1.6	0.6%	1.7	2.2%	14.0		355
R Oak	324	18.5%	17.4	6.9%	10.0	13.3%	10.3		2,461
W Oak	1217	69.6%	122.4	49.0%	45.0	60.0%	8.2		9,252
Hickory	75	4.3%	31.1	12.5%	10.0	13.3%	7.7		569
H Maple			38.2	15.3%	3.3	4.4%	4.0		-
R Maple			19.1	7.6%	1.7	2.2%	4.0		-
Beech									-
Cherry	86	4.9%	1.2	0.5%	1.7	2.2%	16.0		653
Virg. Pine									-
Misc			19.1	7.6%	1.7	2.2%	4.0		-
PER ACRE TOTALS	1749	100.0%	250.1	100.0%	75.0	100.0%	7.4		**13,290**

SUMMARY OF VINES	#VALUE!	vines per acre

Misc. Species - Sassafras
Invasive Species - small Privet patch, Japanese Vine Honeysuckle
White Oak volume includes several chinkapin oak trees
Very few grapevines in the area.

OWNER: Murray Tract
TRACT: Stand 3
ACRES: 7.60

DATE: 3/20/2024
FORESTER: Dean A. Berry

SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS

DBH	*** SPECIES LISTING ***										VOL. PER ACRE
	Pop	R Oak	W Oak	Hickory	H Maple	R Maple	Beech	Cherry	Virg. Pine	Misc	
12		42	42								85
14	47	75	243	75							440
16		112	525					86			723
18		94	343								438
20											
22			63								63
24											
26											
28											
30											
32											
34											
36											
38											
40											
VOL./ACRE	47	324	1217	75				86			1749

Woodland Stand Description and Management Recommendations

Stand # 4 - 14.3 acres

Dominant Species: Sugar Maple, Yellow Poplar, Red Oak Spp., White Oak, Hickory spp., Sycamore, Yellow Buckeye, Black Walnut

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: Poletimber/Small sawtimber predominately.

Stocking Level: Fully stocked (71%) **Basal Area:** 81 **(ft2/acre)** 4"& > dbh

Trees per acre: 183_ 4"& > dbh trees

Diameter Distribution by Species: See attached Stand Summary.

Stand History: Harvesting - Diameter limit in most of the area 2023.

Topography: Gently sloping drainage areas (2 separate drainages)

Site Index Value and Species: See in Plan Addendum – DuF, DtD
Tuliptree & Red Oak Site Indexes

Stand Age Estimation: 50-55 yrs. with older larger diameter trees scattered in stand.

Average Canopy Height: 45 -50' on small sawtimber sized oak & maple trees.

Invasive plants or insects impacting this stand: Privet (between Plots 10 & 11), scattered grapevines found in entire area.

Level of invasive plants in the stand: invasive shrubs just scattered plants in canopy openings and near trail.

Client Objectives: Allow this area to develop into diverse hardwood stand for future timber products. Reduce the grapevines in the area to help protect the trees.

Stand Description: This area covers the 2 hollow areas associated with the 2 intermittent stream drainages in the northern end of this farm. Almost all of this area was selectively harvested in 2023. The remaining larger diameter trees provide shading for the stream channels. Historically, it appears this area was pastured and some of the large crowned, open grown trees, still remain. Steep stream banks in some locations limit accessibility with vehicles. Logging trails constructed have improve access, water bars constructed on slopes.

Past management activities completed in this stand: property lines located but need painted, some grapevines cut, trails created for timber removal..

Management Recommendations:	*EQIP Practice Code:*	*EQIP Practice Name:*
Continue to locate and mark property lines with paint/signage to deter trespass.		
Establish grass cover on the logging trails to reduce erosion potential.		
Work on reducing the impact of invasive shrubs in this area (scattered privet). Cut grapevines from all "crop" trees (oaks, sugar maples, poplar & walnut).	314	Brush Management

Is a timber harvest recommended? No Only dead trees will be utilized for firewood.

Comments: Again, this area has quality small sawlog sized black walnut trees present. The sycamore stocking is confined to the actual stream drainages, very few in mid-slope areas.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods
Desired Stand Structure: Uneven Aged

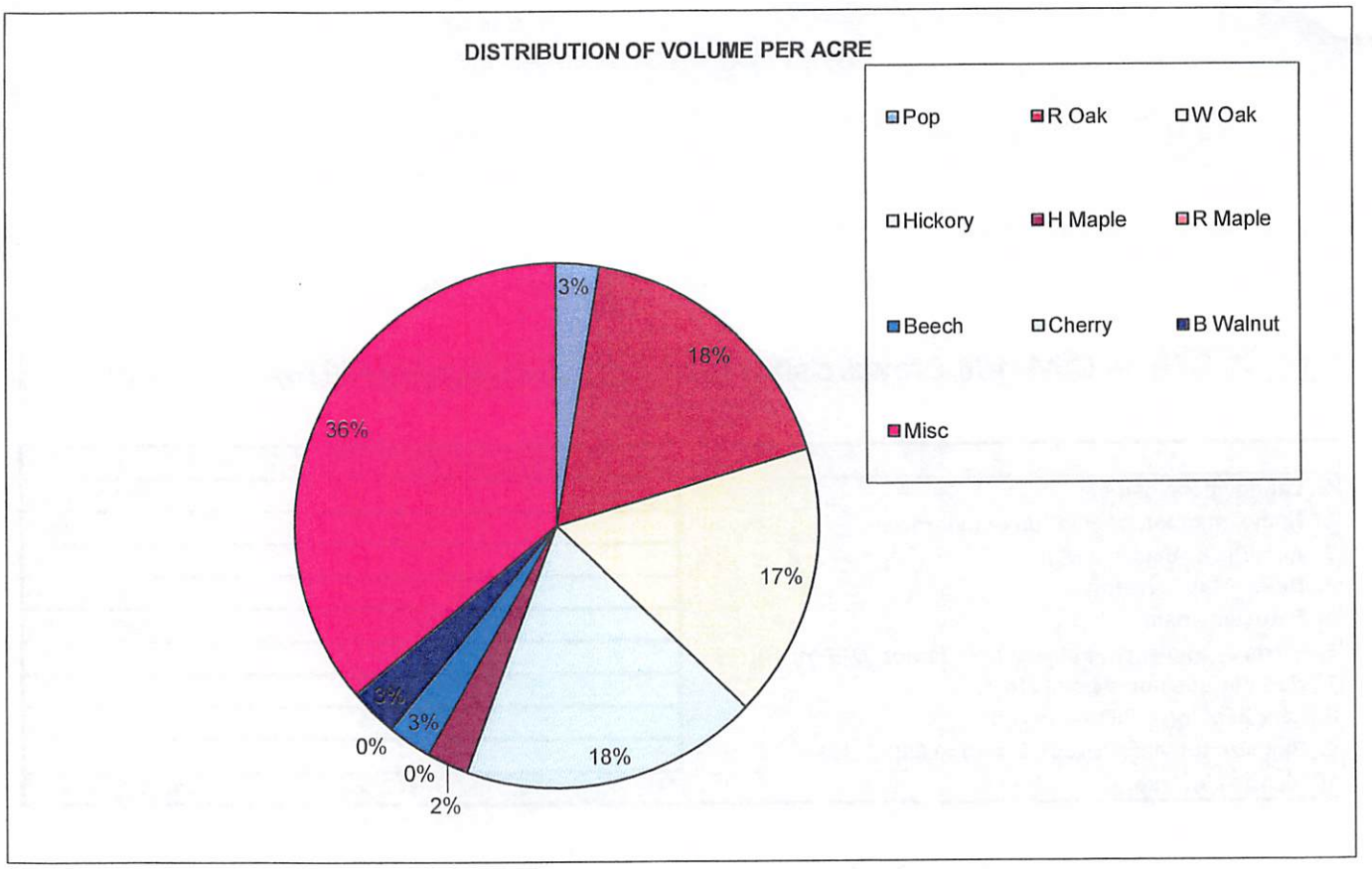
Descriptions of Alternatives and Preferred Alternative to meet desired future conditions:
(Include potential impacts to resource concerns for preferred alternative)

1. Landowner does nothing and allows area to continue to develop naturally.
   The populations of privet and vine honeysuckle will increase. Grapevines will continue to restrict canopy development of future crop trees.
   Not a preferred (or recommended) option.

2. Landowner cuts/treats with approved herbicides any non-native invasive shrubs identified in this area and cuts grapevines from all "crop" trees (per USDA 314 Brush Management specifications). Chemical usage in areas adjacent to the stream drainages will be monitored to protect water quality. Logging trails will be graded and seeded in the Spring of 2024.
   Preferred Alternative

CPA-106 Stewardship Plan Forest Inventory (2024)

1. Landowner's name:	Murray Tract
2. Name, number, or location of the tract:	Stand 4
3. Acreage of the tract (*A*):	14.30
4. Date of the inventory:	3/20/2024
5. Forester's name:	Dean A. Berry
6. Prism or angle gauge basal area factor (*BAF* or *F*):	10.0
7. Number of sample points (*n*):	11
8. Length of log (12 ft. or 16 ft.):	16
9. Plot size for vines (Ex. 1/20 Acre=0.05):	N/A
10. Type of inventory:	Variable plot size


DISTRIBUTION OF VOLUME PER ACRE
Pop
R Oak
W Oak
Hickory
H Maple
R Maple
Beech
Cherry
B Walnut
Misc
3%
18%
17%
18%
2%
0%
0%
3%
3%
36%

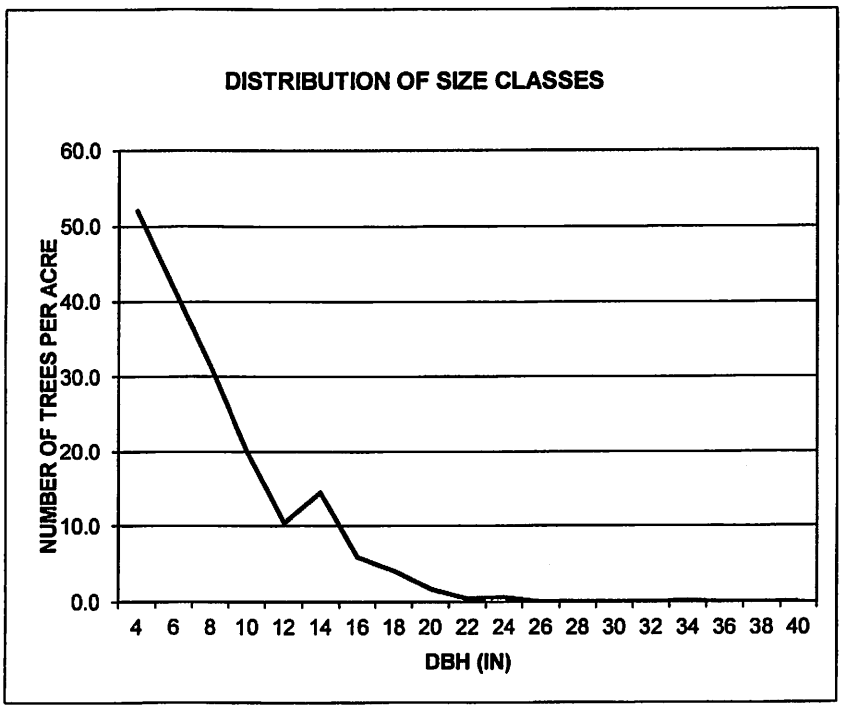
CPA-106 Stewardship Plan Forest Inventory (2024)
SUMMING ALL TREES

OWNER: Murray Tract **DATE:** 3/20/2024
TRACT: Stand 4 **FORESTER:** Dean A. Berry
ACRES: 14.30

This inventory was accomplished using a wedge prism or angle gauge with a basal area factor of **10** over **11** sample points. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in feet^2, and all figures for diameter at breast height (dbh) are in inches.

SUMMARY BY SIZE CLASS

DBH	VOL. PER ACRE	TREES PER ACRE	BASAL AREA / ACRE
4		52.1	4.5
6		41.7	8.2
8		31.3	10.9
10		20.0	10.9
12	172	10.4	8.2
14	614	14.5	15.5
16	415	5.9	8.2
18	560	4.1	7.3
20	390	1.7	3.6
22	102	0.3	0.9
24	170	0.6	1.8
26			
28			
30			
32			
34		0.1	0.9
36			
38			
40			
TOTAL	2423	182.6	80.9



SUMMARY BY SPECIES

SPECIES	VOL. PER ACRE	PCT. OF PER ACRE VOL.	TREES PER ACRE	PCT. OF PER ACRE TREES	BASAL AREA/ ACRE	PCT. OF PER ACRE BA	AVG. DBH		TOTAL STAND VOLUME
Pop	64	2.6%	2.0	1.1%	1.8	2.2%	12.9		915
R Oak	429	17.7%	5.7	3.1%	7.3	9.0%	15.3		6,128
W Oak	410	16.9%	15.8	8.7%	13.6	16.9%	12.6		5,863
Hickory	445	18.4%	54.9	30.1%	23.6	29.2%	8.9		6,362
H Maple	63	2.6%	22.2	12.2%	5.5	6.7%	6.7		894
R Maple			4.6	2.5%	0.9	1.1%	6.0		-
Beech	66	2.7%	26.6	14.6%	6.4	7.9%	6.6		949
Cherry									-
B Walnut	72	3.0%	4.1	2.2%	2.7	3.4%	11.0		1,035
Misc	874	36.1%	46.6	25.5%	19.1	23.6%	8.7		12,502
PER ACRE TOTALS	2423	100.0%	182.6	100.0%	80.9	100.0%	9.0		**34,646**

SUMMARY OF VINES	#VALUE!	vines per acre

Misc. Species - W. Ash, Y. Buckeye, Sycamore
Invasive Species - small area of Privet
Scattered grapevines in the area.

OWNER: Murray Tract
TRACT: Stand 4
ACRES: 14.30

DATE: 3/20/2024
FORESTER: Dean A. Berry

SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS

DBH	*** SPECIES LISTING ***										VOL. PER ACRE
	Pop	R Oak	W Oak	Hickory	H Maple	R Maple	Beech	Cherry	B Walnut	Misc	
12	23	23		126							172
14	41	94	82	173			66		26	133	614
16		108	167	94					47		415
18		204	68	51						237	560
20			94							296	390
22										102	102
24					63					107	170
26											
28											
30											
32											
34											
36											
38											
40											
VOL./ACRE	64	429	410	445	63		66		72	874	2423

Woodland Stand Description and Management Recommendations

Stand # 5 - 11.8 acres

Dominant Species: White Oak spp., Red Oak spp., Aspen, Yellow Poplar, Sugar Maple, Hickory spp., Am. Beech, Black Cherry, Honey Locust, Yellow Buckeye, Sassafras, Red Bud, Ironwood, Ash, sassafras, musclewood

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: Sapling/Poletimber with larger diameter trees remaining along stream bank.

Stocking Level: Fully stocked (68%) **Basal Area:** 69 **(ft2/acre) 4"& > dbh**

Trees per acre: 253_ 4" & > dbh trees. Varies greatly depending on the location in stand and position on slope.

Diameter Distribution by Species: See attached Stand Summary.

Stand History: Harvesting - "Select cut" larger diameter trees removed - old pasture area.

Topography: Gently sloping hillside with several small hollows.

Site Index Value and Species: See in Plan Addendum – SvC, DtD, DuF
Tuliptree & Red Oak Site Indexes

Stand Age Estimation: 40-45 yrs. with scattered older small sawtimber sized trees.

Average Canopy Height: 30 -60' – very irregular depending on number of residual small sawlog trees present in an area.

Invasive plants or insects impacting this stand: Privet, Autumn Olive, Bush Honeysuckle, Japanese Vine Honeysuckle are the major issues, grapevines (some beneficial to wildlife) and multi flora rose.

Level of invasive plants in the stand: medium to heavy in about ½ of the total area.

Client Objectives: Maintain area with a dense, brushy understory for wildlife habitat purposes.

Stand Description: Historically, this area was pastured land and through natural succession has developed into forest land again. Most of the harvesting done in 2023 was in the lower slope area near the stream drainage. Several of the large, open grown old pasture trees were removed near the ridgetop field (St 6). Thick spicebush, multi flora rose, autumn olive, Japanese vine honeysuckle occupies the understory. All the understory shading will inhibit oak regeneration on this slope. Fairly wet hillside with seeps evident.

Past management activities completed in this stand: property lines located, some grapevines cut, trails constructed during the 2023 timber harvest.

Management Recommendations:	***EQIP Practice Code:***	***EQIP Practice Name:***
Continue to locate and mark property lines with paint/signage to deter trespass.		
Again, work on establishing grass cover on the logging trails to reduce erosion potential.		
Work on reducing the impact of invasive shrubs in this area. Cut grapevines from all "crop" trees (oaks, walnut).	314	Brush Management

Is a timber harvest recommended? No Landowner may remove some dead trees and logging tree tops for firewood if easily accessible.

Comments: This is a great deer bedding hillside as well as low-cover habitat for birds and other wildlife species. Noted some pole sized walnut trees in this area. Aspen patch on the ridgetop area.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods
Desired Stand Structure: Uneven Aged

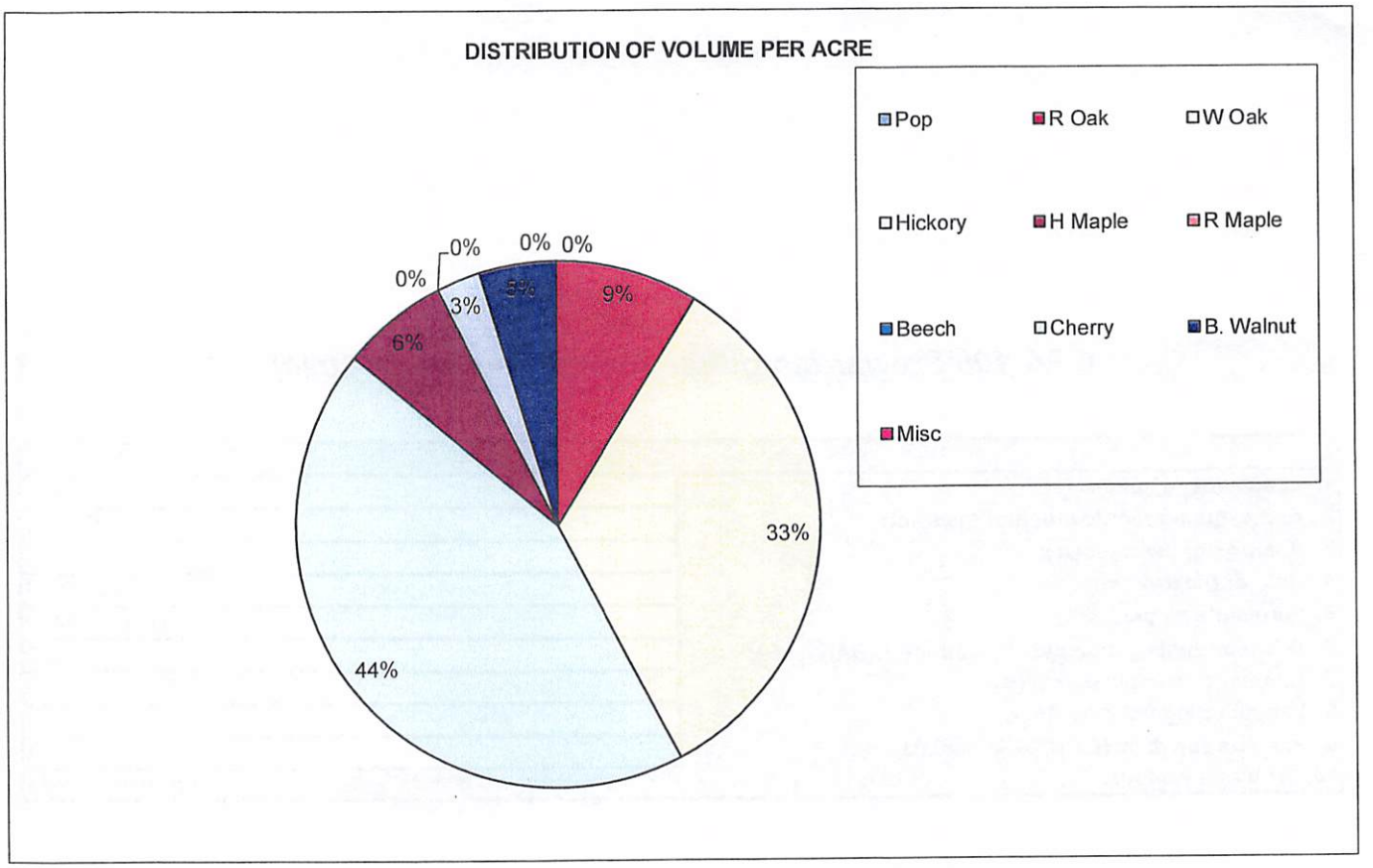
Descriptions of Alternatives and Preferred Alternative to meet desired future conditions: (Include potential impacts to resource concerns for preferred alternative)

1. Landowner does nothing and allows area to continue to develop naturally. Populations of privet, autumn olive, bush honeysuckle will increase.
   Not a preferred (or recommended) option.

2. Landowner cuts/treats with approved herbicides any non-native invasive shrubs identified in this area and cuts grapevines from all "crop" trees (per USDA 314 Brush Management specifications). Finish final skid trail reclamation in Spring 2024 by smoothing and seeding trails.
   Preferred Alternative

CPA-106 Stewardship Plan Forest Inventory (2024)

1. Landowner's name:	Murray Tract
2. Name, number, or location of the tract:	Stand 5
3. Acreage of the tract (*A*):	11.80
4. Date of the Inventory:	3/20/2024
5. Forester's name:	Dean A. Berry
6. Prism or angle gauge basal area factor (*BAF* or *F*):	10.0
7. Number of sample points (*n*):	9
8. Length of log (12 ft or 16 ft):	16
9. Plot size for vines (Ex. 1/20 Acre=0.05):	N/A
10. Type of Inventory:	Variable plot size


DISTRIBUTION OF VOLUME PER ACRE
Pop
R Oak
W Oak
Hickory
H Maple
R Maple
Beech
Cherry
B. Walnut
Misc
0%
0%
0%
0%
3%
5%
9%
6%
33%
44%

CPA-106 Stewardship Plan Forest Inventory (2024)
SUMMING ALL TREES

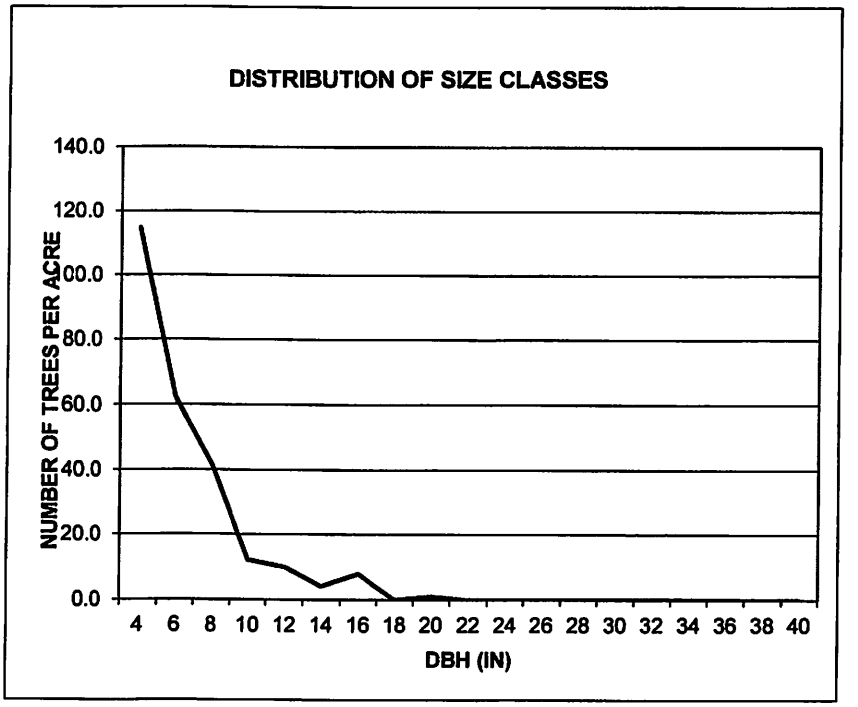
OWNER: Murray Tract
TRACT: Stand 5
ACRES: 11.80

DATE: 3/20/2024
FORESTER: Dean A. Berry

This inventory was accomplished using a wedge prism or angle gauge with a basal area factor of **10** over **9** sample points. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in feet^2, and all figures for diameter at breast height (dbh) are in inches.

SUMMARY BY SIZE CLASS

DBH	VOL. PER ACRE	TREES PER ACRE	BASAL AREA / ACRE
4		114.6	10.0
6		62.2	12.2
8		41.4	14.4
10		12.2	6.7
12	211	9.9	7.8
14	181	4.2	4.4
16	471	8.0	11.1
18			
20	183	1.0	2.2
22			
24			
26			
28			
30			
32			
34			
36			
38			
40			
TOTAL	1046	253.5	68.9



SUMMARY BY SPECIES

SPECIES	VOL. PER ACRE	PCT. OF PER ACRE VOL.	TREES PER ACRE	PCT. OF PER ACRE TREES	BASAL AREA/ ACRE	PCT. OF PER ACRE BA	AVG. DBH		TOTAL STAND VOLUME
Pop			2.0	0.8%	1.1	1.6%	10.0		-
R Oak	92	8.8%	26.3	10.4%	8.9	12.9%	7.9		1,085
W Oak	351	33.5%	46.4	18.3%	17.8	25.8%	8.4		4,137
Hickory	457	43.7%	86.1	34.0%	23.3	33.9%	7.0		5,388
H Maple	69	6.6%	2.5	1.0%	2.2	3.2%	12.6		811
R Maple									-
Beech			3.2	1.3%	1.1	1.6%	8.0		-
Cherry	28	2.7%	1.4	0.6%	1.1	1.6%	12.0		334
B. Walnut	50	4.8%	18.0	7.1%	4.4	6.5%	6.7		589
Misc			67.5	26.6%	8.9	12.9%	4.9		-
PER ACRE TOTALS	1046	100.0%	253.5	100.0%	68.9	100.0%	7.1		**12,344**

SUMMARY OF VINES	#VALUE!	vines per acre

Misc. Species - Elm, Ironwood, Red Bud, Sassafras
Invasive Species - Autumn Olive, Japanese Vine Honeysuckle, Privet
Aspen, Buckeye, Persimmon, Dogwood, Red Maple Sugar Maple all in area
Scattered grapevines in the area.

OWNER: Murray Tract
TRACT: Stand 5
ACRES: 11.80

DATE: 3/20/2024
FORESTER: Dean A. Berry

SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS

DBH	*** SPECIES LISTING ***										VOL. PER ACRE
	Pop	R Oak	W Oak	Hickory	H Maple	R Maple	Beech	Cherry	B. Walnut	Misc	
12		28	98	57				28			211
14			81	50					50		181
16		64	172	236							471
18											
20				115	69						183
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
VOL./ACRE		92	351	457	69			28	50		1046

Woodland Stand Description and Management Recommendations

Stand # 6 - 7.5 acres total_ both fields

Dominant Species: grasses, broadleaf plants, scattered assortment of hwd. trees

Forest Type or Dominant Vegetation: N/A

Stand Diameter or Size Class: N/A

Stocking Level: N/A

Stand History: Other Agricultural use area.

Topography: Gently sloping ridgetop field and hollow field area

Site Index Value and Species: N/A

Invasive plants or insects impacting this stand: Autumn Olive, Privet, Winged Burning Bush, Bush Honeysuckle scattered around field edges, Multi Flora Rose, grapevines.

Client Objectives: Maintain this as open agricultural use land - rotational mowing areas, food plot, possible future pollinator plot area.

Stand Description: This area covers the grassed hollow area in the center of this farm and the grassed ridgetop field along the western side of the farm. Access driveway and a small barn are located in the hollow field area. Both areas are kept mowed with a variety of grasses and broadleaf plants in these areas. A stream drainage is located along the field area in the hollow. This field was also the location of the log landing for the recent harvest. The ridgetop field contains scattered soft mass-producing trees - callery pear, persimmon & black cherry. Each area is utilized for hunting.

Past management activities completed in this stand: area kept mowed; driveway established in the lower field area.

Management Recommendations:	*EQIP Practice Code:*	*EQIP Practice Name:*
Treat any non-native infestations identified in this area. Note -invasive plants around the edges of the fields are addressed in adjacent forest stand management recommendations.	314	Brush Management
Possible establishment of a wildlife habitat planting	420	Wildlife Habitat Planting in

Is a timber harvest recommended? No

Comments: Keep these areas mowed as a "low cover" habitat for wildlife.

Desired Future Conditions: Maintain area as an "open" grassed fields and in low cover for wildlife habitat diversity on this farm. Establish plantings for wildlife benefits.

Desired Forest Type or Dominant Vegetation: N/A

Desired Stand Structure: N/A

Descriptions of Alternatives and Preferred Alternative to meet desired future conditions:

1. The landowner leaves non-native invasive plants to grow and spread around all areas and spread into adjacent woodlands.
   Not a preferred (or recommended) option.

2. The landowner continues to control the spread of invasive plants by mechanical and chemical methods. Possible pollinator plot establishment.
   Preferred Alternative

Woodland Stand Description and Management Recommendations

Stand #7 - 3.6 acres

Dominant Species: Red Oak, Black Oak, White Oak, Chestnut Oak, Hickory spp., Am. Beech, Sugar Maple, Red Maple, Aspen, Black Cherry

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: All size classes

Stocking Level: Fully stocked 75% **Basal Area:** 80 **(ft2/acre)** 4" & > dbh

Trees per acre: 202_4"& > dbh

Diameter Distribution by Species: See attached Stand Summary.

Stand History: Harvesting - "Select cut" only small flat portion of area.

Topography: Gently sloping low ridgetop and west facing, steep, side slope area.

Site Index Value and Species: See in Plan Addendum – WdC, GsB, DuF, DtD
Tuliptree & Red Oak Site Indexes

Stand Age Estimation: 70 -75 yrs. on sawtimber sized trees.

Average Canopy Height: 70'-75' for sawtimber trees 55" on smaller diameter trees

Invasive plants or insects impacting this stand: Bush Honeysuckle, Winged Burning Bush noted, along with scattered grapevines.

Level of invasive plants in the stand: light in north ½ of the stand.

Client Objectives: Maintain area as a closed canopy oak forest.

Stand Description: This predominately oak/sugar maple area is a small ridgetop and steep hillside running the western side of the farm. All sizes of trees are present but mainly small/medium sized sawtimber trees. Because this is a closed canopy area with an open under story, the majority of seedling saplings are shade tolerant, maples and beech trees. The only trees harvested were on the flat near the northern property line area.

Past management activities completed in this stand: Property lines located, limited timber cut in 2023.

Management Recommendations:	*EQIP Practice Code:*	*EQIP Practice Name:*
Continue to locate and mark property lines with paint/signage to deter trespass.		
Work on reducing the impact of invasive shrubs in this area. Cut grapevines from all the oak and maple trees.	314	Brush Management

Is a timber harvest recommended? No Not in this 10yr. management period.

Comments: To maintain/increase hard mast production in the area, grapevines should be cut from all oak trees. Leave some grapevines un-cut in the maple trees for wildlife benefit.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods
Desired Stand Structure: Uneven Aged

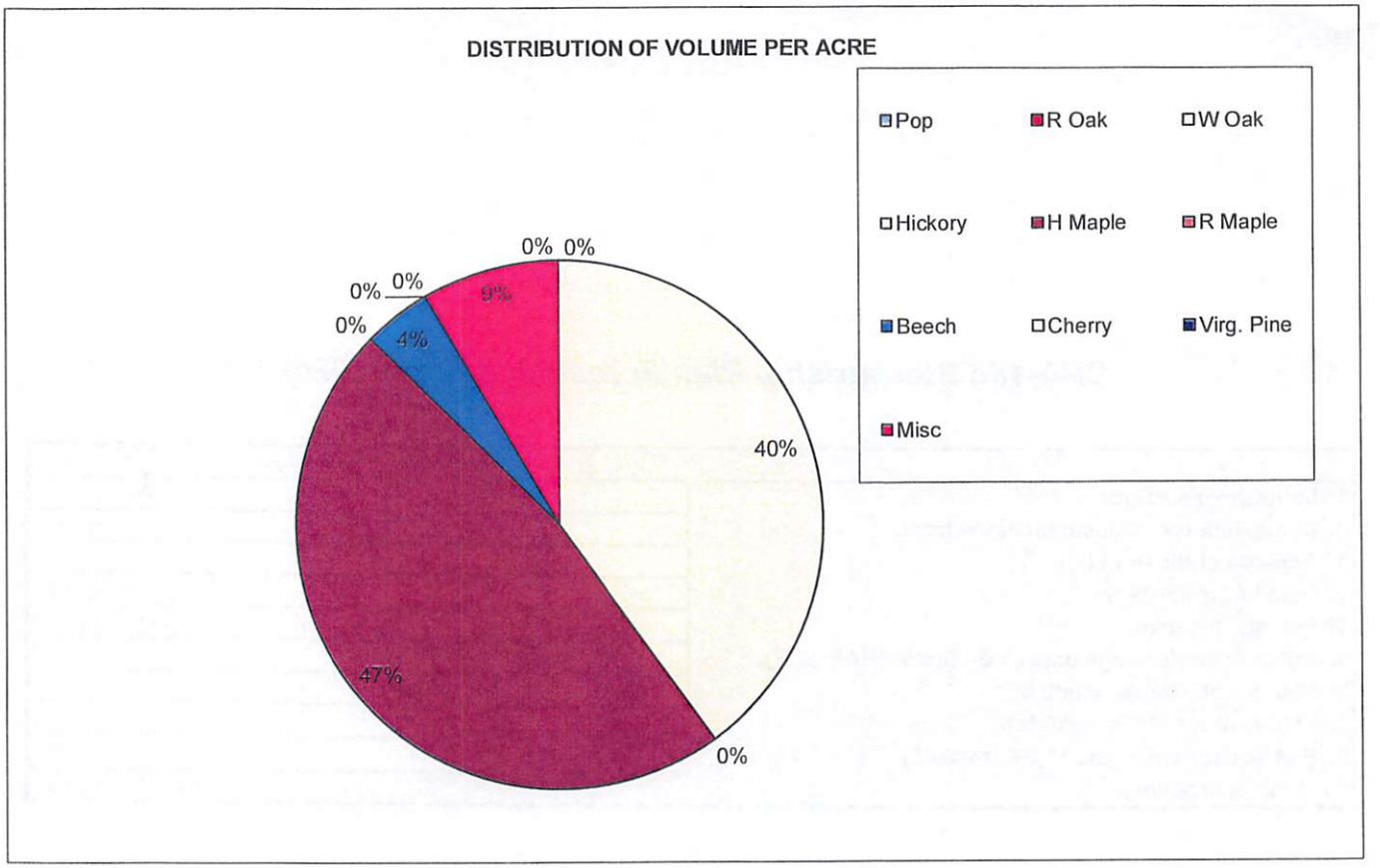
Descriptions of Alternatives and Preferred Alternative to meet desired future conditions:

1. Landowner does nothing and allows area to continue to develop naturally. Populations of autumn olive, bush honeysuckle and winged burning bush will increase. **Not a preferred (or recommended) option.**

2. Landowner cuts/treats with approved herbicides any non-native invasive shrubs identified in this area (per USDA 314 Brush Management specifications). Grapevines will be cut from "crop" trees.
Preferred Alternative

CPA-106 Stewardship Plan Forest Inventory (2024)

1. Landowner's name:	Murray Tract
2. Name, number, or location of the tract:	Stand 7
3. Acreage of the tract (*A*):	3.60
4. Date of the inventory:	3/20/2024
5. Forester's name:	Dean A. Berry
6. Prism or angle gauge basal area factor (*BAF* or *F*):	10.0
7. Number of sample points (*n*):	3
8. Length of log (12 ft. or 16 ft.):	16
9. Plot size for vines (Ex. 1/20 Acre=0.05):	N/A
10. Type of inventory:	Variable plot size


DISTRIBUTION OF VOLUME PER ACRE
Pop
R Oak
W Oak
Hickory
H Maple
R Maple
Beech
Cherry
Virg. Pine
Misc
0%
0%
0%
0%
0%
9%
4%
40%
47%
0%

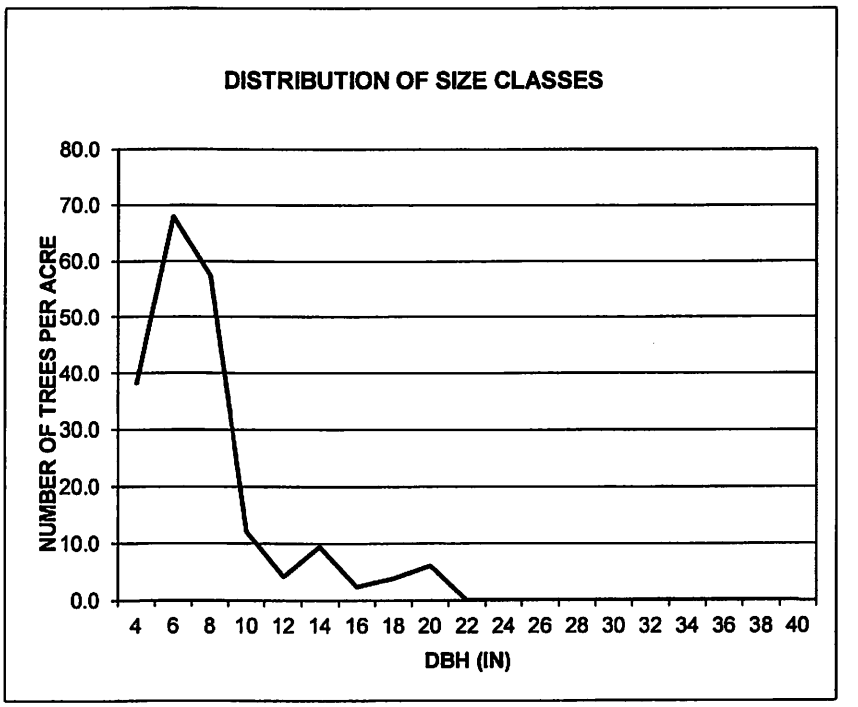
CPA-106 Stewardship Plan Forest Inventory (2024)
SUMMING ALL TREES

OWNER: Murray Tract **DATE:** 3/20/2024
TRACT: Stand 7 **FORESTER:** Dean A. Berry
ACRES: 3.60

This inventory was accomplished using a wedge prism or angle gauge with a basal area factor of **10** over **3** sample points. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in feet^2, and all figures for diameter at breast height (dbh) are in inches.

SUMMARY BY SIZE CLASS

DBH	VOL. PER ACRE	TREES PER ACRE	BASAL AREA / ACRE
4		38.2	3.3
6		67.9	13.3
8		57.3	20.0
10		12.2	6.7
12		4.2	3.3
14	393	9.4	10.0
16	224	2.4	3.3
18	377	3.8	6.7
20	1238	6.1	13.3
22			
24			
26			
28			
30			
32			
34			
36			
38			
40			
TOTAL	2232	201.5	80.0



SUMMARY BY SPECIES

SPECIES	VOL. PER ACRE	PCT. OF PER ACRE VOL.	TREES PER ACRE	PCT. OF PER ACRE TREES	BASAL AREA/ ACRE	PCT. OF PER ACRE BA	AVG. DBH	TOTAL STAND VOLUME
Pop								-
R Oak								-
W Oak	894	40.0%	4.6	2.3%	10.0	12.5%	20.0	3,218
Hickory			43.5	21.6%	10.0	12.5%	6.5	-
H Maple	1056	47.3%	88.4	43.9%	33.3	41.7%	8.3	3,802
R Maple								-
Beech	94	4.2%	3.1	1.5%	3.3	4.2%	14.0	337
Cherry			23.1	11.5%	6.7	8.3%	7.3	-
Virg. Pine			15.7	7.8%	6.7	8.3%	8.8	-
Misc	189	8.5%	23.1	11.5%	10.0	12.5%	8.9	679
PER ACRE TOTALS	2232	100.0%	201.5	100.0%	80.0	100.0%	8.5	**8,036**

SUMMARY OF VINES	#VALUE!	vines per acre

Misc. Species - Aspen, Elm, Sycamore
Invasive Species - Winged Burning Bush, Bush Honeysuckle
White Oak volumes include white oak & chestnut oak species
Scattered grapevines in the area.

OWNER: Murray Tract
TRACT: Stand 7
ACRES: 3.60

DATE: 3/20/2024
FORESTER: Dean A. Berry

SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS

DBH	*** SPECIES LISTING ***										VOL. PER ACRE
	Pop	R Oak	W Oak	Hickory	H Maple	R Maple	Beech	Cherry	Virg. Pine	Misc	
12											
14					299		94				393
16					224						224
18					189					189	377
20			894		344						1238
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
VOL./ACRE			894		1056		94			189	2232

Recommended Management Activity Schedule

Year(s) Suggested	Mgmt. Unit	Required Task?	Acres	Recommendations (include EQIP/CSP practice code and name if applicable)
2024, 2029 & 2034	Entire Farm	☒		Maintain/established property boundary markings. It is advised you repaint every 5 years or as necessary to remain easily visible. This may be a requirement if enrolled in OFTL or CAUV Forestry real estate property tax reduction programs.
Spring 2024	Entire Farm	☐	n/a	Complete final reclamation of the logging trails constructed in the winter of 2023. Grade and seed trails to establish grass cover to reduce erosion potential. Then maintain trails being utilized for access by mowing annually.
2024 -2029	2 & 7 pt	☐	16 ac total	*EQIP 314 Brush Management, Woody Invasive Plant Control* – Cover entire areas treating patches & individual plants of identified invasive woody shrubs/trees – Privet, Autumn Olive, Winged Burning Bush, Bush Honeysuckle and Barberry. Cut grapevines from "crop" trees (walnut, sugar maple and oak trees), leaving some arbors for wildlife benefit. *Light infestation except for slope by Plot 38 – 1 acre heavy infestation of Winged Burning Bush*
2024-2029	3pt & 4	☐	21 ac Total 10 ac with issues	*EQIP 314 Brush Management, Woody Invasive Plant Control* – Cover entire area treating patches & individual plants of identified invasive woody shrubs/trees – Privet, Autumn Olive and Bush Honeysuckle. Cut grapevines from "crop" trees (all black walnut and oak trees), leaving some arbors for wildlife benefit. *Light infestation*
2024-2034	5	☐	11 ac total	*EQIP 314 Brush Management, Woody Invasive Plant Control* – Cover entire area treating patches & individual plants of identified invasive woody shrubs/trees – Privet, Autumn Olive and Bush Honeysuckle. Cut grapevines from "crop" trees (all black walnut and oak trees), leaving some arbors for wildlife benefit. *Medium to heavy infestation rate*
2024 - 2034	6	☐	Continue to mow these areas at least annually to maintain low grass cover for habitat diversity. Possibly enhance area with plantings of additional mast producing trees & shrubs. Possible pollinator plot development in area.	
2029 & 2034	Whole Property	☐	**Next Site Visit** – Woodland reviews are recommended at least once every five years, and plan updates once every ten years, based upon the date of the last woodland evaluation conducted by your forester	

Before entering a timber sale agreement or conducting other forestry work that is not listed in your activity schedule, contact your forester first to ensure compliance with your approved woodland stewardship management plan.

Woodland Resource Descriptions

General Soils Information – includes a woodland soils map, soil drainage class, the general productive capacity of the soil, and a general overview of the main soil type(s):

- **Soil Type(s):** DtD, DtE, DtF, DuF, GsB, PpS1AF, SvF, WdC, WhC, WhD,
- **Soil Drainage Class:** A range of drainage conditions
- **Site Class: (using Woodland Productivity):** Good

General Description of Main Soils: See Soils maps and descriptions in Addendum for detailed descriptions. Also included in the Addendum is a map(s) and associated chart(s) showing the Forest Productivity (Tree Site Index) of the tract. Tuliptree - Good to Excellent
Red Oak - Fair to Good
An on-line resource that can be used to obtain additional detailed soils information is:
http://websoilsurvey.nrcs.usda.gov/app/

Timber Information - a general description of the timber characteristics of quality and potential:

Most of the hardwood forested areas on this tract are stocked with trees of desirable species for the site and soil conditions. The majority of the wooded areas of this tract were just recently harvested (Fall 2023) with the final restoration of the logging roads yet to be completed. The harvest was a diameter limit cut with trees 18' and larger being removed by the logger. Timber was purchased by Superior Hardwoods, an Ohio certified master logging company.

Note – since the next commercial harvest will be 30 yrs. out, the immediate priority for the management of the forest stands at this point in time, is improving habitat for a variety of wildlife species and working on improving overall forest health. That said, future timber production potential is possible for this property because of the amount of small sawtimber sized trees that are still present. This property is being managed as a multi-use recreational property.

Doing timber stand improvement management practices will improve the woods. Cutting grapevines from "crop" trees, along with working on the elimination of non-native invasive species of woody shrubs & trees will certainly enhance the quality and health of your timber resources. These important tasks will allow you to maximize the growth rates and viability of the trees in your woods along with benefiting a variety of wildlife species.

Wildlife – a general description of the wildlife habitat quality and potential:

Your forestland provides valuable habitat for wildlife, including mammals, birds, and amphibians. Many of the tree species are used by this wildlife for food, cover and nesting sites. Some of the more valuable wildlife food trees species include oaks, beech, cherry, dogwood and hickory. Many other tree species are critically important to certain species of wildlife.

Grapevines also are an important food and cover for birds and can be left in low quality and cull trees. Cover, food and water are all necessary to attract wildlife. Different species use different cover types and maintaining a diversity of cover is key to attracting a wide variety of wildlife. Maintaining some of the conifer stand mixed in with the native hardwood trees provides habitat diversity. A mixture of sapling areas, pole areas and sawtimber areas will help meet the need for habitat diversity. Small openings in the forest and/or open areas along woodland roads help provide areas for birds and their young to come and catch insects. Openings can also be

seeded to grass and clover mixes to provide an additional variety of food. The vast trail system on this tract provides travel corridors and is an enhancement to the property.

Please note all habitats don't necessarily have to be present on your property...your neighbor's land may offer a habitat type different than what is available at your forest. You can extend habitat benefits using complimentary cover types beyond your boundaries...the wildlife doesn't mind.

The diversified size of the trees & shrubs in the forested land on this tract provides suitable habitat for a variety of game and non-game species of birds and animals. Low ground cover, such as the grassed field areas and the numerous trails provide low cover feeding & nesting sites. Areas of thick understory benefit both game & non-game species of mammals and birds. Parts of Stands 2,3 & 5 have woody shrub understory which is great as a wildlife habitat benefit. Stands 3 & 5 have the highest composition of hard mast producing tree species: oaks, hickories and beech trees.

Water - a general description of the water resources on the property:

Soil and water conservation practices can be applied to this property. Perennial streams should always be buffered with trees. Livestock should be kept out of streams (no livestock on site for many years). Water control structures should be used in areas where access trails and roadways are present. The water and soil resources on your property should be protected and enhanced. Using the information in this plan and information available through your local Athens Soil and Water Conservation District you can implement sound soil and water conservation practices on your property.

3 un-named intermittent streams join together and flow through this tract. A small pond was constructed near the house (St 1) for recreational use. Numerous seeps and wet weather springs were noted on the wooded hillsides.

Wetlands – a general description of any wetland resources and/or vernal pools:

There are no identified certified wetlands located on this tract, that are identified in the National Wetlands Inventory Database, only the designated intermittent streams and pond.

Wetlands are extremely important for water quality, and they provide unique habitats for fish and wildlife. These are an important forest resource component for overall health of the forest system. Ephemeral or seasonal wetlands – also called vernal pools - are typically small in size and tucked within the forest cover. Vernal pools periodically dry up and do not contain fish. This drying may occur annually or just during drought years. However, these ephemeral pools provide unique habitat for amphibians like salamanders and frogs, as well as many other species of wildlife. Many landowners find that wetlands improve the aesthetics and overall enjoyment value to their land. It is very important to protect permanent and ephemeral wetland areas for the health of the forest and the environment.

Archeological/Historical Resources – a general consideration and description of such resources:

Historical and cultural resources are nonrenewable and can never be replaced once destroyed. These resources provide us with a unique glimpse into the past and a look at the people and how they cared for the land. Good stewardship involves recognizing these resources and protecting them. These resources should be conserved whenever possible when they are present on the property. No known significant / historical / ecological sites are listed in the State Registry for this tract. The landowner was not aware of any sites.

Forest Health – a general description of the health of the woodland:

Most of the forest areas are only in good condition because of some of the TSI work completed by the landowners (some grapevines cut and invasive plants mowed or treated). But still, grapevines need to be cut from the woods and additional timber stand improvement practices implemented to enhance oak regeneration. Unfortunately, non-native invasive plants, like bush honeysuckle, autumn olive, privet winged burning bush & barberry in particular are becoming established in specific locations and will continue to spread throughout the farm because of the opening up of the forest canopy.

No problematic insect pests or diseases were noted during the woodland review (except for Emerald Ash Borer and Dutch Elm Disease). As stated, all the woods show just average overall health and vigor. Control of grapevines should be completed in all forested areas. However, native grapevines are part of the forest ecosystem; keeping a few selected vines in the low value timber areas may be considered a part of maintaining overall forest health and wildlife habitat improvement.

The main threat to forest health in this area is infestation by non-native, invasive plant species. The most common invasive plants in woodlands in this area are Ailanthus altissima, (also known as tree-of-heaven), Autumn Olive, Multi-Flora Rose, Japanese Vine Honeysuckle, Chinese Privet, Japanese Barberry, Bush Honeysuckle, Winged Burning Bush and Japanese Stiltgrass.

Non-native Invasive Insects:

Emerald ash borer (Agrilus planipennis) is a beetle native to Asia that feeds on all species of ash. It is believed to have come to North America by way of the port of Detroit, Michigan in the 1990's. This insect can spread naturally from tree to tree, as well as artificially through the movement of ash material such as firewood. No practical treatments have been found to prevent infestation or to save a tree once it is infested. Research indicates that emerald ash borer is incapable of completing its lifecycle on any North American timber species other than ash trees. Trees infested with emerald ash borer usually die within wo to five years. Once emerald ash borer has been identified in a particular location, it typically kills 99% of the ash in the vicinity over the next five years. In well-stocked stands of oak, hickory, maple, and yellow-poplar, ash mortality typically results in small gaps in the forest that are quickly filled in with other desirable tree species. Stands of young, productive trees should not be harvested just to salvage a few ash trees.

The following websites should be checked periodically for the most up to date information on the emerald ash borer:
http://www.ohioagriculture.gov/eab/
http://www.emeraldashborer.info/

Gypsy moth is a non-native insect introduced in Massachusetts in 1869. It has spread as far as Minnesota, North Carolina, and Ohio. Gypsy moth caterpillars feed on several hundred species of trees and shrubs. Trees are damaged by gypsy moth caterpillars feeding on the leaves, causing partial defoliation. Complete defoliation is possible in severe outbreaks. April through early-July is the months gypsy moth caterpillars feed on the foliage. Repeated defoliations over a two-to-three-year period can weaken trees and cause their death. Preferred hosts of gypsy moth include oaks, apple, aspen, hazelnut, and birch. They seldom feed on maple, locust, ash, walnut, sycamore, dogwood, or yellow- poplar. Young stands of trees, stands of trees maintained at proper stocking, and trees growing on good growing sites are generally under less stress and are less susceptible to gypsy moth damage. Forest stand improvement can help maintain stands of trees in a vigorous condition and reduce the potential for gypsy moth damage.

Hemlock woolly adelgid is a tiny insect that feeds by sucking sap from the base of hemlock needles. It becomes evident in late fall through early spring as white, fuzzy clusters that resemble wool or cotton balls near the point where the needle is attached to the stem. Prolonged infestation by hemlock woolly adelgid causes tree mortality. If hemlock trees are known to be infested, then treatment with an appropriate insecticide can be successful in maintaining tree health and survival. Preventative treatments are impractical and unnecessary. If hemlock woolly adelgid is found on your hemlock trees, contact your service forester for information about your treatment options.

Threatened & Endangered Species – considerations for threatened and endangered species, including the direct relationship with biological diversity:
Specific information on threatened or endangered species may be obtained by contacting the Ohio Department of Natural Resources Division of Natural Areas & Preserves directly to access the Natural Heritage Database:

ODNR - Division of Natural Areas & Preserves
2045 Morse Road, Bldg. H-3,
Columbus, OH 43229-6693
Phone: (614) 265-6818
Email: NHDrequest@dnr.ohio.gov

Included in this Plan are the listing of "State Listed Species" for the applicable County.

Best Management Practices – maintaining the integrity and productivity of woodland sites (include condition of existing roads, trails, landings and stream crossings if applicable):

Basic protection measures used to guard your forest soils against problems related to soil/site limitations and equipment usage - rutting, excessive disturbance and compaction, erosion, and sedimentation. - are commonly referred to as Best Management Practices (BMP'S). One very easy BMP landowners may use is simply to limit heavy equipment access to dry weather periods.

Hilly to steeply sloped terrain is more subject to site disturbance and subsequent soil erosion and sedimentation. Forest management often may still be accomplished on these steep areas with the use of BMP's. Even when the forest terrain is nearly level to gently rolling, and where slope does not present a hindrance to access for management activities, it is important to keep the trails up away from the small drainages where possible. This helps protect water quality by providing a buffer strip of undisturbed soil and leaf litter where any sediment can be trapped before reaching the drainage if some should get washed off the path. During timber harvest activities, follow the Best Management Practices outlined in the Ohio State University Bulletin #916 – BMPs for Erosion Control for Logging Practices in Ohio. This booklet is available online at www.ohiodnr.gov/forestry/ or at your local Division of Forestry office.

Practically speaking, the use of BMP's to prevent soil loss is a sound agricultural practice that helps maintain site & timber productivity. Also, implementing BMP's helps you comply with Ohio's Agricultural Pollution Abatement Law (HB 88) standards for Silvicultural Operations.

At the time of field inspection for developing this Plan the final reclamation of the skid trails had not been completed due to winter weather. Temporary water bars were installed, and skid roads roughly graded but were not seeded. Final grading and seeding planned for late Spring 2024.

Recreation – current and potential recreational activities at property:

Each forest has a unique history and character…and this continues to build under your stewardship. This forest can be used for hunting, hiking, or wildlife watching. Many landowners find enjoyment in doing improvement work in their woods. Others find pleasure in watching the birds. Some folks get gourmet foods from the woods, gathering fruits, nuts, or wild mushrooms. Flowering trees like dogwood, redbud and serviceberry, whenever present, add to the beauty of the forest.

Maintaining the trails will improve access and your opportunities for use of the entire area. A walk in the forest provides a time of learning but it can also be a time to relax. The woodlands can be a quiet place of solitude after a busy day at work, or anytime for that matter. Every season will provide a different perspective of your woodlands. This entire farm is used for hiking, hunting and other family and/or friends' recreational activities. In addition, this farm also hosts a bow hunting skills course and other hunter education activities.

Aesthetics – current or future aesthetic considerations for the woodland:

Forest aesthetics is often associated with older, more mature forests. However, it also has been said that beauty is in the eye of the beholder. Many folks enjoy mature forests with big trees…yet other folks find beauty in a young forest vibrant with the songs of early successional forest songbirds.

Forest stewardship management addresses these and other various aesthetic tastes and may weigh in visual goals of the neighbors. When you are weighing aesthetic goals, consider as a "group" 1) visual aesthetics, 2) the aesthetics of a dynamic functioning forest ecosystem, and 3) the particular wildlife species you hope to encourage at your property.

This farm has frontage along Twp Rd 10. But because of the steep terrain the majority of the woods on this property has very limited public exposure. That said, the property is close to residential areas so maintaining the integrity of the wooded landscape is an important aspect of the landowner's long-term objectives. Pride in the appearance of this property is one of the guiding principles of the Owners.

Other Resources – a general description of any other notable woodland resources:

Associated forest resources vary somewhat from forest to forest, but typically include a variety of herbaceous plants present within the woodlands or old fields within a property.

Spring, summer, and fall wildflowers provide non-timber benefits to anyone who takes the time to enjoy the blossoms. Along with the flowers, there is a vast array of insect life – pleasant and sometimes unpleasant – that is essential to good ecosystem function. Native and non-native honeybees and butterflies are examples of beneficial insects. Mushrooms, medicinal shrubs and herbs and maple syrup are examples of other beneficial forest resources.

Forestry Terms – Forestry terminology for landowners, professional foresters, and others:

Consistent forestry terminology is essential to anyone interested and involved in the science, management, and conservation of forests. The Society of American Foresters (SAF) offers a great resource for such forestry terminology: "The Dictionary of Forestry". This dictionary is an excellent tool available for anyone to learn more about the language used in forestry. The dictionary provides precision, clarity, and consistency in communication of forestry terms.

Included with Landowner Information is a handout of some of the "common" forestry terms that may be used in this Plan.

Fire – identify hazards, fire breaks, safety zones, note dead trees from insects or disease, etc.:

Properties and homes in Ohio are not immune to the risks of fire and fire-related damage. Spring and fall are Ohio's main "fire seasons". A step one may take to protect one's forest is to have a system of paths that may double as fire breaks. For the home site, maintain good access for fire vehicles, create a defensible space around your home and outbuildings by removing flammable materials such brush, leaves, sticks, and twigs; remove these from roofs and gutters too. Landscape around buildings with less flammable plants and materials, avoid evergreens by or near the home, keep an outdoor water source, and avoid outdoor burning. For more information on outdoor fire safety and fire safety around your home, Firewise brochures are available from the Ohio Division of Forestry (toll-free 877-247-8733). You may also contact your local fire department with questions about Firewise and home safety regarding wildfire.

Ohio Fire Laws: ORC 1503.18 regarding kindled fires prohibits outdoor open burning statewide in unincorporated areas during the months of March, April, May, October, and November between the hours of 6:00 am and 6:00 pm. ORC 1503.18 is administered by the Ohio Division of Forestry; call toll-free 877-247-8733 with questions. OAC 3745.19 regarding outdoor burning is administered by the Ohio Environmental Protection Agency (EPA); EPA notification is required for many types of open burns in Ohio. Call 614-644-2270 with questions or visit www.epa.ohio.gov/dapc/general/openburning.aspx.

Carbon Cycle – Healthy, sustainably managed forests can help to reduce atmospheric carbon:

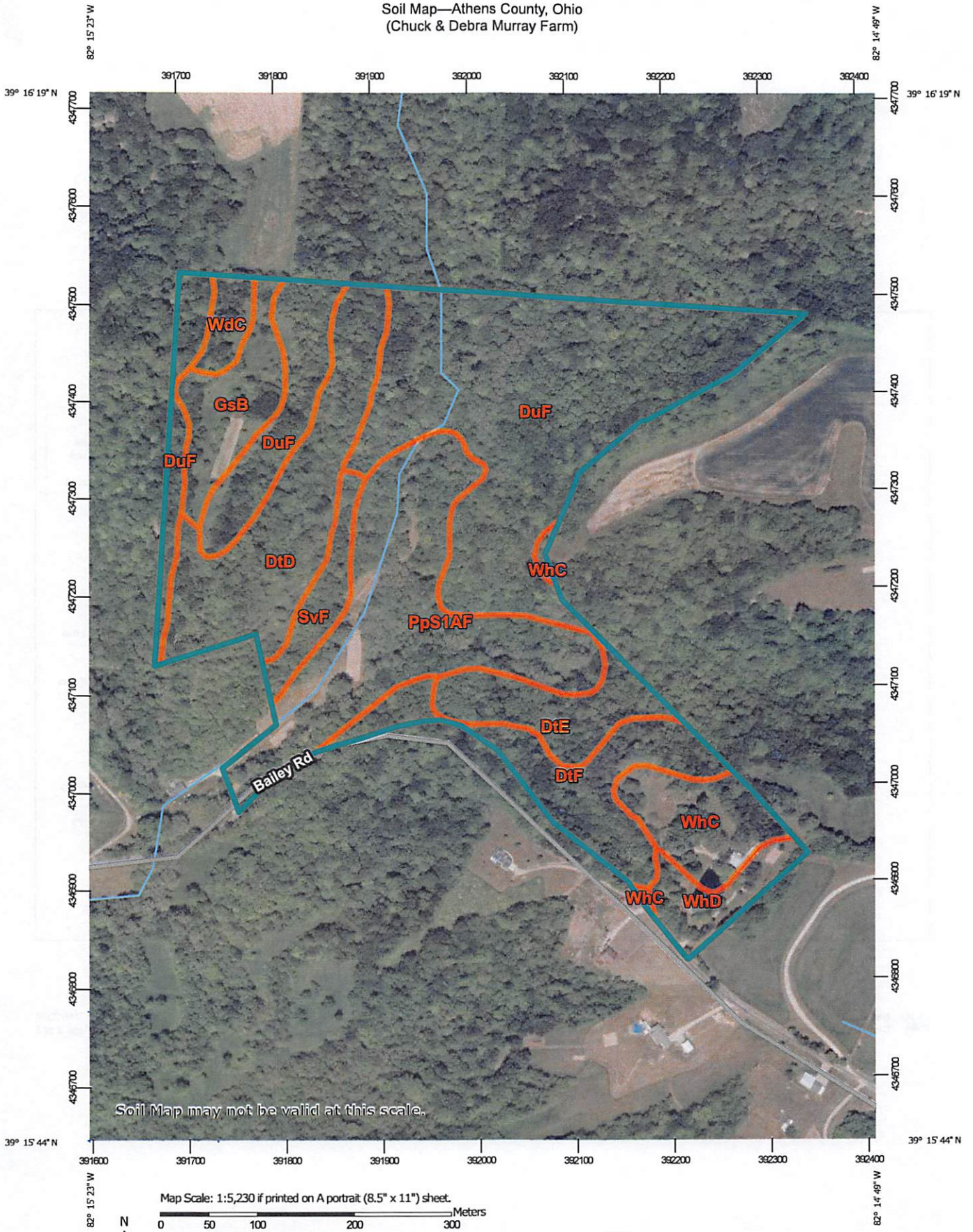
When you as a forest landowner choose to maintain your forest land rather than convert it a non-forest use, you are making a significant contribution to the carbon sequestration equation; a healthy forest sequester carbon. Forest landowners that hold an interest or focus upon the carbon cycle have opportunities to enhance carbon sequestration on the property by conducting various silvicultural practices that enhance the forest's ability to sequester carbon, and by re-establishing woodlands on non-forested land.

Active forest managers may find opportunities for carbon trading and participation in ecosystem service markets.

Landowner Plan information packet also contains:

- Forestry Terms Handout
- OFTL Boundary Marking Handout
- USFWS Federally Listed T & E Species in Ohio
- ODNR DOW T & E Listed Species – Athens County
- Autumn Olive Fact Sheet
- Bush Honeysuckle Fact Sheet
- Japanese Vine Honeysuckle Handout
- Chinese Privet Fact Sheet
- Japanese Barberry Fact Sheet
- Japanese Stiltgrass Fact Sheet
- Winged Burning Bush Fact Sheet

Soil Map—Athens County, Ohio
(Chuck & Debra Murray Farm)



Map Scale: 1:5,230 if printed on A portrait (8.5" x 11") sheet.

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Athens County, Ohio
Survey Area Data: Version 25, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

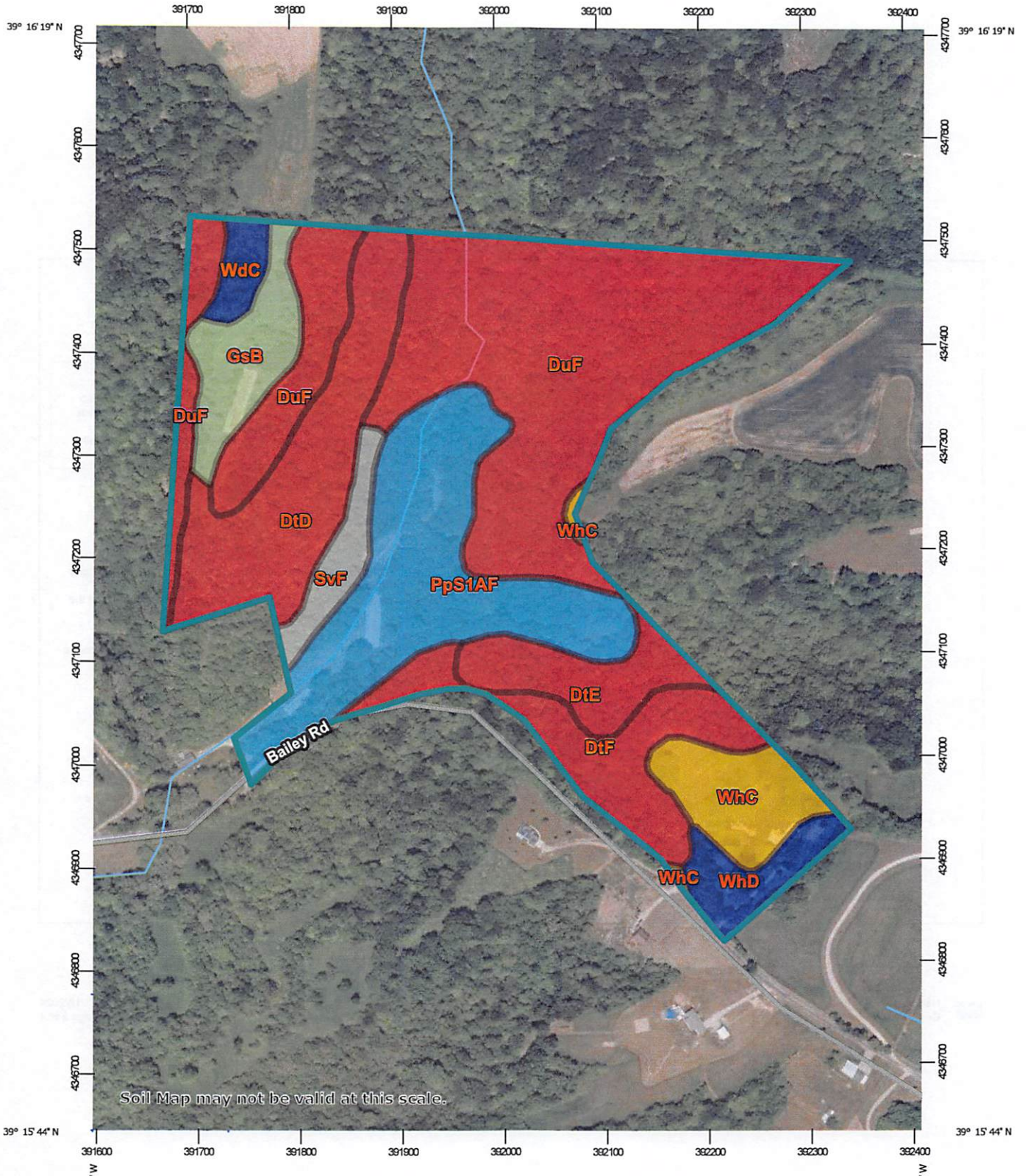
Date(s) aerial images were photographed: May 21, 2023—Aug 19, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DtD	Dekalb-Westmoreland complex, 15 to 25 percent slopes	7.9	12.5%
DtE	Dekalb-Westmoreland complex, 25 to 40 percent slopes	3.3	5.3%
DtF	Dekalb-Westmoreland complex, 40 to 70 percent slopes	5.2	8.3%
DuF	Dekalb-Westmoreland complex, benched, 40 to 70 percent slopes	23.6	37.5%
GsB	Guernsey silt loam, 3 to 8 percent slopes	3.3	5.2%
PpS1AF	Pope-Stokly silt loams, 0 to 3 percent slopes, frequently flooded	11.4	18.0%
SvF	Steinsburg-Gilpin association, very steep	1.8	2.8%
WdC	Wellston silt loam, 8 to 15 percent slopes	1.0	1.6%
WhC	Westmoreland-Guernsey silt loams, 8 to 15 percent slopes	3.6	5.6%
WhD	Westmoreland-Guernsey silt loams, 15 to 25 percent slopes	2.0	3.2%
Totals for Area of Interest		**63.1**	**100.0%**

Forest Productivity (Tree Site Index): northern red oak (Schnur 1937 (820))—Athens County, Ohio
(Chuck & Debra Murray Farm)



Map Scale: 1:5,230 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- <= 62
- > 62 and <= 75
- > 75 and <= 78
- > 78 and <= 80
- > 80 and <= 81
- Not rated or not available

Soil Rating Lines
- <= 62
- > 62 and <= 75
- > 75 and <= 78
- > 78 and <= 80
- > 80 and <= 81
- Not rated or not available

Soil Rating Points
- <= 62
- > 62 and <= 75
- > 75 and <= 78
- > 78 and <= 80
- > 80 and <= 81
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

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Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Athens County, Ohio
Survey Area Data: Version 25, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 21, 2023—Aug 19, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Forest Productivity (Tree Site Index): northern red oak (Schnur 1937 (820))

Map unit symbol	Map unit name	Rating (feet)	Acres in AOI	Percent of AOI
DtD	Dekalb-Westmoreland complex, 15 to 25 percent slopes	62	7.9	12.5%
DtE	Dekalb-Westmoreland complex, 25 to 40 percent slopes	62	3.3	5.3%
DtF	Dekalb-Westmoreland complex, 40 to 70 percent slopes	62	5.2	8.3%
DuF	Dekalb-Westmoreland complex, benched, 40 to 70 percent slopes	62	23.6	37.5%
GsB	Guernsey silt loam, 3 to 8 percent slopes	78	3.3	5.2%
PpS1AF	Pope-Stokly silt loams, 0 to 3 percent slopes, frequently flooded	80	11.4	18.0%
SvF	Steinsburg-Gilpin association, very steep		1.8	2.8%
WdC	Wellston silt loam, 8 to 15 percent slopes	81	1.0	1.6%
WhC	Westmoreland-Guernsey silt loams, 8 to 15 percent slopes	75	3.6	5.6%
WhD	Westmoreland-Guernsey silt loams, 15 to 25 percent slopes	81	2.0	3.2%
Totals for Area of Interest			**63.1**	**100.0%**

Description

The "site index" is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this attribute, only the representative value is used.

Rating Options

Units of Measure: feet

Tree: northern red oak

Site Index Base: Schnur 1937 (820)

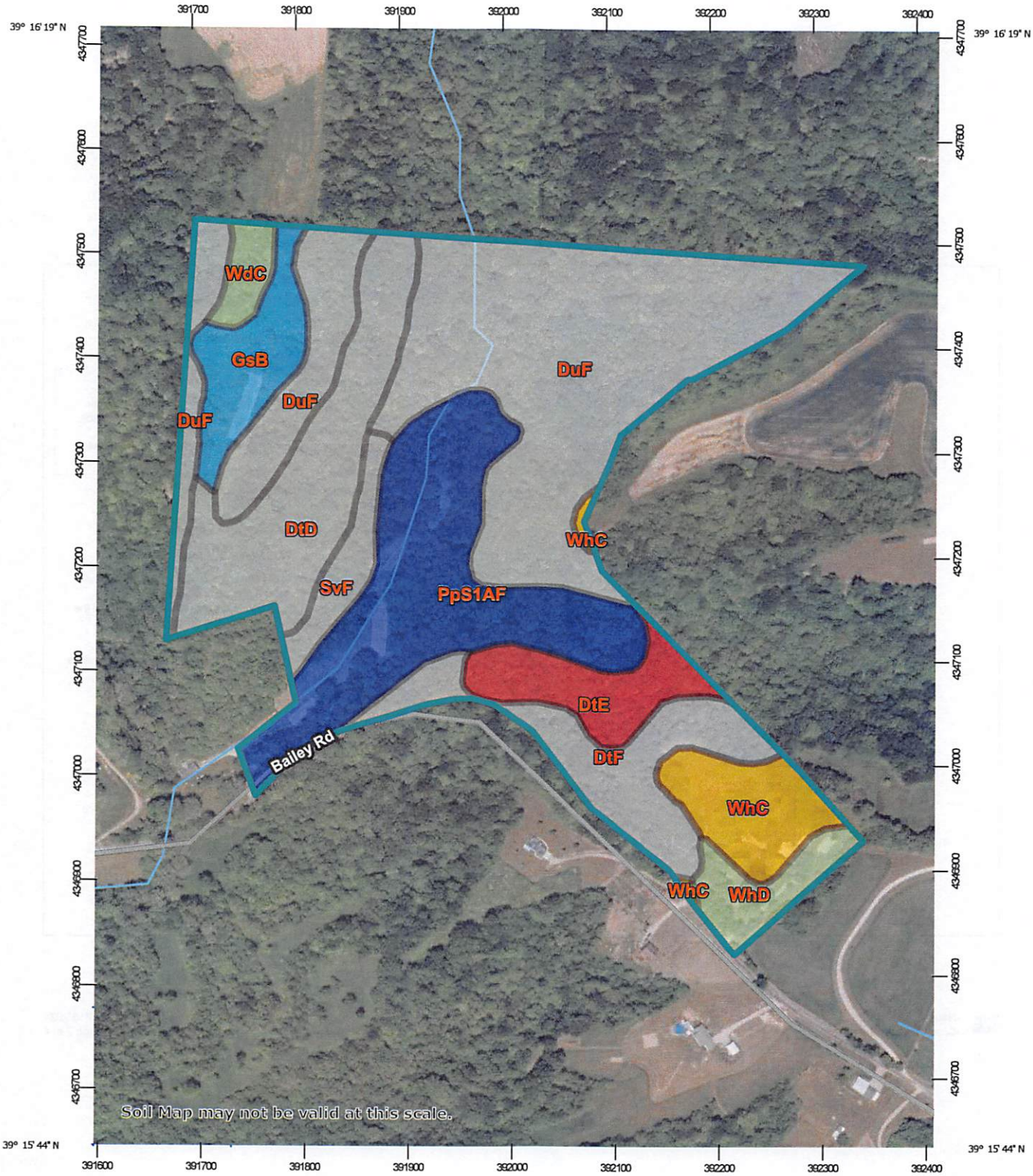
Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Interpret Nulls as Zero: No

Forest Productivity (Tree Site Index): tuliptree (Beck 1962 (360))—Athens County, Ohio
(Chuck & Debra Murray Farm)



Map Scale: 1:5,230 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- <= 75
- > 75 and <= 85
- > 85 and <= 90
- > 90 and <= 95
- > 95 and <= 102
- Not rated or not available

Soil Rating Lines
- <= 75
- > 75 and <= 85
- > 85 and <= 90
- > 90 and <= 95
- > 95 and <= 102
- Not rated or not available

Soil Rating Points
- <= 75
- > 75 and <= 85
- > 85 and <= 90
- > 90 and <= 95
- > 95 and <= 102
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Athens County, Ohio
Survey Area Data: Version 25, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 21, 2023—Aug 19, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Forest Productivity (Tree Site Index): tuliptree (Beck 1962 (360))

Map unit symbol	Map unit name	Rating (feet)	Acres in AOI	Percent of AOI
DtD	Dekalb-Westmoreland complex, 15 to 25 percent slopes		7.9	12.5%
DtE	Dekalb-Westmoreland complex, 25 to 40 percent slopes	75	3.3	5.3%
DtF	Dekalb-Westmoreland complex, 40 to 70 percent slopes		5.2	8.3%
DuF	Dekalb-Westmoreland complex, benched, 40 to 70 percent slopes		23.6	37.5%
GsB	Guernsey silt loam, 3 to 8 percent slopes	95	3.3	5.2%
PpS1AF	Pope-Stokly silt loams, 0 to 3 percent slopes, frequently flooded	102	11.4	18.0%
SvF	Steinsburg-Gilpin association, very steep		1.8	2.8%
WdC	Wellston silt loam, 8 to 15 percent slopes	90	1.0	1.6%
WhC	Westmoreland-Guernsey silt loams, 8 to 15 percent slopes	85	3.6	5.6%
WhD	Westmoreland-Guernsey silt loams, 15 to 25 percent slopes	90	2.0	3.2%
Totals for Area of Interest			**63.1**	**100.0%**

Description

The "site index" is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this attribute, only the representative value is used.

Rating Options

Units of Measure: feet

Tree: tuliptree

Site Index Base: Beck 1962 (360)

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Interpret Nulls as Zero: No

Forestland Productivity

This table is designed to assist forestland owners or managers in planning the use of soils for wood crops. It provides the potential productivity of the soils for wood crops.

Potential productivity of merchantable or *common trees* on a soil is expressed as a site index and as a volume growth rate number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. *Common trees* are those that forestland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *Base Age* is the age of trees in years on which the site index is based. "TA" indicates total age. "BH" indicates breast height age. "N/A" indicates that base age is not applicable.

The *Site Index Curve Number* is listed in the National Register of Site Index Curves. It identifies the site index curve used to determine the site index.

The *Volume Growth Rate* is the maximum wood volume annual growth rate likely to be produced by the tree species. This number, expressed as cubic feet per acre per year, is calculated at the age of culmination of the mean annual increment (CMAI). It indicates the maximum volume of wood fiber produced per year in a fully stocked, even-aged, unmanaged stand.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service, National Forestry Manual.

Report—Forestland Productivity

Forestland Productivity–Athens County, Ohio				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac/yr	
DtD—Dekalb-Westmoreland complex, 15 to 25 percent slopes				
Dekalb	Northern red oak	62	29.00	Black oak, Eastern white pine, Red pine, Tuliptree, Virginia pine, White ash
Westmoreland	Eastern white pine	75	143.00	Black cherry, Eastern white pine, Northern red oak, Red pine, Tuliptree, Virginia pine, White ash
	Northern red oak	81	57.00	
	Tuliptree	90	86.00	

Forestland Productivity–Athens County, Ohio				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac/yr	
DtE—Dekalb-Westmoreland complex, 25 to 40 percent slopes				
Dekalb	Black cherry	82	—	Black oak, Eastern white pine, Red pine, Tuliptree, Virginia pine, White ash
	Northern red oak	62	29.00	
	Tuliptree	75	—	
Westmoreland	Eastern white pine	75	143.00	Black cherry, Eastern white pine, Northern red oak, Red pine, Tuliptree, Virginia pine, White ash
	Northern red oak	81	57.00	
	Tuliptree	90	86.00	
DtF—Dekalb-Westmoreland complex, 40 to 70 percent slopes				
Dekalb	Northern red oak	62	29.00	Black oak, Eastern white pine, Red pine, Tuliptree, Virginia pine, White ash
Westmoreland	Eastern white pine	75	143.00	Black cherry, Eastern white pine, Northern red oak, Red pine, Tuliptree, White ash, White oak
	Northern red oak	81	57.00	
	Tuliptree	90	86.00	
DuF—Dekalb-Westmoreland complex, benched, 40 to 70 percent slopes				
Dekalb	Northern red oak	62	29.00	Black oak, Eastern white pine, Red pine, Tuliptree, Virginia pine, White ash
Westmoreland	Eastern white pine	75	143.00	Black cherry, Eastern white pine, Northern red oak, Red pine, Tuliptree, White ash, White oak
	Northern red oak	81	57.00	
	Tuliptree	90	86.00	
GsB—Guernsey silt loam, 3 to 8 percent slopes				
Guernsey	Northern red oak	78	57.00	Northern red oak, Tuliptree
	Tuliptree	95	99.00	

Forestland Productivity–Athens County, Ohio				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac/yr	
PpS1AF—Pope-Stokly silt loams, 0 to 3 percent slopes, frequently flooded				
Pope	Eastern white pine	89	157.00	Black cherry, Black walnut, Eastern white pine, Northern red oak, Red pine, Tuliptree, White oak
	Northern red oak	80	57.00	
	Tuliptree	102	100.00	
	Virginia pine	74	114.00	
Stokly	Eastern cottonwood	89	100.00	Eastern white pine, Northern red oak, Tuliptree, White ash, White oak
	Green ash	—	—	
	Northern red oak	80	57.00	
	Pin oak	85	72.00	
	Sweetgum	85	93.00	
	Tuliptree	90	86.00	
SvF—Steinsburg-Gilpin association, very steep				
Steinsburg	Northern red oak	—	—	Eastern white pine, European larch, Norway spruce, Virginia pine
	Tuliptree	—	—	
	Virginia pine	70	114.00	
Gilpin	Northern red oak	80	57.00	Black cherry, Eastern white pine, Japanese larch, Tuliptree, Virginia pine
	Tuliptree	95	100.00	
WdC—Wellston silt loam, 8 to 15 percent slopes				
Wellston	Northern red oak	81	57.00	Black walnut, Eastern white pine, Northern red oak, Tuliptree, White ash, White oak
	Tuliptree	90	86.00	
	Virginia pine	70	114.00	

Forestland Productivity–Athens County, Ohio				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac/yr	
WhC—Westmoreland-Guernsey silt loams, 8 to 15 percent slopes				
Westmoreland	Eastern white pine	70	129.00	Black walnut, Eastern white pine, Northern red oak, Tuliptree, White ash, White oak
	Northern red oak	75	57.00	
	Tuliptree	85	86.00	
Guernsey	Black cherry	—	—	Eastern white pine, Red pine, Tuliptree, White ash, White oak
	Black walnut	—	—	
	Northern red oak	78	57.00	
	Sugar maple	—	—	
	Tuliptree	95	100.00	
	White ash	—	—	
	White oak	—	—	
WhD—Westmoreland-Guernsey silt loams, 15 to 25 percent slopes				
Westmoreland	Eastern white pine	75	143.00	Eastern white pine, Northern red oak, Red pine, Tuliptree, White ash, White oak
	Northern red oak	81	57.00	
	Tuliptree	90	86.00	
Guernsey	Black cherry	—	—	Eastern white pine, Northern red oak, Red pine, Tuliptree, White ash, White oak
	Black walnut	—	—	
	Northern red oak	78	57.00	
	Sugar maple	—	—	
	Tuliptree	95	100.00	
	White ash	—	—	
	White oak	—	—	

Data Source Information

Soil Survey Area: Athens County, Ohio
Survey Area Data: Version 25, Aug 31, 2023