Athens Co. Auditor

Woodland Stewardship Management Plan

Owner's Information:

Case Number: _____

Owner: Ms. Grace Powell

Signed: Grace Powell Julie Young POA
Julie Young _POA

Date: December 1, 2016

Preparer's Information:

Prepared by: Dean A. Berry

Signature: _____

Woodland Management Services
c/o Dean A. Berry, Consulting Forester
10935 Rosewood Lane
Athens, Ohio 45701
TSP 10-6547

Date: October 29, 2016
Field Inspection Date

740-541-4647 mobile
fatlabtreefarm@gmail.com

This plan is valid for the period beginning November 29, 2016 and ending November 28, 2026.

Plan Status:New

NRCS Representative Signature: Date:

Woodland Stewardship Management Plan

Owner	Ms. Grace V. Powell c/o Julie Young		
Address	6809 Sugar Grove Rd.		
	Sugar Grove, Ohio 43155		
Phone	740-385-6183 (JY)	Case Number	
Cell	614-296-2026 (JY)	Email Address	
County	Athens	Township/Village/City:	Lodi Twp. Sections 8,9 & 15
Parcel(s):	J010010014100, J010010004400, J010010013900, J010010014000		
Location:	Carter Road and Garden Hill Road		

Woodland Stewardship Acreage: 102.6

Total Property Acres 123.82

Non-woodland Stewardship Acreage*: 21.22

* Non-woodland acres for which stewardship recommendations are made.

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 Tax Reduction

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

Longitude: 39.222379 N Latitude: -81.993604 W

Landowner Management 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 the productivity of this farm for future generations. Maintain the forest land in a productive and healthy condition.

General Woodland Description

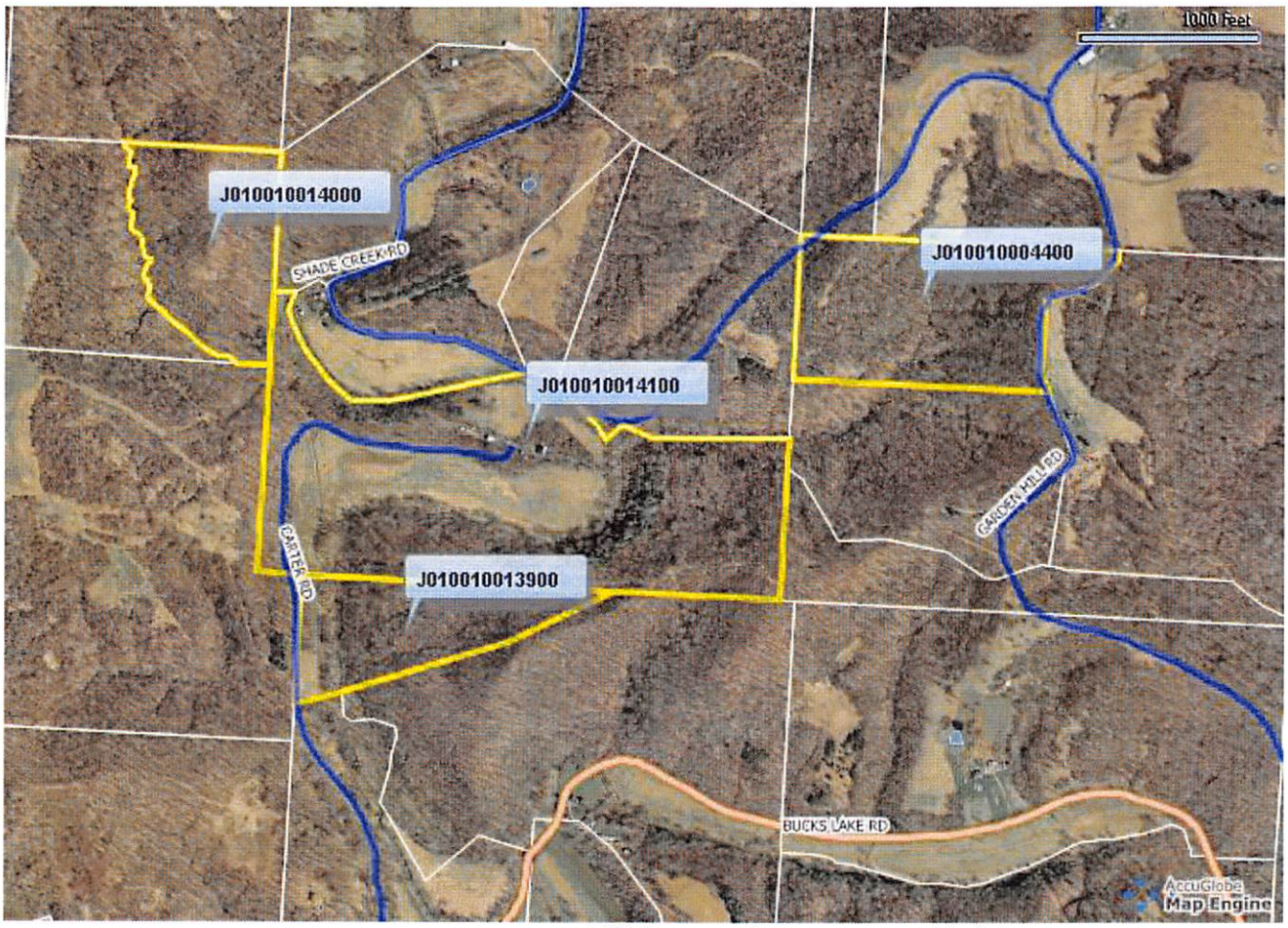
Athens County is located in the unglaciated hill country of southeastern Ohio. Slope and erosion hazard is the major land use limitations. Athens County is in the central hardwood forest region. Major forest types include Appalachian hardwoods, bottomland hardwoods, oak-hickory, successional, Virginia pine, and white pine plantations.

Most of the woodland in Athens County is in areas of steep and very steep terrain. This terrain is well suited to trees. Pulp, lumber & alternative forest products are important local commodities for Athens County.

This ownership has been in the "family" for 6 generations. The original log home (remnants still present) was built in 1888. The existing farm house was constructed in 1866. This tract is comprised of river bottom land and hillsides. Area is no longer an active farm.

Print | Back

Athens County GIS



Notes

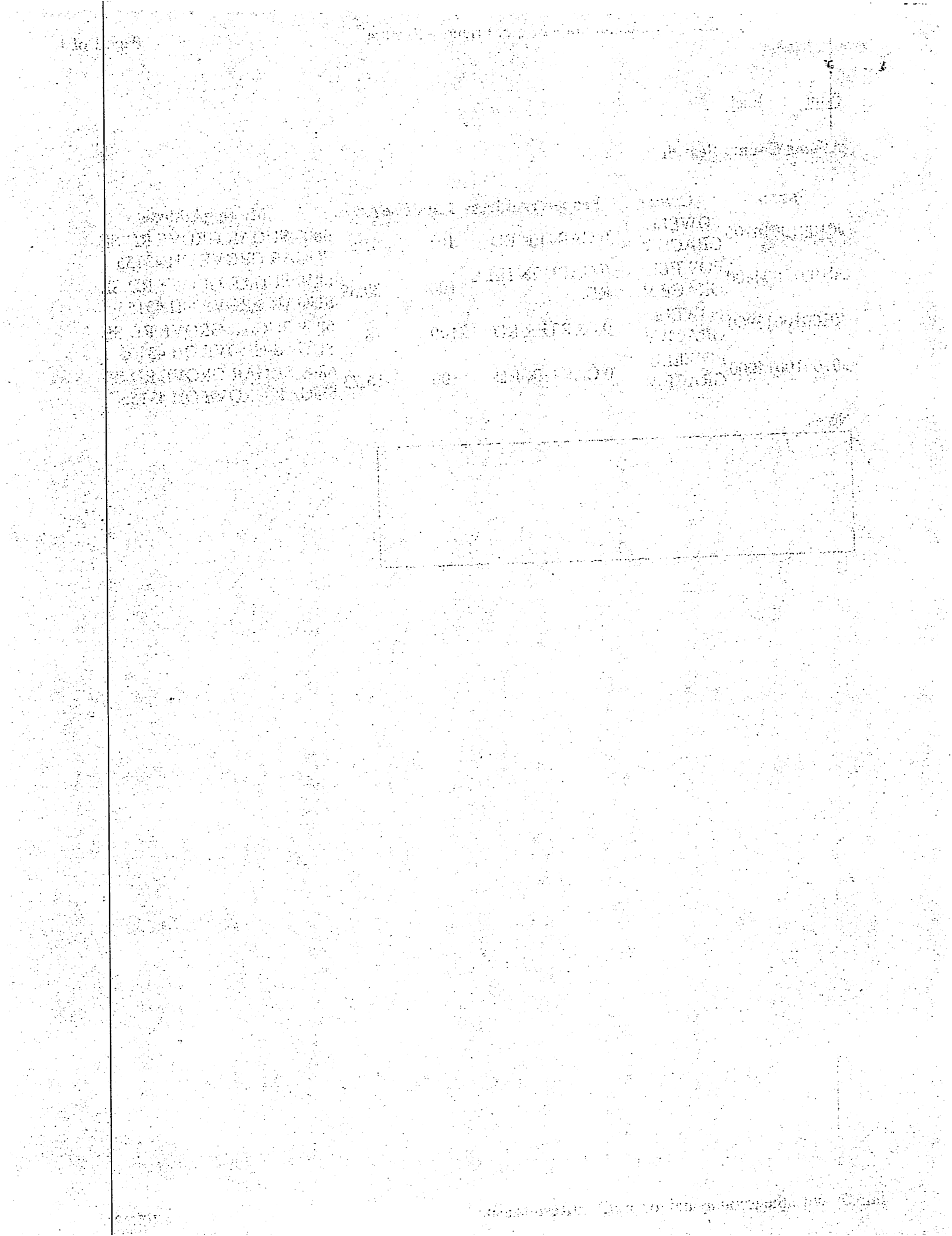
Grace V. Powell Tract

Print | Back

Athens County Search

Parcel	Owner	PropertyAddress	LandUse	Acres	MailingAddress
J010010014100	POWELL GRACE V	0 CARTER RD	101	61.5	6809 SUGAR GROVE RD SE SUGAR GROVE OH 43155
J010010004400	POWELL GRACE V	0 GARDEN HILL RD	100	29.59	6809 SUGAR GROVE RD SE SUGAR GROVE OH 43155
J010010013900	POWELL GRACE V	0 CARTER RD	100	16	6809 SUGAR GROVE RD SE SUGAR GROVE OH 43155
J010010014000	POWELL GRACE V	0 CARTER RD	100	16.73	6809 SUGAR GROVE RD SE SUGAR GROVE OH 43155

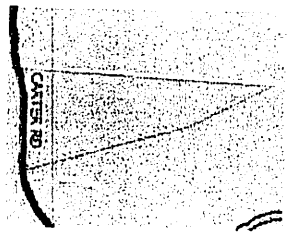
Notes



Data For Parcel J010010013900

Base Data

Parcel:	J010010013900
Owner:	POWELL GRACE V
Address:	0 CARTER RD



[+] Map this property.

Mailing Address

Mailing Name:	POWELL GRACE
Address:	6809 SUGAR GROVE RD SE
City State Zip:	SUGAR GROVE OH 43155

Geographic

City:	UNINCORPORATED
Township:	LODI TOWNSHIP
School District:	ALEXANDER LOCAL SCHOOL DISTRICT

Legal

Neighborhood:	00009000	**Legal Acres:**	16
Legal Description:	13-04-00 SEC 8 16.000A	**Land Use:**	(100) A - AGRICULTURAL VACANT LAND
		Property Class:	AGRICULTURAL
Map Number:	0-0-0-0	**Range Township Section:**	13-04-000

Valuation

	Appraised	Assessed (35%)
Land Value:	$18,500.00	$6,480.00
Building Value:	$0.00	$0.00
Total Value:	$18,500.00	$6,480.00
CAUV Value:	$9,050.00	
Taxable Value:	$3,170.00	

Tax Credits

Owner Occupancy Credit:	NO
Homestead Reduction:	NO

Notes

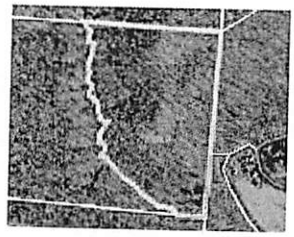
Notes:

GIS parcel shapefile last updated 6/17/2016 4:27:02 PM.
CAMA database last updated 7/1/2016 10:53:39 AM.

Data For Parcel J010010014000

Base Data

Parcel:	J010010014000
Owner:	POWELL GRACE V
Address:	0 CARTER RD



[+] Map this property.

Mailing Address

Mailing Name:	POWELL GRACE
Address:	6809 SUGAR GROVE RD SE
City State Zip:	SUGAR GROVE OH 43155

Geographic

City:	UNINCORPORATED
Township:	LODI TOWNSHIP
School District:	ALEXANDER LOCAL SCHOOL DISTRICT

Legal

Neighborhood:	00009000	**Legal Acres:**	16.73
Legal Description:	13-04-00 SEC 15 FRA 6	**Land Use:**	(100) A - AGRICULTURAL VACANT LAND
	16.73AC	**Property Class:**	AGRICULTURAL
Map Number:	0-0-0-0	**Range Township Section:**	13-04-000

Valuation

	Appraised	Assessed (35%)
Land Value:	$18,400.00	$6,440.00
Building Value:	$0.00	$0.00
Total Value:	$18,400.00	$6,440.00
CAUV Value:	$3,850.00	
Taxable Value:	$1,350.00	

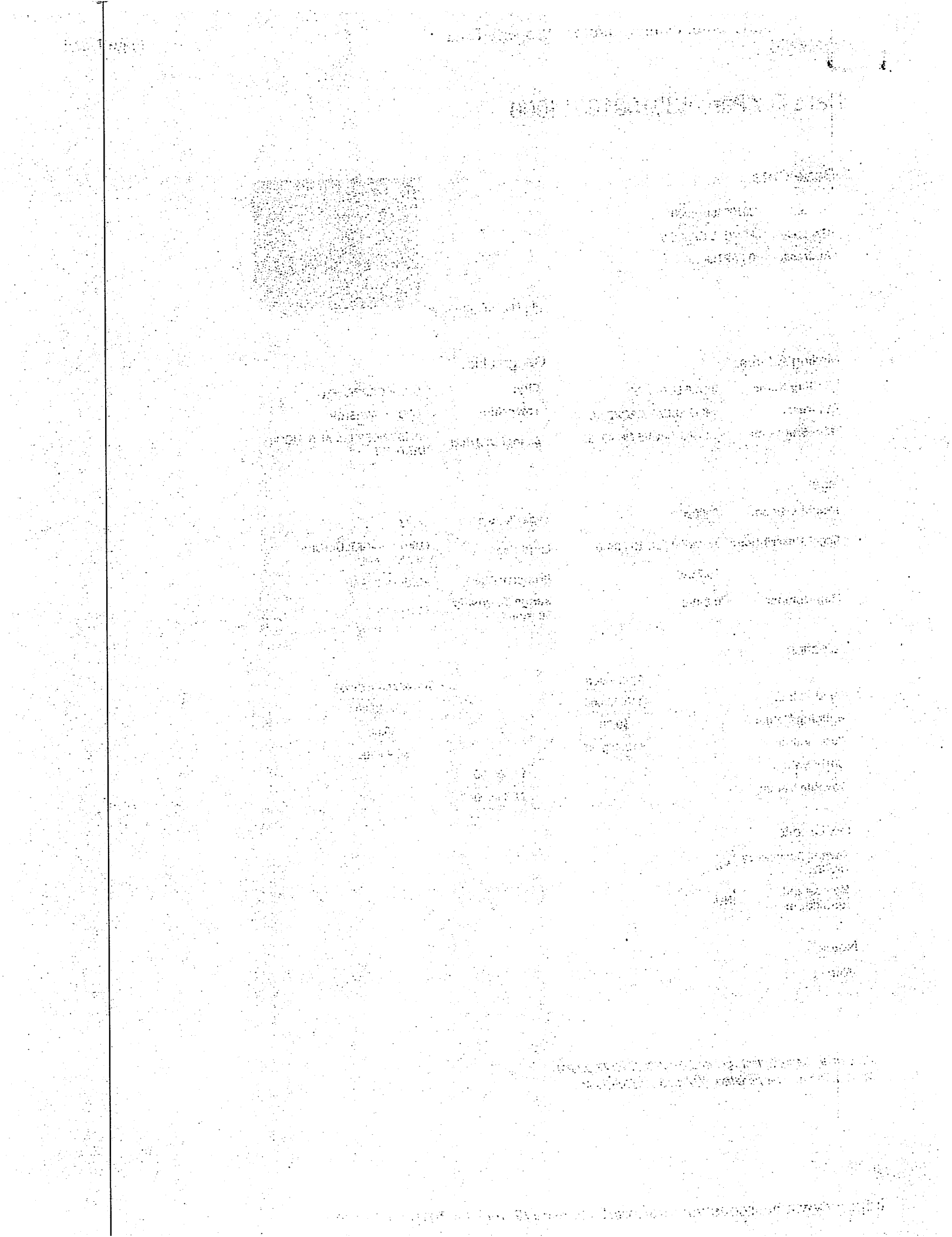
Tax Credits

Owner Occupancy Credit:	NO
Homestead Reduction:	NO

Notes

Notes:	

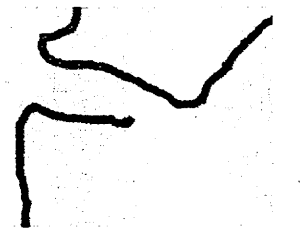
GIS parcel shapefile last updated 6/17/2016 4:27:02 PM.
CAMA database last updated 7/1/2016 10:53:39 AM.



Data For Parcel J010010014100

Base Data

Parcel: J010010014100
Owner: POWELL GRACE V
Address: 0 CARTER RD



[+] Map this property.

Mailing Address

Mailing Name:	POWELL GRACE V
Address:	6809 SUGAR GROVE RD SE
City State Zip:	SUGAR GROVE OH 43155

Geographic

City:	UNINCORPORATED
Township:	LODI TOWNSHIP
School District:	ALEXANDER LOCAL SCHOOL DISTRICT

Legal

Neighborhood:	00009000	**Legal Acres:**	61.5
Legal Description:	13-04-00 SEC 9 FRA 2 61.50AC	**Land Use:**	(101) A - CASH GRAIN OR GENERAL FARM
		Property Class:	AGRICULTURAL
Map Number:	0-0-0-0	**Range Township Section:**	13-04-000

Valuation

	Appraised		Assessed (35%)
Land Value:	$94,450.00		$33,060.00
Building Value:	$34,200.00		$11,970.00
Total Value:	$128,650.00		$45,030.00
CAUV Value:		$60,340.00	
Taxable Value:		$33,090.00	

Tax Credits

Owner Occupancy Credit:	NO
Homestead Reduction:	NO

Notes

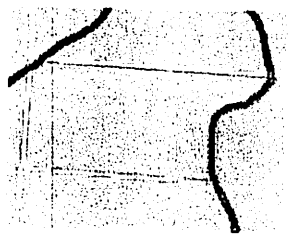
Notes:

GIS parcel shapefile last updated 11/1/2016 9:32:42 AM.
CAMA database last updated 10/31/2016 7:35:42 AM.

Data For Parcel J010010004400

Base Data

Parcel:	J010010004400
Owner:	POWELL GRACE V
Address:	0 GARDEN HILL RD



[+] Map this property.

Mailing Address

Mailing Name:	POWELL GRACE
Address:	6809 SUGAR GROVE RD SE
City State Zip:	SUGAR GROVE OH 43155

Geographic

City:	UNINCORPORATED
Township:	LODI TOWNSHIP
School District:	ALEXANDER LOCAL SCHOOL DISTRICT

Legal

Neighborhood:	00009000	**Legal Acres:**	29.59
Legal Description:	13-04-00 SEC 9 FRA 3	**Land Use:**	(100) A - AGRICULTURAL VACANT LAND
	29.59 AC	**Property Class:**	AGRICULTURAL
Map Number:	0-0-0-0	**Range Township Section:**	13-04-000

Valuation

	Appraised	Assessed (35%)
Land Value:	$32,550.00	$11,390.00
Building Value:	$0.00	$0.00
Total Value:	$32,550.00	$11,390.00
CAUV Value:	$7,710.00	
Taxable Value:	$2,700.00	

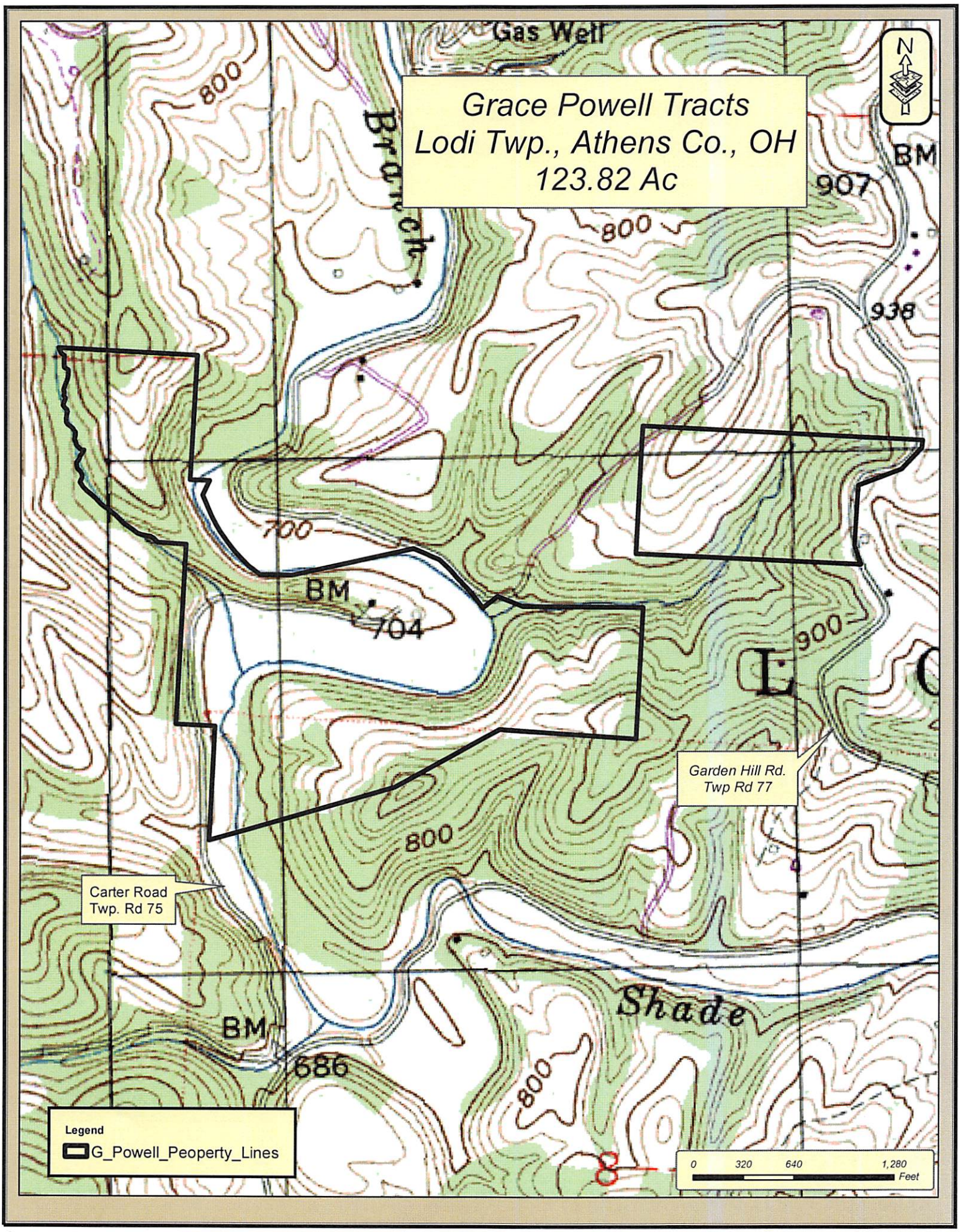
Tax Credits

Owner Occupancy Credit:	NO
Homestead Reduction:	NO

Notes

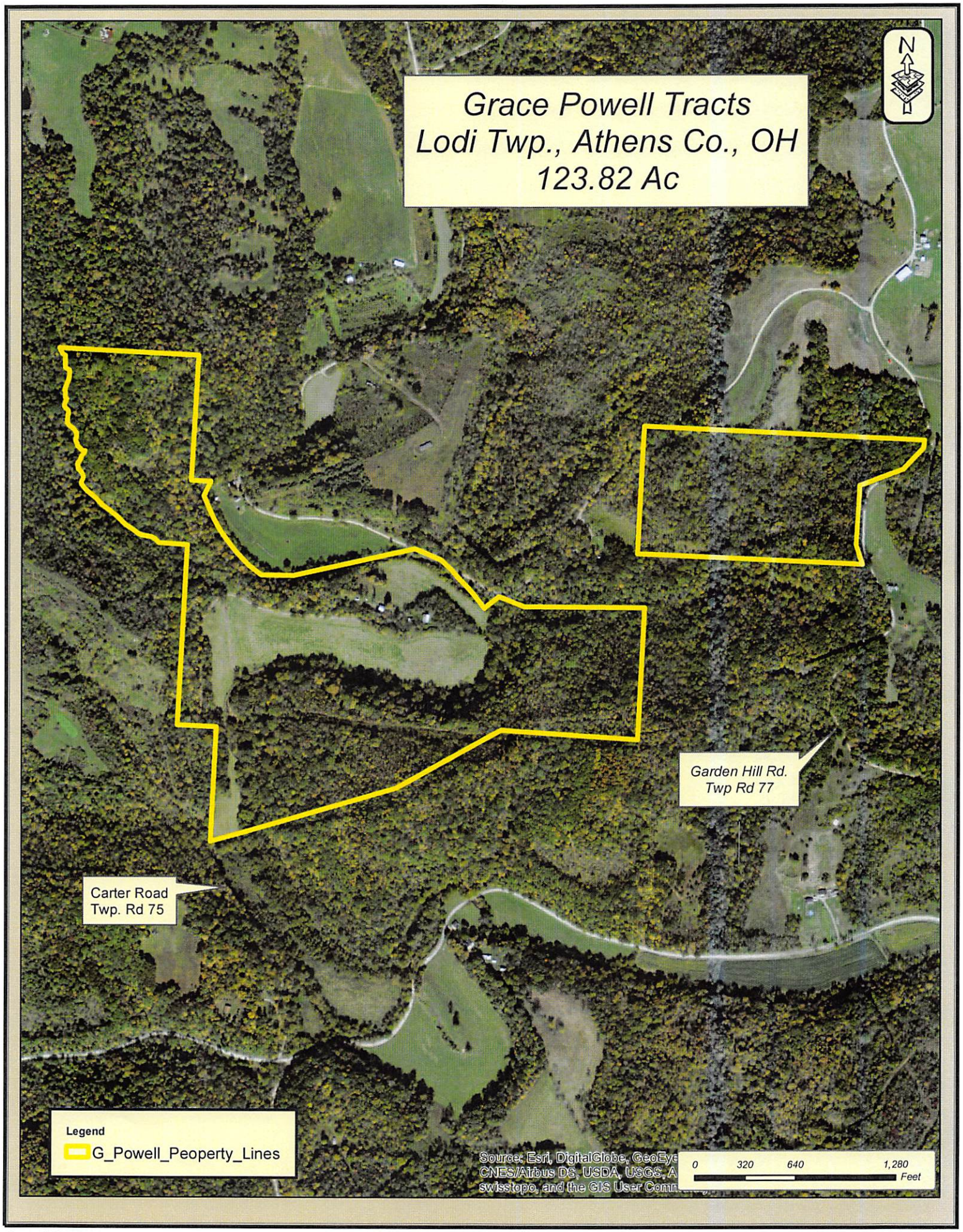
Notes:

GIS parcel shapefile last updated 6/17/2016 4:27:02 PM.
CAMA database last updated 7/1/2016 10:53:39 AM.



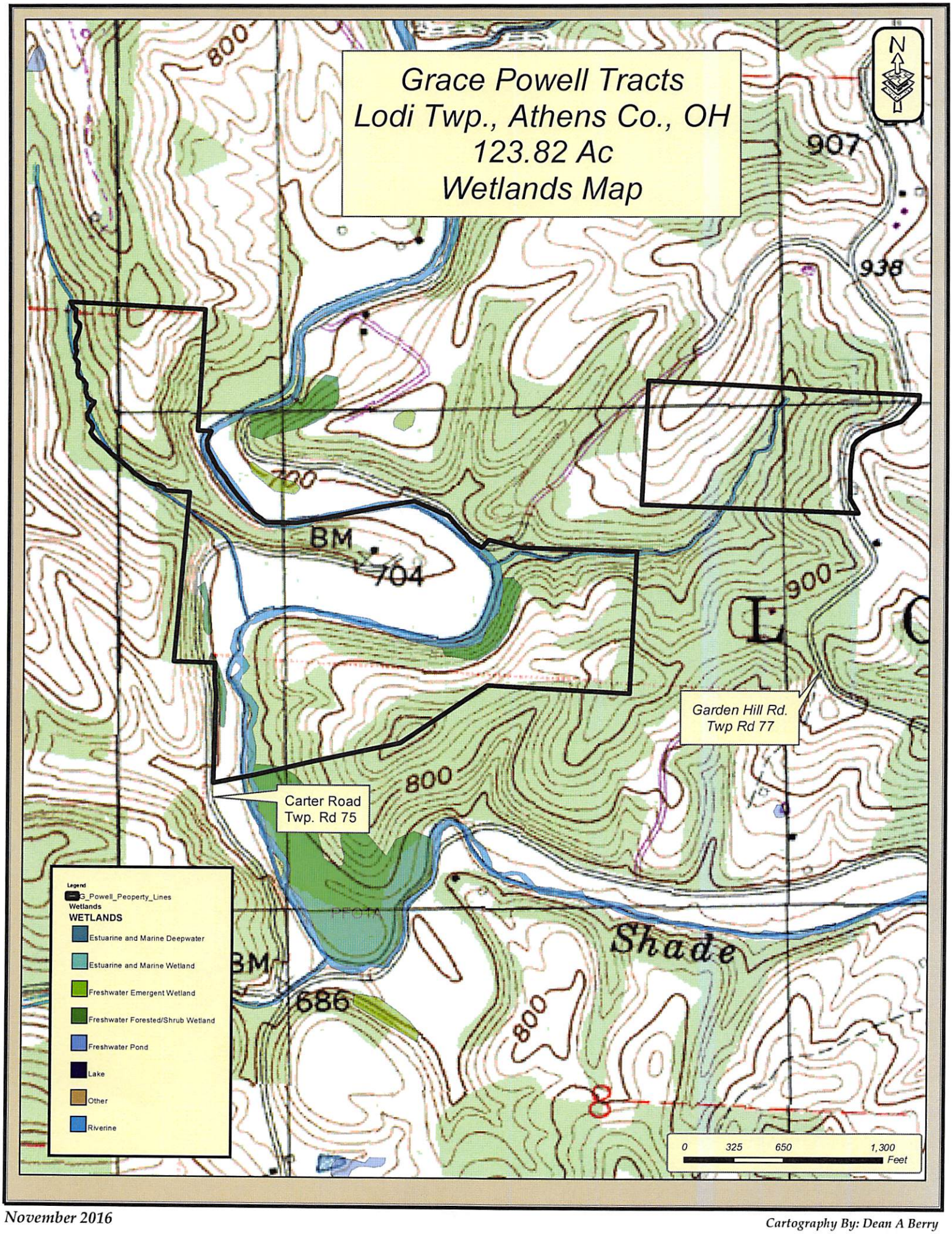
Sept 2016

Cartography By: Dean A Berry



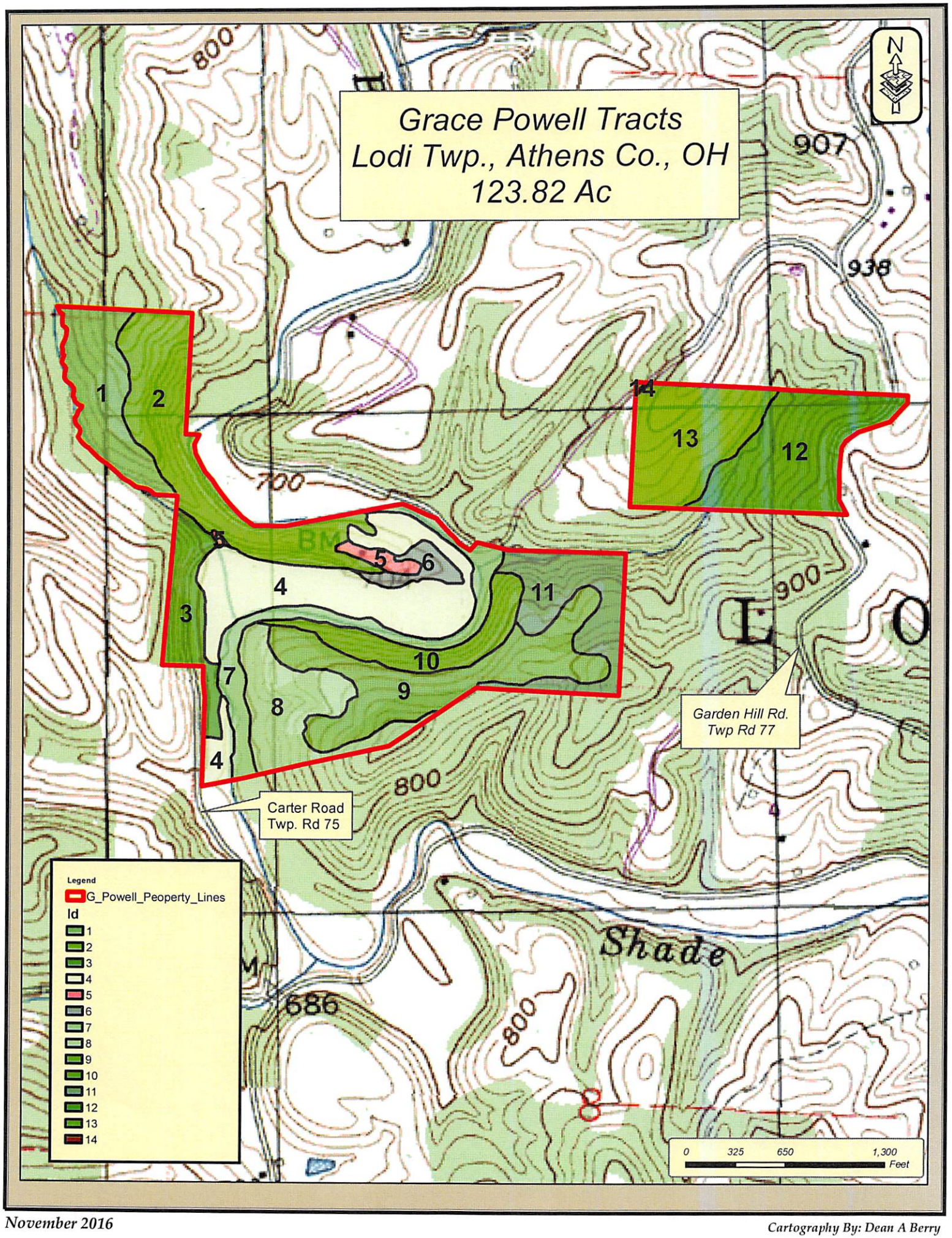
Sept 2016

Cartography By: Dean A Berry



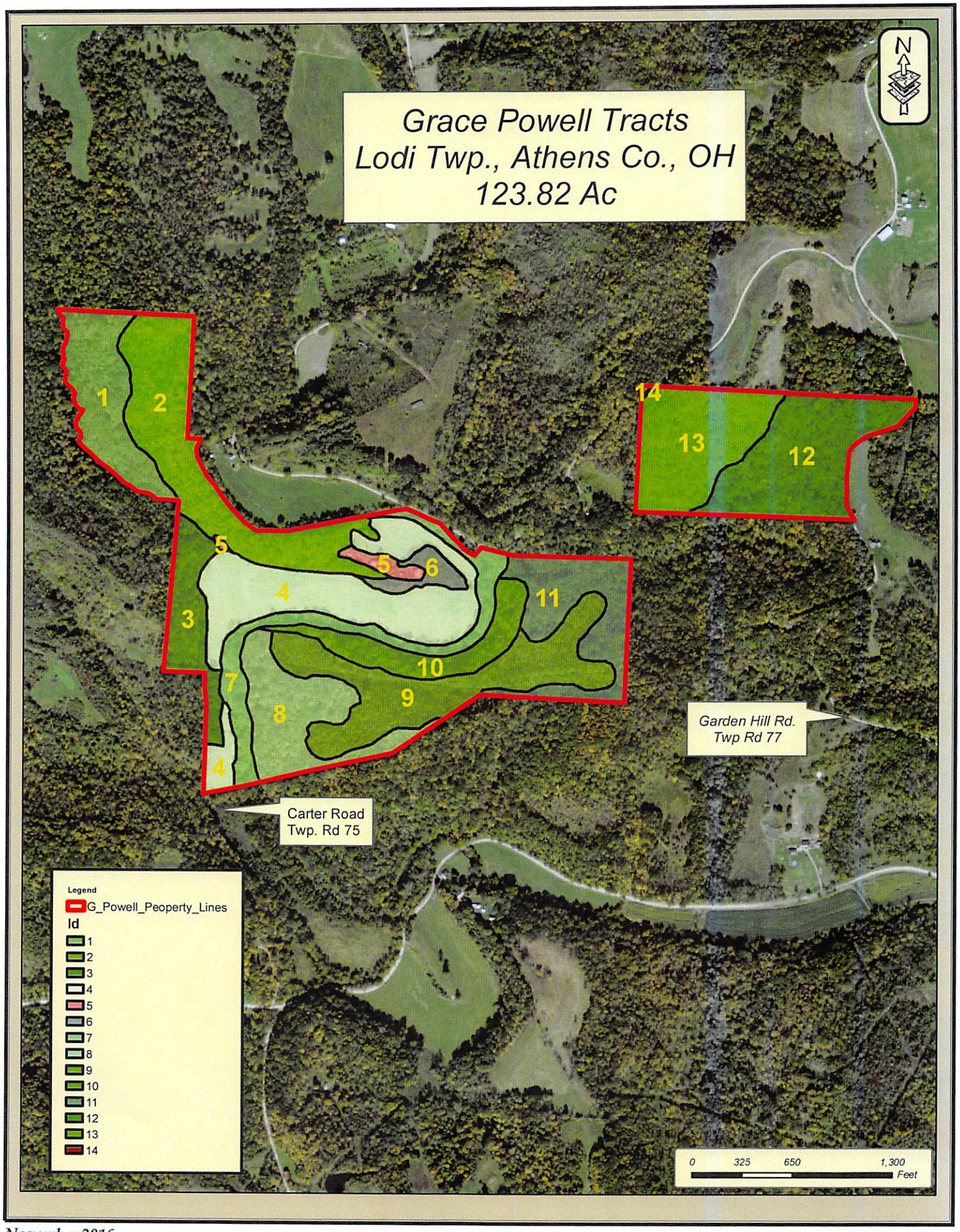
November 2016

Cartography By: Dean A Berry



November 2016

Cartography By: Dean A Berry



November 2016

Cartography By: Dean A Berry

Woodland Stand Description and Management Recommendations

Stand # 1 - 9.2 acres

Dominant Species: Am. Beech, Ash, Sugar Maple, Black Oak, Buckeye, Black Cherry, Sycamore, Black Gum, Aspen, Hickories, Tulip Poplar, Basswood, Sassafras, Chestnut Oak

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: Medium/Large sawtimber, with pulpwood trees present

Stocking Level: Fully stocked

Stand History: Unknown

Topography: Gently sloping with steep slope area along western stream drainage

Invasive plants or insects impacting this stand: Scattered Grapevines in stand, EAB, a few Autumn Olive bushes

Stand Description: This sawtimber stand contains some of the larger trees on this ownership, but because of past pasturing practices and poor soils, the majority of the trees are of low quality and many have defect & rot. Poor quality Oak trees and hollow Beech make up an undesirable proportion of the stand composition. This is a great hard mass production area for wildlife and the hollow & cavity trees provide nesting/den sites for wildlife.

Past management activities completed in this stand: Northern property line located & painted with blue paint. Fence evident on property line.

Management Recommendations:
Continue to mark property lines with paint, redo every 5 years or as needed
Cut scattered grapevines from this area (not EQIP)
Inspections for non-native invasive species – eradicate Autumn Olive as time permits

If a timber harvest is recommended: No not necessary in this 10 year management cycle, but a single tree / small group selection cut removing low value & undesirable species of trees could be done at any point in time..

Comments: This area could be selectively harvested but not high on the list for immediate attention. That said, opening will need annual inspection for possible non-native invasive species establishment.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods

Desired Stand Structure: Uneven Aged

[illegible]

Woodland Stand Description and Management Recommendations

Stand # 2 - **14.9** acres

Dominant Species: White Oak, Black Oak, Hickories, Hawthorn, Yellow Poplar, Buckeye, Dogwood, Red Maple, Sugar Maple, Am. Beech – Scattered Hemlock in a riverbank area and a small area of planted pine near the house site.

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: Poletimber/Small sawtimber with scattered larger trees

Stocking Level: Fully stocked in most areas with desirable species, brushy openings on ridgetop area.

Stand History: Harvesting - "Select cut" part of the area in the 1970's

Topography: Steep side slope areas and a ridgetop area

Invasive plants or insects impacting this stand: scattered grapevines in stand, EAB, Autumn Olive & Multi Flora Rose, some Japanese Honeysuckle in openings

Stand Description: This area covers the entire northwestern portion of this tract, facing the stream. This area had been pastured and reverted back into forestland –late successional stage of development on the ridgetop. The steep slopes are well developed forest stands. Parts of the ridgetop area is heavy briars and brush that is difficult to traverse. The actual forested portions are open understory. Very rocky side slopes

Past management activities completed in this stand: property lines had been marked, some grapevines have been cut, some Autumn Olive treated, trails maintained.

Management Recommendations:
Continue to maintain property lines with paint, redo every 5 years, or as needed
Cut scattered grapevines from crop trees in this area
Continue work on eradication of Autumn Olive as time permits

If a timber harvest is recommended: No Landowner may utilize dead Ash for firewood

Comments: This is a mixed, diverse area. EAB present in the Ash trees in this area. Autumn Olive in this area is light & scattered. Keep property lines painted, and let it develop for this 10 year management period. East & North P/L marked with blue paint

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods

Desired Stand Structure: Uneven Aged

Woodland Stand Description and Management Recommendations

Stand # 3 - 6.4 acres

Dominant Species: White Oak, American Beech, Hickories, Scarlet Oak Black Oak, Black Locust, Aspen, Yellow Poplar

Forest Type or Dominant Vegetation: Oak-Hickory

Stand Diameter or Size Class: Poletimber/Small sawtimber with scattered larger diameter sawlog trees present, especially on the steep slope areas

Stocking Level: Fully stocked

Stand History: No Prior Management

Topography: Steep side slope area

Invasive plants or insects impacting this stand: a few scattered grapevines in stand

Stand Description: The characteristics of this west facing slope area is that of a dry site, thin rock soils, rock outcroppings and steep side slopes in a small draw. Trees in here or mainly Oaks, Beech & Hickories. Open understory with mainly Beech reproduction, green briar and multi flora rose present. Low productivity area that will always exhibit minimal tree growth.

Past management activities completed in this stand: Fence line on property boundary marked with blue paint in 2016

Management Recommendations:
Continue to mark property lines with paint, redo every 5 years or as needed
Cut scattered grapevines from this area (not EQIP)
Inspections for non-native invasive species – eradicate Autumn Olive as time permits

If a timber harvest is recommended: No not in this 10 year management cycle.

Comments: This area is adjacent to the road and the large trees present are lower quality and many appear to have defect. Rock outcroppings and steep topography limit access throughout this area.

Desired Future Conditions: Maintain this area as a hard mass site for wildlife benefit.

Desired Forest Type or Dominant Vegetation: Oak-Hickory

Desired Stand Structure: Uneven Aged

Woodland Stand Description and Management Recommendations

Stand # 4 - 18.0 acres Non-Forested Areas_ CRP Bottomland Fields (18 ac qualified)

Dominant Species: NA

Forest Type or Dominant Vegetation: grass

Stand Diameter or Size Class: N/A

Stocking Level: N/A

Stand History: N/A

Topography: Nearly level

Invasive plants or insects impacting this stand: Autumn Olive along edges

Stand Description: This area included the bottomland fields adjacent to the Middle Fork of the Shade River. This area has been enrolled in CRP program for several years. **Parts of his area is identified as a Freshwater Forested/Shrub Wetland in the National Wetlands Inventory GIS DataBase**

Past management activities completed in this stand: Annual mowing, some invasive plant control.

Management Recommendations:
Annually inspect for invasive species & eradicate any found

Is a timber harvest recommended? N/A

Comments: If this area is ever taken out of the CRP Program, it should be planted to trees. An Oil/Gas well is located in this field.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation:

Desired Stand Structure:

Woodland Stand Description and Management Recommendations

Stand # 5 - 1.33 acres Non-Forested Areas_ Residential Areas

Dominant Species: NA

Forest Type or Dominant Vegetation: N/A

Stand Diameter or Size Class: N/A

Stocking Level: N/A

Stand History: N/A

Topography: Nearly level

Invasive plants or insects impacting this stand: Autumn Olive along edges (addressed in adjacent stand descriptions)

Stand Description: This stand includes the residential area and associated outbuildings, yard space and driveways, are are included in this stand. In addition the site with the log cabin is included in this area.

Past management activities completed in this stand: Mowing

Management Recommendations:
Annually inspect for invasive species & eradicate any found

Is a timber harvest recommended? N/A

Comments: The edges of these areas will be a persistent "problem areas" for the landowner, in regards to non-native invasive plants to become established in.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation:

Desired Stand Structure:

Woodland Stand Description and Management Recommendations

Stand # 6 - 2.0 acres

Dominant Species: Black Locust, Box Elder, Ash

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: Sapling/Poletimber

Stocking Level: Under stocked, grass understory

Stand History: Old-Field Reversion, around barn & outbuildings

Topography: Gently sloping

Invasive plants or insects impacting this stand: none noted

Stand Description: This small area covers the wooded area close to the house site. This area had been pastured land and is regenerating back into forestland – late successional stage of development. Autumn Olive is becoming established.

Past management activities completed in this stand: none noted

Management Recommendations:
Eradicate any non-native invasive plants in this area

If a timber harvest is recommended: No

Comments: Brushy area close to barn

Succession is the natural process of reforestation. This transition from grass to weeds to shrubs to trees may happen in one decade or it may take as long as a century to complete. Often, forests are cleared and farmed until it is no longer profitable to do so. This causes fields to be abandoned and lie fallow for many years.

During early succession the weeds are the first plants to appear in an abandoned field. Asters, goldenrod, honeysuckle, thistle, ragweed and blackberry are common weeds to quickly invade an abandoned field.

During middle succession the next wave of invaders to gain a foothold are the shrubs and small trees. Some common shrubs and small trees found on transition sites are multi-flora rose, sumac, poison ivy, highbush blueberry, dogwood, crabapple, persimmon and sassafras.

During late succession, if the seed source is close by, black locust, Virginia pine, black cherry, red maple, and tulip poplar soon become established. After five to ten years these intolerant and moderately tolerant trees will have overtopped and eliminated the shrubby plants. These intolerant trees usually reach maximum development at 60 to 75 years of age. Following this, at a slower pace, the intermediate tolerant oaks and tolerant sugar maple begin to occupy the understory. As the forest ages, the intolerants die and the tolerates take over the growing space vacated by the intolerants.

Desired Future Conditions: Let this area develop in a hardwood stand

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods

Desired Stand Structure: Uneven Aged

Woodland Stand Description and Management Recommendations

Stand # 7 - 7.0 acres Semi-wooded Riparian Area

Dominant Species: B. Walnut, Sycamore, Box Elder, Ash, Red Maple

Forest Type or Dominant Vegetation: Bottomland Hardwoods - wet site

Stand Diameter or Size Class: Poletimber/Small sawtimber

Stocking Level: Fully stocked most areas with species suitable for the site.

Stand History: No Prior Management

Topography: Gently sloping

Invasive plants or insects impacting this stand: Autumn Olive, Multi Flora Rose

Present conditions or resource concerns to consider: This area encompasses the stream channel & banks of the Middle Fork of the Shade River, where it passes through this farm. This area is subject to periodic flooding. This Stand was separated out in this Plan due to the importance of protecting the stream side management zone (SMZ). All activities in this area need to be completed in a manner that will minimize the impact on the stream. Lush understory plants in some areas.
Again, parts of his area is identified as a Freshwater Forested/Shrub Wetland in the National Wetlands Inventory GIS DataBase

Past management activities completed in this stand: none noted

Management Recommendations:
Cut any grapevines found from walnut trees

Is a timber harvest recommended? No Not necessary in this 10 year period
Comments: A Streamside Management Zone (SMZ) is a forested strip or area next to a creek or stream that is managed with specific attention to instream and downstream water protection. SMZ's should be maintained around both intermittent and perennial streams, lakes, ponds, naturally flowing springs, and reservoirs. Forest management activities within an SMZ should leave the forest floor essentially undisturbed with minimum soil exposure. Trails should not be constructed within an SMZ, except at designated crossings Roads should cross the stream at a right angle. Drainage structures such as wing ditches, water bars, and cross drain culverts should vent their runoff before they enter the SMZ. Functioning as buffer strips, SMZ's are very effective in filtering sediment (soil particles) from surface runoff. The water in the runoff can and should reach the stream, but the vegetation in the SMZ filters sediment and other suspended solids resulting from the forest management activity. The trees immediately adjacent to the water provide woody debris to benefit aquatic organisms. The trees also provide shade to the stream, preventing any unnatural changes in water temperature. Direct sunlight can drastically raise water temperatures, which may lower the oxygen content of the water and make it difficult for fish and other aquatic organisms to live.

Desired Future Conditions: Forested riparian buffer area
Desired Forest Type or Dominant Vegetation: Bottomland Hardwoods - wet site
Desired Stand Structure: Uneven Aged

Woodland Stand Description and Management Recommendations

Stand # 8 - **9.2** acres

Dominant Species: Yellow Poplar, Ash, Sugar Maple, Black Oak, White Oak, Aspen, Black Cherry, Sycamore, Black Walnut, Hickories

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: Small/Medium sawtimber with the larger trees scattered throughout area, on the steeper slopes and in the ravines

Stocking Level: Fully stocked

Stand History: Grazing in most of the area

Topography: Gently sloping with some steep slope areas

Invasive plants or insects impacting this stand: EAB present, but limited Ash trees in this area, scattered Autumn Olive, a few grapevines

Stand Description: Compared to adjacent Stand 9, this area has adequate stocking of trees that provide some crown closure, reducing the Autumn Olive in the understory. The steep side slopes show less pasturing damage and trees are well developed. The few Ash trees present are showing EAB mortality. Quality Sugar Maple and Oak sawlog trees in this area.

Past management activities completed in this stand: property line fence painted with blue paint in 2016

Management Recommendations:
Continue to mark property lines with paint, redo every 5 years or as needed
Cut few remaining scattered grapevines from this area (not EQIP)
Inspections for non-native invasive species – reduce Autumn Olive as time permits

If a timber harvest is recommended: No not necessary in this 10 year management cycle, but at any point in time, the mature trees, as well as the defective and lowgrade trees could be removed.

Comments: This stand is a mid- upper slope area adjacent to the south property line. Largest sawlog trees on this tract are in this stand.

Desired Future Conditions: Maintain this area as an uneven aged hardwood stand. Promote the Oak development for timer and hard mass potential.

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods

Desired Stand Structure: Uneven Aged

[illegible]

Woodland Stand Description and Management Recommendations

Stand # 10 - 5.5 acres

Dominant Species: Eastern Hemlock, Red Maple, Yellow Poplar, Black Oak, White Pine

Forest Type or Dominant Vegetation: Yellow-Poplar - Eastern Hemlock- Hemlock Stand with codominant hardwood trees

Stand Diameter or Size Class: Poletimber/Small sawtimber, scattered larger sawlog sized trees

Stocking Level: Fully stocked **and/or Basal Area : 130 to 200 (ft2/acre)**

Stand History: Unknown

Topography: Gently sloping with some steep side slope areas.

Invasive plants or insects impacting this stand: Autumn Olive, Grapevines

Stand Description: This stand covers the steep slope above the Middle Fork of the Shade River. This area is heavily stocked with Eastern Hemlock and some Pines. Older stand (50-60yrs old) with declining growth rates. Fully shaded understory. Very steep rock outcrop area makes this a non-harvesting area. **Again, parts of his area is identified as a Freshwater Forested/Shrub Wetland in the National Wetlands Inventory GIS DataBase**

Past management activities completed in this stand: none noted at time of inspection

Management Recommendations:
Work on the eradication of the grapevines in this area.
Work on the Autumn Olive along the edge with Stand 3
Continual inspection of this stand by resource professionals trained in HWA identification

Is a timber harvest recommended? No

Comments: This area should be preserved in its natural state and the only management activities that should take place will be the removal of any non-native invasive species that may be found in this area. That said, if Hemlock Woolly Adelgid is found in this area, treatment for that pest will be considered as a management option. Exceptional variety of forest plants, ferns and trees can be found within this area. The position on the slope and aspect dictate the plants/trees present.

Desired Future Conditions: Preserve this area in its scenic naturally developed condition. Streamside Management Zone (SMZ) area will be protected.

Desired Forest Type or Dominant Vegetation: As Listed in Dominant Species

Desired Stand Structure: Uneven Aged

[illegible]

Woodland Stand Description and Management Recommendations

Stand # 9 - 12.6 acres

Dominant Species: Hickories, Yellow Poplar, Ash, Red Maple, Sugar Maple, Red Oak, Black Cherry, White Oak, Sycamore, Black Walnut, Am. Elm, Hawthorn, Dogwood

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: Sapling/Poletimber with a few scattered larger trees

Stocking Level: Fully stocked in most areas with small grass openings present

Stand History: Old-Field Reversion

Topography: Gently sloping with some steep slopes on the upper hillside area

Invasive plants or insects impacting this stand: Grapevines throughout stand, EAB, Autumn Olive, Multi Flora Rose

Stand Description: This area was once cleared and regenerated naturally, which results in the uneven stocking of trees. This stand is in late successional stage of development. A gas pipeline bisect this area – site for Autumn Olive development. Ash trees showing EAB mortality. Thick understory because of semi-open canopy. Good wildlife area.

Past management activities completed in this stand: None noted at time of inspection

Management Recommendations:
Cut scattered grapevines from future potential crop trees this area
Begin working on the eradicate of Autumn Olive
Continue to maintain boundary line paint, redo as necessary

If a timber harvest is recommended: No, not in this 10 year management cycle

Comments: This area will change as the Ash composition is removed from the overstory because of EAB, and the early successional species are replaced with more climax species of trees. Autumn Olive is an issue in this area.

Desired Future Conditions: This area should produce quality hardwood sawtimber in the future, with additional TSI work.

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods

Desired Stand Structure: Uneven Aged

Woodland Stand Description and Management Recommendations

Stand # 11 - 8.1 acres

Dominant Species: Yellow Poplar, Ash, Red Maple, Sugar Maple, Black Oak, Black Cherry, Sycamore, Black Walnut, Am. Elm, Hickories, Am. Beech, Basswood, Box Elder

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: Poletimber/Small sawtimber with scattered larger trees close to property lines.

Stocking Level: Fully stocked

Stand History: Unknown

Topography: Gently sloping upper slope with a steep slope areas along north hollow

Invasive plants or insects impacting this stand: Scattered Grapevines in stand, EAB, Autumn Olive along trail edge

Stand Description: This hardwood stand that has naturally developed. This area was once pastured, but recovered well. Stand similar in composition to Stand #8. Larger trees found on the steeper slopes and along the stream bank. Access trail runs adjacent to stream corridor. Oak trees present along upper slope area, lower slope is Walnut and Poplar area. Ash trees are showing EAB mortality. Gas line passes through the SE corner of this stand.

Past management activities completed in this stand: Property lines painted with blue paint in 2016.

Management Recommendations:
Continue to mark property lines with paint, redo every 5 years or as needed
Cut scattered grapevines from this area
Inspections for non-native invasive species – eradicate Autumn Olive as time permits

If a timber harvest is recommended: No not in this 10 year management cycle.

Comments: Rocky stream channel is the northern property line. This is a lower priority area for work at this time.

Desired Future Conditions: This area should produce quality hardwood sawtimber in the future.

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods

Desired Stand Structure: Uneven Aged

Woodland Stand Description and Management Recommendations

Stand # 12 - 15.7 acres

Dominant Species: Sugar Maple, Red Oak, White Oak, Sassafras, Yellow Poplar, Ash, Red Maple, Sycamore, Black Walnut, Am. Elm, Hickories, Am. Beech, Black Locust

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: Small/Medium sawtimber

Stocking Level: Fully stocked

Stand History: Grazing in the past

Topography: Gently sloping with some steep lower slope area near stream

Invasive plants or insects impacting this stand: EAB, Autumn Olive in openings and along Co Rd.

Stand Description: Ash trees showing EAB mortality, but trees are only a small part of the overall stand composition. This sawtimber stand contains some quality sawlog trees. Open understory because of crown closure. Upper slope area by road stocked with Black Locust and Sassafras patches.

Past management activities completed in this stand: Property lines painted with blue paint in 2016.

Management Recommendations:
Inspect for and cut scattered grapevines found in this area
Inspections for non-native invasive species – eradicate Autumn Olive as time permits

If a timber harvest is recommended: No, not necessary in this 10 year management cycle, but an improvement cut could be done when landowner desires.

Comments: Area will produce quality hardwood sawlog trees in the future. Nice woods.

Desired Future Conditions: Area supports a desirable mixture of trees that are developing into a quality hardwood stand.

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods

Desired Stand Structure: Uneven Aged

Woodland Stand Description and Management Recommendations

Stand # 13 - 13.5 acres Semi-Forested Area - idle pasture area

Dominant Species: grasses & shrubs, Hawthorn, Black Locust, Black Walnut, Ash. Hickories, Dogwood, White Oak, Scarlet Oak

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: Seedling/Sapling

Stocking Level: Under stocked with desirable species at this time

Stand History: Old-Field Reversion

Topography: Gently sloping

Invasive plants or insects impacting this stand: Autumn Olive, EAB, multi flora rose, grapevines

Stand Description: This stand is adjacent Garden Hill Road. Natural succession is reverting pasture field back to forest. Thick, brushy area that is difficult to traverse because of hawthorn and multi flora rose. Good wildlife area but little commercial timber production capabilities in its present condition. Oil/Gas well site located in this area.

Past management activities completed in this stand: Property lines located and painted with blue paint in 2016.

Management Recommendations:
Annually inspect for invasive species & eradicate any found
Do a supplemental planting in openings to improve species composition – EQIP project
Cut grapevines from potential crop trees.

Comments: Recommend supplemental tree planting in this area with Oaks & Walnuts. Tree shelters to help protect seedlings. Spot herbicide application before planting. Lower slope in this area will support Walnut - some already present in area. This stands covers the small corner of this tract located on the west side of Shade Creek Road – could not locate property corner.

Desired Future Conditions: Develop this semi-wooded land into a quality forest by planting trees additional trees to improve stocking and species composition.

Desired Forest Type or Dominant Vegetation: Upland Central Hardwoods

Desired Stand Structure: Uneven Aged

Woodland Stand Description and Management Recommendations

Stand # 14 - .39 acres Non-Forested Areas_ Shade Creek Road

Dominant Species: NA

Forest Type or Dominant Vegetation: N/A

Stand Diameter or Size Class: N/A

Stocking Level: N/A

Stand History: N/A

Topography: Nearly level

Invasive plants or insects impacting this stand: Autumn Olive along edges (addressed in adjacent stand descriptions)

Stand Description: This stand covers the small section of Shade Creek Road that bisects the NW corner of this tract.

Past management activities completed in this stand: Mowing

Management Recommendations:
Annually inspect for invasive species & eradicate any found

Is a timber harvest recommended? N/A

Comments: The edges of these areas will be a persistent "problem areas" for the landowner, in regards to non-native invasive plants to become established in.

Desired Future Conditions:

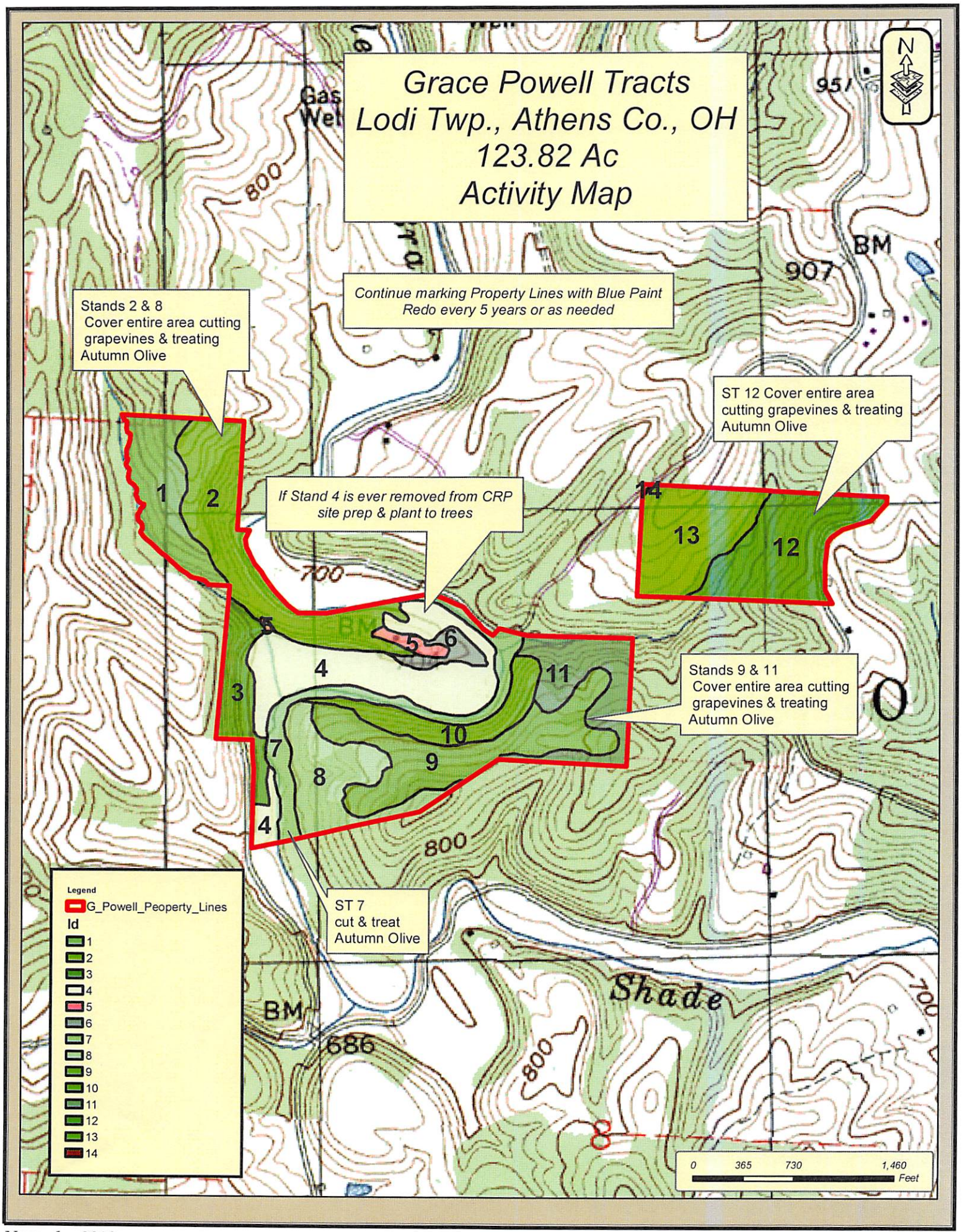
Desired Forest Type or Dominant Vegetation:

Desired Stand Structure:

Recommended Management Activity Schedule

Year(s) Suggested	Mgmt. Unit	Required Task?	EQIP Practice?	Acres	Recommendations
2016-2017 2022 and 2026		☒	☐	NA	Continue to locate and mark property lines with blue paint, redo every 5 years, or as needed.
2016 -2026	12	☐	☒	15 ac	Cover entire stand cutting scattered grapevines & treating scattered Autumn Olive found in this stand.
2018 -2026	2 & 8	☐	☒	24 ac Total	Cover entire stands cutting scattered grapevines & treating scattered Autumn Olive found.
if ever taken out of CRP	4	☐	☒	18 ac	Site Prep & plant with a mixture of trees & shrubs that will benefit a variety of wildlife species if no longer in CRP Program
2022-2026	9 & 11	☐	☒	20 ac	Cover entire stand cutting scattered grapevines & treating scattered Autumn Olive found in these Stands
2016-2026	7	☐	☒	7 ac Total	Cover entire stand cutting & treating scattered Autumn Olive
2022 and 2026		☒	☐	Next Site Visit – Woodland reviews are recommended at least once every five years, and no more than ten years, based upon the date of the last actual 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



November 2016

Cartography By: Dean A Berry

Woodland Resource Descriptions

General Soils Information – a general description of the soil type(s) and the general productive capacity of the soil:
Soil Type(s): Chg1AF, DtF, GsC, GuD, StD, StE, UpD, VcE, WdC, WmD, WmE, WmF
Soil Drainage Class: Moderately well drained to well drained
General Description: See Soils maps and descriptions in Addendum for detailed descriptions. Also included in the Addendum is a map and associated chart showing the Forest Productivity (Tree Site Index) of the tract.
An on-line resource that can be used to obtain detailed soils information is:
http://websoilsurvey.nrcs.usda.gov/app/
Site Class: (using Woodland Productivity): Fair to Good Species Used - Northern Red Oak

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

Short term timber production potential is limited for this property because the majority of the stands are young and just beginning to mature. Stands 2,3,11 & 12 all have sawtimber trees present that could be harvested at some point. The woodlands are stocked with a variety of marketable timber species that will produce valuable wood products in the future. Timber stand improvement (TSI) management practices such as grapevine control, cull tree & undesirable hardwood species control, and elimination of non-native invasive species of woody shrubs & trees, will certainly enhance the quality and value of your timber resources over time, and are important tasks to implement in order to maximize the timber potential in your younger stands. Emerald Ash Bore is causing damage to the forested areas throughout the farm.

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. 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.

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 don't mind

The diversified size class of trees & shrubs of the forested land on this tract provides suitable habitat for a variety of game and non-game species of birds and animals. Openings, such as the oil well site, access roads, mowed trail that are grass covered are providing the additional feeding & nesting sites. Areas of thick understory benefit both game & non-game species of mammals and birds.

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

In the large tract portion of this ownership there are 3 areas designated as a "Freshwater Forested / Shrub Wetland" identified in the National Wetlands Inventory Database. (See attached map) Search was completed 11/27/2016.

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. 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 Soil and Water Conservation District you can implement sound soil and water conservation practices on your property.

There is an un-named perennial stream located in the northwest portion of this tract that flows directly into the Middle Branch Shade River. The Middle Branch of the Shade River forms the Northern boundaries of this ownership, and then winds through the center of this farm.

A second un-named perennial stream located in the center of the Garden Hill Rd Tract, also flows into the Middle Branch Shade River.

Best Management Practices – maintaining the integrity and productivity of woodland sites: As bad as the last harvest was (in regards to tree selection), the logger did construct water bars and seeded the log roads during sale closeout. Trails are in good shape and erosion is minimal.

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.

There is not an issue with any of the trails and roads on this tract, all are gravel or grass covered. The SMZ area along the main stream should be protected during any harvesting activities planned.

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 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. Landowner did not know of any unique sites on this tract. 11/26/2016

The historical use of these tracts is of importance to the current family members – This ownership has been in the family for 6 generations. The original log home was built in 1866 and the present day farmhouse built in 1888. Many family memories revolve around this farm.

Forests of Recognized Importance –Globally, regionally & nationally significant large forest landscape areas of exceptional ecological, social, cultural or biological values

This forested tract does not contain any attributes that could contribute to what would be considered a unique landscape. Review of maps of the area and landowners did not reveal any indication of this tract being located in a unique landscape classification. 11/26/2016

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 could 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 gain 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 area. A walk in the forest provides a time of learning for all family members, but it can also be a time to relax. The woodlands can be a quiet place of solitude after a busy day, or anytime for that matter.

Threatened & Endangered Species – considerations for threatened and endangered species, including the direct relationship with biological diversity:

No specific threatened or endangered species were noted on this forest land. Some threatened or endangered species that may be found in southern Ohio include the Timber Rattlesnake, Indiana Bat and American Burying Beetle. Threatened and endangered species have certain habitat requirements. Habitat requirements for threatened or endangered species may or may not be found on this forest land Specific information on threatened or endangered species may be obtained by contacting the Ohio Department of Natural Resources Division of Wildlife directly to access the "Ohio Biodiversity Database":

ODNR - Division of Wildlife
2045 Morse Road, Bldg. G-3,
Columbus, OH 43229-6693
Phone: (614) 265-6452.

After reviewing the NHDA, it was determined this tract has no listed species located on it. Habitat does exist on this tract that may be suitable for various T & E identified species. (11/26/2016)

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 success ional 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.

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 wild flowers 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 honey bees and butterflies are examples of beneficial insects. Medicinal shrubs and herbs and maple syrup are more examples of other beneficial forest resources.

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.

Fire will not be used as a management tool on this tract.

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 forests 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.

Forest Health – a general description of the health of the woodland: Most of the forest areas are in good condition, considering little forest management has been done. Overall, this farm has been left to revert back forestland naturally, once the farming ceased. EAB is having an impact on the forested areas of this tract. Some non-native invasive species (Autumn Olive) is becoming established in areas that were once pastured.

How To Maintain Forest Health

Maintaining the health of your forest is important to help prevent damaging problems from interfering with the benefits you receive from your forest. We recommend that you consider the following general guidelines to maintain forest health:

1. *Consider that some amount of damage from disease, wildlife pest, insects, and weather is normal and can be beneficial to the overall health of your forest.*

2. *Remove excessive numbers of over mature, weak or damaged trees that are most likely to be affected by damaging agents. However, consider that some of these trees are beneficial to certain wildlife species.*

3. *Encourage mixtures of tree species to minimize damage from problems that attack specific types trees.*

4. *Discourage tree species that are not well adapted for the climate and soil properties in your area.*

5. *Maintain a density of trees that provides them with adequate growing space.*

6. *Avoid wounding your trees and compacting the soil during treatments and recreational activities.*

7. *Prevent livestock from grazing in the woods.*

8. *Avoid implementing treatments during or soon after events like droughts or outbreaks of insects or diseases.*

9. *Stay informed of pest alerts and current problems.*

10. *Monitor your forest frequently for symptoms of damaging agents.*

11. *Consider utilizing pest suppression programs recommended by your state or county forestry agency.*

12. *Support regulations geared towards reducing the spread of non-native pests, and reducing levels of air pollution.*

13. *Follow quarantine regulations for specific pests and their host plants.*

14. *Salvage dead or damaged trees after a problem occurs*

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 in the addendum of this plan.

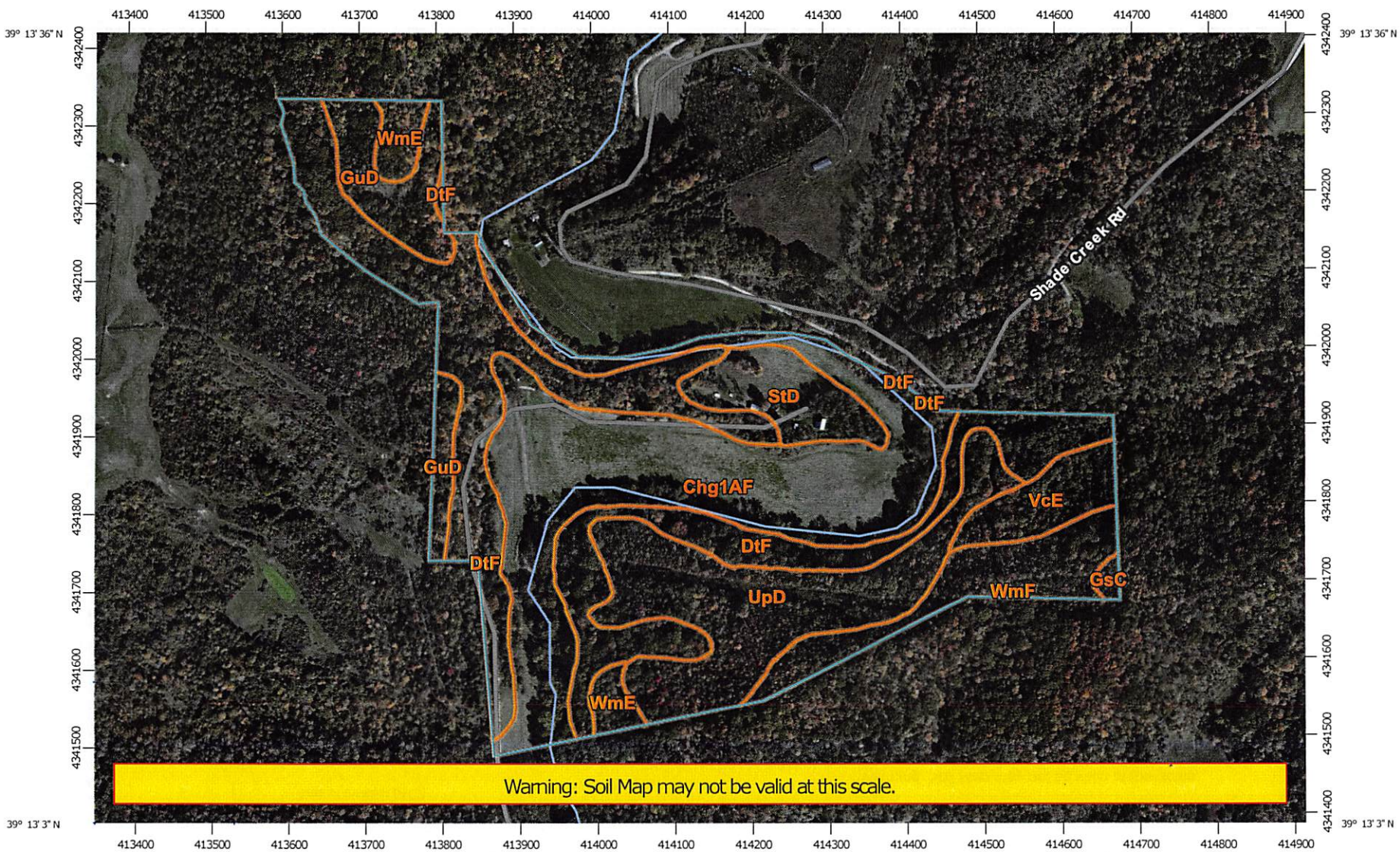
Addendums

- Soils Report with - Soil Map and Map Unit Description
- Forest Productivity (Site Index)

Landowner Plan packet also contains:

- How to mark your property lines
- Herbicide Fact Sheet
- Forestry Terms
- Autumn Olive Fact Sheet
- Grapevine Fact Sheet

Soil Map—Athens County, Ohio
(Grace Powerll Tract)



Map Scale: 1:7,170 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

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: http://websoilsurvey.nrcs.usda.gov
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 17, Sep 16, 2016

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

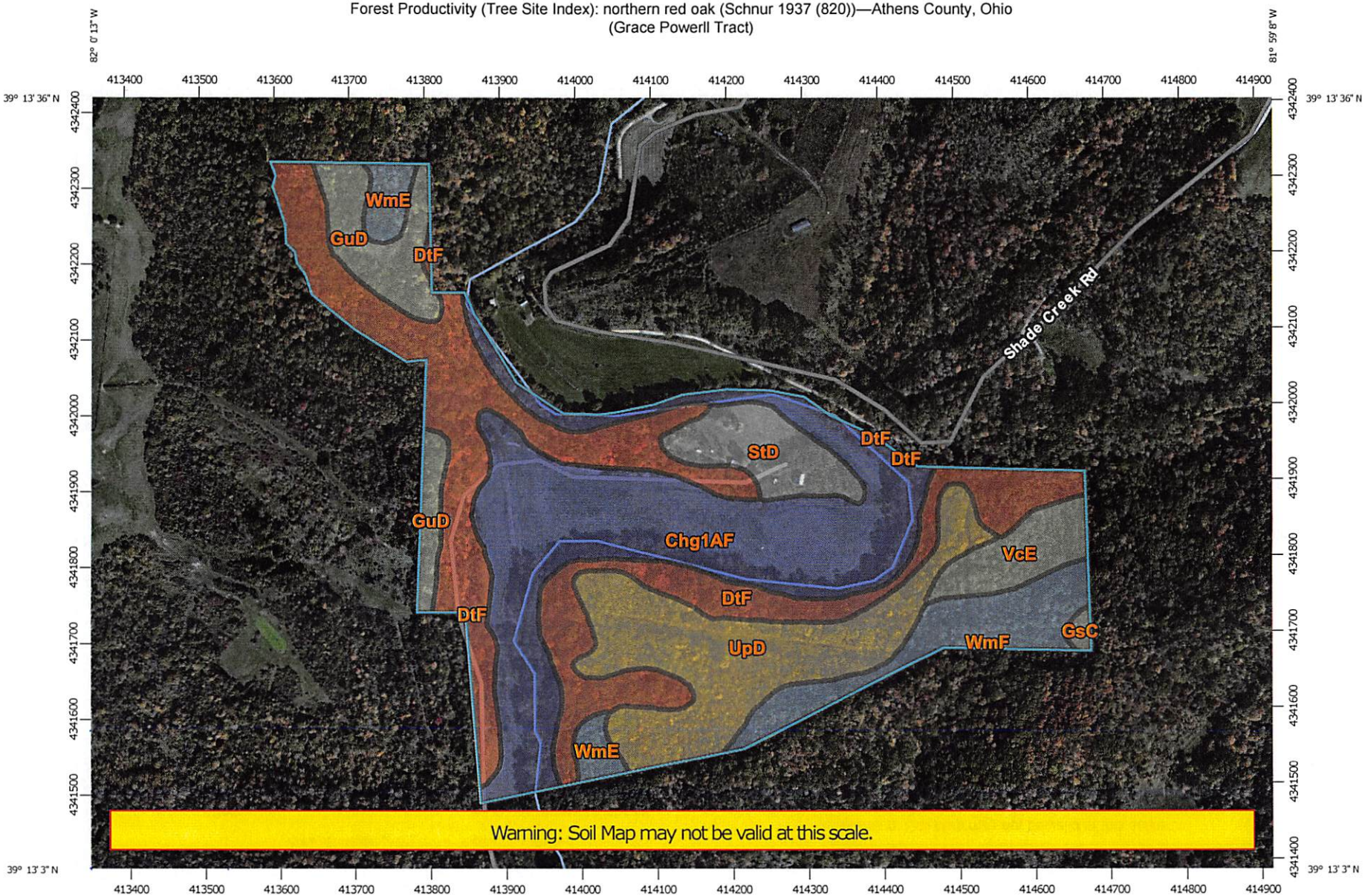
Date(s) aerial images were photographed: Oct 7, 2011—May 11, 2012

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

Athens County, Ohio (OH009)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Chg1AF	Chagrin silt loam, 0 to 3 percent slopes, frequently flooded	28.9	29.7%
DtF	Dekalb-Westmoreland complex, 40 to 70 percent slopes	28.3	29.1%
GsC	Guernsey silt loam, 8 to 15 percent slopes	0.4	0.4%
GuD	Guernsey-Upshur complex, 15 to 25 percent slopes	6.1	6.3%
StD	Steinsburg sandy loam, 15 to 25 percent slopes	4.9	5.1%
UpD	Upshur silty clay loam, 15 to 25 percent slopes	15.9	16.3%
VcE	Vandalia-Richland complex, 25 to 40 percent slopes	3.7	3.8%
WmE	Westmoreland-Upshur complex, 25 to 40 percent slopes	2.5	2.5%
WmF	Westmoreland-Upshur complex, 40 to 70 percent slopes	6.6	6.7%
Totals for Area of Interest		**97.2**	**100.0%**

Forest Productivity (Tree Site Index): northern red oak (Schnur 1937 (820))—Athens County, Ohio
(Grace Powerll Tract)



Map Scale: 1:7,170 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

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 <= 65
- > 65 and <= 78
- > 78 and <= 81
- > 81 and <= 86
- Not rated or not available

Soil Rating Lines

- <= 62
- > 62 and <= 65
- > 65 and <= 78
- > 78 and <= 81
- > 81 and <= 86
- Not rated or not available

Soil Rating Points

- <= 62
- > 62 and <= 65
- > 65 and <= 78
- > 78 and <= 81
- > 81 and <= 86
- 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: http://websoilsurvey.nrcs.usda.gov
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 17, Sep 16, 2016

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

Date(s) aerial images were photographed: Oct 7, 2011—May 11, 2012

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))

Forest Productivity (Tree Site Index): northern red oak (Schnur 1937 (820))— Summary by Map Unit — Athens County, Ohio (OH009)				
Map unit symbol	**Map unit name**	**Rating (feet)**	**Acres in AOI**	**Percent of AOI**
Chg1AF	Chagrin silt loam, 0 to 3 percent slopes, frequently flooded	86	28.9	29.7%
DtF	Dekalb-Westmoreland complex, 40 to 70 percent slopes	62	28.3	29.1%
GsC	Guernsey silt loam, 8 to 15 percent slopes	78	0.4	0.4%
GuD	Guernsey-Upshur complex, 15 to 25 percent slopes	78	6.1	6.3%
StD	Steinsburg sandy loam, 15 to 25 percent slopes		4.9	5.1%
UpD	Upshur silty clay loam, 15 to 25 percent slopes	65	15.9	16.3%
VcE	Vandalia-Richland complex, 25 to 40 percent slopes	77	3.7	3.8%
WmE	Westmoreland-Upshur complex, 25 to 40 percent slopes	81	2.5	2.5%
WmF	Westmoreland-Upshur complex, 40 to 70 percent slopes	81	6.6	6.7%
Totals for Area of Interest			**97.2**	**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

Forestland Productivity

This table can help forestland owners or managers plan the use of soils for wood crops. It shows 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 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. Commonly grown 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 *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

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	
Chg1AF—Chagrin silt loam, 0 to 3 percent slopes, frequently flooded				
Chagrin	Black cherry	—	—	Black walnut, Eastern white pine, Northern red oak, Red pine, Tuliptree, White ash, White oak
	Black walnut	—	—	
	Northern red oak	86	72.00	
	Sugar maple	86	57.00	
	Tuliptree	96	100.00	
	White ash	—	—	
	White oak	—	—	

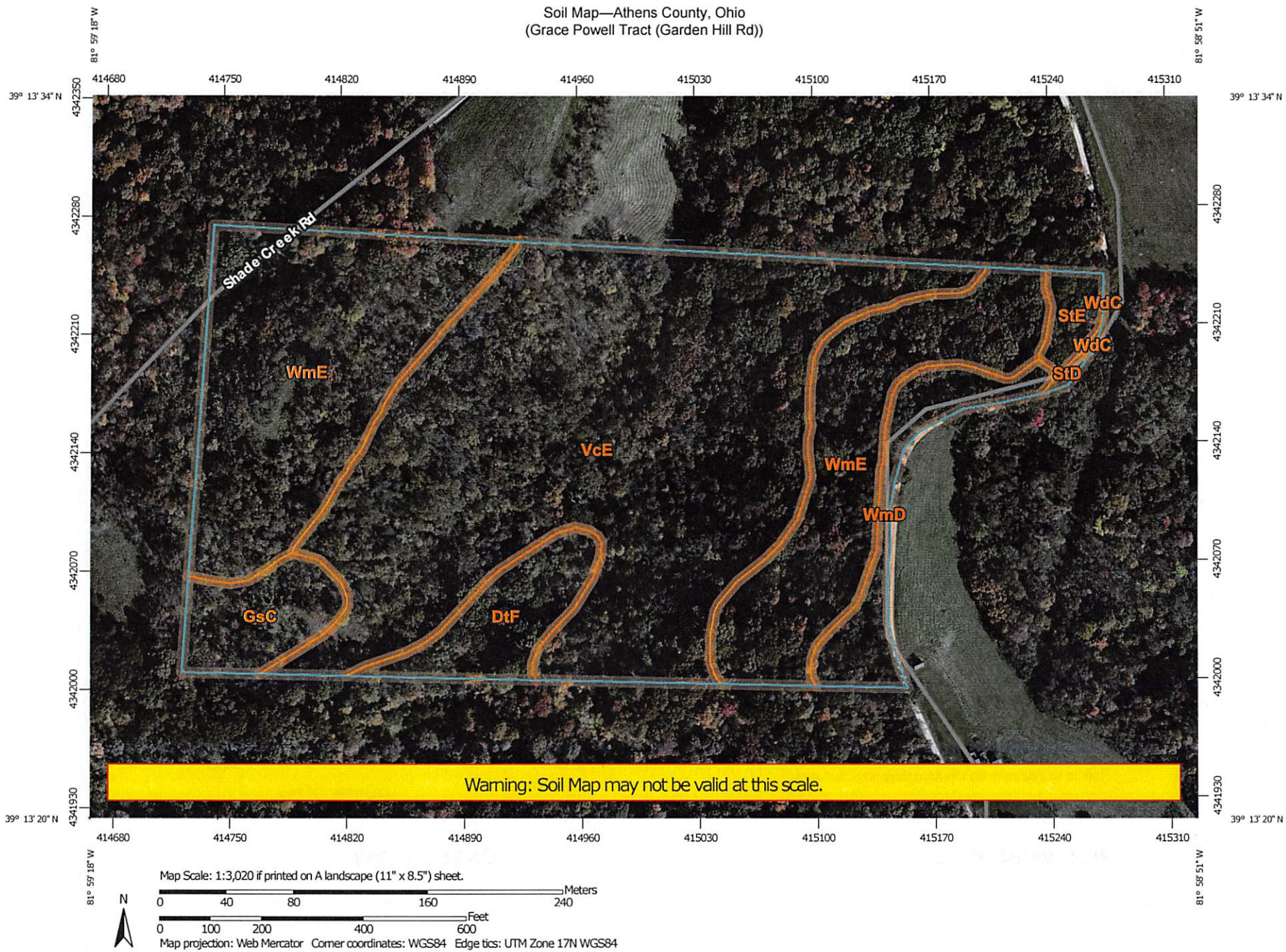
Forestland Productivity–Athens County, Ohio				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac	
DtF—Dekalb-Westmoreland complex, 40 to 70 percent slopes				
Dekalb	Northern red oak	62	29.00	Black oak, Eastern white pine, 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	
GsC—Guernsey silt loam, 8 to 15 percent slopes				
Guernsey	Northern red oak	78	58.00	Northern red oak, Tuliptree
	Tuliptree	95	99.00	
GuD—Guernsey-Upshur complex, 15 to 25 percent slopes				
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	—	—	
Upshur	Eastern white pine	90	172.00	Eastern white pine, Tuliptree, Virginia pine, White ash
	Northern red oak	70	57.00	
	Tuliptree	90	86.00	
	Virginia pine	70	114.00	
StD—Steinsburg sandy loam, 15 to 25 percent slopes				
Steinsburg	Northern red oak	—	—	Black cherry, Eastern white pine, Red pine, Tuliptree, White ash
	Tuliptree	—	—	
	Virginia pine	70	—	
UpD—Upshur silty clay loam, 15 to 25 percent slopes				
Upshur	Eastern white pine	80	143.00	Eastern white pine, Northern red oak, Tuliptree, Virginia pine
	Northern red oak	65	43.00	
	Tuliptree	80	72.00	
	Virginia pine	66	100.00	

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	
VcE—Vandalia-Richland complex, 25 to 40 percent slopes				
Vandalia	Northern red oak	77	57.00	Austrian pine, Eastern white pine, Tuliptree, Virginia pine
	Tuliptree	90	86.00	
	Virginia pine	80	114.00	
Richland	Black walnut	—	—	Eastern white pine, Northern red oak, Tuliptree, White ash, White oak
	Northern red oak	85	72.00	
	Tuliptree	95	100.00	
	White ash	—	—	
WmE—Westmoreland-Upshur complex, 25 to 40 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	
Upshur	Eastern white pine	90	172.00	Austrian pine, Eastern white pine, Tuliptree, Virginia pine
	Northern red oak	70	57.00	
	Tuliptree	90	86.00	
	Virginia pine	70	114.00	
WmF—Westmoreland-Upshur complex, 40 to 70 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	
Upshur	Eastern white pine	90	172.00	Austrian pine, Eastern white pine, Tuliptree, Virginia pine
	Northern red oak	70	57.00	
	Tuliptree	90	86.00	
	Virginia pine	70	114.00	

Data Source Information

Soil Survey Area: Athens County, Ohio
Survey Area Data: Version 17, Sep 16, 2016

Soil Map—Athens County, Ohio
(Grace Powell Tract (Garden Hill Rd))



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: http://websoilsurvey.nrcs.usda.gov
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 17, Sep 16, 2016

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

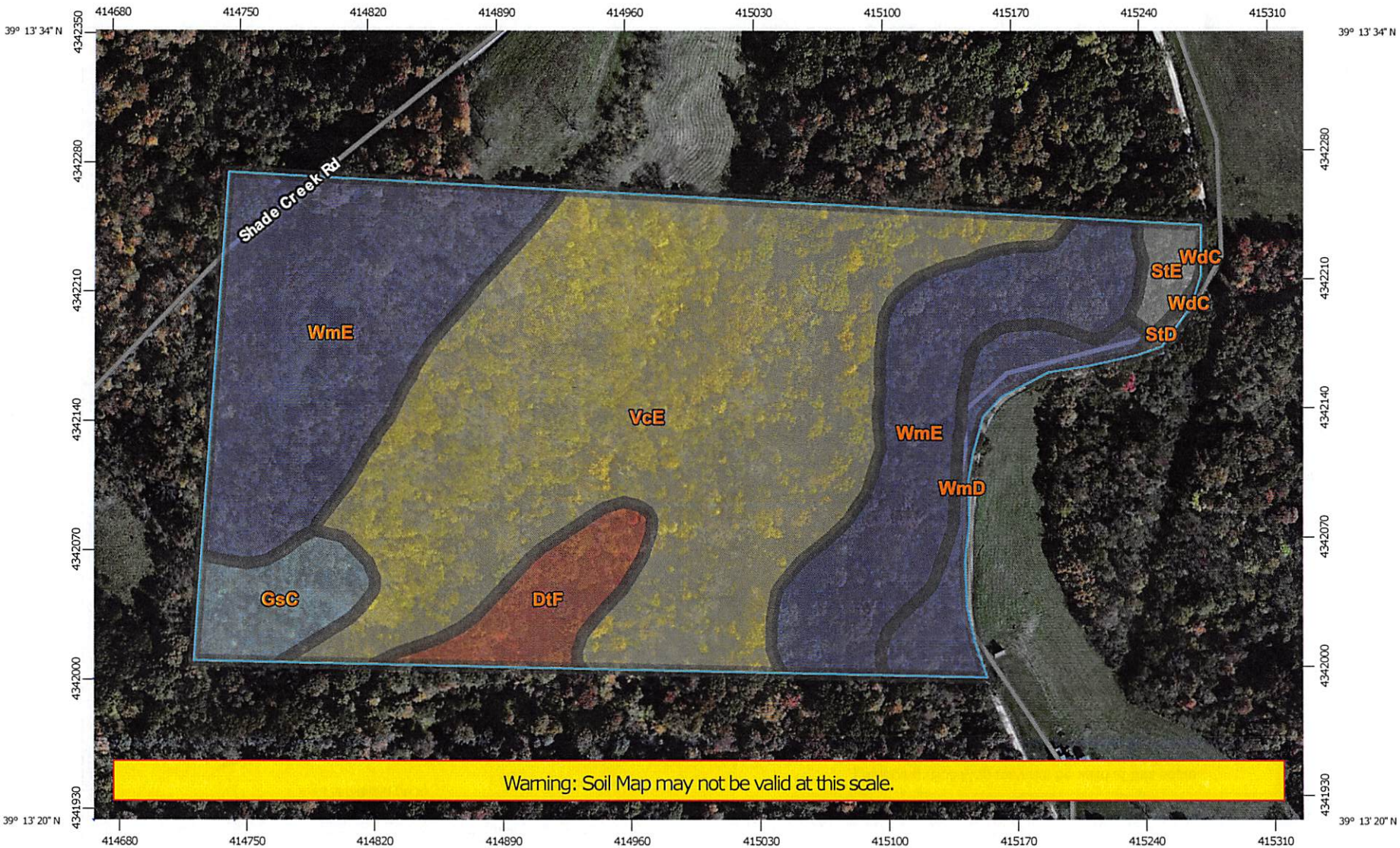
Date(s) aerial images were photographed: Oct 7, 2011—May 11, 2012

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

Athens County, Ohio (OH009)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
DtF	Dekalb-Westmoreland complex, 40 to 70 percent slopes	1.4	4.8%
GsC	Guernsey silt loam, 8 to 15 percent slopes	1.2	4.3%
StD	Steinsburg sandy loam, 15 to 25 percent slopes	0.0	0.2%
StE	Steinsburg sandy loam, 25 to 40 percent slopes	0.4	1.4%
VcE	Vandalia-Richland complex, 25 to 40 percent slopes	14.7	50.5%
WdC	Wellston silt loam, 8 to 15 percent slopes	0.0	0.1%
WmD	Westmoreland-Upshur complex, 15 to 25 percent slopes	1.4	4.7%
WmE	Westmoreland-Upshur complex, 25 to 40 percent slopes	9.9	34.1%
Totals for Area of Interest		**29.0**	**100.0%**

Forest Productivity (Tree Site Index): northern red oak (Schnur 1937 (820))—Athens County, Ohio
(Grace Powell Tract (Garden Hill Rd))



Map Scale: 1:3,020 if printed on A landscape (11" x 8.5") sheet.

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

N

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 <= 77

> 77 and <= 78

> 78 and <= 81

Not rated or not available

Soil Rating Lines

<= 62

> 62 and <= 77

> 77 and <= 78

> 78 and <= 81

Not rated or not available

Soil Rating Points

<= 62

> 62 and <= 77

> 77 and <= 78

> 78 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

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: http://websoilsurvey.nrcs.usda.gov
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 17, Sep 16, 2016

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

Date(s) aerial images were photographed: Oct 7, 2011—May 11, 2012

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))

Forest Productivity (Tree Site Index): northern red oak (Schnur 1937 (820))— Summary by Map Unit — Athens County, Ohio (OH009)				
Map unit symbol	**Map unit name**	**Rating (feet)**	**Acres in AOI**	**Percent of AOI**
DtF	Dekalb-Westmoreland complex, 40 to 70 percent slopes	62	1.4	4.8%
GsC	Guernsey silt loam, 8 to 15 percent slopes	78	1.2	4.3%
StD	Steinsburg sandy loam, 15 to 25 percent slopes		0.0	0.2%
StE	Steinsburg sandy loam, 25 to 40 percent slopes		0.4	1.4%
VcE	Vandalia-Richland complex, 25 to 40 percent slopes	77	14.7	50.5%
WdC	Wellston silt loam, 8 to 15 percent slopes	81	0.0	0.1%
WmD	Westmoreland-Upshur complex, 15 to 25 percent slopes	81	1.4	4.7%
WmE	Westmoreland-Upshur complex, 25 to 40 percent slopes	81	9.9	34.1%
Totals for Area of Interest			**29.0**	**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

Forestland Productivity

This table can help forestland owners or managers plan the use of soils for wood crops. It shows 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 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. Commonly grown 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 *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

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	
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	
GsC—Guernsey silt loam, 8 to 15 percent slopes				
Guernsey	Northern red oak	78	58.00	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	
StD—Steinsburg sandy loam, 15 to 25 percent slopes				
Steinsburg	Northern red oak	—	—	Black cherry, Eastern white pine, Red pine, Tuliptree, White ash
	Tuliptree	—	—	
	Virginia pine	70	—	
StE—Steinsburg sandy loam, 25 to 40 percent slopes				
Steinsburg	Northern red oak	—	—	Black cherry, Eastern white pine, Red pine, Tuliptree, White ash
	Tuliptree	—	—	
	Virginia pine	70	—	
VcE—Vandalia-Richland complex, 25 to 40 percent slopes				
Vandalia	Northern red oak	77	57.00	Austrian pine, Eastern white pine, Tuliptree, Virginia pine
	Tuliptree	90	86.00	
	Virginia pine	80	114.00	
Richland	Black walnut	—	—	Eastern white pine, Northern red oak, Tuliptree, White ash, White oak
	Northern red oak	85	72.00	
	Tuliptree	95	100.00	
	White ash	—	—	
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	
WmD—Westmoreland-Upshur complex, 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	
Upshur	Eastern white pine	90	172.00	Austrian pine, Eastern white pine, Tuliptree, Virginia pine
	Northern red oak	70	57.00	
	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	
WmE—Westmoreland-Upshur complex, 25 to 40 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	
Upshur	Eastern white pine	90	172.00	Austrian pine, Eastern white pine, Tuliptree, Virginia pine
	Northern red oak	70	57.00	
	Tuliptree	90	86.00	
	Virginia pine	70	114.00	

Data Source Information

Soil Survey Area: Athens County, Ohio
Survey Area Data: Version 17, Sep 16, 2016