Woodland Stewardship Management Plan

Division of Forestry
Ohio Department of Natural Resources

Owner's Information:

Owner: Betty Lowe

Signed: Betty M. Lowe

Date: 12-28-2018

Case Number: 58-480

Preparer's Information:

Prepared by: Stephen Rist

Signature: Stephen Rist

Service Forestry
360 East State Street
Athens, OH 45701
740-272-8519

Date: December 28, 2018

This plan is valid for the period beginning 12-28-18 and ending 12-28-28

Plan Status: Updated

Woodland Stewardship Management Plan

Owner	Betty Lowe	
Address	5301 Huffman Lane	
	Chesterhill, OH 43728	
Phone		Case Number: 58-480
Cell	740-554-7012	Email Address: mblowe@gmail.com
County	Athens	Township/Village/City: Ames
Parcel(s):	C010010014400, C010010014500, C010010014100, C010010014000	
Location:	From Amesville, take State Route 329 north, turn right on Linscott Road, property at end of road	

Woodland Stewardship Acreage: 400.91 Non-woodland Stewardship Acreage*: 0

Total Property Acres 400.91

* 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) ☒ Other

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

Longitude: N 39.439343 Latitude: W 81.943373

Landowner Objectives

1. Maintain Tree Farm status
2. Manage property for wildlife so they have food and shelter
3. Maintain the recreational and aesthetic benefits of the woodland
4. Maintain a healthy woods by removing invasive species and grapevines
5. To enhance and diversify the species composition of the woodlands
6. Sustainable timber harvest as needed

General Woodland Description

The farm is located off Linscott Run Road in Ames Township of Athens County. The property is part of a larger tract owned by the Lowe Family. An additional 2600 acres is north of this in Morgan County. The original purchases started in the 1940's and was done so as an investment. More parcels were added by the future generations and the family moved to the land in the 1970's. There are 4 parcels in Athens County totaling a little over 400 acres. There are 4 main stands in the properties. First, the slopes are mature oak hickory woods with autumn-olive starting to grow in places. Second, the ridgetop and creek bottoms are planted in white pines. Third, where a house is there is a field of autumn-olive. Finally, in the NE corner is the edge of the strip mine area done in the 1960's that is now reverting back to trees and shrubs.

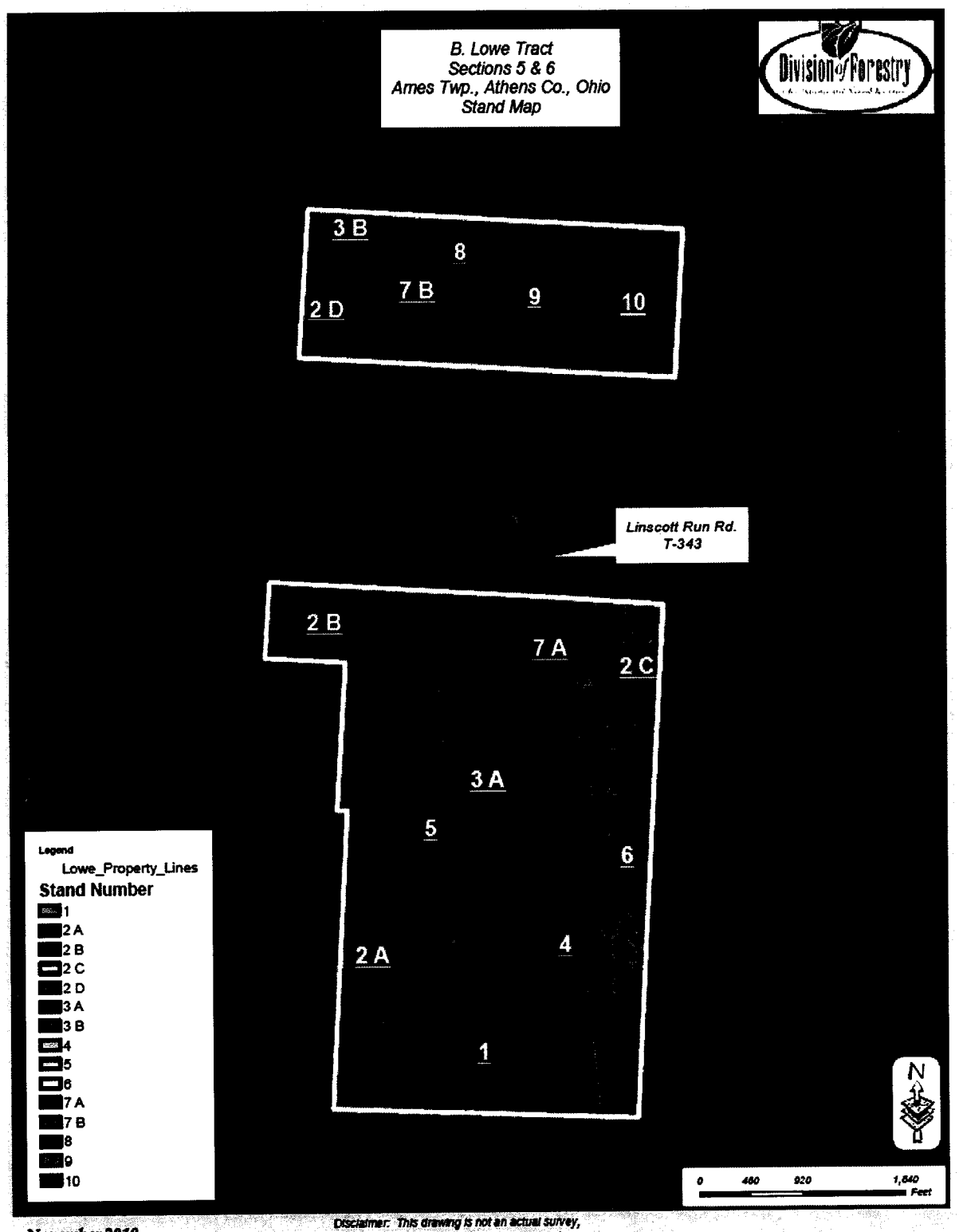
The autumn-olive should be removed so it does not continue to spread and inhibit native regeneration. The grapevine can be cut out of the more valuable and mast producing trees. The boundary lines with the neighbors are established with paint in some areas and fence in other spots.

Inventory Method: On Site Property Review

Ohio Department of Natural Resources Division of Forestry

Woodland Management Plan Map

Landowner:	Case Number:	County:	Township:	Map Source:	Total Property Acres:
Betty Lowe	15-480	Athens	Ames	Mapping program	401.91
Stand and Acres: Stand 1 – 27.6 ac, 2 – 89 ac, 3 – 80.9 ac, 4 – 41.4 ac, 5 – 43.46 ac, 6 – 34.5 ac, 7 – 24.5 ac, 8 – 7.6 ac, 9 – 33.65 ac, 10 – 18.3 ac					Date: 12-28-18



November 2018

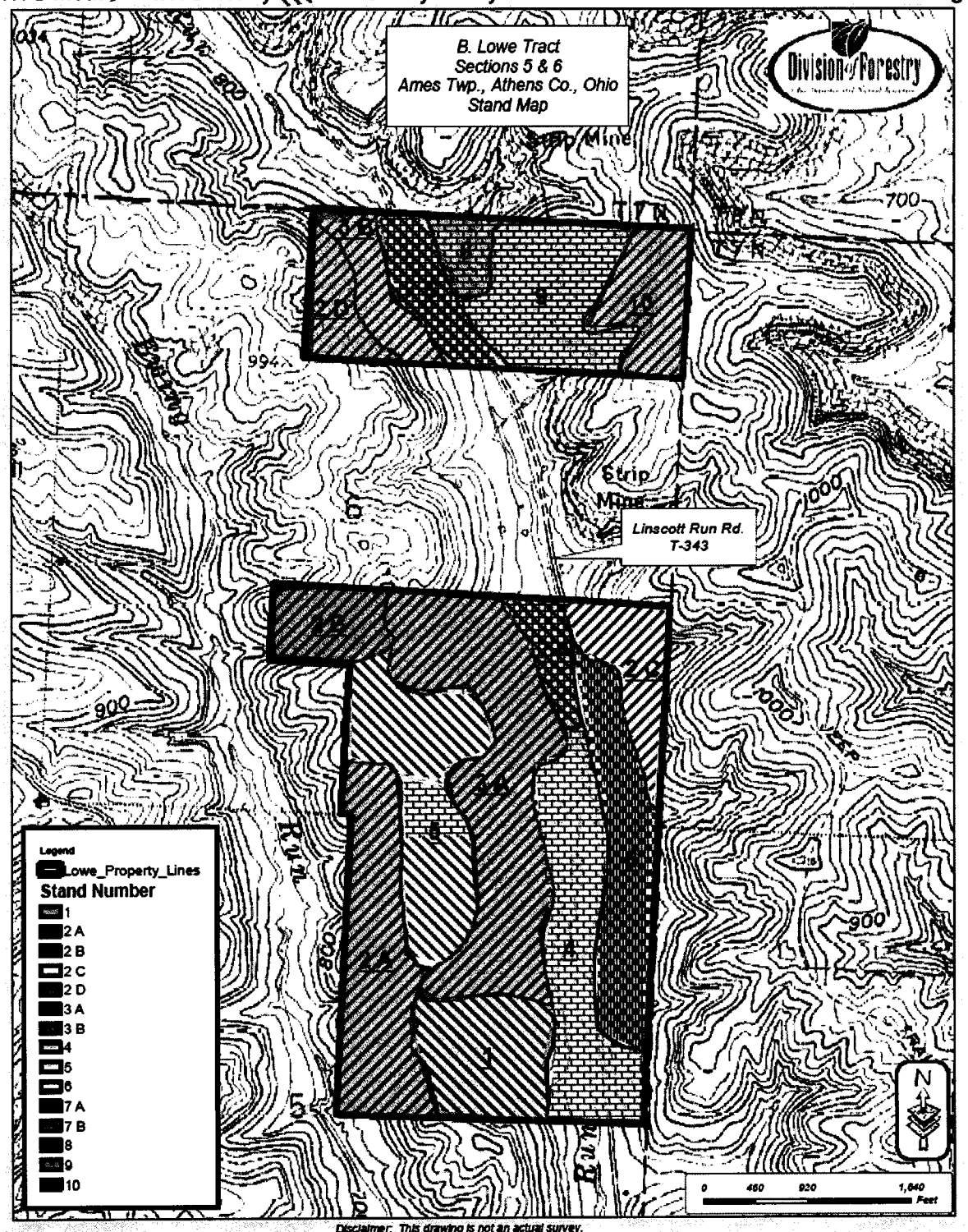
Disclaimer: This drawing is not an actual survey, and is for general information purposes only.

Ohio Department of Natural Resources Division of Forestry

EQIP Map

Landowner:	Case Number:	County:	Township:	Map Source: Web Soil Survey	Total Property Acres:
Betty Lowe	15-480	Athens	Ames		401.91
Stand and Acres: Stand 1 – 27.6 ac, 2 – 89 ac, 3 – 80.9 ac, 4 – 41.4 ac, 5 – 43.46 ac, 6 – 34.5 ac, 7 – 24.5 ac, 8 – 7.6 ac, 9 – 33.65 ac, 10 – 18.3 ac					Date: 12-28-18

INVS med: **INVS heavy:** **INVS very heavy:** **INVS >80%:** **CTR:** **Tree Planting:**



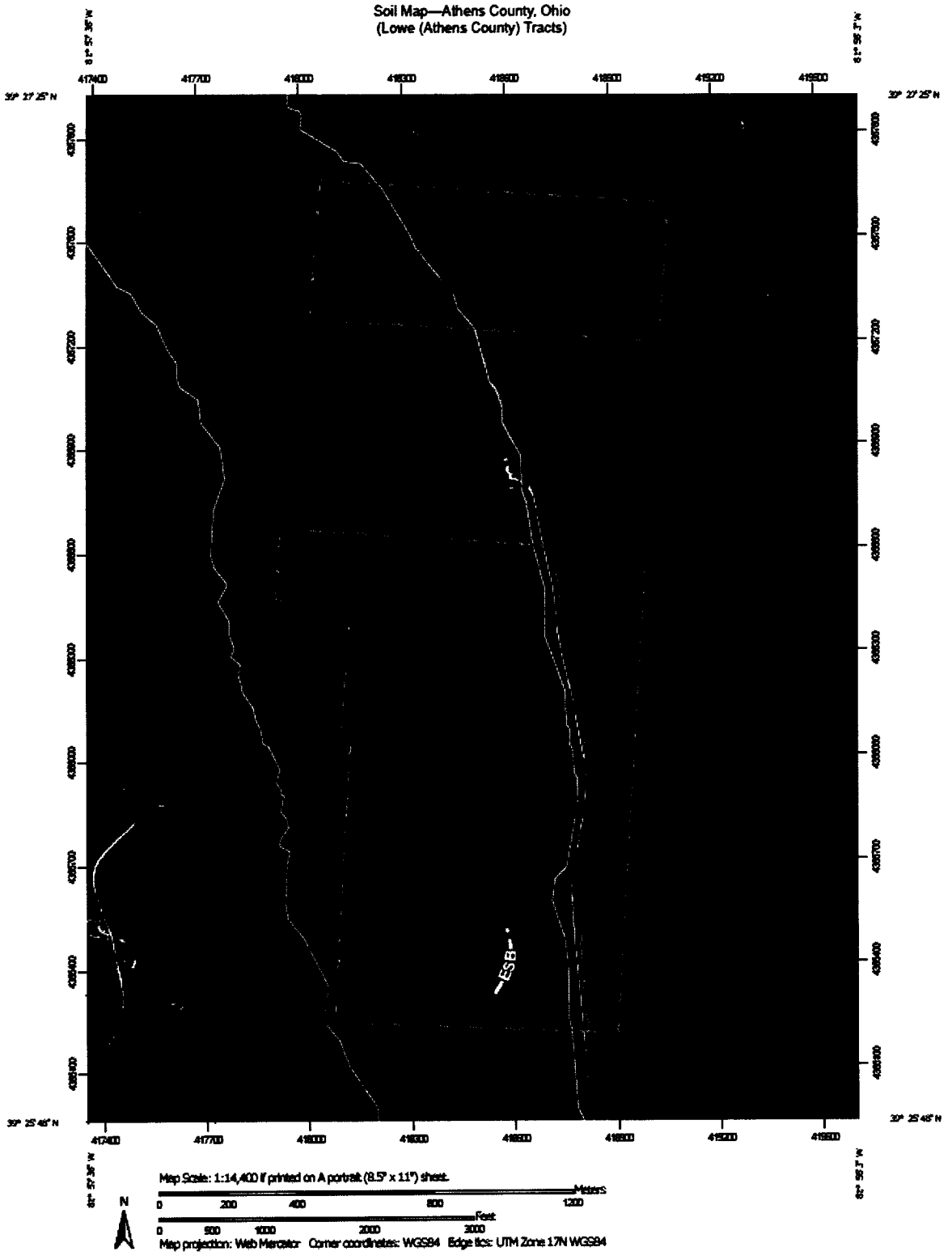
November 2018

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

Ohio Department of Natural Resources Division of Forestry

Soils Map

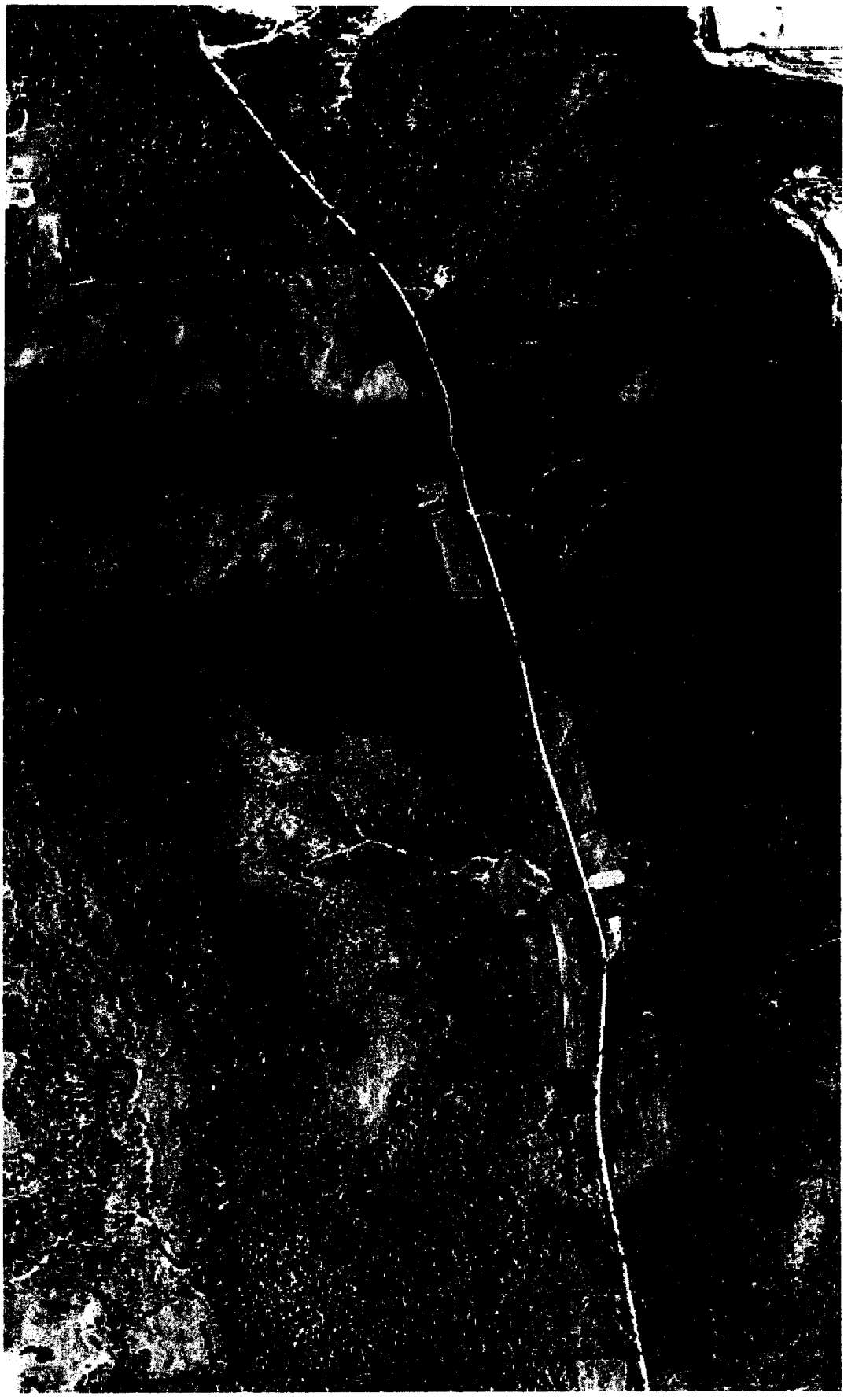
Landowner: Betty Lowe	Case Number: 15-480	County: Athens	Township: Ames	Map Source: Web Soil Survey	Total Property Acres: 401.91
Stand and Acres: Stand 1 – 27.6 ac, 2 – 89 ac, 3 – 80.9 ac, 4 – 41.4 ac, 5 – 43.46 ac, 6 – 34.5 ac, 7 – 24.5 ac, 8 – 7.6 ac, 9 – 33.65 ac, 10 – 18.3 ac					Date: 12-28-18



Historical Photos

1950- Lowe Property outlined in red

1966



Woodland Stand Description and Management Recommendations

Stand # 1 - 27 acres

Dominant Species: white oak, red oak, shagbark hickory, yellow buckeye, basswood, black oak, chestnut oak, black cherry-declining, ash-declining, sugar maple understory

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: Small/Medium sawtimber

Stocking Level: Fully stocked

Stand History: grazing

Topography: cove- east facing

Invasive plants or insects impacting this stand: low autumn-olive and multiflora rose, EAB causing mortality in ash

Past management activities completed in this stand: grapevine removal

Present conditions or resource concerns to consider: This is a healthy stand that is above the flood plains and includes the flat ridgetop. Ash is a minor component in the stand. Presently, mortality is high due to the emerald ash borer. The nearly level ridgetop has sugar maple growing in the understory with oak and hickory in the overstory. Currently, the stand will progress into a maple stand in the future unless harvesting or fire is used to change the stand by thinning the overstory and disturbing the leaf litter. Starting to grow in the understory is the invasive species autumn-olive. This invasive should be treated and removed so it doesn't spread. Also, found in the woods is a medium amount of grapevine. Cut each vine twice, once at chest level and once at ground level. This will allow you to see which vines you have cut in the past. With the cost share program EQIP, any invasive species treatment completed prior to an active contract is not eligible for reimbursement. Invasive species density levels will be determined when areas are being signed up for EQIP.

Management Recommendations:
Treat the invasive species to control
Cut grapevines out of the better-quality trees, leave grapevines in poor quality trees for wildlife habitat
Monitor for invasive species, if found treat to remove

Is a timber harvest recommended? No, the invasive species need to treated first so they don't spread rapidly due to the increased sunlight and ground disturbance caused by harvesting.
Comments: Starting up the slope beyond the flood plains there is a scenic natural rock wall. This barrier influenced the past land management, below is younger woods that had been cleared and above is older woods.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Oak-Northern Hardwoods
Desired Stand Structure: Even Aged

Woodland Stand Description and Management Recommendations

Stand # 2- total 89 acres **A-43.2 acres, B-15.6 acres, C-18.3 acres, D-11.9 acres**

Dominant Species: white oak, black oak, beech, yellow-poplar, sugar maple, chestnut oak, basswood, shagbark hickory, ash-declining

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: Medium/Large sawtimber

Stocking Level: Fully stocked

Stand History: TSI - Grapevine control

Topography: Draws/Ravines

Invasive plants or insects impacting this stand: autumn-olive mainly, some barberry in stand 2A and privet it stand 2D

Past management activities completed in this stand: grapevines have been cut in the past, signs of a timber harvest in areas over 40 yrs ago

Present conditions or resource concerns to consider: Stand 2 is a mature stand that covers a large part of the property. It is mainly fingers and draws that are mid and upper slope with a western aspect. Stand 2A has pockets of ash dying from emerald ash borer. The wood is declining rapidly and will be best to leave in place in this stand to return nutrients to the soil. This stand also has a higher component of beech in the overstory. With the current closed canopy beech and sugar maple are the major seedlings in the understory. Management will need implemented to give oaks an opportunity to become established and grow. Autumn-olive is growing lightly throughout the stand and heavier on the edges close to the previous fields. This should be treated so they don't spread and take over understory. Stand 2D is on the east side of Linscott Run Road. It has closer to an old farm house and had more disturbance. Because of this there is a high level of autumn-olive and privet growing.

Management Recommendations:
Treat the invasive species to control
Cut grapevines out of the better-quality trees, leave grapevines in poor quality trees for wildlife habitat
Monitor for invasive species, if found treat to remove
Consider a timber harvest using a consulting forester to increase young oak growth potential

Is a timber harvest recommended? Yes, in coming years after the invasive species have been treated. A planned harvest utilizing a consulting forester can be done to do a light single tree harvest to open the overstory and allow oaks seedlings an opportunity. Not all areas of the stand should be in the harvest area due to steeper topography. Focus on areas that have access and where erosion potential is kept to a minimum.

Comments: This is a healthy stand that has been managed over the years, which is noticeable in looking at the stand now.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Oak-Northern Hardwoods

Desired Stand Structure: Even Aged

Woodland Stand Description and Management Recommendations

Stand # 3 – total 80.9 acres **A-68 acres, B-12.9 acres**

Dominant Species: white oak, red oak, chinkapin oak, sugar maple, yellow-poplar, basswood, sharbark hickory, beech, yellow buckeye, ash-declining

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: Small/Medium sawtimberwith scattered large sawtimber

Stocking Level: Fully stocked

Stand History: TSI - Grapevine control

Topography: Draws/Ravines

Invasive plants or insects impacting this stand: mainly autumn-olive, minor vine honeysuckle

Past management activities completed in this stand: grapevine have been cut in the past

Present conditions or resource concerns to consider: Stand 3 is the second largest stand on the property. It is mainly draws and broad fingers with an eastern aspect. Stand 3A is a diverse stand. The broad slopes have allowed the trees to grow well. In some places the understory is clear while in others there is spicebush underneath. Stand 3B was more open as can be seen in the 1950 historical photo. As a result more ash seeded in to stand. This ash is mainly deceased and is starting to break down and rot away. Let the trees naturally fall to limit chances of injury. Monitor the stand to make sure invasive species don't increase with the thinner canopy. All of stand 3 has scattered autumn-olive, heavier amounts closer to the old fields. This invasive should be treated and removed so it doesn't spread.

Management Recommendations:
Treat the invasive species to control
Cut grapevines out of the better-quality trees, leave grapevines in poor quality trees for wildlife habitat
Monitor for invasive species, if found treat to remove

Is a timber harvest recommended? When a harvest is done in the stand, it would be a good idea to focus the cutting on the broad slopes. Other areas are too steep, such as the drainage in the northern part of stand 3A.

Comments: There is an old road that leads up the fields that are now planted in pine. This road could be opened up again to give access to middle part of the property and take you up to the broad ridge line.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Oak-Northern Hardwoods

Desired Stand Structure: Even Aged

Woodland Stand Description and Management Recommendations

Stand # 4 - 41.4 acres

Dominant Species: dominated by white pine with pockets of hardwoods, black cherry, Ohio buckeye, black walnut, sycamore, box elder, American elm

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: Poletimber/Small sawtimber large sawtimber sycamore

Stocking Level: Fully stocked with areas of understocked

Stand History: Old-Field Reversion, grazing and pine planting

Topography: Nearly level

Invasive plants or insects impacting this stand: autumn-olive, bush honeysuckle and multiflora rose

Past management activities completed in this stand: pine planted and autumn-olive control

Present conditions or resource concerns to consider: This stand is a flood plain beside Linscott Run. Parts of it were old field and others were pasture. The entire area was planted in white pines about 30 years ago. White pine has been growing well but there are some spots it did not survive. Most likely where there are less pine is due to wetter ground, white pine don't survive well with higher water tables. The grapevine in this stand is heavy. It should be cut out of the better-quality trees so the vines don't break limbs out. Also, removing the vines will increase the nut production in the walnuts, which will benefit the wildlife. Leaving some vines in the low-quality trees will provide shelter too. Medium levels of the invasive species autumn-olive are growing in this stand. It should be treated and removed.

Management Recommendations:
Treat the invasive species to control
Cut grapevines out of the better-quality trees
Monitor for invasive species, if found treat to remove
In areas of good pine survival, thin pine to keep stand healthy.

Is a timber harvest recommended? No, most likely the trees are too small for the thinning to be commercial. But it is still worth it to try to sell as pulpwood is a sale is done.
Comments: The pine thinning should focus on removing the poor form and multiple stem white pine. This will give more room for the better-quality pine to grow. Thinning the stand will allow more air flow to, which will limit disease and white pine wholly adelgid.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: white pine plantation and bottomland hardwoods

Desired Stand Structure: Even Aged

Woodland Stand Description and Management Recommendations

Stand # 5 - 43.46 acres

Dominant Species: dominated by white pine with pockets of hardwoods regeneration, red maple, sugar maple, black cherry, American elm, declining ash

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: white pine is small to medium sawtimber, hardwoods are pole size class

Stocking Level: Fully stocked

Stand History: Grazing then planted into white pine

Topography: Gently sloping

Invasive plants or insects impacting this stand: autumn-olive and multiflora rose

Past management activities completed in this stand: pine planted, lower limbs of pine pruned, grapevines cut out of pine

Present conditions or resource concerns to consider: This stand was pasture field until the livestock was removed and tree were planted about 40 years ago. The white pine is growing well on the broad ridge top. The stand looks healthy, but some of the lower quality trees can be thinned out. In the understory is a medium level of autumn-olive that can be controlled. There is minimal hardwood regeneration in the pine stand. Around the pine is where the young hardwoods came back in the reverting fields, here is a very heavy level of invasives and grapevine. And there was a higher percentage of ash here since the light seeded species grew so well on the open ground. I suggest working on removing the autumn-olive and cutting the grapevine out of the better-quality trees. This section of hardwoods in this stand is not a high priority, there are better places to spend your time and effort on the property that will provide higher rewards. Reassess this stand in 5 years. Look at the remaining trees after the ash is gone, if the remaining trees need more room to grow use crop tree release to favor the better form and quality species trees.

Management Recommendations:
Treat the invasive species with herbicide to control
Cut grapevines out of the better-quality trees
Do a light thinning to remove the low quality white pine- low priority
Monitor for invasive species, if found treat with herbicide to eradicate

Is a timber harvest recommended? No, the hardwood portion of this stand is too young at this time and needs additional time to mature. The pines should be given additional time to grow too.
Comments: Several pole size ailanthus was found on the northwest corner of this stand right as the property makes a 90° turn to the west. This should be treated now so the seed source is removed. Also, the neighbor to the west did a timber harvest in the past 5 years and there is ailanthus coming up in the regeneration. These seed will be wind dispersed onto your property.
Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: white pine plantation
Desired Stand Structure: Even Aged

Woodland Stand Description and Management Recommendations

Stand # 6 - 34.5 acres

Dominant Species: black locust, American elm, black cherry, sassafras, red cedar, box-elder, autumn-olive

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: Sapling/Poletimber

Stocking Level: Under stocked

Stand History: Old-Field Reversion and grazing

Topography: Nearly level

Invasive plants or insects impacting this stand: autumn-olive, privet and multiflora rose

Past management activities completed in this stand: livestock and tractor equipment removed

Present conditions or resource concerns to consider: This stand was abandoned and reverted naturally. There is a low number of scattered trees in the field. The trees that are growing have poor form and are struggling. Vast majority of this is an impassable stand of autumn-olive. Currently, the stand provides good shelter and food for wildlife, including deer. As long as the stand remains brushy it will provide good habitat for wildlife.
Because the stand is understocked, after the invasive species have been removed you can consider planting trees here. The seedlings would need to be protected with tree shelters to keep animal predation low. If no trees are planted the trees will naturally come in by wind and animal. This will take longer and you can't predict what species will be planted by animals.

Management Recommendations:
Treat the invasive species to control
Consider planting seedlings in the openings after the invasive species have been removed
Monitor for invasive species, if found treat with herbicide to eradicate

Is a timber harvest recommended? No, the stand is too young at this time and needs additional time to mature.

Planting recommendations

Plant white oak and red oak, white pine and shagbark hickory in open areas.
-Spot treatment of applying pre-emergent herbicide in areas to plant.
-In March, plant recommended seedlings within rows were there are gaps (consider staking).
-Mow between rows two to four times each summer for 1-4 years after planting to control competing vegetation.
-Replace seedlings if necessary to maintain >300 trees per acre each March, 1-4 years after planting.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Native hardwoods
Desired Stand Structure: Even Aged

Woodland Stand Description and Management Recommendations

Stand # 7 - total 24.5 acres **7A - 9.1 acres, 7B – 15.4 acres**

Dominant Species: black cherry, box-elder, shagbark hickory, honeylocust, red elm, sassafras, black walnut, declining ash

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: Poletimber with scattered small sawtimber

Stocking Level: Fully stocked

Stand History: Old-Field Reversion and grazing

Topography: Nearly level

Invasive plants or insects impacting this stand: Autumn-olive and multiflora rose

Past management activities completed in this stand: grapevine control and autumn-olive control

Present conditions or resource concerns to consider: This stand has had disturbance in the past and is reverting back to a hardwood stand. There are some desirable species growing in this stand that can be given a better chance to grow.
Crop tree release (CTR) would be a good management tool to use here. CTR is a method that helps promote crop trees for wildlife and timber. A tree is selected for good form, species and growth. Its neighboring trees are cut down or girdled to allow the selected crop tree to grow faster. When working on the CTR the other trees not competing with a crop tree but show signs of rot, low branches or poor form can also be girdled. Girdling can be accomplished by taking a chainsaw and cutting a circle around the tree (be sure the circle connects). Cut through the bark and cambium and into the sapwood (about 1/2" deep). To ensure the tree is killed do a second circle cut 6 inches lower. The tree will rot slower when girdled and as it slowly breaks down it will return nutrients to the soil.
The few autumn-olive bushes growing should be treated and removed. There is also a very heavy level of grapevine in the trees causing damage. These should be removed out of the better-quality trees during the CTR.

Management Recommendations:
Treat the invasive species to control
Use crop tree release to allow better form trees to increase growth and cut grapevines out of the better-quality trees
Monitor for invasive species, if found treat to remove

Is a timber harvest recommended? No, the stand is too young at this time and needs additional time to mature.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation:

Bottomland Hardwoods - better drained site

Desired Stand Structure: Even Aged

Woodland Stand Description and Management Recommendations

Stand # 8 - 7.6 acres

Dominant Species: box elder, American elm, black cherry, black locust and sassafras

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: Poletimber

Stocking Level: Under stocked

Stand History: Unreclaimed Mine Ground

Topography: Draws/Ravines

Invasive plants or insects impacting this stand: autumn-olive and multiflora rose

Past management activities completed in this stand: trail building

Present conditions or resource concerns to consider: Stand 8 is a small area of strip mining done in the 1960's. There was no reclamation done here after the removal of coal. There are additional mine lands on the larger property in Morgan County, but this is the only section in Athens County for this property. The family remembers up until the 1980's when this area was mainly rocks with little vegetation. Now there are trees and heavy brush. The best advice it to work with what is already growing. The land is healing and building organic matter and soil. There is a high level of autumn-olive in this stand. Removing it is a low priority here. It is fixing nitrogen and helping build soil. The effort to remove it can be spent in high priority areas in other stands where the rewards will be greater.

Management Recommendations:
The soil is rebuilding itself treat invasive species other than autumn-olive, come back for this species in the future
Use BMP's on existing trails and any future trails built
Monitor for new invasive species, if found treat to remove

Is a timber harvest recommended? No, the stand is too young at this time and needs additional time to mature.

Comments: Use Best Management Practices (BMP) to reduce erosion on existing trails and any future trail development. BMP's are practices that will help reduce erosion. For more information on BMP's go to the following webpage http://ohiosaf.org/wp-content/uploads/BMP-Manual.pdf

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Northern Hardwoods

Desired Stand Structure: Even Aged

Woodland Stand Description and Management Recommendations

Stand # 9 - 33.65 acres

Dominant Species: red oak, shagbark hickory, white oak, mockernut hickory, declining ash

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: Small/Medium sawtimber

Stocking Level: Fully stocked

Stand History: TSI - Grapevine control

Topography: Draws/Ravines

Invasive plants or insects impacting this stand: autumn-olive and multiflora rose

Past management activities completed in this stand: grapevine control and autumn-olive control

Present conditions or resource concerns to consider: This stand goes from Linscott Run and up the slope. It has some draws and a broad finger leading up to the ridge line with a southwest facing aspect. The road has washed out in several places due to the failing culverts. This can be replaced, and the road repaired to give access to the lower part of this slope. It is solid road bed that was once a township road.
Scattered throughout the stand is autumn-olive. It is growing the heaviest near the stand that was strip mined to the west. Since this is a healthy stand and not rebuilding the soils, a recommendation would be to remove these invasives so they don't limit native species regeneration.
There is also a medium level of grapevines growing in the stand. The better-quality trees should have the grapevines cut out so limb damage is minimized.

Management Recommendations:
Repair the culverts and road to give access to the property
Treat the invasive species to control
Cut grapevines out of the better-quality trees
Monitor for invasive species, if found treat to remove

Is a timber harvest recommended? No, the stand is too young at this time and needs additional time to mature.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Oak-Northern Hardwoods

Desired Stand Structure: Even Aged

Woodland Stand Description and Management Recommendations

Stand # 10 - 18.3 acres

Dominant Species: red oak, black oak, black cherry, yellow-poplar, shagbark hickory, declining ash

Forest Type or Dominant Vegetation: As Listed in Dominant Species

Stand Diameter or Size Class: Poletimber/Small sawtimber

Stocking Level: Fully stocked

Stand History: Old-Field Reversion and grazing

Topography: Draws/Ravines

Invasive plants or insects impacting this stand: autumn-olive and multiflora rose

Past management activities completed in this stand: grapevine control and autumn-olive control

Present conditions or resource concerns to consider: In stand 10 there is a perennial stream that runs down the middle and drains into Linscott Run. The aerial photos show the regeneration for this stand started after 1950 but before 1966. Growing in the understory is a heavy amount of the invasive species autumn-olive. The invasive plants should be controlled so the native regeneration is not hampered any farther. One method of treatment is using herbicides to control the invasives. For the shrub invasives use the following method: treat the smaller (less than 6 ft tall) shrubs with a foliage spray with the active ingredient glyphosate or triclopyr. With the larger shrubs (taller than 6 feet) cut the shrub down with a saw and treat the cut stump with a higher concentration of the active ingredient glyphosate or triclopyr. Always follow the directions on the herbicide label. Another method is mechanical and hand pulling but this is time consuming and can disturb the soil when pulling roots out and is recommended less. Also, growing in the woods is a low amount of grapevine. These vines can be cut out of the better-quality trees to limit limb breakage and increase fruit/mast production.

Management Recommendations:
Treat the invasive species to control
Cut grapevines out of the better-quality trees
Monitor for invasive species, if found treat to remove

Is a timber harvest recommended? No, the stand and needs additional time to mature.

Desired Future Conditions:

Desired Forest Type or Dominant Vegetation: Oak-Northern Hardwoods

Desired Stand Structure: Even Aged

Management Activity Schedule

Year(s) Suggested	Mgmt. Unit	Required Task?	Acres	Recommendations
2018-2028	all	☐	400.91	Maintain fence and paint on boundary lines. Repair and repaint where needed to keep lines visible for management
2018-2028	all	☐	400.91	Work on treating the invasive species. Work on priority areas and put time and effort there. stand order 2,3,1,9,7,5,4,10,6,8
2019-2028	1,2,3,4,5 7,9,10	☐	358.81	Cut grapevine out of better quality trees, leave vines in low quality trees for wildlife. stand order 2,3,1,9,5,7,4,10
2019	3 and 9	☐	Trail & Road work	Work on repairing roads and trails to give access to this part of the property
2021	7	☐	24.5	Perform crop tree release favor good form wildlife and timber trees
2024	5	☐	About 15 acres	Reassess the hardwood regeneration, after the ash are gone, if the remaining trees need CTR to give them more space to grow
After invasives treated in stand 2	2	☐	Less than 89	Consider a timber harvest using a consulting forester to increase young oak growth potential, buffer the steep areas
After invasives treated in stand 6	6	☐	34.5	Consider planting seedlings after the invasives have been removed. Current overstory is understocked and the autumn-olive is not allowing regeneration in the understory
2018-2028	Athens property	☐	400.91	Utilize Best Management Practices on the trails to minimize erosion
2018-2028	Athens property	☐	400.91	Monitor for new and expanding densities of invasive species, if found remove
2028	Athens property	☐	400.91	Woodland Stewardship Plan update to be completed by forester
	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, please contact your forester first to ensure compliance with your approved woodland stewardship management plan.

Addendums

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):** Westmoreland-Guernsey silt loam and Vandalia-Brookside complex
- **Soil Drainage Class:** Moderately well drained
- **Site Class: (using Woodland Productivity):** Good
- **General Description of Main Soils:** *acres are estimated in table below

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bhk4F	Bethesda channery silt loam, 25 to 70 percent slopes, unreclaimed, highwall	3.9	1.0%
BrC	Brookside silt loam, 8 to 15 percent slopes	28.3	7.0%
GsC	Guernsey silt loam, 8 to 15 percent slopes	4.4	1.1%
GuD	Guernsey-Upshur complex, 15 to 25 percent slopes	2.5	0.6%
KnL1AF	Kinnick-Lindside silt loams, 0 to 3 percent slopes, frequently flooded	38.8	9.6%
UpC	Upshur silty clay loam, 8 to 15 percent slopes	8.9	2.2%
UpD	Upshur silty clay loam, 15 to 25 percent slopes	15.3	3.8%
UsD	Upshur-Elba silty clay loams, 15 to 25 percent slopes	46.1	11.4%
VbD	Vandalia-Brookside complex, 15 to 25 percent slopes	94.9	23.4%
VbE	Vandalia-Brookside complex, 25 to 40 percent slopes	11.8	2.9%
WeB	Westmore silt loam, 3 to 8 percent slopes	17.6	4.3%
WeC	Westmore silt loam, 8 to 15 percent slopes	1.1	0.3%
WhF	Westmoreland-Guernsey silt loams, 40 to 70 percent slopes	22.7	5.6%
WkF	Westmoreland-Guernsey silt loams, benched, 40 to 70 percent slopes	101.5	25.1%
WmD	Westmoreland-Upshur complex, 15 to 25 percent slopes	0.2	0.0%
WmE	Westmoreland-Upshur complex, 25 to 40 percent slopes	7.2	1.8%
Totals for Area of Interest		**405.2**	**100.0%**

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

The woodlands are stocked with a variety of marketable timber species that can produce valuable wood products now and into the future. Timber stand improvement (TSI) management practices such as grapevine control, cull tree & undesirable hardwood species control, and crop tree release 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 woodland.

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.

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.

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.

Best Management Practices – maintaining the integrity and productivity of woodland sites:

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.

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

At the time of the visit no problematic insect pests or diseases were noted during the woodland review. Control of grapevines on selected crop trees will guard those crop trees from the damage risks posed by this woody native vine. However, native grapevines are part of the forest ecosystem; keeping selected vines may be considered a part of maintaining overall forest health.

Oak species are preferred food sources for the Gypsy moth. The good news is that after the intial wave of Gypsy moths showed up in Ohio, a fungus showed up that keeps these critters in pretty good check. The fungus is named Entomophaga miamaiga..."Em" for short. Still, it's a good idea to keep tabs on any oaks present in the forest to see if any egg masses start to show up in July-August - identified as a characteristic tan fuzzy oval mass that looks like Velcro. If you see eggs masses, and can count more than 50 during a five minute walk around the oaks, then your trees are at risk of being partially or completely defoliated if the Spring is very dry and therefore not conducive to development of the Em fungus for natural control. There are options for control of Gypsy moth using aerial application of pesticides to the tree leaves, so that larvae ingesting such pesticides then die. One such pesticide is actually a "biocide" - the bacteria Bacillus thuringiensis (Bt).

The best thing you can do now is to stay informed. The following websites should be checked periodically for the most up to date information on the emerald ash borer:

http://www.agri.ohio.gov/eab

http://www.emeraldashborer.info/

http://ashalert.osu.edu/

http://www.ohiodnr.com/forestry/health/eab.htm

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

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.

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

No specific threatened or endangered species were noted within your forestland, but I did not conduct a complete biological survey. Some threatened or endangered species found in Ohio include the Timber rattlesnake, the Northern Harrier, the Indiana bat, and the American Burying Beetle. Habitat requirements for threatened and endangered species may or may not be found on this forestland; such species have certain habitat requirements. 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

Archeological/Historical 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.

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, picnicing, 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 some trails will improve access and your opportunities for use of the area. A walk in the forest provides a time of learning but also a time to relax. The woodlands can be a quiet place of solitude after a busy day at work, or anytime for that matter.

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, or where they can take their favorite bird dog for an autumn hunt for ruffed grouse. 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.

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 cycle equation; healthy forests generally take in (sequester) more carbon than they release. 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 capture and hold carbon, and by re-establishing woodlands on non-forested land.

Efforts to reduce carbon dioxide emissions have resulted in carbon now being a priced environmental commodity in the global marketplace. Active forest managers may find opportunities for carbon trading under participation in "ecosystem services" markets. For further information about carbon sequestration and voluntary carbon markets, plus other potential forest ecosystem services, visit the US Forest Service web site at http://www.fs.fed.us/ecosystemservices/.

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).