Forest Management Plan/Forest Stewardship Plan

Current Agricultural Use Value (CAUV)
Athens County, Ohio
Service Forestry Case Record No. 05-_____
Farm Service Agency (FSA) Farm No. _____

Prepared for:

Landowner: **Peter G. Couladis, et al.**
Address: 5 Woodshire Court
Athens, OH 45701
Phone: (740) 592-5152

Note: The Landowner's signature is on page 3.

Prepared by:

Forester: **Terence E. Hanley**, B.S.F.
Managing Member
Professional Forestry LLC
Address: P.O. Box 5622
Athens, OH 45701
Phone: (740) 592-5152
Email: professionalforestry@yahoo.com

Terence E. Hanley Aug. 4, 2015
Signature and date

Approved by (for use at the county courthouse or other government office):

Name: Peter Couladis
Address: 5 Woodshire Court
Athens, Ohio 45701
Phone: 740-592-2814 (H) 740-707-5835 (C)

Peter Couladis
Signature and date

Continued next page.

Date prepared: **August 5, 2015**

Term of plan: This is a **new** plan. It covers the period **beginning September 1, 2015**, and **ending December 31, 2030.**

Note: This plan has been prepared to qualify the landowner's forestland for the following program(s):

American Tree Farm Program
√ Current Agricultural Use Value (CAUV)
Environmental Quality Incentives Program (EQIP)
Ohio Forest Tax Law

It may also qualify the landowner for the other programs shown on this list.

1. Objective

The Ohio Revised Code (ORC 5713.30), regarding Current Agricultural Use Value (CAUV), defines "land devoted exclusively to agricultural use" to include land "devoted exclusively to . . . the production [,] for a commercial purpose [,] of timber." Landowners enrolling their forestland in CAUV accept commercial production as their goal. For purposes of this plan, "commercial production of timber" is defined as management that promotes the growth, health, and reproduction of commercial timber species and the quality, value, and productivity of the forest.

Statement of Objective

I/We, _____,
hereby affirm my/our objective to manage my/our forestland for the production, for a commercial purpose, of timber. For purposes of this plan, commercial timber production is defined as management that promotes the growth, health, and reproduction of commercial species and the quality, value, and productivity of the forest.

I/We understand that this management plan is to guide me/us in meeting that objective and agree to implement the plan to the best of my/our knowledge and ability. I/We understand also that this plan can be altered or amended to conform to changing conditions in the forest or to changes in my/our non-timber related objectives.

_____

Signature and date

_____

Signature and date

2. Property Map, Location, & Description

Please note: One or more maps of the property are attached.

Location

Athens County, Canaan Township
Sections 16, 17, 22 (Fractions 17 and 23), and 23, Township 5 North, Range 13 West

Parcel Identification Number(s) & Area		Location (Section)
E010010008900*	140.42 Acres	Sec. 16
E010010035300	12.23 Acres	Sec. 22 (Fr. 17)
E010010035400*	50.97 Acres	Sec. 22 (Fr. 23)
E010010035600	13.29 Acres	Sec. 22 (Fr. 17)
E010010035700	1.47 Acres	Sec. 22 (Fr. 17)
E010010037600	243.22 Acres	Sec. 17
E010010042600	65.00 Acres	Sec. 23
E020020022501	17.615 Acres	Sec. 22 (Fr. 17)
Total	**544.215 Acres**	

*These two parcels are divided by U.S. Highway 50/State Route 32 as follows:

Parcel ID Number	Total Area (By auditor's plat map)	Area North of Road (Approximation by dot grid count)	Area South of Road
E010010008900	140.42 Acres	114.42 Acres	26 Acres
E010010035400	50.97 Acres	47.97 Acres	3 Acres

Property Address & Access

The Couladis property adjoins the east end of the city of Athens and Strouds Run State Park. The property is divided into two unequal-sized pieces by U.S. Highway 50/State Route 32. Approximately 470.61 acres are located north of the highway, while approximately 73.605 acres are located south of the highway. Also, according to aerial photographs on the website of the Athens County Auditor's Office, the area south of the highway is divided by the Hocking River. Any estimate of acreage located south of the river is bound to be inaccurate over the long term due to the fact that the river is shifting in its banks, with a prominent meander in the river evidently migrating downstream (to the east). Suffice it to say, any acreage located on the south side of the Hocking River is relatively small (probably no more than 8 to 10 acres). Also, the acreage of open water represented by the Hocking River changes from season to season and year to year.

There are two houses on the Couladis property. The main house at the end of McAfee Road has an address of 15010 McAfee Road, Athens, OH 45701.

The property on the north side of the highway can be accessed from the south by way of McAfee Road (Township Road 605) and from the northwest by way of Lake Hill Road (Township Road 213A). South Canaan Road (County Road 24A) gives access to the part of the property located south of the highway. If there is in fact any part of the Couladis property located south of the river, that area would be the only part of the property that is

not accessible by a public road. There are trails throughout the property, and all parts are generally accessible by wheeled vehicle or on foot. In short, there isn't any substantial obstacle to managing the property for commercial timber production.

Does the Landowner Reside on the Property?
Yes [No]

Nearest City or Town

Athens is located immediately to the west of the Couladis property, while Canaanville is located about half a mile to the southeast.

Location (Specific)

U.S. Geological Survey Topographic Quadrangle Maps: Athens and Stewart Quadrangles
Coordinates (Location of U.S. Geodetic Survey benchmark along old Baltimore and Ohio Railroad, shown on the Athens Quadrangle Map):
Latitude: 39 degrees 20 minutes 02 seconds North
Longitude: 82 degrees 01 minutes 57 seconds West
Projection: NAD83

Watershed

Drainage in the eastern part of the Couladis property is into Canaanville Run, thence south into the Hocking River. Drainage over the remainder of the property is by way of intermittent and permanent streams to the south, thence under the highway and across a level river bottom, thence into the Hocking River, a tributary of the Ohio River.

Canaanville Run and unnamed intermittent and permanent streams→Hocking River→Ohio River

Wetlands

Some parts of the Couladis property are subject to flooding and may be considered wetlands. In particular, the bottomland along the Hocking River may be considered a wetland, while a small area north of the highway (northwest of the pond and at the base of the hill) is home to cattails and associated plants. There may be other small wetlands located north of the highway, especially in bottoms along Canaanville Run and along the unnamed stream in the western part of the property. In addition, retaining walls around oil and gas wells and tanks may hold some water. These small impoundments may also function in some ways as wetlands. As mentioned, there is a small artificial pond north of the main house. Finally, I should mention that there is a sizable wetland sandwiched between the northern and southern parts of the Couladis property, on property owned by the State of Ohio. This Ohio Department of Transportation Mitigation Area, once part of the Couladis property, was established in 1998 and is located between U.S. Highway 50/State Route 32 and McAfee Road.

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Terrain

The Couladis property is in two pieces separated by U.S. Highway 50/State Route 32. The area north of the highway (approximately 470.61 acres) is situated for the most part on high, steep, deeply dissected hills and slopes. The area south of the highway (approximately 73.605 acres) is situated entirely within the Hocking River bottom and is subject to flooding during the wettest times of year.

The low points on the property, located along the Hocking River, are at about 600 to 620 feet above sea level. The high points, located along the main ridge running through the middle of the property, are at about 1,020 feet above sea level. Local relief (the difference between the highest and lowest elevations) is about 400 feet. There is a U.S. Geodetic Survey benchmark located past the end of McAfee Road along the old route of the Baltimore and Ohio Railroad. The elevation of that benchmark is 628 feet above sea level.

The Couladis property is situated on seven basic landforms:

1. A long north-south ridge located on the far western part of the property, separating it more or less from Strouds Run State Park and the Dow Lake watershed. Lake Hill Road runs along the ridgetop for about half a mile, although most of that length is impassable by two-wheel-drive vehicles. This landform is dissected by several intermittent streams or upland drainage ways and faces to the east.
2. A long, winding, and very broad ridge occupying the central part of the property. This ridge is also dissected by intermittent streams or upland drainage ways with drainage to the east, west, and south. This landform is accessible from the south by a very long and steep slope.
3. A series of small ridges branching off from Scatter Ridge to the east (a feature located off the property). These side ridges are located on the far eastern end of the property, east of Canaanville Run. This landform is broken up by intermittent streams or upland drainage ways and faces mostly to the southwest.
4. A long creek bottom located in the western part of the property and which drains to the south and separates the two landforms listed here as No. 1 and No. 2.
5. The Canaanville Run creek bottom, located in the eastern part of the property. It also drains to the south, eventually into the Hocking River. Canaanville Run separates the two landforms listed here as No. 2 and No. 3.
6. A very broad, fan-shaped valley located just north of the highway in the area of the farm and its old fields. Two unnamed streams converge here and flow to the south into the Hocking River.
7. The Hocking River bottom, located entirely south of the highway at elevations between 600 and 630 feet above sea level.

In general, the Couladis property is high in elevation, steep, rough, deeply dissected, and broken up by numerous streams and upland drainage ways. There are slopes facing in every direction, but the main orientation is north-south, hence most slopes face either to the east or to the west. There are also numerous coves and high bottoms. As mentioned,

there are level river bottom sites in the southern part of the property. All that translates into a wide variety of growing sites, from hot, dry, rocky oak-hickory sites; to cool, moist, mixed hardwood sites; to low, wet, and frequently flooded bottomland hardwood sites.

Soils

Soils on the Couladis property include the following series:

- Brookside
- Elba
- Fitchville
- Guernsey
- Haymond
- Melvin
- Richland
- Steinsburg
- Upshur
- Vandalia
- Westmoreland

The Fitchville, Haymond, and Melvin series are bottomland soils. Although they are deep, moist, fertile, and productive, they are also subject to flooding. The Fitchville and Haymond soils are well drained and are well suited to a variety of hardwoods and more conventional agricultural crops. The Melvin soil, a minor soil on the property, is poorly drained.

The remaining soils are upland soils, and all are common on ridges and hills in southeastern Ohio. The Steinsburg soil is shallow, rocky, and poor in productivity. All others are more productive, and all are suited to a variety of upland hardwoods and conifers.

See the attached custom soil surveys (on disk) for more information on soils. Please note that the boundary lines and acreage figures given in these soil surveys are approximations.

Cultural, Historical, and Archaeological Resources

The only known cultural, historical, or archaeological resources located on the Couladis property are the buildings that date to the late nineteenth or early twentieth century. However, I would like to point out that there is an Indian mound located west of the property within Strouds Run State Park. See the attached forest stand map for the approximate location.

Rare, Threatened, and Endangered Species

There aren't any known rare, threatened, or endangered species on the Couladis property. However, I found one butternut tree in the Canaanville Run creek bottom. There may be others. Butternut, also called white walnut, is a native tree that has been killed off over

most of its range by a non-native fungal disease called butternut canker.

Year of Last Timber Harvest

The last timber cutting on the Couladis property was a clearcut that took place about 20 years ago and covered most of the northeastern part of the property. I have colored these clearcut areas blue on the attached forest stand map. Mr. Couladis estimated the area at 150 acres. My estimate is 141 acres and includes the area of Stands 1, 2, and 3. (I would not consider the difference between these two estimates to be significant.) The volume, tonnage, and value of that timber are unknown, as is the number of trees cut or their species.

Prior to the clearcutting, there was a "selection cut" on most of the forestland on the Couladis property. Whether that cutting was a silviculturally sound cutting by way of the single-tree and group selection method, or a silviculturally unsound diameter-limit cutting or other high-grade cutting is unknown. Likewise, the volume, tonnage, and value of timber cut are unknown, as is the number of trees cut or their species.

Year of Projected Next Timber Harvest

I would project the next good opportunity to harvest timber at 15+ years from now, sometime around or after the time this plan expires. My intention of writing this plan for a 15-year period is to have a forester revisit the property in the period 2025-2030 and for him or her to make further management recommendations at that time, including the timing of any timber harvest. That's not to say that you should not have a forester look at your woods before 2025-2030, nor that you could not undertake a commercial thinning, intermediate cutting, or other silviculturally sound cutting before then. Whatever you decide to do, talk to a professional forester before proceeding with a timber sale and harvest.

General Description

Area and Extent

The Couladis property has been in the Couladis family for many years and is their old dairy farm. It covers an area of 544.215 acres and extends for about 1-1/5 miles from north to south and about 1-1/4 miles from east to west. U.S. Highway 50/State Route 32 and the old Baltimore and Ohio Railroad right-of-way divide the property into a large piece to the north (approximately 470.61 acres) and a much smaller piece to the south (approximately 73.605 acres). The piece on the south may be divided by the Hocking River, with the largest part of the acreage being north of the river and no more than 8 or 10 acres on the south side of the river.

Property Boundaries

The property boundaries are pretty regular except on the south along the river. If the aerial photographs and plat maps shown on the Athens County Auditor's website is accurate, then there is a small amount of acreage stranded south of the Hocking River. If that is the case, I suspect that the deeds for the boundary along the river are by a metes-and-bounds description rather than to the centerline of the river. That would explain why

the south boundary no longer matches up with a prominent meander in the river, a meander that appears to be migrating downstream (to the east).

As you consider the acreage south of the river, remember that: a) the river is shifting; b) the level of the river is not fixed; and c) there are discrepancies in the base maps I have used to draw the attached forest stand map. In short, acreage figures for stands located south of the highway may be less accurate than acreage figures for stands located north of the highway. However, I have not made any management recommendations for the area south of the highway, nor have I considered any part of the area south of the highway to be commercial timberland for purposes of this plan. Any discrepancies are not really pertinent to this plan.

Adjoining Properties

The Couladis property is bounded on the west by Athens city and Strouds Run State Park; on the south by the Hocking River or the original course of the river; on the east by private land, including the Baker Tract of the Athens Conservancy; and on the north by private land. A tract of the Wayne National Forest touches the northeast corner of the property. As I have mentioned, the northern and southern parts of the Couladis property are separated by U.S. Highway 50/State Route 32. The right-of-way for the highway is owned by the State of Ohio and includes a sizable wetland mitigation project established in 1998. As a private tract bordering public land, the Couladis property may qualify for special consideration for federal cost-sharing or other programs. Contact the USDA Service Center in The Plains for more information on those programs.

Public Road Access

The Couladis property is accessible from the south by McAfee Road (Township Road 605), a road that ends at the main house; from the northwest by Lake Hill Road (Township Road 213A); and, south of the highway, by South Canaan Road (County Road 24A). East Scatter Ridge Road (County Road 20) approaches the northeast corner of the property but falls short by about 400 feet or so. If you're on foot, you can also access the Couladis property by way of trails on the Strouds Run State Park property.

According to the USGS topographic map, McAfee Road used to intersect U.S. Highway 50 directly in front of the main house. That road came to a dead end at the smaller house down the road from the main house. At the time, U.S. 50 was a two-lane highway, and it ran parallel to the old Baltimore and Ohio Railroad. In the 1990s, the highway was rebuilt into a four-lane highway, the railroad was removed, McAfee Road was rerouted, and the Ohio Department of Transportation mitigation wetland was established. Now McAfee Road is a dead end road west of the entrance to the driveway. Beyond that dead end, you will find an access road to the tower, as well as an oil/gas well site, a meter, and a large billboard facing the westbound traffic on U.S. 50/State Route 32.

Oil and Gas Wells, Tanks, and Access Roads

There are well-maintained roads and trails throughout the property, mostly for access to oil and gas well sites. In all, there are at least 24 oil or gas wells (13 of which are active) and at least seven oil tanks on the property. I base that count on a combination of ground

checks and an online map drawn by the Ohio Department of Natural Resources (ODNR) Division of Oil and Gas at the following URL:

https://gis.ohiodnr.gov/website/dog/oilgasviewer/

I did not find all the sites shown on the ODNR map, nor does that map include all the sites I found on the property this summer. In short, my count may or may not be accurate.

Other Features
In addition to the oil and gas wells and tanks, there are the following utilities located on the Couladis property:

1. An underground pipeline that goes through the upland field located in Stand 15. In an old aerial photograph (available on the Map Quest website), that pipeline appears to run to the east before making a 90-degree turn to the south.
2. A powerline right-of-way that runs across the property a little north of and parallel to the highway. There is a series of transformers in line with that right-of-way on the east side of the driveway.
3. A metering facility, I believe for gas, located past the end of McAfee Road in the area of an oil/gas well site.
4. A tall transmission or relay tower enclosed by a chain-link fence located to the north of the previously mentioned metering facility. (I believe this is what the CAUV classification refers to as the "primary site." I have drawn the location of the tower on the forest stand map at about the right scale and location but not the right orientation. The tower site is actually tilted more in relationship to the highway.)

In addition, there is a billboard west of the dead-end that may or may not be on the Couladis property, plus one or more road signs.

Pond
There is a small artificial pond behind the house.

Buildings
The area of the old dairy farm is located at the end of McAfee Road in a broad, fan-shaped valley where two streams converge before flowing to the south, under the road and into the Hocking River. The following count of buildings, current and former, may not be entirely accurate:

1. The main house, located on a point of high ground above the main area of the farm.
2. A garage, located behind the house.
3. A long shed or barn located east of the driveway, also on high ground.
4. A smaller barn located west of the driveway. Next to it are:
5. An intact silo and the pad for a silo that no longer exists.
6. To the south of that location, also on the west side of the driveway, another long

barn or shed. (The powerline passes directly over the top of it.)
7. To the north of that location, a building I believe to be an old milk house, and across a pad from that,
8. What I believe to be an old chicken house.
9. Two buildings now gone from the farm: an old barn and
10. The original milk house.
11. Another house east of the main house, located along McAfee Road.

Land Use

The area of the old farmstead is situated just north of McAfee Road in a broad, fan-shaped valley, an area that would have been larger at one time, extending to the north, east, and west. I have labeled the current open ground on the old farmstead as Stand 15 (34.22 acres). The surrounding area labeled Stand 14 (50 acres) would have once been open ground as well, probably within the last 40 or 50 years when the farm was still active. Even some of the real woods, especially along the unnamed stream on the west end of the property, were probably open ground at one time. Also, two hilltops, one on the far west (Stand 10), the other on the far east (Stand 11), appear to have been open ground, probably 50 to 60 years ago. All or most of the area south of the highway would also have been open ground back in the old days. The area to the west (Stand 18—24 acres) is still an agricultural field. The area to the east (Stand 16—24 acres) is an old field reverting to brush and scrub woods. I have not determined whether it should be considered woodland or forestland. The remaining acreage south of the road is either open ground around oil/gas wells, woodland (as in Stand 14), or bottomland/riparian woods that I have called woodland (or woods considered incidental to the adjacent agricultural fields for purposes of CAUV).

Forestland

The remainder of the property, 392 acres located north of the highway, is forestland, meaning, it is supporting good growths of commercial timber trees of various ages. I have divided the woods into five main types:

1. Woods that were clearcut in about 1995 (Stands 1-3—approx. 141 acres).
2. Woods that were "select cut" sometime prior to that (Stands 4-8—approx. 186 acres).
3. Stand 9 (approx. 21 acres), which appears to be intermediate in its development between the scrub woods in Stand 14 and the more mature woods in Stands 4-8.
4. Ridgetop old-field woods (Stands 10 and 11—approx. 12 acres).
5. Bottomland woods along Canaanville Run and the unnamed stream in the western part of the property (Stands 12 and 13—approx. 32 acres).

I have described these different stand types in more detail below.

Further information on the forestland on the Couladis property follows:

1. The forestland on the Couladis property is diverse in terms of site conditions and species composition. Tree species range from riparian species such as black

willow and eastern cottonwood to species that grow on the driest of sites, including post oak, chestnut oak, and downy serviceberry.

2. Clearcut areas (Stands 1-3—blue on the stand map) and "selection cut" areas (Stands 4-8—green on the stand map) are similar except in their past management. Both stand types occupy a variety of sites and include a variety of hardwood species.
3. North- and east-facing slopes, coves, and lower slopes tend to be mixed hardwood sites. Species include sugar maple, American beech, blackgum, American basswood, yellow buckeye, northern red oak, shagbark hickory, white ash, black cherry, yellow-poplar, American sycamore, black walnut, and American elm.
4. South- and west-facing slopes, ridgetops, and upper slopes tend to be oak-hickory sites. Species include white oak, chestnut oak, black oak, northern red oak, pignut hickory, shagbark hickory, and red maple.
5. Old-field sites are usually situated on ground that isn't too steep to have been farmed or grazed by livestock. These sites began reverting to native trees and shrubs once farming ceased and livestock were removed. Species include white ash, yellow-poplar, black cherry, red maple, sassafras, and flowering dogwood, as well as other small trees, shrubs, vines, briars, and a number of non-native, invasive species.
6. Bottomland stands are also mixed hardwood sites and include the species listed under No. 3 above, as well as eastern cottonwood, black willow, boxelder, honeylocust, and associated species.
7. Stand 9 is similar in age to Stands 4-8, but it appears to be an old-field stand, so it shares some characteristics with Stands 10 and 11 and even with Stand 14.
8. Stands 10 and 11 are more obviously old-field stands, probably old pasture fields or pasture woods. They are similar in age to Stands 4-9.
9. Stands 12 and 13 are less well developed than Stands 4-8. They appear to be old-field stands like Stands 9-11, and they include many brushy or understocked areas.
10. I have laid out the stands on the Couladis property in such a way that all stands affected by the last cutting (Stands 1-8) can be considered individual management units rather than individual forest stands. In other words, Stands 1-3 (clearcut stands, blue on the stand map) are pretty uniform, as are Stands 4-8 ("selection cut" stands, green on the stand map). These two areas (blue and green) can be divided up in any number of ways. I have divided them up the way I have so that each stand is bounded on its upper edge by a road or trail, except Stand 1, which is stranded on the far side of Canaanville Run, and Stand 4, which is accessible by a ridgetop trail that goes off the property to the east. The reason for laying out stands so that each is accessible by a ridgetop trail is that in any logging operation, the preference would be to fell trees downhill, then skid them uphill to a ridgetop trail.
11. My layout of forest stands here is to facilitate their management, with reasonably sized units and easily recognizable boundaries between them. (The area of management units ranges from 21 to 70 acres for Stands 1-9; 5 to 7 acres for Stands 10 and 11; 15 to 17 acres for Stands 12 and 13. The largest units, Stand 2 [70 acres] and Stand 7 [51 acres], could easily be divided into smaller units,

comparable in area to other stands of their type.)

12. Because the stands in the blue area (clearcut in 1995) are relatively uniform, they should be managed more or less in the same way. Likewise for the stands in the green area ("selection cut" prior to 1995).
13. The recommended management for the blue area includes: a) Thinning; b) crop tree release; c) Grapevine control; and d) Control of non-native, invasive species.
14. The next commercial timber harvest in the blue area is projected for many decades in the future. If this area is age 20 right now, then you may have an opportunity for a commercial thinning at age 40 to 60, with another commercial thinning or final harvest after age 70 or 80. Any cutting before age 40 is likely to be non-commercial, unless you can harvest some firewood from those stands.
15. The recommended management for the green area includes: a) Grapevine control; b) Control of non-native, invasive species; c) A combination of other timber stand improvement (TSI), including thinning, crop tree, release, cull tree removal, and possibly a commercial thinning, improvement harvest, or other intermediate cutting. However, a commercial cutting in this area may not be practicable because of the low value and small volume of trees that I might recommend for cutting. It might be better to carry these trees through to a later harvest.
16. The next commercial timber harvest in the green area is projected for 15+ years from now, at about the time this plan expires. I would recommend having a forester inspect the woods every five years or so between now and then. I would also recommend that you have a forester involved in any management, including harvesting and selling timber.
17. Stands 9-13 should be managed much like Stands 1-8. Be sure to adapt your management to conditions on the ground and apply the proper management technique wherever needed.

All in all, the Couladis property is a very nice piece of property with many areas that are park-like in their appearance. It is probably one of the largest tracts of private land adjoining the city of Athens, certainly the largest tract of its kind in the local area. I would recommend keeping it intact and managing it for commercial timber production, wildlife habitat, and so on, for now and for the foreseeable future.

Area (Estimates by the forester)

Total Area	**544.215 Acres**
Area Located North of U.S. Highway 50/State Route 32	**470.61 Acres**
Area Located South of U.S. Highway 50/State Route 32	**73.605 Acres**

Note: Both figures are approximations.

Agricultural Fields **24 Acres (Stand 18)**

Timber Land (Land on which timber-producing trees dominate, i.e., oak, hickory, maple, poplar, ash, cherry, pine, etc.) **392 Acres (Stands 1-13)**

Woodland (Land on which non-timber-producing trees or species of trees dominate, i.e., dogwood, hawthorn, boxelder, sassafras, etc., or on which stocking levels are not adequate for designation as timber land) **61 Acres (Stands 14 & 17)**

Other Land
Home site, farm, and oil/gas well sites: **34.22 Acres (Stand 15)**

Undetermined land use type: **24 Acres (Stand 16)**
Note: This area, as well as Stand 17, can be considered woods incidental to the agricultural field in Stand 18 for purposes of CAUV.

Open Water **9 Acres**

Forest Stewardship Acreage **392 Acres (Stands 1-13)**
Note: All or part of Stands 14, 16, 17 may also qualify as forest stewardship acreage, assuming they develop into or are converted to forestland, or that a forester determines that they are in fact forestland.

Continued next page.

Area (Estimates by the current CAUV classifications)

According to Mr. Couladis, current classifications under CAUV, by parcel identification number, are as follows:

Parcel ID Number	Area and Land Use Classification Under CAUV (Current)
E01-00100089-00	140.42 acres (118.18 acres woodland; 11.8 acres tillable; 2 acres home site; 8.44 acres right-of-way)
E01-00100376-00	243.22 acres (all woodland)
E01-00100357-00	1.47 acres (pasture)
E01-00100356-00	13.29 acres (11 acres pasture; 2.29 acres wasteland)
E01-00100354-00	50.97 acres (49.97 acres woodland; 1 acre primary site)
E01-00100353-00	12.23 acres (10.23 acres tillable; 2 acres wasteland)
E01-00100426-00	65.00 acres (65 acres woodland)
E02-00200225-01	17.615 acres (tillable)

By those figures:

Classification	Area
Woodland	476.37 acres
Tillable	35.645 acres
Home site	2 acres
Primary site	1 acre
Right-of-way	8.44 acres
Pasture	12.47 acres
Wasteland	4.29 acres
Total	**540.185 acres**

Note the discrepancy in total area (544.215 by the auditor's plat map) – 540.185 (by the CAUV classification) = 4.03 acres

Continued next page.

Table 1. Forest Stands—Area, Stand Type, and Map Color

Stand Number	Area (Acres)	Stand Type	Color on Map
1	32	Saplings and poletimber (Clearcut ~1995)	Light blue
2	70	"	Medium blue
3	39	"	Dark blue
4	34	Saplings, poletimber, and sawtimber ("Selection cut" prior to 1995)	Olive green
5	22	"	Leaf green
6	32	"	Forest green
7	51	"	Olive green
8	47	"	Leaf green
9	21	Saplings, poletimber, and sawtimber (Old field?; similar to Stands 4-8)	Olive green
10	5	Saplings, poletimber, and sawtimber (Ridgetop old field)	Gray
11	7	"	Gray
12	15	Saplings, poletimber, and sawtimber (Bottomland)	Blue-green
13	17	"	Blue-green
14 (North of highway)	47	Scrub woods and brush (Old field)	Tan
14 (South of highway)	3	"	Tan
15 (North of highway)	31.61	Open ground	Yellow
15 (South of highway)	2.61	"	Yellow
16	24	Undetermined	Maroon
17	11	Bottomland or riparian hardwoods	Gray-green
18	24	Agricultural field	Brown
Open Water (Hocking River)	9	Open water	Sky blue
Total	**544.22**	--	--

Continued next page.

Forest Stand Summary

Total Area:		**544.215 Acres**

Summary by Stand

Total clearcut stands:	3 Stands (Stands 1-3)	141 Acres
Total "selection cut" stands:	5 Stands (Stands 4-8)	186 Acres
Stand 9:	1 Stand (Stand 9)	21 Acres
Total ridgetop old-field stands:	2 Stands (Stands 10-11)	12 Acres
Total creek bottom stands:	2 Stands (Stands 12-13)	32 Acres
Scrub woods and brush:	1 Stand (Stand 14)	50 Acres
Open ground:	1 Stand (Stand 15)	34.22 Acres
Undetermined:	1 Stand (Stand 16)	24 Acres
Bottomland or riparian woods:	1 Stand (Stand 17)	11 Acres
Agricultural field:	1 Stand (Stand 18)	24 Acres
Open water (Hocking River):	---	9 Acres
Total	**18 Stands**	**(rounded) 544.22 Acres**

Summary by Land Use Category

Total forestland:	13 Stands (Stands 1-13)	392 Acres
Total woodland:	2 Stands (Stands 14 & 17)	61 Acres
Total agricultural fields:	1 Stand (Stand 18)	24 Acres
Total open ground:	1 Stand (Stand 15)	34.22 Acres
Total undetermined:	1 Stand (Stand 16)	24 Acres
Total open water:	---	9 Acres
Total	**18 Stands**	**(rounded) 544.22 Acres**

Note: All stand boundaries and acreage figures are approximations.

3. Description of the Forest

Please note: The following stand descriptions include words that may be unfamiliar to you. Refer to the section on forestry terms for definitions.

Clearcut Areas

Blue on the forest stand map
Stand 1: 32 Acres
Stand 2: 70 Acres
Stand 3: 39 Acres

Total Area: 141 acres

Forest Type: Oak-hickory and mixed hardwoods

Species: White oak, chestnut oak, black oak, northern red oak, scarlet oak, shagbark hickory, pignut hickory, mockernut hickory, red maple, sugar maple, American beech, blackgum, yellow buckeye, American basswood, yellow-poplar, white ash, black cherry, sassafras, bigtooth aspen, sourwood, American sycamore, black walnut, American elm, flowering dogwood, ironwood, eastern redbud, pawpaw, witch-hazel, red mulberry, downy serviceberry, spicebush, blueberry or deerberry, wild grape, greenbrier

Non-Native, Invasive Plant Species: Ailanthus or tree-of-heaven, Japanese stiltgrass

Location & Site Conditions: Stands 1-3 are located in the northeastern part of the property on a variety of sites. Stand 1 is located on the far side of Canaanville Run on a southwest-facing slope. Stands 2 and 3 are located on the near side of Canaanville Run on slopes that are oriented mostly to the east. Site conditions are generally good.

Description: Stands 1-3 were clearcut in about 1995. That cutting appears to have been a true silvicultural clearcut, meaning all or most trees larger than 2 to 4 inches in diameter were cut. The result is a very dense and heavily stocked stand of saplings and poletimber, probably on the order of several hundred stems per acre. The largest tree in these stands is about 17 inches in diameter, remnants of the previous stand. The species composition is excellent, and oaks are abundant. These are potentially very valuable stands of commercial hardwood timber. However, they should be managed at the earliest opportunity so as to maximize their value and productivity. Specifically, you should undertake grapevine control, thinning, and crop tree release. Trees to favor include oak, walnut, cherry, hickory, yellow-poplar, and the best of other species. Japanese stiltgrass covers most of the trails here and in other stands.

Timber volume in Stands 1-3 is less than 2,000 board-feet per acre, probably in the range of 750 to 1,000 board-feet per acre. I estimate that these stands will become sawtimber stands (i.e., stands dominated by trees 12 inches in diameter-

at-breast-height and larger) in 20 to 30 years and that they might support a commercial thinning sometime after that, perhaps in 30 to 40 years (i.e., at age 50 to 60). They will reach maturity no earlier than age 70, or about 50 years from now, after which time the landowner could consider a final harvest either by even-aged or uneven-aged methods.

Recommended Silvicultural Treatment:

1) **Cut grapevines growing on potential crop trees**, including oak, hickory, walnut, cherry, yellow-poplar, and the best of other species. You can leave grapevines that are growing on non-crop trees. You can also leave Virginia creeper and poison-ivy vibes as they do little if any harm to trees.
2) **Cut and control non-native, invasive species** to the best of your ability.
3) **Undertake timber stand improvement (TSI)**, to include thinning and crop tree release, all with the advice and assistance of a professional forester.
4) There may be cost-sharing or other funds available through the U.S. Department of Agriculture. If you are interested, contact the USDA Service Center in The Plains for more information.

USDA Service Center
69 South Plains Road
The Plains, OH 45780
(740) 797-9686

You can also request assistance from the Ohio Department of Natural Resources (ODNR) Division of Forestry:

Cameron Bushong
Service Forester
P.O. Box 330
State Route 278
Zaleski, OH 45698
(740) 596-1102

"Selection Cut" Areas

Green on the forest stand map
Stand 4: 34 Acres
Stand 5: 22 Acres
Stand 6: 32 Acres
Stand 7: 51 Acres
Stand 8: 47 Acres

Total Area: 186 acres

Forest Type: Oak-hickory and mixed hardwoods

Species: White oak, chestnut oak, chinkapin oak, post oak, black oak, northern red oak, scarlet oak, shagbark hickory, pignut hickory, mockernut hickory, bitternut hickory, red maple, sugar maple, American beech, blackgum, yellow buckeye, American basswood, yellow-poplar, white ash, black cherry, sassafras, bigtooth aspen, American sycamore, black walnut, American elm, flowering dogwood, ironwood, eastern redbud, pawpaw, spicebush, leatherwood, blueberry or deerberry, wild grape, greenbrier

Non-Native, Invasive Plant Species: Ailanthus or tree-of-heaven, garlic mustard, Japanese stiltgrass, wineberry

Location & Site Conditions: Stands 4-8 are located in the middle part of the property on a long ridge that extends from the northern to the southern boundary. Site conditions are about the same as in the clearcut areas. However, there are some high, hot, and dry sites in these stands.

Description: Stands 4-8 are relatively uniform, having been treated the same at the last cutting. That cutting was a "selection cut." Whether it was a silviculturally sound cutting by way of the single-tree selection or group selection method, or a silviculturally unsound diameter-limit cutting or other high-grade cutting is unknown. The result is a well-stocked, uneven-aged stand of mixed hardwood saplings, poletimber, and sawtimber up to about 20 to 22 inches in diameter-at-breast-height (dbh). Oak-hickory woods dominate on hot, dry sites. Mixed hardwoods dominate on cooler, more moist sites. Some parts of this stand are overgrown or brushy, while others are open and park-like. Timber quality is generally good.

Continued next page.

I would estimate timber volume today to be between 3,000 and 5,000 board-feet per acre, probably around 4,000 board-feet per acre. At a rate of increase of 100 to 150 board-feet per acre per year, the projected volume in 15 years would be between 4,500 and 7,250 board-feet per acre (or an increase of 1,500 to 2,250 board-feet per acre over the course of 15 years).

- If you were to undertake a **clearcut today**, you might expect income of $750 to $1,600 per acre:

  Low estimate (today):
  3,000 board-feet per acre x $0.25 per board-foot = $750 per acre

  High estimate (today):
  5,000 board-feet per acre x $0.32 per board-foot = $1,600 per acre

  Mid-range estimate (today):
  4,000 board-feet per acre x $0.30 per board-foot = $1,200 per acre

- If you were to undertake a **single-tree selection and group-selection** cutting **today**, you might expect income of $375 to $600 per acre:

  Low estimate (today):
  1,500 board-feet per acre x $0.25 per board-foot = $375 per acre

  High estimate (today):
  2,500 board-feet per acre x $0.32 per board-foot = $800 per acre

  Mid-range estimate (today):
  2,000 board-feet per acre x $0.30 per board-foot = $600 per acre

- If you were to undertake a **clearcut in 15 years** (assuming a rate of growth of 150 board-feet per acre per year), you might expect income of $1,313 to $1,875 per acre:

  Low estimate (in 15 years):
  5,250 board-feet per acre x $0.25 per board-foot = $1,313 per acre

  High estimate (in 15 years):
  7,250 board-feet per acre x $0.32 per board-foot = $2,320 per acre

  Mid-range estimate (in 15 years):
  6,250 board-feet per acre x $0.30 per board-foot = $1,875 per acre

Continued next page.

- If you were to undertake a **single-tree selection and group-selection** cutting **in 15 years** (assuming a rate of growth of 150 board-feet per acre per year and assuming a cutting of 40% of the total volume per acre), you might expect income of $500 to $928 per acre:

  Low estimate (in 15 years):
  2,000 board-feet per acre x $0.25 per board-foot = $500 per acre

  High estimate (in 15 years):
  2,900 board-feet per acre x $0.32 per board-foot = $928 per acre

  Mid-range estimate (in 15 years):
  2,500 board-feet per acre x $0.30 per board-foot = $675 per acre

  Uneven-Aged Management
  If you cut only the growth that accrues in each 15-year period (say 1,500 to 2,250 board-feet per acre), you could, theoretically, cut timber by the single-tree selection and group-selection methods, i.e., by uneven-aged management techniques, for the indefinite future. The advantage of uneven-aged management is that you would have mature woods even after cutting, whereas with clearcutting, i.e., even-aged management, you would cut all trees larger than about 2 to 4 inches in diameter. The advantage of even-aged management is that it results in the rapid reestablishment of stands of oak, hickory, walnut, cherry, yellow-poplar, and other shade-intolerant species. Uneven-aged management, on the other hand, promotes the growth and reproduction of shade-tolerant species such as maple, beech, blackgum, basswood, and buckeye, most of which are low in timber value.

  Even-Aged Management
  As an alternative, you could divide your woods into a number of management units (as I have done in this plan), and then proceed to reenter the woods at regular intervals, clearcutting one unit per reentry. For example:

  400 acres of forestland ÷ 12 management units = 33 acres per unit

  Reentry period: 10 years

  Therefore, you would clearcut 33 acres every 10 years.

  At the end of a 120-year period (10-year reentry period x 12 management units), you would be back to the first unit at which point it will have reached a state of maturity. Yield would be somewhat low at first, in the area of 3,000 to 5,000 board-feet per acre, or $750 to $1,600 per acre, for a total of $24,750 to $52,800 for a 33-acre unit. Yields would increase later on and might approach 10,000 board-feet per acre (or more), or $2,500 to $3,200 per acre, for a total of $82,500 to $105,600 for a 33-acre unit. (The figure of $0.32 per board-foot used here for

the upper-range estimate might be too conservative. The actual value of high-value, high-quality, large-diameter timber would more likely exceed $0.35 per board-foot and might approach $0.45 or $0.50 per board-foot. Very high value white oak or walnut veneer might bring even more.)

If you decided to follow a scheme like this, you could probably begin today or within the next 5 to 10 years, perhaps by clearcutting Stand 5 (22 acres), Stand 6 (32 acres), or about half of Stand 7 (approx. 25 acres), and perhaps some areas of Stand 14 adjacent to Stand 5 or 6. As mentioned, the yield at first might be somewhat low, but at every reentry, there should be increased volume per acre and yields will likely increase. Whatever you decide to do, you should consult with a professional forester first. If you embark on long-term management, you might consider establishing a trust or some other instrument that would survive you and to guarantee benefits to your heirs by careful management of the woods.

Recommended Silvicultural Treatment:

1) **Cut grapevines growing on potential crop trees**, including oak, hickory, walnut, cherry, yellow-poplar, and the best of other species. You can leave grapevines that are growing on non-crop trees. You can also leave Virginia creeper and poison-ivy vibes as they do little if any harm to trees.
2) **Cut and control non-native, invasive species** to the best of your ability.
3) **Undertake timber stand improvement (TSI)**, to include thinning, crop tree release, and cull tree removal, all with the advice and assistance of a professional forester.
4) There may be an opportunity here for a commercial timber harvest of low-quality, low-value trees (i.e., an improvement harvest). However, the small amount of volume and the low value of the timber indicated might make a timber sale impracticable. Instead, you can wait 15 or more years for a full-scale timber harvest, with periodic inspections (about every 5 years) by a professional forester.
5) There may be cost-sharing or other funds available through the U.S. Department of Agriculture. If you are interested, contact the USDA Service Center in The Plains for more information.

Stand 9

Green on the forest stand map
Area: 21 acres

Forest Type: Mixed hardwoods

Species: Yellow-poplar, white ash, black cherry, sugar maple, yellow buckeye, chinkapin oak, chestnut oak, post oak, northern red oak, shagbark hickory, bitternut hickory, American sycamore, black walnut, American elm, hackberry, honeylocust, boxelder, ironwood, pawpaw, eastern redbud, spicebush, wild grape

Non-Native, Invasive Plant Species: Bush honeysuckle, European privet, Japanese barberry, Japanese honeysuckle, multiflora rose

Location & Site Conditions: Stand 9 is located in the far western part of the property and north of the highway. This stand is situated on a high hilltop and an east-facing slope. Site conditions are good despite the presence of outcroppings of rock at the surface.

Description: Stand 9 is similar to Stands 4-8, and I have colored it green on the forest stand map. However, Stand 9 has the appearance of an old-field or early-successional stand, whereas Stands 4-8 are mid- to late-successional stands. In any case, Stand 9 is a well-stocked, uneven-aged stand of brush, briars, vines, saplings, poletimber, and sawtimber up to about 24 inches in diameter-at-breast-height (dbh). Timber quality and timber volume are about the same as in Stands 4-8.

Recommended Silvicultural Treatment:

1) **Cut grapevines growing on potential crop trees**, including oak, hickory, walnut, cherry, yellow-poplar, and the best of other species. You can leave grapevines that are growing on non-crop trees. You can also leave Virginia creeper and poison-ivy vibes as they do little if any harm to trees.
2) **Cut and control non-native, invasive species** to the best of your ability.
3) **Undertake timber stand improvement (TSI)**, to include thinning, crop tree release, and cull tree removal, all with the advice and assistance of a professional forester.
4) There may be an opportunity here for a commercial timber harvest of low-quality, low-value trees (i.e., an improvement harvest). However, the small amount of volume and the low value of the timber indicated might make a timber sale impracticable. Instead, you can wait 15 or more years for a full-scale timber harvest, with periodic inspections (about every 5 years) by a professional forester.
5) There may be cost-sharing or other funds available through the U.S. Department of Agriculture. If you are interested, contact the USDA Service Center in The Plains for more information.

Ridgetop Old-Field Areas

Gray on the forest stand map
Stand 10: 5 Acres
Stand 11: 7 Acres

Total Area: 12 acres

Forest Type: Old-field/early-successional species and other hardwoods

Species: White ash, black cherry, white oak, chinkapin oak, black oak, shagbark hickory, yellow buckeye, black walnut, American elm, honeylocust, pawpaw, eastern redbud, wild grape, coralberry, and associated species

Non-Native, Invasive Plant Species: Ailanthus or tree-of-heaven, autumn-olive, European privet, Japanese honeysuckle, multiflora rose, wineberry

Location & Site Conditions: Stand 10 is located in the far western part of the property where Lake Hill Road makes a pin-hook turn next to a little hilltop. Stand 10 occupies that hilltop, a site that appears to have been a field or pasture woods 50 to 60 or more years ago. This is an exposed site, but site conditions appear to be good.

Stand 11 is located on the opposite side of the property, also on a hilltop on the site of an old field. Site conditions here appear to be good as well.

Description: Stands 10 and 11 are hilltop stands located on the site of old farm fields, pasture fields, or pasture woods. Stand 10 appears to be hotter, drier, and more exposed than Stand 11. You will find a few large-diameter white oak trees here (24+ inches in diameter). Otherwise the stand is dominated by smaller diameter white ash and black cherry.

Stand 11 is located on what appears to be a better site, judging from the presence of walnut, buckeye, elm, honeylocust, etc. This stand is made up of saplings, poletimber, and small sawtimber up to about 14 inches in diameter. Both stands are adequately stocked and uneven-aged. They are somewhat poorer in quality than Stands 3-8.

Recommended Silvicultural Treatment:

1) **Cut grapevines growing on potential crop trees**, including oak, hickory, walnut, cherry, yellow-poplar, and the best of other species. You can leave grapevines that are growing on non-crop trees. You can also leave Virginia creeper and poison-ivy vibes as they do little if any harm to trees.
2) **Cut and control non-native, invasive species** to the best of your ability.
3) **Undertake timber stand improvement (TSI)**, to include thinning, crop tree release, and cull tree removal, all with the advice and assistance of a

professional forester.

4) There may be an opportunity here for a commercial timber harvest of low-quality, low-value trees (i.e., an improvement harvest). However, the small amount of volume and the low value of the timber indicated might make a timber sale impracticable. Instead, you can wait 15 or more years for a full-scale timber harvest, with periodic inspections (about every 5 years) by a professional forester.
5) There may be cost-sharing or other funds available through the U.S. Department of Agriculture. If you are interested, contact the USDA Service Center in The Plains for more information.

Bottomland Areas

Blue-green on the forest stand map
Stand 12: 15 Acres
Stand 13: 17 Acres

Total Area: 32 acres

Forest Type: Mixed hardwoods and riparian or bottomland hardwoods

Species: Black walnut, American sycamore, eastern cottonwood, American elm, honeylocust, boxelder, black locust, northern catalpa, butternut or white walnut, yellow-poplar, white ash, sugar maple, northern red oak, bitternut hickory, American hornbeam, pawpaw, spicebush, wild grape, and associated species

Non-Native, Invasive Plant Species: Ailanthus or tree-of-heaven, European privet, Japanese barberry, Japanese stiltgrass, multiflora rose, wineberry

Location & Site Conditions: Stand 12 is located along an unnamed stream in the western part of the property. Stand 13 is located along Canaanville Run in the eastern part of the property. Site conditions are very good.

Description: Stands 12 and 13 are typical bottomland stands in that they are somewhat uneven in their structure and composition. Both probably developed on the site of old farm fields. If you go back far enough, these bottoms might have been used to grow corn, vegetables, or other crops. In any case, they have grown up into a mix of brush, briars, vines, saplings, poletimber, and sawtimber up to about 20 or 22 inches in diameter. Stocking levels vary from place to place. You can look at both stands as being underutilized in that they could be used to grow more timber of a higher quality and value. Maximizing the utilization of bottomland stands like these means a lot of work, though. It might be better to treat them as you would other stands by cutting grapevines and undertaking other timber stand improvement (TSI). The species to favor here would be walnut, but you can also favor cherry, oak, hickory, and yellow-poplar.

Recommended Silvicultural Treatment:

1) **Cut grapevines growing on potential crop trees**, including oak, hickory, walnut, cherry, yellow-poplar, and the best of other species. You can leave grapevines that are growing on non-crop trees. You can also leave Virginia creeper and poison-ivy vibes as they do little if any harm to trees.
2) **Cut and control non-native, invasive species** to the best of your ability.
3) **Undertake timber stand improvement (TSI)**, to include thinning, crop tree release, and cull tree removal, all with the advice and assistance of a professional forester.
4) There may be an opportunity here for a commercial timber harvest of low-quality, low-value trees (i.e., an improvement harvest). However, the small amount of volume and the low value of the timber indicated might make a

timber sale impracticable. Instead, you can wait 15 or more years for a full-scale timber harvest, with periodic inspections (about every 5 years) by a professional forester.

5) There may be cost-sharing or other funds available through the U.S. Department of Agriculture. If you are interested, contact the USDA Service Center in The Plains for more information.

Other Stands

Stand 14

Tan on the forest stand map
Area: 50 acres

Forest Type: Non-forest (woodland)

Species: Yellow-poplar, white ash, American sycamore, black walnut, American elm, honeylocust, boxelder, black willow, chinkapin oak, shagbark hickory, wild grape, and others species found in Stands 1-13

Non-Native, Invasive Plant Species: Autumn-olive, bush honeysuckle, European privet, Japanese honeysuckle, Japanese stiltgrass, multiflora rose

Location & Site Conditions: Stand 14 is located on the site of the old farmstead and has grown up on areas that were once open ground. Site conditions are generally good despite past land use.

Description: Stand 14 is a dense, overgrown, grassy, and brushy stand of shrubs, vines, briars, and trees. Some parts of this stand are understocked and are merely scrub woods. Other parts are stocked well enough with commercial timber species to be considered forestland. However, mapping Stand 14 to that level of accuracy would be cost-prohibitive. Instead, I would categorize Stand 14 as woodland for purposes of CAUV.

Recommended Silvicultural Treatment:

1) **Cut grapevines growing on potential crop trees**, including oak, hickory, walnut, cherry, yellow-poplar, and the best of other species. You can leave grapevines that are growing on non-crop trees. You can also leave Virginia creeper and poison-ivy vibes as they do little if any harm to trees.
2) **Cut and control non-native, invasive species** to the best of your ability.
3) **If practicable, locate and identify crop trees (walnut, cherry, oak, etc.) and release them from competition with their neighbors.** This should be done in consultation with a professional forester. Keep in mind that your management activities will offer greater returns in better stands. You should probably consider Stand 14 as low on your list of priorities until it has developed into a proper forest stand.

Stand 15

Yellow on the forest stand map
Area: 34.22 acres

Forest Type: Non-forest (open ground)

Location & Site Conditions: Stand 15 is made up of all the open ground on the property, including the area of the houses and other buildings, the powerline right-of-way, the tower location, all the oil and gas well sites, and the upland hayfield. These sites have probably been degraded by past agricultural use.

Recommended Silvicultural Treatment: None.

Stand 16

Maroon on the forest stand map
Area: 24 acres

Forest Type: Undetermined.

Species: Not available.

Non-Native, Invasive Plant Species: Not available.

Location & Site Conditions: Stand 16 is located in the Hocking River bottom in the far southeastern part of the property. It is an old field that has reverted to brush and small trees. It includes all the acreage in parcel number E010010008900 located south of the highway.

Description: Not available.

Recommended Silvicultural Treatment: Undetermined.

Stand 17

Gray-green on the forest stand map
Area: 11 acres

Forest Type: Riparian hardwoods or bottomland hardwoods

Species: Not available, but probably including red maple and/or silver maple, American sycamore, American elm, and associated species

Non-Native, Invasive Plant Species: Not available.

Location & Site Conditions: Stand 17 is located along the Hocking River and in river

bottom. It includes all the wooded or brushy acreage south of the highway that is not part of parcel number E010010008900 or parcel number E010010035400.

Description: Not available.

Recommended Silvicultural Treatment: Undetermined.

Stand 18

Brown on the forest stand map
Area: 24 acres

Forest Type: Non-forest (agricultural field)

Location & Site Conditions: Stand 18 is located south of the highway and includes all the acreage currently used for conventional agricultural production.

Recommended Silvicultural Treatment: None.

Open Water

Sky blue on the forest stand map
Area: 9 acres

4. Prescription

In order to meet the stated objective of managing this forestland for the production, for a commercial purpose, of timber, I recommended the following:

Specific Recommendations (Also listed in Part 5, Schedule of Activities)

1. **Cut grapevines growing on potential crop trees,** including oak, hickory, walnut, cherry, yellow-poplar, and the best of other species. You can leave grapevines that are growing on non-crop trees. You can also leave Virginia creeper and poison-ivy vibes as they do little if any harm to trees.
2. **Cut and control non-native, invasive species** to the best of your ability.
3. **Undertake timber stand improvement (TSI),** to include thinning, crop tree release, and cull tree removal, all with the advice and assistance of a professional forester.
4. There may be an opportunity here for a commercial timber harvest of low-quality, low-value trees (i.e., an improvement harvest). However, the small amount of volume and the low value of the timber indicated might make a timber sale impracticable. Instead, you can wait for 15 or more years for a full-scale timber harvest, with periodic inspections (about every 5 years) by a professional forester.
5. There may be cost-sharing or other funds available through the U.S. Department of Agriculture. If you are interested, contact the USDA Service Center in The Plains for more information. You can also contact the service forester's office.
6. **Locate and mark property boundary lines.**

General Recommendations for Landowners in Ohio

1. **Eradicate ailanthus or tree-of-heaven and bush honeysuckle.** Tree-of-heaven (*Ailanthus altissima*) is a non-native and very aggressive tree with no timber value and no wildlife value. In fact this tree is detrimental to native trees and other plants in that it secretes a chemical in the soil that inhibits their growth. It also occupies space that could be used to grow high quality timber. Although tree-of-heaven often grows out of control, you can eradicate it from your property with determined effort. Bush honeysuckle is a shade-tolerant shrub that grows in the understory and can easily take over the woods. Like ailanthus, it can alter the chemistry of the soil so as to promote its own growth and reproduction. All things considered, bush honeysuckle may be a worse threat to the woods than ailanthus, especially on moist sites and bottomlands.

2. **Control autumn-olive, European privet, garlic mustard, Japanese honeysuckle, multiflora rose, and other non-native, invasive plants** wherever you find them, especially if they are interfering with the growth of native plants. Non-native plants may have wildlife benefits (it's why some were brought here from the Old World), but they can be very aggressive and crowd out native plants. Although you may not very easily eradicate some of these plants, you should do what you can to control their spread.

3. **Cut grapevines growing in timber-producing or mast-producing trees.** Wild grape is a native plant and good for wildlife. It can be hard on trees, though. Cutting grapevines will help speed the growth and improve the quality of desirable trees, that

is, the trees you want to grow to maturity. You can leave grapevines growing on scrub trees such as elm, boxelder, and sassafras. You can also leave Virginia creeper, poison-ivy, and other native vines as they do little if any harm to trees.

4. **Undertake timber stand improvement (TSI)** with the advice and assistance of a professional forester. TSI is designed to favor desirable trees at the expense of undesirable trees. Desirable trees include timber- and mast-producers such as oak, walnut, hickory, sugar maple, yellow-poplar, cherry, and persimmon. Trees to discriminate against might include: a) Trees that are poorly-formed, forked, crooked, twisted, broken, multi-stemmed, diseased, or otherwise seriously defective; b) Weedy or undesirable species, such as tree-of-heaven, red maple, boxelder, black locust, and sassafras. Be sure to talk to a professional forester before proceeding.

   Guidelines for Timber Stand Improvement (TSI):

   - **In sapling and poletimber stands** (dominated by trees between 3 and 11 inches in diameter-at-breast-height [dbh]): Thinning, weeding, vine control, and crop tree release. In high-value stands such as stands of walnut or white oak, you may also want to prune trees for good form and improved timber quality.

   - **In sawtimber stands** (dominated by trees 12 inches dbh and larger): Cull tree removal, vine control, cutting of firewood, improvement harvesting, intermediate harvesting, or final harvesting.

   - **In high-graded or heavily cut over stands**: Cull tree removal, conversion of cut-over areas to group openings or true clearcuts (a group opening is more or less like a miniature clearcut), further cutting to improve the woods, and coppice cutting of preferred species that have been damaged by logging.

   - **In all stands**: Favor crop trees, that is, trees that offer a benefit, provide a service or product, or meet your goals in some other way. In general, a crop tree is straight, tall, well-formed, healthy, vigorous, relatively free of defects, un-branched for at least 10 or 12 feet, and has a large and healthy crown.

5. **Exclude livestock from the woods**. Grazing and timber production are incompatible. Be sure to keep livestock out of your woods.

6. Do your best to **prevent forest fire** by not burning fields, fencerows, trash, etc., during fire season.

7. **Keep your roads and trails open** by mowing or bush-hogging them. Roads and trails offer access to the woods. They also act as firebreaks.

8. **Prevent erosion and runoff on your roads and trails** by implementing best management practices (BMPs) as needed. BMPs are described in a booklet called *BMPs for Erosion Control for Logging Practices in Ohio* (Bulletin 916), available

online or in print from Ohio State University Extension.

9. **Mark your property boundary lines** using fence posts, fence wire, oil-based paint, and/or signs so as to prevent or discourage trespassing, timber theft, and poaching of game and medicinal or edible herbs. I recommend using brightly-colored, brush-type boundary-marking paint from a source such as Nelson Paint Company. In your marking: a) Use a hatchet, machete, or draw knife to scrape away loose bark (be sure not to cut too deeply into the living tissue of the tree); b) Apply paint to the blaze you have made; c) Put a prominent paint mark on trees along the perimeter of your property at a distance of no more than 50 or 60 feet between marks.

10. **Provide and manage wildlife habitat** as desired.

11. When the time comes, **harvest timber with the advice and assistance of a professional forester**. Here's a checklist for a more successful timber sale:

    a. Work with a forester who is committed first and foremost to serving **YOU**.

    b. Have your forester—with your input—select, mark, tally, and estimate volume and/or tonnage of trees for sale.

    c. Sell **ONLY** the trees marked for sale by your forester. Don't make any side deals with the logger or timber buyer.

    d. Advertise your timber sale as widely as possible.

    e. Sell your timber by way of a sealed-bid process. A sealed-bid sale sets timber buyers up in competition with each other, thereby: 1) relieving you of the burden of determining the value of your timber; and 2) maximizing the amount you receive for your timber.

    f. Sell timber **ONLY** by way of a written contract presented by **YOU** to the timber buyer.

    g. Require payment in full up front, before any timber is cut.

    h. Require proof of workers' compensation and liability insurance coverage from the timber buyer and/or logger.

    i. Monitor the timber sale and logging operation by visiting the timber sale area at the beginning of the logging operation and at least twice a week afterwards until it is completed.

    j. Require the logger to implement best management practices (BMPs) for water quality and soil conservation during and at the close of the logging operation.

k. Follow up timber harvesting with timber stand improvement (TSI) with the advice and assistance of a professional forester. TSI is designed to improve growing conditions for the best, most promising trees in your woods. Cutting to improve your woods is an investment in the future and helps guarantee better returns at the next harvest.

l. **BY NO MEANS HIGH-GRADE YOUR WOODS!** High-grading is an all too common practice whereby the best, most valuable timber is cut and removed while the smallest and poorest timber is left in the woods. High-grading goes by many disguises.

Types of High-Grading (In other words, Ways to Ruin Your Woods)

- **Diameter-limit cutting**—In diameter-limit cutting, every tree of value over a certain diameter—usually 14 to 20 inches—is cut and removed. Diameter-limit cutting is a form of high-grading because it **always** results in the removal of the best and most valuable timber. It also usually results in the removal of all or most of the oak, while red maple, blackgum, and other low-value species are left behind. Don't sell timber by a diameter-limit.

- **Logger's choice**—Allowing a logger or timber buyer his choice of trees to cut usually results in high-grading. The reason is that loggers and timber buyers are motivated by profit, not by the desire to manage your woods. Don't allow the logger or timber buyer his choice of trees to cut.

- **High-grading by species**—Some species of trees—white oak, red oak, walnut, cherry—are in general more valuable than others. If a logger or timber buyer wants to cut trees of those species while leaving beech, blackgum, locust, elm, sycamore, etc., he is looking to high-grade your woods. Even some foresters are inclined to high-grade by species, especially when they operate on a percentage of the sale for their fee. Don't high-grade by species.

- **A so-called "select cut" or "select harvest"**—If someone uses the term "select cut" or "select harvest," BEWARE! What he wants to "select" for cutting are your best, most valuable trees. The term "select cut" or "select harvest" are used in contrast to clearcutting, where clearcutting is judged "bad" and "select cutting" is judged "good." There are other ways of cutting, though. You can read about alternatives below. In any case, don't sell timber by a so-called "select harvest."

- **High-grading by timber quality or value**—As the landowner, one of your objectives should be to improve growing conditions for the best, most promising trees, that is, for your future forest. That means cutting trees that are either: a) mature, or b) in decline, diseased, damaged, stunted, or otherwise seriously defective. Don't leave these trees in the woods while harvesting your best, most valuable timber.

Alternatives to High-Grading
So what are the alternatives to high-grading? High-grading in all its forms is mismanagement. The alternative to high-grading is to manage your woods well. You can do that by continuing to work with a professional forester. If you decide to harvest timber, whether it's for firewood or sawlogs and whether it's for your own use or for commercial sale, talk to a professional forester first. A forester is a person with the education, experience, credentials, and--perhaps most importantly--the ethics needed to help you manage your woods.

There are many different kinds of managed cutting, but all have the same goal, that is, to improve the value, quality, and productivity of your woods. Remember, as the owner of forestland under the Current Agricultural Use Value (CAUV) program, you have stated that as your goal as well.

Harvesting Timber
There are two basic approaches to harvesting timber, and each depends on the kind of stand in which you're working:

1. If you're trying to improve the quality, value, and productivity of the future stand (the residual stand, in other words, the stand that remains after you cut), then you're engaged in **intermediate cutting or intermediate harvesting.** It's called intermediate because it takes place at some interval between the time the stand started growing (the year of origin) and the final harvest meant to regenerate the stand. Intermediate harvesting includes: a) harvesting firewood, fenceposts, or other small products; b) improvement harvesting, in which low-value and low-quality timber is cut and sold; and c) commercial thinning, by which trees are removed to improve the spacing between trees that remain. Intermediate harvesting is appropriate in stands that have not yet reached maturity.

2. If you're trying to regenerate or reproduce a new stand from a mature, over-mature, or heavily damaged, diseased, or defective stand, you're engaged in **regeneration harvesting**, which includes four methods. From least to most intensive, these are:

    - **Single-tree and group selection**, in which individual trees or groups of trees are cut for purposes of regenerating species that are tolerant of shade or somewhat tolerant of shade. The most tolerant trees include maple, beech, basswood, blackgum, and hemlock. Others that are somewhat tolerant of shade include elm, ash, white oak, and hickory. Contrast this method with a so-called "select cut" or "selective cut" in which a forester, timber buyer, or logger goes after the best and most valuable trees in the woods without having the goal of properly managing your woods. If the openings created by group selection are large enough (one-half to one acre or more), trees that are intolerant of shade, such as cherry, yellow-poplar, walnut, red oak, and pine, may also be able to grow and prosper.

    - The **shelterwood method**, in which certain larger trees are left in the woods so as

to provide shelter for a new generation. In a typical shelterwood, those larger trees are removed in a later harvest.

- The **seed-tree method**, in which fewer large trees, always of preferred species, are left so as to produce the seed necessary to regenerate the stand. The seed-tree method is seldom used in Ohio because our forests are regenerated satisfactorily by other methods.

- **Clearcutting**, in which every tree over 2 to 4 inches in diameter is cut, regardless of species, size, quality, value, or location.

Remember, these methods can be mixed and matched on any given piece of property. It's never all or nothing. The most important thing to remember is that if you manage your woods well and avoid high-grading, your woods will pay you dividends for as long as you own your land. A forester can help you make decisions and can help you improve the value, quality, and productivity of your woods. Be sure to talk to a forester first.

As a professional forester, I am available to help you implement your forest management plan. If you have questions or need further advice and assistance, feel free to contact me. Good luck with the management of your property.

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5. Schedule of Implementation

Date	*Stand(s)*	*Area (Acres)*	*Activity*	*Notes*
2015-2022	2	70	At a rate of approximately 10 acres per year, complete timber stand improvement (TSI), to include: 1) Grapevine control, 2) Control of non-native, invasive species, 3) Thinning, 4) Crop tree release, 5) Other TSI as needed, all with the advice and assistance of a professional forester	
2015-2026	3	39	Ditto	
2015-2029	1	32	Ditto	
2015→	All	544.215	Locate and mark your property boundary lines using paint applied to trees and fenceposts along the perimeter at a distance of no more than 50 or 60 feet between marks, and thereafter maintain those markings	
At approx. 5-year intervals	All	544.215	Have a professional forester inspect your woods and other property to offer advice on further management	
2025-2030	4-13	251	Have a professional forester inspect your woods, specifically to determine if and when a timber harvest might be practicable	
2029-2030	All	544.215	Have a professional forester prepare an update to your forest management plan; at the minimum, you would need a new schedule of activities to maintain your status under CAUV	

Continued next page.

Date	*Stand(s)*	*Area (Acres)*	*Activity*	*Notes*
2015→	All	Wherever needed	Cut and control non-native, invasive species, especially ailanthus or tree-of-heaven and bush honeysuckle	
Use the following blank lines to update your plan as needed.				