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Jill Davidson  
Athens County Auditor

**Forest Management Plan**

**Current Agricultural Use Value (CAUV)**

**Athens County, Ohio**

Service Forestry Case Record No.: \_\_\_\_\_

Farm Service Agency (FSA) Farm No.: \_\_\_\_\_

**Prepared for:**

Landowner(s): **Andrew Herold & Dorothy Howard**

Address: 13578 State Route 550  
Athens, OH 45701

Telephone Number: (740) 448-1645

**Note:** The Landowner's signature appears on page 4.

**Prepared by:**

Forester: **Terence E. Hanley, B.S.F.**  
Professional Forestry LLC

Address: P.O. Box 5622  
Athens, OH 45701

Telephone Number: (740) 592-5152

Email Address: professionalforestry@yahoo.com

*Terence E. Hanley May 31, 2023*

Signature and date

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

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone No.: \_\_\_\_\_

Signature and date

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Allen County Auditor  
Bill Davidson

Allen County Auditor

Date prepared: **May 31, 2023**

Term of plan: This is a **new plan** and covers the period **beginning May 31, 2023**, and **ending December 31, 2033**. It succeeds a previous plan prepared by consulting forester Dean Berry, dated June 10, 2013, and set to end on June 10, 2023.

## Contents

This forest management plan is in five sections, described as follows:

### **Section 1: Statement of Objective**

In applying for classification under Current Agricultural Use Value (CAUV) or the Ohio Forest Tax Law (OFTL), you may be required to sign a statement of objective in which you agree to implement your forest management plan to the best of your knowledge and ability. In Section 1, look for references to the Ohio Revised Code (ORC) and the Ohio Administrative Code (OAC). These are the controlling laws and rules for CAUV and OFTL. Also, look for the statement that begins: “**For purposes of this plan . . .**”

### **Section 2: Property Map, Location & Description**

Section 2 includes a description of your land and forestland with reference made to one or more maps, which are attached to this plan.

### **Section 3: Description of the Forest**

Section 3 includes a description of your forestland keyed to the attached forest stand map. This description of the forest is actually a series of descriptions of several stands, areas, or management units, including a subsection on recommendations for management called “Recommended Silvicultural Treatment.” Recommended treatments for all forest stands are described in detail in Section 4 and summarized in tabular format in Section 5.

### **Section 4: Prescription**

Section 4 includes details on the management of your land and forestland. **Please pay special attention to the subsection on how to sell timber.** Whether and how to sell timber is probably the most important decision you will ever make in the management of your forestland. Make sure you do it right, and **by all means avoid high-grading your woods!**

### **Section 5: Schedule of Management Activities**

Section 5 summarizes the recommended silvicultural treatment according to a timetable or schedule. If you are required to sign your forest management plan in Section 1, you are essentially agreeing to implement the schedule of management activities in Section 5 to the best of your knowledge and ability. **If you do nothing else, make sure you read, understand, and agree to implement the schedule shown in Section 5 before signing your plan.**

### **Maps & Attachments**

Your forest management plan includes not only this document but also at least one map, the attached forest stand map. All other attachments are for your information only. You need not submit them with your forest management plan. If the attachments include a custom soil survey, be aware that there is no need to print this very long document. It is only for your information.

# 1. Statement of Objective

## For Landowners Applying for Current Agricultural Use Value (CAUV):

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” or “commercial timber production” is defined as good and proper management that promotes the growth, health, and reproduction of commercial timber species and the value, quality, and productivity of the forest.

The text of laws and rules pertaining to CAUV can be found on the website “Ohio Laws & Administrative Rules,” maintained by the Ohio Legislative Service Commission.

### Statement of Objective

I/We, Alan J. Herold & Dorothy Howard, 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 or commercial timber production is defined as good and proper management that promotes the growth, health, and reproduction of commercial timber species and the value, quality, 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.

Alan J. Herold      6-26-2023  
Signature and date

Dorothy Howard      6-26-2023  
Signature and date

## **2. Property Map, Location, & Description**

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

### **Section 2a—Overview**

The Herold/Howard property is located in eastern Athens County, entirely on the north side of State Route 550 and about halfway between Athens and Amesville. It's an oddly shaped property, like a hatchet or a meat cleaver, with the handle at the bottom and the blade facing to the west. It has obviously been carved out from a larger property; there are several cutouts in the southern part of the property, especially on the west side of "the handle." There are as many as sixteen corners all together. I'm not sure of the boundary on the southeast side of the property. I have followed Dean Berry's lead in drawing my forest stand map (attached). Look on the map for a question mark in that area.

The Herold/Howard property is in a part of Athens County that was surveyed under an older system than the more commonly used Public Land Survey System (P.L.S.S.) of section, township, and range. I have township and range numbers for the property. The section number, though, Section 27, is newer than the original fraction numbers, Fractions 32 and 33. I sometimes have problems with properties surveyed under old systems. My acreage figures don't always match those recorded at the courthouse, and my maps may not always be entirely accurate. In my calculations, I underestimated the total area of the Herold/Howard property, though only by about 5 percent. I have made adjustments, though, and I believe my map and my acreage figures to be reasonably accurate. It's encouraging that my figure for total area of forestland (48 acres) is almost exactly the same as Dean Berry's (47.9 acres).

The Herold/Howard property is part of an old working farm. More than half of the acreage here was once clear and open and probably used as pastureland and/or hay land. I wouldn't rule out that in the distant past it was also used to grow row crops. An aerial photograph dated September 6, 1950 (Photo. No. BBW-4G-146) shows what things were like more than 70 years ago. The forest stand map that I have drawn to go with this management plan is based in a large part on that very useful and informative photograph (also attached). Dean may have used the same photograph when he drew his stand map in 2013.

We don't know when the old farm fields were abandoned. Some of the woods on the Herold/Howard property look to be fairly young, perhaps only 30 years old or less. Other areas are in what you might call early middle age, or about 45 to 50 years old. Still other areas have been wooded for a very long time, perhaps continuously since original settlement. (Or maybe they're second-growth woods from the late 1800s or early 1900s.) In short, the Herold/Howard property is typical for southeastern Ohio in that it's an old farm with a mix of old-field-type stands (mostly on level to gently sloping or gently rolling ground) and older oak-hickory and mixed hardwoods stands (mostly on slopes too steep for farming or for growing hay). Properties like these can be hard to map. The results very often look like a patchwork quilt.

The last of the livestock (a few sheep) finally came out about 7 years ago. Except for a few small areas (Stands 1, 2, and 5), the property is wooded. Forest stands are a mix of ages, forest types, and stages of development. Again, forestland here is divided between old-field-type stands and older oak-hickory and mixed hardwoods stands (i.e., mid- to late-successional stands). Non-forest areas include two houses, several other buildings or structures, driveways, parking areas, yards, landscaping, a pond, an old pond that has been drained, a prairie planting around that old pond site, a small planting of berries and fruit trees, a power line right-of-way, and a very narrow gas pipeline right-of-way. See the attached forest stand map for the locations of these features.

Although the forest management plan prepared by Dean Berry is about to expire, you should hold onto that plan and keep it with all of your other documents relating to your property.

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## **Section 2b—Location & Area**

### **Athens County, Ohio**

Ames Township

Fractions 32 & 33 (Section 27), Township 6 North, Range 13 West

### **Parcel Identification Number(s) & Area**

C010010049601	37.3 Acres in Fraction 32
C010010049700	<u>16.18 Acres in Fraction 33</u>
<b>Total</b>	<b>53.48 Acres</b>

### **Property Address & Access**

The Herold/Howard property is located at 13578 State Route 550, Athens, OH 45701. There is a long driveway (about 750 feet long) leading from the highway to the main house. From that location, there are trails leading throughout the woods. In short, there isn't any obstacle to managing the property for commercial timber production due to access.

### **Does the Landowner Reside on the Property?**

Yes.

### **Nearest City or Town**

The Herold/Howard property is located along State Route 550, about halfway between Athens and Amesville. The next road to the east is Hooper Ridge Road (County Road 36). The next road to the west is McDougall Road (County Road 28).

Continued next page.

**Location (Specific)**

Jacksonville, OH, Quadrangle (USGS topographic map)

Location of (feature): Pond

Latitude: 39.406 degrees North

Longitude: 82.030 degrees West

Projection (Datum): \_\_\_\_\_

**Watershed**

Unnamed streams→McDougall Branch→Federal Creek→Hocking River→Ohio River

A very small part of the property, situated in the northeast corner, drains to the northeast into unnamed streams, thence into Bryson Branch, thence into McDougall Branch.

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**Section 2c—Land-Use Types & Area****Area****Total: 53.48 Acres****Agricultural Land** (Crop fields, hayfields, pastureland, other agricultural land):**0 Acres****Forestland or Commercial Timberland** (Land on which timber-producing trees dominate, i.e., oak, hickory, maple, beech, walnut, cherry, yellow-poplar, pine, basswood, sycamore, etc.):**48 Acres** (Stands 3, 4, 6, 7, & 8)**Noncommercial Woodland** (Land on which non-timber-producing trees or species of trees dominate, i.e., dogwood, hawthorn, redbud, etc., or on which stocking levels of commercial timber species may not be adequate for designation as forestland or commercial timberland):**0.8 Acres** (Stand 2)**Homesite(s), etc.:****3.28 Acres** (Stand 1)**Other Land** (Prairie planting):**0.5 Acres** (Stand 5)**Open Water** (Pond):**0.3 Acres**

Continued next page.

## **Section 2d—Terrain, Soils, & Other Resources**

### **Terrain**

The Herold/Howard property is situated on three main types of landforms: 1) A high ridge at the back (north) of the property; 2) Long slopes surrounding that main ridge; and 3) Ravines and coves. The main ravine or drainage system is in the eastern half of the property and includes some well-sheltered sites.

Almost all of the property is tipped to the south, with the highest elevations on the north end and the lowest on the far south end along State Route 550. That's not to say that all of the slopes here are south-facing, for there are, again, some more well-sheltered sites in ravines and coves, as well as on north- and east-facing slopes. For example, there is a nice growing site at the northeast corner of the property, on a shady, northeast-facing slope (part of Stand 8).

The ridge on the north end of the property is pretty high and prominent. However, the surrounding slopes are not especially long or steep. There is a long extension of the ridge that runs north and south in the western half of the property (in Stand 6). The point of the ridge and the west side of the ridge appear to be pretty hot and dry. This is to be expected, as south- and west-facing slopes are typically hot and dry due to their exposure to the sun during the hottest parts of the day, as well as to prevailing winds from the west. Those same slopes on the Herold/Howard property are also rocky. I suspect that the soils here are pretty thin. These are oak-hickory sites.

There is a shorter extension to the main ridge, one that runs roughly east and west in the eastern half of the property. On the north side of that ridge is a nice, cool, shady stand, mostly of sugar maple (part of Stand 8). The south side of the ridge faces to the south, but it appears to be cooler and more moist than the longer extension to the west. In general, site conditions on upper elevations in the eastern half of the property appear to be better than on the western half. If I had to guess, I would say that's because of their being on the leeward side rather than the windward side of the ridge, also because they're more or less in the shadow of the more prominent ridge on the west. One example of a difference in site conditions is that white oak is common on slopes on the west side of the property, while chinkapin oak, also in the white oak group, is more common on the east.

The upshot of all of this is that you are likely to see the most rapid growth, the tallest trees, and possibly the highest quality timber on good growing sites, in other words, on north- and east-facing slopes, as well as in ravines and coves. One downside to growing timber on sites like these is that they tend to become almost jungle-like in their growth. Less hospitable sites are generally more open and more nearly clear of brush, briars, and vines. Also, oak doesn't compete very well on good growing sites. Very often, oak, especially white oak, chestnut oak, black oak, and scarlet oak, is relegated to hot, dry sites where there is less competition from fast-growing species such as yellow-poplar and shade-tolerant species such as beech and maple. That's not to

say that you can't have good and valuable timber on these kind of sites, because you certainly can. Again, south- and west-facing slopes are typically oak-hickory sites. Sugar maple, yellow-poplar, and even northern red oak may not do well on sites like these. They are more common on better growing sites.

The highest elevations on the Herold/Howard property are on the ridgetop on the north end of the property. The elevation there is at about 1,000 feet above sea level. The lowest elevation is on the exact opposite end of the property, along State Route 550. The elevation there is about 800 feet above sea level. Local relief, the difference between the highest and lowest elevations within a given area, is about 200 feet for the Herold/Howard property.

There isn't any obstacle to managing the Herold/Howard property for commercial timber production due to terrain.

### **Soils**

Soils found on the Herold/Howard property are: Elba-Brookside-Berks complex; Guernsey, Upshur, and Westmoreland series, mostly in association with each other; Kinnick-Lindsay silt loam types; and Vandalia-Brookside complex. These are common soils on uplands in southeastern Ohio. They range pretty widely in terms of their productivity, with the Elba-Brookside-Berks complex being the least productive and all others being more productive. The Kinnick and Lindsay series are in only a very small area on the far southern end of the property.

If you compare the soil-type map in the attached custom soil survey with the forest stand map, you will see that the boundaries of the different soil types line up pretty well with those of the different forest stands. This isn't surprising when you consider that: a) past land use would have been determined by the productivity of the soil; and b) current forest stand types are based on past land use.

For example, the Vandalia-Brookside complex (VbD) is fairly productive and is found on less steep slopes. These are areas that would have been used as pastureland or hay land. The aerial photograph from 1950 shows them to have been almost entirely open. These are old-field sites, then, and they have grown up again into trees after having been abandoned of agricultural use. "VbD" on the soil type map corresponds pretty well with Stands 3, 4, and 5, all of which are old-field/early-successional stands.

For another example, Guernsey silt loam and the Guernsey-Upshur complex are also fairly productive and are also found on fairly gentle slopes. Areas with these soil types correspond pretty well with Stand 7.

For a final example, the Elba-Brookside-Berks complex and the Westmoreland-Guernsey-Upshur associations are or can be productive, but they are found on much steeper slopes, and

too steep for farming or for the easy operation of equipment. These areas correspond pretty well with older oak-hickory woods and mixed hardwoods, namely, Stands 6 and 8.

Growing sites vary in their quality and productivity; some are better than others. One measure of the productivity of a given site is called site index. Site index is defined as the height, in feet, of a dominant or co-dominant tree at age 50. The higher the number, the better the site. Site index figures for soils found on the Herold/Howard property are as follows:

- For eastern white pine: 75
- For Virginia pine: 80 on Vandalia-Brookside
- For black oak: Not available
- For northern red oak: 66 on Elba-Brookside-Berks; 77 to 81 on all others
- For white oak: Not available
- For sugar maple: Not available
- For tuliptree (yellow-poplar): 76 on Elba-Brookside-Berks; 90 to 95 on all others

Site index figures of 66 for northern red oak and 76 for yellow-poplar indicate that the Elba-Brookside-Berks complex is not well suited to these species. Yellow-poplar especially does not do well on hot, drouthy sites or on thin or rocky soils.

For more information on soils, see a website called Web Soil Survey, or see the soil survey for your county, available at your local soil and water conservation district (SWCD) office. See also the attached custom soil survey. Please be aware, there isn't any need to print this large document. I have included it with this forest management plan only for your information.

### **Water & Wetlands**

There is a small manmade pond on the Herold/Howard property, also a recently drained pond. Some low-lying areas may be considered wetlands. There is also a developed spring and an old stock tank at the top of the main ravine, in about the middle of the property, further evidence that there were once livestock here.

### **Rare, Threatened, & Endangered Species**

There aren't any known rare, threatened, or endangered species located on the Herold/Howard property.

### **Cultural, Historical, & Archaeological Resources**

There aren't any known cultural, historical, or archaeological resources located on the Herold/Howard property except for several buildings or structures of varying ages.

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### **3. Description of the Forest**

#### **Notes**

1. The previous sections and the following stand descriptions include words that may be unfamiliar to you. Refer to the glossary of forestry terms for definitions.
2. Refer also to the enclosed or attached forest stand map and other maps for locations and configurations of the features described in this plan.
3. I have based my forest stand map on a previous such map prepared by Dean Berry in June 2013. I have used his numbering scheme for forest stands so as to avoid confusion, but I have adjusted some of his stand boundaries, thus also the acreage figures of various stands.
4. The stand boundaries shown on the aforementioned forest stand map and the descriptions of stands that follow are merely guides for your management activities. Conditions on the ground may vary. In every case, when you are making your management decisions, you should go with conditions on the ground or as you find them in your woods. *That's where management takes place.* It does not take place on paper, and neither your emphasis nor your forester's emphasis should be on what is printed on a piece of paper versus what is actually on the ground or in your woods.
5. There may be funds available through the U.S. Department of Agriculture (USDA) for the work prescribed in this plan. If you are interested, contact the Natural Resources Conservation Service (NRCS) and inquire about the Environmental Quality Incentives Program (EQIP). You may also contact your service forester, who works for the Ohio Department of Natural Resources (ODNR), Division of Forestry. Contact information follows.

**U.S. Department of Agriculture (USDA)**  
**Natural Resources Conservation Service (NRCS)**  
**Athens County USDA Service Center**  
69 South Plains Road  
The Plains, OH 45780-1339  
(740) 797-9686

**Ohio Department of Natural Resources (ODNR)**  
**Division of Forestry**  
**Service Forester**  
**Project 22—Athens, Morgan, and Washington counties**  
Cameron Bushong  
29371 Wheelabout Road  
McArthur, OH 45651  
(740) 274-4934  
Cameron.Bushong@dnr.ohio.gov

## **Stand 1**

**Area:** 3.28 Acres (3.5 Acres in Dean Berry's plan)

**Forest Type:** Non-forest (Home sites, buildings, driveways, parking areas, yard, landscaping, power line right-of-way, planting area, etc.)

**Location & Description:** Stand 1 includes most of the non-forested acreage on the Herold/Howard property. It is on the site of old farm fields; growing conditions have probably been degraded because of past agricultural use. Also, there has been development, earthmoving, excavation, landscaping, and other kinds of disturbance here. These kinds of disturbances are favorable for the reproduction and growth of non-native, invasive species. You will find several species of this type within Stand 1, including: autumn-olive (shrub), bamboo (tall, semi-woody grass), European privet (shrub), Japanese honeysuckle (vine), periwinkle or vinca (low-growing or prostrate vine), and winged euonymus or burning-bush (shrub).

**Recommended Silvicultural Treatment:** Do your best to keep non-native, invasive species under control. Replace these species wherever you can with either native plants or non-invasive plants.

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## **Stand 2**

**Area:** 0.8 Acres (1.6 Acres in Dean Berry's plan)

**Forest Type:** Non-commercial woodland (old-field tree planting)

**Location & Description:** Stand 2 is a small, old-field stand of some planted trees (oak and maple) and some native volunteers, plus brush, briars, and vines. I have reduced the area of Dean's Stand 2 by taking away the area of the pond (0.3 acres), plus a small area of pine, plus some other small areas south and east of the pond.

**Recommended Silvicultural Treatment:** Eradicate non-native, invasive species; plus: keep planting native timber-producing and mast-bearing trees at your discretion until such time as this small area is fully stocked with at least 350 to 400 trees of commercial timber species; once this area is fully stocked with commercial timber species, you can consider it to be commercial timberland rather than non-commercial woodland for purposes of CAUV.

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### **Stand 3**

**Area:** 14 Acres (21.7 Acres in Dean Berry's plan)

**Forest Type:** Old-field/early-successional hardwoods and pine

**Species:** Black walnut, black cherry, red maple, white ash (dead or dying from emerald ash borer), black locust, persimmon, American elm, American sycamore, sugar maple, black oak, bitternut hickory, boxelder, eastern redbud, elderberry or American elder, wild grape, eastern white pine, Virginia pine, and associated species

**Non-Native, Invasive Plant Species:** Ailanthus or tree-of-heaven (tree), autumn-olive (shrub), bush honeysuckle (shrub), European privet (shrub), garlic mustard (biennial herb), Japanese honeysuckle (vine), Japanese stiltgrass (annual grass), possibly others

**Location & Site Conditions:** Stand 3 includes all of the wooded old-field sites located at mid-slope and below, mostly in the southern two-thirds of the property. (Contrast old-field sites in Stand 3 with similar sites in Stand 7, which is located on upper slopes and ridgetops in the northern one-third of the property.) These sites were once used for conventional agricultural production, to grow pasture grass, hay, or both. This type of use would have resulted in eroded, depleted, and compacted soils, over all in degraded site conditions. These conditions have no doubt improved after several decades under forest cover. However, most of the woods within Stand 3 are not especially well developed. Also, non-native, invasive plants are extremely profuse, a pretty common condition in old fields.

**Description:** Stand 3 is for the most part a thick, brushy, overgrown, and jungle-like mix of brush, vines, saplings, and poletimber. This is typical for old-field woods early in their development. The age of most of the woods within Stand 3 is less than about 50 years old, with some areas being less than about 30 years old.

Luckily, there are lots of black walnut and black cherry trees, plus other good and valuable timber-producing and mast-bearing trees, in Stand 3. These should be encouraged in their growth and reproduction by: a) the cutting of grapevines that are interfering with their growth and causing them damage; and b) the removal of non-native, invasive plants.

**Recommended Silvicultural Treatment:** 1) Cut grapevines that are growing in timber-producing and mast-bearing trees, especially walnut and cherry but also including oak and hickory; 2) Cut, treat, pull, and otherwise control non-native, invasive species, beginning with ailanthus or tree-of-heaven, bush honeysuckle, and Japanese honeysuckle, and continuing with autumn-olive, European privet, and any other non-native shrubs or woody plants you might find; 3) Once those activities are well under way, begin weeding, thinning, and crop tree release, all with the advice and assistance of a professional

forester or well-qualified forestry technician, if needed; 4) Continuing control of non-native herbaceous plants. Controlling garlic mustard is the easy part of this job. Controlling Japanese stiltgrass is more problematic.

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#### **Stand 4**

**Area:** 4 Acres (2.0 Acres in Dean Berry's plan)

**Forest Type:** Pine plantings

**Species:** Eastern white pine and associated hardwood volunteers, including yellow-poplar, persimmon, northern red oak and/or scarlet oak, plus eastern redbud and wild grape

**Non-Native, Invasive Plant Species:** Same as Stand 3.

**Location & Site Conditions:** Like Stand 3, Stand 4 is located on old-field sites. Site conditions or growing conditions are about the same.

**Description:** Stand 4 is a well-stocked or overstocked, even-aged stand of planted eastern white pine trees that are about 30 years old. These trees have reached about 8 inches in diameter-at-breast-height (dbh). Some are good, while others are somewhat poor. This stand has never been thinned. Thinning is probably in order, not only to improve the vigor and growth rates of remaining trees, but also to extend the life of the stand and to head off any infestations of pine bark adelgid, a small sucking insect that moves into stands of eastern white pine that are stressed due to overstocking.

**Recommended Silvicultural Treatment:** 1) Cut grapevines that are growing in crop trees; 2) Consider preferred hardwood species (oak, hickory, persimmon, yellow-poplar) to be crop trees; 3) Thin this stand by cutting the poorest, spindliest, least vigorous, and most poorly formed trees, i.e., forked and double-stemmed trees. In your thinning, go carefully and conservatively, taking care not to thin too much in any one year or over all. If necessary, consult with a professional forester or well-qualified forestry technician before proceeding.

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#### **Stand 5**

**Area:** 1.1 Acres (1.5 Acres in Dean Berry's plan)

**Forest Type:** Non-forest (Old pond site/prairie planting)

**Location & Description:** Stand 5 is a small, roughly circular old-field stand. It was once the location of an artificial pond. That pond was drained about two years ago. Stand 5 is now the location of a prairie planting.

**Recommended Silvicultural Treatment:** 1) Eradicate non-native, invasive species; 2) Do your best to prevent erosion, runoff, and the formation of gullies. If necessary, consult with personnel at the soil and water conservation district office (SWCD) in The Plains.

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## **Stand 6**

**Area:** 11 Acres (5.5 Acres in Dean Berry's plan)

**Forest Type:** Oak-hickory and mixed hardwoods

**Species:** White oak, northern red oak, black oak, shagbark hickory, pignut hickory and/or mockernut hickory, sugar maple, American beech, blackgum, black cherry, black walnut, white ash (dead or dying from emerald ash borer), ironwood, eastern redbud, and associated species

**Non-Native, Invasive Plant Species:** Autumn-olive (shrub), bush honeysuckle (shrub), garlic mustard (biennial herb), multiflora rose (shrub or cane), possibly others

**Location & Site Conditions:** Stand 6 is located in the western half of the property on slopes around a prominent north-south ridge, also partly on the ridgetop. The aerial photograph from 1950 shows this area to have been wooded. I suspect that it was a wooded pasture. These sites are exposed to sun and wind. Consequently, they are hot and dry, in other words, typical oak-hickory sites. Soils are rocky and probably thin.

**Description:** Stand 6 is a well-stocked or adequately stocked, uneven-aged stand of saplings, poletimber, and sawtimber to about 24 inches in diameter-at-breast-height (dbh). There isn't much underbrush or undergrowth. There are also far fewer problems with non-native, invasive species in this stand than in adjoining old-field stands. Timber quality is generally good. There is some pretty wide spacing between trees. I suspect that even in the summer, Stand 6 is fairly sunny. There are some very old and very dry cut stumps in this stand. These are from a timber cutting that took place more than 30 years ago.

**Recommended Silvicultural Treatment:** 1) Eradicate non-native, invasive species; 2) Undertake general timber stand improvement (TSI) with the advice and assistance of a professional forester or well-qualified forestry technician, if needed; 3) If desired and if practicable, undertake a commercial improvement cutting by selling standing timber or logs, all with the advice of a professional forester; 4) By all means, avoid high-grading your woods.

**Location & Site Conditions:** Stand 8 is located in the eastern half of the property on two different types of landforms: 1) On slopes around an east-west ridge; and 2) In coves and ravines along the east boundary. Although these areas were probably once grazed by livestock, site conditions appear to be good. In fact, these might be among the best growing sites on the property.

**Description:** In its northern reaches, Stand 8 is similar to Stand 6 in that it is situated on slopes around the main ridge. South of that is an area around a system of ravines or upland drainage ways. These all appear to be good growing sites.

In the northeastern corner of the property, on the far side of the ridge and on a northeast-facing slope, is a triangular area of nice woods dominated by small-diameter sugar maple trees. This area is more or less even-aged and well stocked, an open stand with little in the way of underbrush.

South of that, on the near side of the east-west ridge, is a south-facing slope on which you will find a nice mix of sugar maple, chinkapin oak, northern red oak, black oak, and associated species. This is a more nearly uneven-aged stand, also well stocked, and includes some larger trees. It adjoins Stand 6 and is similar to Stand 6.

Further south from there, along the ravines, are some nice areas of well-stocked, uneven-aged woods, including saplings, poletimber, and sawtimber to about 16 inches in diameter-at-breast-height (dbh). There are also some larger trees, not only in this area of Stand 8 but also in areas to the north. Some of these mark property boundaries. Others are probably old field boundaries or pasture trees.

**Recommended Silvicultural Treatment:** 1) Cut grapevines that are growing in timber-producing and mast-bearing trees; 2) Continue in your efforts to eradicate ailanthus or tree-of-heaven; 3) Begin your efforts to eradicate all other non-native, invasive species; 4) Once those activities are well under way, begin weeding, thinning, and crop tree release, all with the advice and assistance of a professional forester or well-qualified forestry technician, if needed. 5) If desired and if practicable, undertake a commercial improvement cutting by selling standing timber or logs, all with the advice of a professional forester; 6) By all means, avoid high-grading your woods.

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**Minor species found on the Herold/Howard property:** American hornbeam, blackberry, black raspberry, eastern redcedar, hackberry, hawthorn, honeylocust, ironwood, pin oak (planted), poison-ivy, red mulberry, river birch (planted), Virginia creeper, yellow buckeye

## 4. Prescription

### Section 4a—General Recommendations for Managing Your Land

1. **Locate and mark your property boundaries** using brightly colored paint applied to trees and fenceposts along the perimeter at a distance of no more than 50 or 60 feet between marks. (There probably aren't any requirements as to the distance between marks under Current Agricultural Use Value. The requirement for Ohio Forest Tax Law is 100 feet or less.) The rationale behind marking your property boundaries is so that: a) You know what is yours, where it's located, and how it's configured; b) Your heirs and anyone visiting on your land knows where your boundaries are located; and c) Your neighbors, as well as hunters, loggers, mushroom hunters, ginseng hunters, people on foot or in motorized vehicles, trespassers, poachers, and so on may also see where your boundaries are located. **I recommend using brightly-colored, brush-type, boundary-marking paint from a source such as Nelson Paint Company, based in Michigan.** You may also use tree-marking paint, which comes in spray cans but which does not last as long as boundary-marking paint. 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; d) Use fenceposts or other markers wherever you are not able to make paint marks.
2. **Exclude livestock from the woods.** Grazing and the management of forestland are incompatible. Livestock are not good for the forest, and there is very little forage in the forest for livestock. You may sacrifice parts of your woods for shade or even for forage for livestock, but remember that any such parts cannot be considered proper forestland but only as pastureland. Remember also, that such areas must be fenced off so that livestock cannot access your forestland.
3. Do your best to **prevent forest fire** by not burning fields, fencerows, trash, etc., during fire season.
4. **Don't dump or dispose of junk, trash, or chemicals in your woods.** Forestland is not wasteland and should not be treated as such. If there is already junk and trash in your forest, begin work on getting it cleaned up. You can make an exception for old homesites or building sites, as these may be considered cultural, historical, or archaeological resources.
5. **Keep your roads and trails open by mowing or bush-hogging them.** Roads and trails offer access to your forest, including prospective work areas in your forest. You can't very well work there if you can't easily access your forest. Roads and trails may act as firebreaks. Mowing and bush-hogging may also keep down Japanese stiltgrass, a non-native, invasive species of grass that has become rampant in Ohio.

6. **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.
7. **Make a filing system for all of your important papers regarding the ownership and management of your land,** including your deed, plat drawing, tax plat map, property tax bills, forest management plan, other maps, publications, etc. Keep your files in good order and make sure you're in good standing with your county auditor's office (for CAUV) or the Ohio Division of Forestry (for OFTL).

## Section 4b—Controlling Non-Native, Invasive Species

Non-native species are plant species that have been introduced to North America, either intentionally or accidentally. All or most come from Asia or Europe. Although some may offer some benefits, all are ultimately harmful. They don't belong here, and all should be considered weeds. Although eradicating every non-native species from your land might not be a practicable goal, eradicating the worst of them is, and you would do well to go about it. You can also work on controlling the less problematic species with an eventual goal of eradication.

Non-native plant species come in different forms. They include trees, shrubs, vines, canes, semi-woody plants, and herbaceous plants, including broad-leaved plants or forbs, as well as grasses. The worst and most harmful are those that: a) inhibit the growth and reproduction of native plants; b) occupy space and use resources better used by native plants; and c) damage, break down, or destroy native plants. Following is a table listing some common non-native plant species and the level of threat I believe they represent.

<b>Common Non-Native, Invasive Plant Species in Ohio</b>			
<i>Common name</i>	<i>Scientific name</i>	<i>Form</i>	<i>Level of threat</i>
Ailanthus or tree-of-heaven; stink tree	<i>Ailanthus altissima</i>	Tree	Very High; overstory tree; allelopathic
Autumn-olive	<i>Elaeagnus umbellata</i>	Shrub	Medium; usually not a problem in forests; can be very invasive in old fields and strip-mined sites
Bush honeysuckle (Three species: Amur, Morrow, and Tartarian honeysuckle)	<i>Lonicera</i> species	Shrub	Very high; extreme ecological threat; very tolerant of shade; may form complete monocultures in the shrub layer; alters the chemistry of the soil; as a food source, may be harmful to birds
English ivy	<i>Hedera helix</i>	Vine	High; low-growing vine; not especially common in forests but can become very invasive; tolerant of shade; evergreen

European privet Border privet	<i>Ligustrum vulgare</i> <i>L. obtusifolium</i>	Shrubs	Medium to high; may form thickets
Garlic mustard	<i>Allaria petiolata</i>	Biennial herbaceous plant	Very high; tolerant of shade; allelopathic; displaces native herbaceous plants
Japanese barberry	<i>Berberis thunbergii</i>	Shrub	Medium to high; usually a low-growing shrub; correlated with increased populations of deer ticks
Japanese honeysuckle	<i>Lonicera japonica</i>	Vine	Medium to high; can destroy small trees, but usually not a problem in forests due to its lack of shade-tolerance
Japanese knotweed	<i>Reynoutria japonica</i> , <i>Fallopia japonica</i> , or <i>Polygonum cuspidatum</i>	Perennial, semi-woody plant	Very high; forms very dense growths along streams, roadsides, and ditch banks; crowds out native species
Japanese stiltgrass	<i>Microstegium vimineum</i>	Annual grass	High; forms monocultures along trails and in sunny spots in the forest
Kudzu	<i>Pueraria montana</i>	Vine	Very high; grows over everything in its path; problematic only in the southernmost parts of Ohio
Multiflora rose	<i>Rosa multiflora</i>	Shrub or cane	Medium; mostly a nuisance; may be in decline
Oriental bittersweet	<i>Celastrus orbiculatus</i>	Vine	Very high; strangles and destroys trees

Royal paulownia or princess-tree	<i>Paulownia tomentosa</i>	Tree	High; overstory tree; problematic only in the southernmost part of Ohio
Wineberry	<i>Rubus phoenicolasius</i>	Shrub or cane	High; may form very dense growths, even in shady woods
Winged euonymus or burning-bush	<i>Euonymus alatus</i>	Shrub or small tree	Medium to high; often a tall and dense shrub or small tree; may form thickets
Wintercreeper	<i>Euonymus fortunei</i>	Vine	High; low-growing vine; not especially common in forests but can become very invasive; tolerant of shade; evergreen

### Methods for Controlling Non-Native, Invasive Plant Species

There are two basic ways of controlling undesirable plants. These are mechanical control and chemical control.

**Mechanical control** involves merely mechanical means, such as pulling, digging, mowing, bush-hogging, girdling, and felling. Mechanical control is done either by hand or by the use of tools or equipment. For example, the best way to control garlic mustard, a herbaceous plant, is simply to pull it, specifically in the springtime before it goes to seed. Mechanical control may also work on certain larger plants, the control of which might otherwise require the use of herbicide. For example, small honeysuckle bushes are generally easy to pull up by hand, as they don't have very deep or extensive roots. For larger clumps, you might try using a weed wrench, a heavy-duty tool used for extracting shrubs and small trees from the soil. I have used a weed wrench on bush honeysuckle, and it seems to do the job pretty well without resort to herbicide.

**Chemical control** involves the use of herbicide. There are two basic types of herbicide for use in the forest. These are brush killers, such as triclopyr, and foliar herbicides, such as glyphosate. Brush killers are generally applied to woody surfaces. Foliar herbicides are only for use on leaves, buds, and other soft or green tissues.

Continued next page.

**There are four basic methods for chemical control of undesirable plants:**

1. **Foliar application** involves the use of a foliar herbicide, such as glyphosate, applied to leaves, buds, and other soft or green tissue. One good thing about many non-native species is that they green up before most native plants in the spring, and they remain green after native plants have lost their leaves in the fall. This allows for two opportunities to hit non-native species without great risk to native species, as long as you are careful in your use of herbicide.
2. **The cut-stump treatment** is carried out by your severing the stem or trunk of the target plant and immediately applying herbicide to the resulting cut surface. This is typically a two-person job, with one person cutting the plant, and the other applying the herbicide. The cut-stump method is not recommended for controlling ailanthus or tree-of-heaven. A foliar herbicide such as glyphosate may work in situations like this. It might be better to use a brush killer.
3. **The hack-and-squirt method** is carried out, again, in a two-step process. First, make several downward cuts around the circumference of the stem. These are at about a 45-degree angle so that the wound forms a kind of cup for holding the herbicide in place until it can be absorbed into the plant and begin to take effect. Take care not to girdle the stem completely. The idea is that the top and the bottom of the plant are still connected so that the herbicide can be transported throughout. Second, apply the herbicide to the several wounds you have made with your blade. A brush killer works best in this situation.
4. **The basal-bark method** involves the application of herbicide (and other chemicals) only and no cutting at all. The herbicide, a brush killer such as triclopyr, is mixed with a penetrant or carrier and with a chemical dye and applied all around the base of the stem to a height of about 1-1/2 to 2 feet, including any root flares. The carrier or penetrant penetrates the bark and carries the herbicide into the interior of the plant. The chemical dye is used so that you can keep track of which plants you have treated and which remain to be treated.

I usually recommend that landowners begin controlling non-native, invasive plants before doing very much other cutting in their forestland, as cutting grapevines, trees, and so on allows more sunlight to reach the ground. Any kind of cutting—and the resulting condition of more sunlight reaching the ground—only creates habitat for undesirable plants.

I also usually recommend that landowners attack the worst, most invasive, most threatening non-native plants first. Usually, this means ailanthus or tree-of-heaven and bush honeysuckle. Oriental bittersweet is also an extremely invasive and destructive plant. A bad infestation of oriental bittersweet may be a worse threat even than ailanthus.

**Ailanthus or tree-of-heaven** (*Ailanthus altissima*) is a non-native 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 and reproduction.\* Ailanthus also occupies space that can be used to grow good and valuable timber. Although ailanthus often grows out of control, you can eradicate it from your forestland with determined effort.

**Bush honeysuckle (*Lonicera* spp.)** is a shade-tolerant shrub that grows in the understory and can easily take over in the forest, especially on cool, moist sites, such as in stream bottoms. 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 forest than ailanthus. The reason for this is that bush honeysuckle is very tolerant of shade, whereas ailanthus is not. Nonetheless, you would do well to eradicate them both.

\* The ability of a plant to generate and secrete chemicals in the soil so as to inhibit the growth and reproduction of other plants is called *allelopathy*. A plant capable of allelopathy is considered *allelopathic*. Not all allelopathic plants are bad. For example, black walnut is allelopathic towards certain other plants.

**My recommendations for the control of non-native, invasive species are as follows:**

1. **Eradicate ailanthus or tree-of-heaven.** Eradicating ailanthus requires the use of herbicide. Simply cutting it will only stimulate its growth and reproduction. Although there are several ways of treating ailanthus, I would recommend either: a) A basal-bark application of herbicide mixed with a penetrant or carrier and a chemical dye; or b) The hack-and-squirt method, in which you apply herbicide to several cuts made around the circumference of the trunk.
2. **Eradicate bush honeysuckle.** Your options for controlling bush honeysuckle are more varied than with ailanthus or tree-of-heaven. Bush honeysuckle is easy to pull out when it's small. Otherwise, use the cut-stump treatment, the hack-and-squirt method, a basal-bark application, and/or a foliar application of herbicide to eradicate this very aggressive shrub.
3. **Eradicate oriental bittersweet.** Oriental bittersweet is not especially common, not yet anyway. However, it is an extremely destructive plant, and you would not want it to gain footing in your forest. Recommended control is to sever all stems as you would with grapevines, making a high cut and a low cut on each one. Once cut stumps re-sprout, you can treat the resulting foliage with a foliar herbicide such as glyphosate. The cut-stump method, hack-and-squirt method, and basal-bark method may not be practicable considering how many stems you might be dealing with.
4. **Cut, treat, and otherwise control all other non-native, invasive species so as to promote the growth and reproduction of native species.** Many of the species listed in the table above are shrubs and should be fairly easy to kill using the same treatment you would use on bush honeysuckle. Herbaceous broadleaf weeds (such as garlic mustard), grasses (such as Japanese stiltgrass), and semi-woody species (such as Japanese knotweed) may require a

different or more specialized kind of treatment.

**Triclopyr** is a common brush killer and is very effective in the control and eradication of undesirable plants, as long as it is used correctly and in accordance with the herbicide label. You may also add some **imazapyr** to triclopyr, but that probably isn't necessary. Triclopyr is a commonly used herbicide and is generally available at the farm store. Imazapyr is a more specialized chemical. You may have to special-order it. It's also more expensive, but then again, it's very powerful and effective in low quantities. (These are chemical names. There may be several generic names or brandnames for each. Be aware that different brands may have different concentrations of the active chemical or chemicals.) The penetrant or carrier to use is **basal oil**, **diesel fuel**, or some other approved chemical. (See the herbicide label for approved chemical names.) Also, you should add a **chemical dye** to your mix so that you can keep track of which plants you have treated. Be sure to use herbicide and other chemicals only in the manner prescribed on the herbicide label. See the following publications for more information:

- **Controlling Undesirable Trees, Shrubs, and Vines in Your Woodland** by Randall B. Heiligmann, Ohio State University Cooperative Extension Service, School of Natural Resources F-45-97 (Jan. 1996), 3pp.
- **Relative Effectiveness of Herbicides Commonly Used to Control Woody Vegetation in Forest Stands** by Randall B. Heiligmann and Dave Krause, Ohio State University Cooperative Extension Service, School of Natural Resources, F-51-06 (July 2006), 4pp.

## **Section 4c—Controlling Grapevines**

### **Grapevines**

There are several species of wild grape (*Vitis* species) that grow in Ohio. These plants are native, and they are good for wildlife. However, they can be hard on trees, especially small trees and trees with thin crowns, such as black walnut and black cherry. I would not recommend that you cut every grapevine in your woods. Instead, I would recommend that you cut only those vines that are growing on good timber-producing trees, mast-bearing trees, crop trees, or other trees that you wish to grow because they meet one or more of your goals of ownership.

### **Silvicultural Prescription for Controlling Grapevines**

**Cut grapevines that are growing in timber-producing trees, mast-bearing trees, and other crop trees.** Cutting grapevines will help to speed the growth and improve the quality of desirable trees, i.e., the trees you want to grow to maturity. Be on the lookout especially for grapevines growing on black walnut trees, as these two species usually grow in the same places. Wild grape can be especially hard on walnut, as walnut has a thin crown that is easily overgrown and torn down by vines. You can leave grapevines that are growing in scrub trees, weed trees, non-crop trees, and dead trees. You can also leave poison-ivy and Virginia creeper vines, as these do not harm trees.

Make two cuts on every grapevine if possible, one at around head height, the other close to the ground. There isn't any need to pull grapevines out of trees after you have cut them. Although new vines or tendrils might grow from a cut stump, they will probably not do very well in shady woods. There isn't any need to pull cut grapevines out of trees. Once you have severed the stem, everything above the cut will die and will gradually decay, break apart, and come out of the tree.

the appearance of stands of planted eastern white pine.

Again, in any TSI operation, trees to favor include timber-producing and mast-bearing trees, also any other tree that you wish to grow because it meets one or more of your goals of ownership.

So:

**Trees to favor include:** Oak, hickory, walnut, cherry, yellow-poplar, sugar maple, and persimmon (a highly valued wildlife tree), plus the best, straightest, cleanest, healthiest, most vigorous, most desirable, and most valuable of other native species, such as beech, sycamore, blackgum, hackberry, and so on. Also, you should favor long-lived trees such as oak, hickory, and sugar maple over short-lived trees such as aspen, black locust, and sassafras. Also, favor high-value trees over lesser-value trees wherever possible. For example, aspen and buckeye are very low-value timber species. If they are competing with or overtopping more highly valued species such as oak, hickory, walnut, and cherry, I would not hesitate to cut them. Be aware that elm (because of Dutch elm disease) and ash (because of the emerald ash borer) no longer make good crop trees.

**Trees to discriminate against** include those that are bent, bowed, broken, cracked, forked, crooked, twisted, multi-stemmed, rotten, diseased, stunted, lacking in vigor, overabundant, weedy, or otherwise inferior, poorly formed, extremely defective, undesirable, or unlikely to move you towards your goals of ownership. Red maple in particular can be a poor and overly abundant tree, especially on old-field sites and in oak-hickory woods. Be sure to leave certain hollow trees or trees with cavities for their wildlife benefits. Also, there isn't any need to cut dead trees. These, too, can be good for wildlife, and they don't compete for resources with living trees.

### **Silvicultural Prescription for Timber Stand Improvement (TSI)**

**Undertake timber stand improvement (TSI)** with the advice and assistance of a professional forester or well-qualified forestry technician. TSI is designed to favor desirable trees at the expense of undesirable trees. Desirable trees include timber-producers and mast-bearers such as oak, hickory, walnut, cherry, yellow-poplar, sugar maple, persimmon, and other native trees as described above. Trees to discriminate against are also described above.

### **Guidelines for Timber Stand Improvement (TSI):**

- **In sapling and poletimber stands** (dominated by trees from 3 to 11 inches in diameter-at-breast-height [dbh]): Invasive species control and grapevine control, as well as other weeding, thinning, and crop tree release. In high-value stands such as stands of black 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 greater): Cull tree removal,

grapevine control, cutting of firewood, improvement harvesting, intermediate harvesting, or final harvesting. See the following Section 4e for more on selling and harvesting timber.

- **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 basically a miniature clearcut), further cutting to improve the woods, and coppice cutting of preferred species that have been badly damaged by logging.
- **In all stands:** Favor crop trees, i.e., trees that offer a benefit, provide a service or product, or meet your goals of ownership 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 (the more, the better), and has a large and healthy crown.

Some publications that might be of help to you in this area:

- **Forest Improvement Handbook** by Ron Rathfon, Mike R. Saunders, and Don Stump, Purdue University Cooperative Extension Service, Department of Forestry and Natural Resources, and Indiana Division of Forestry, FNR-IDNR-414 (Oct. 2009), 28pp.
- **Improve Your Woodlot by Cutting Firewood**, USDA Forest Service, Northeastern Area State and Private Forestry (Aug. 1978), 8pp.
- **How to Release Crop Trees in Precommercial Hardwood Stands** by Neil I. Lamson, et al., USDA Forest Service, Northeastern Forest Experiment Station NE-INF-80-88 (1989), 8pp.
- **Crop Tree Management: A New Tool to help You Achieve Your Woodland Goals** by David K. Apsley and Randall Heiligmann, Ohio State University Cooperative Extension Service, School of Natural Resources F-50-02 (Feb. 2002), 4pp.
- **Corrective Pruning of Black Walnut for Timber Form** by Walter F. Beineke, Purdue University Cooperative Extension Service, Department of Forestry and Natural Resources, FNR-76 (Feb. 1988), 8pp.
- **Improving Black Walnut Stands** by David N. Bruckerhoff, Kansas State University Agricultural Experiment Station and Cooperative Extension Service, Kansas Forest Service, L-718 (Sept. 2005), 2 pp.

## **Section 4e—Selling and Harvesting Timber**

### **Checklist for Selling Timber**

When it comes to the management of your forestland, the decision to sell timber is one of the most important ones you will ever make. In fact, it may be a once-in-a-lifetime decision, and you will surely want to make it in the right way. Below is a checklist for selling timber the right way.

1. **Work with a forester** who is committed first and foremost to serving YOU.
2. **Have your forester—with your input—select, mark, tally, and estimate volume and/or tonnage of trees that will be offered for sale.**
3. In any single-tree or group selection (both are considered acceptable silvicultural systems), select trees for cutting from: 1) A full range of species, including low-value species such as beech, elm, sycamore, and red maple; 2) A full range of diameters, including poor and stunted trees in the smallest diameter classes (i.e., trees less than 16 inches in diameter-at-breast-height [dbh]); and 3) A full range of quality, including very poor trees, even if these trees are cull trees (i.e., trees with little or no merchantable value). If you do not include low-value and low-quality trees in your timber sale, you are simply high-grading your woods.
4. **Sell ONLY the trees marked for sale by your forester.** Don't make any side deals with the logger or timber buyer.
5. **Advertise your timber sale as widely as possible.**
6. **Sell your timber by way of a sealed-bid process** and in an open market. A widely advertised, competitive, open-market, 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 dollar amount you receive for your timber.
7. **Sell timber ONLY by way of a written contract presented by YOU to the timber buyer.**
8. **Require payment in full and up front, before any timber is cut.** Also, require the payment of a refundable performance bond as a guarantee that the timber buyer or logger will do a satisfactory job of reclaiming, restoring, and repairing the site at the close of the logging operation.
9. **Require proof of workers' compensation** (or equivalent from Amish buyers or loggers) **and liability insurance coverage** from the timber buyer and/or logger.
10. **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.

11. **Require the logger to implement best management practices (BMPs)** for water quality and soil conservation during and at the close of the logging operation.
12. **Follow up timber harvesting with timber stand improvement (TSI)** with the advice and assistance of a professional forester or well-qualified forestry technician. 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.
13. **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 (or, Four Ways to Wreck Your Woods)**

- **Diameter-limit cutting**—In diameter-limit cutting, every tree of value over a certain diameter—usually 14 to 18 inches dbh—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 beech, buckeye, blackgum, and other low-value species are left behind. Don't sell timber by way of a diameter-limit.
- **High-grading by species**—Some species—white oak, red oak, walnut, cherry—are in general more valuable than others. If a logger or timber buyer wants to cut trees of these species while leaving behind 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," **WATCH OUT!** What he wants to "select" for cutting are your best, most valuable trees. The term "select cut" or "select harvest" is used in contrast to clearcutting, where clearcutting is judged to be "bad" and "select cutting" is judged to be "good." There are other ways of cutting, though. You can read about alternatives in Section 4 below. In any case, don't sell timber by a so-called "select cut."
- **High-grading by timber quality or value**—As the landowner, one of your objectives should be to improve growing conditions for your best, and most promising trees, i.e., 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.

## Section 4f—Other Management Activities

1. **If you are interested in planting trees, look into government programs available for offsetting your costs.** Be sure to consult with a professional forester or well-qualified forestry technician as to species, spacing, site preparation, weed control, etc., before proceeding.
2. **Create and manage wildlife habitat as you so desire.** Some of the things you can do to provide habitat for wild animals include:
  - **Retain and promote the growth, health, vigor, and reproduction of mast-bearing trees,** especially black walnut, butternut, persimmon, hickory, trees in the white oak group (i.e., white oak, chestnut oak, chinkapin oak, post oak, swamp white oak, and bur oak), and trees in the red oak group (northern red oak, black oak, scarlet oak, shingle oak, pin oak, Shumard oak, and blackjack oak).
  - **Retain a diversity of tree species in your forest,** as diversity in plant species translates into diversity in terms of wildlife.
  - **Eradicate non-native, invasive plant species.**
  - **Retain certain den trees and hollow trees,** especially oak, hickory, walnut, and sugar maple.
  - **Leave standing dead trees (called snags) and fallen dead trees in your forest.**
  - **Create brush piles and put down cover boards for invertebrates and small vertebrates.**
  - **Put up nest boxes and bat boxes.**
  - **Protect springs, seeps, ephemeral pools, and other wetlands.**
  - **Provide permanent or semi-permanent sources of drinking water** by constructing, digging out, or putting out wildlife watering holes, ponds, tanks, etc.
  - **Keep cats in the house.** It is estimated that cats kill upwards of one billion birds and upwards of six billion mammals every year in the United States. House cats are called house cats for a reason: they belong in the house.
  - **Consult with a forester, wildlife manager, or other natural resources technician on wildlife habitat management.** You can also look at various publications, including

publications issued by university extension services, state and federal agencies, and non-governmental organizations.

3. **If you have rare, threatened, endangered, or otherwise uncommon species on your property, do what you can to promote their health, vigor, growth, and reproduction.** For example, **butternut or white walnut (*Juglans cinerea*)** is a native tree species that is being wiped out by a non-native fungus called butternut canker. Butternut may yet have a chance at survival, but it may need our help. You can manage butternut just as you would any crop tree (it's very similar to black walnut) by cutting grapevines that are growing on it, thinning around it, releasing it from competition with its neighbors, and even propagating it and planting new trees in sunny spots on your property. See:

- **Conservation and Management of Butternut Trees** by Lenny Farlee, et al., Purdue University Cooperative Extension Service, Department of Forestry and Natural Resources FNR-421W (July 2010), 10pp.

4. **Protect and preserve cultural, historical, and archaeological resources.** Unlike natural resources, cultural, historical, and archeological resources are non-renewable. Once they have been destroyed or removed, they can't be brought back. If you have resources like these on your land, even if they're only 40 or 50 years old, you should protect and preserve them if at all possible.

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As a professional forester, I am available to help you in the implementation of your forest management plan and the management of your woods. If you have questions or need further advice and assistance, please contact me. Good luck in your efforts and with the management of your land and forests.

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Athens, OH 45701  
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## 5. Schedule of Management Activities

<i>Years</i>	<i>Stand(s)</i>	<i>Area (Acres)</i>	<i>Activity</i>	<i>Notes</i>
2023-2025	All	53.48	Locate and mark your property boundaries by applying brightly colored paint to trees and fenceposts along the perimeter at a distance of no more than 50 or 60 feet between marks	
2023-2033	Wherever found	Wherever found	Do your best to eradicate the worst non-native, invasive species, specifically ailanthus or tree-of-heaven and bush honeysuckle	
2023-2033	Wherever found	Wherever found	Cut, treat, pull, and otherwise control all other non-native, invasive species with a goal of eventual eradication; do this work in an orderly and systematic fashion, completing your initial treatments in one identifiable geographic area before proceeding to the next; try to do this work at a rate of about 5 acres per year	
2023-2026	3	14	Cut grapevines that are growing in timber-producing and mast-bearing trees; you can leave grapevines that are growing in weed trees, scrub trees, non-crop trees, and dead trees; you can also leave poison-ivy vines and Virginia creeper vines, as these do not harm trees	

2026-2029	8	11	Ditto	
2023-2033	7	8	Ditto	
2023-2033	4	4	Carry out all recommended management in this stand, including: 1) Invasive species control; 2) Grapevine control; and 3) Thinning	
2023-2033	2	0.8	Continue planting timber-producing and mast-bearing trees in an effort to convert this area to a proper forest stand	
2032-2033	All	53.48	Update your forest management plan so as to maintain your status under CAUV	

Record your other forest management activities in the area below:

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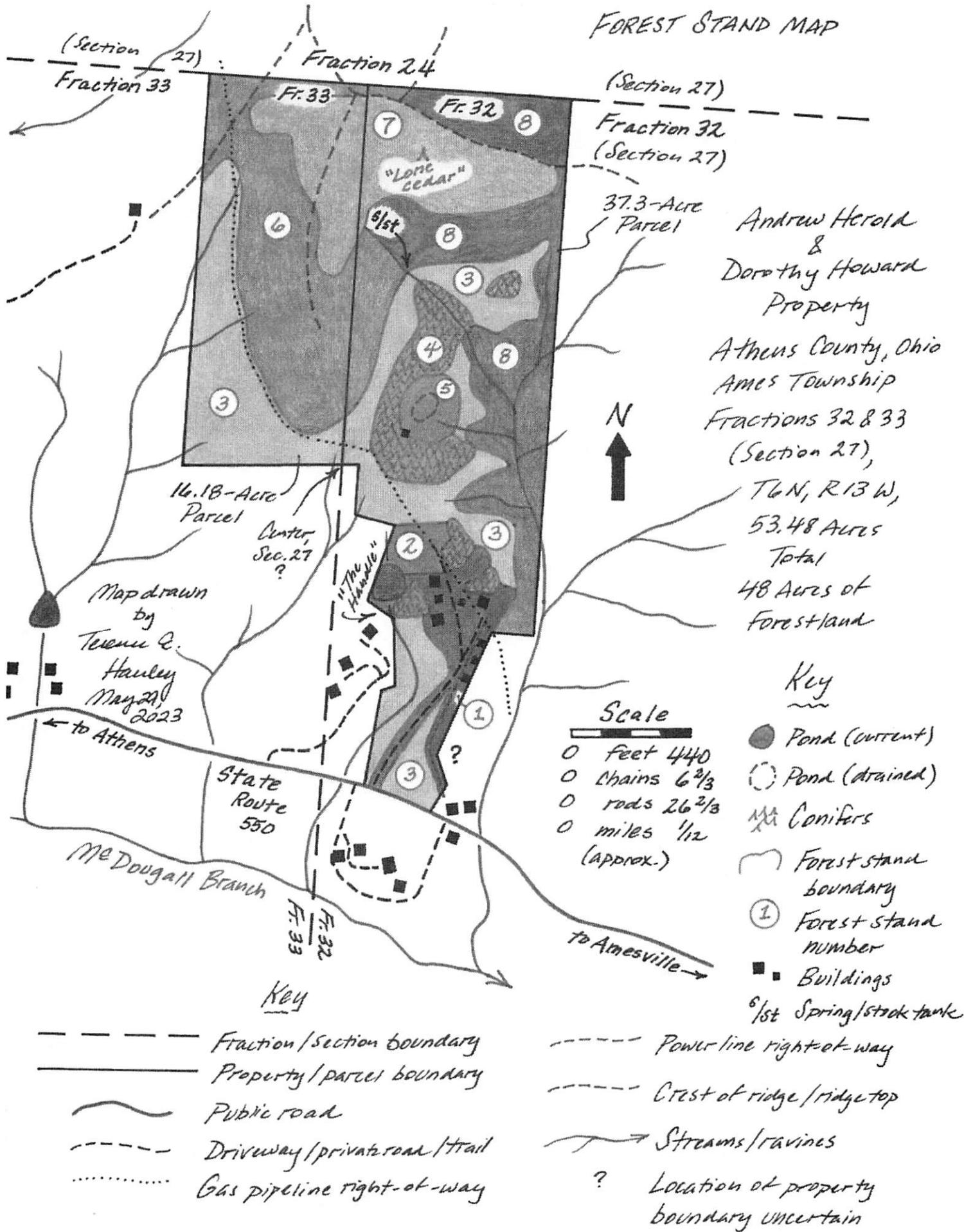


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# FOREST STAND MAP



**Andrew Herold  
&  
Dorothy Howard  
Property  
Athens County, Ohio  
Ames Township  
Fractions 32 & 33  
(Section 27)  
T6N, R13W  
53.48 Acres Total**

**Source: Google Maps**

550

550

**Aerial Photograph-1950**  
**Andrew Herold & Dorothy Howard Property**  
**Athens County, Ohio**  
Ames Township  
Fractions 32 & 33 (Section 27)  
T6N, R13W  
**53.48 Acres Total**



**Andrew Herold & Dorothy Howard Property**

**Athens County, Ohio**

Ames Township

Fractions 32 & 33

(Section 27)

T6N, R13W

**53.48 Acres Total**

