

Wildlife/Woodland Stewardship Management Plan



Owner's Information:

Owner: May L.M. Bonnaud

Signed: _____

Date: _____

Case Number:

Preparer's Information:

Prepared by: Eric R. Hayes Jr, Natural Resource Professional
Keeping it Native Land Management, LLC

Signature: *Eric R. Hayes Jr.*

Eric R. Hayes Jr.

42714 State Route 7

Coolville, OH 45723

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Date Prepared: 3/23/2023

Amended: 2/21/2025

This plan is valid for the period beginning January 1st, 2024 and ending January 1st, 2034

Plan Status: New

Inventory Method: On-site Property Review

Wildlife/Woodland Stewardship Management Plan

Owner May L.M. Bonnaud
Address 163 Old Coach Rd
Athens, OH 45701
Phone (740)447-5125 Case Number: _____
Cell _____ Email Address: setif42@aol.com
County Athens Township/Village/City: Athens Township
Parcel(s): A010010017600, A010010022201
Location: From Athens Ohio take US-33E, take exit 199B, then turn right onto old route 33, left onto Longview heights followed by a right turn onto old coach road which dead ends onto property at 161 old coach road.

Woodland Stewardship Acreage: 124.75 Non-woodland Stewardship Acreage*: 8.36
Total Property Acres 133.11 * Non-woodland acres for which stewardship recommendations are made.

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

- Ohio Forest Tax Law American Tree Farm Program
 Environmental Quality Incentives Program (EQIP) CAUV

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

Longitude: -82.075631 Latitude: 39.296482

Landowner Objectives

1. To improve and enhance the habitat for all wildlife.
2. To maintain and improve timber production.
3. To improve vegetative diversity of native plants throughout the property.
4. To become and remain eligible for EQIP, CAUV or other cost share and tax reduction programs.
5. To manage the property for all the attributes and opportunities that exists in a forest ecosystem including soil and water management, landowner recreation and other compatible conservation uses.

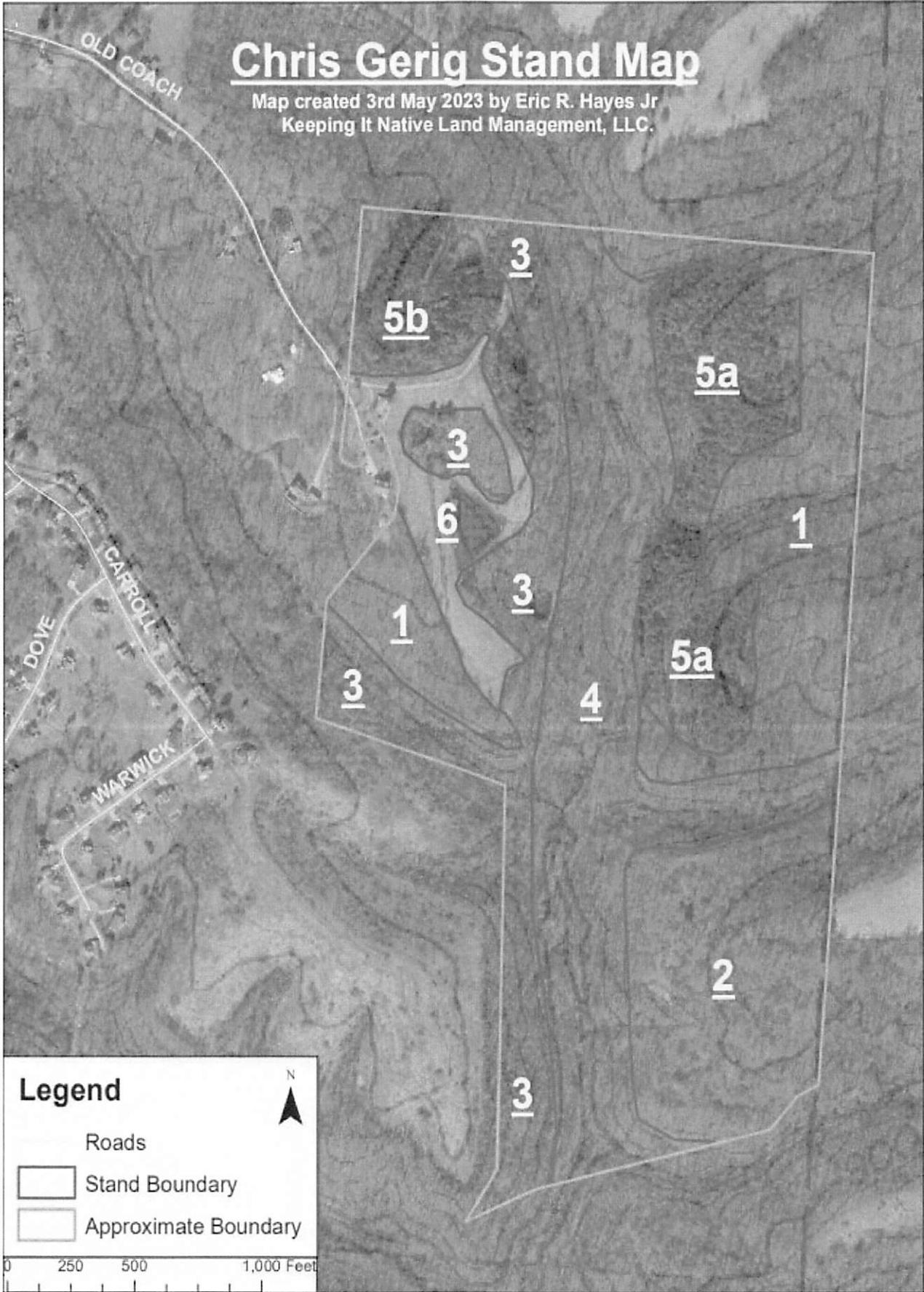
General Woodland Description

May has just taken new ownership of the property formerly Edgart, LTD was purchased in 2 parts. One parcel was purchased in 2006 and the other parcel was acquired in 2012. This property is located at 161 Old Coach Road Athens, Ohio 45701 Athens Township, Athens County. The property is accessible from the road via private drive that provides access to the NW portion of the property. The property has ridge top, gradual to very steep topography, and bottomland riparian zones. Elevation ranges from 800 to 960 feet above mean sea level. Boundary lines are pretty evident with paint located around most of the property, lines should be re-marked with oil-based tree marking paint.

The current landowner primarily utilizes the property for recreation, rentals, and investment. Enhancing wildlife and forestry habitat on the property is the primary goal for the landowner. There are some very nice oak and hickory dominated areas that have a heavy maple beech midstory and should be improved ASAP. Non-native invasive species (NNIS) have been located throughout the property and are very heavy in some areas. There are areas that are heavily dominated by autumn olive, bush honeysuckle, oriental bittersweet, privet and several other NNIS. Shrubby and grass NNIS are located throughout the property. This property has opportunity to apply for the USDA-NRCS Environmental Quality Incentives Program (EQIP). USDA-NRCS Environmental Quality Incentives Program (EQIP)

Chris Gerig Stand Map

Map created 3rd May 2023 by Eric R. Hayes Jr
Keeping It Native Land Management, LLC.



Wildlife/Woodland Stand Description and Management Recommendations

Stand # 1 - 25 acres

Dominant Species: White oak, black oak, red oak, hickories, poplar, red maple, sugar maple, beech, blackhaw viburnum

Forest Type or Dominant Vegetation: Upland Central Hardwoods

Stand Diameter or Size Class: All size classes

Stocking Level: Fully stocked

Stand History: Unknown

Topography: Gently rolling with small watershed drainages

Invasive plants or insects impacting this stand: Variable densities, predominately light throughout most the area with some pockets of heavy amounts of Japanese barberry, multiflora rose, autumn-olive and bush honeysuckle. Control efforts have been implemented in some of these areas.

Stand Description: Mixed hardwoods of all size classes predominately oak, hickory and maple in the overstory. Midstory is dominant with maple and beech with NNIS species scattered patchy in variable densities.

Past management activities completed in this stand: NNIS Control with cut/stump application efforts(Fall 2022)

<i>Management Recommendations:</i>
Deaden all NNIS
Midstory Management & Cull tree removal
Group/Temporary opening
Continuously monitor and deaden any NNIS

Desired forest type or dominant vegetation: Upland Central Hardwoods

Desired stand structure: Even aged

Is a timber harvest recommended? No

Comments: Quickly control what few NNIS are throughout the stand and start midstory management and cull tree removal. Once NNIS are managed then start on the mid story management while completing any cull tree removal necessary.

Cull trees are trees that are undesirable for reaching management objectives. They are often poorly formed with broken tops or crooked stems or have large limbs and defects on the lower portion of the main stem. Cull trees interfere with the growth of neighboring trees, ultimately taking up space that would be better suited to grow a more desirable tree. Deadening these trees will improve the productivity of the woodland. Girdled cull trees may eventually become snags, serving as habitat for wildlife and supporting organisms that are not found in living trees. As snags break up and fall apart over time, they contribute valuable woody debris back into the soil. Cull trees can also be utilized for firewood, brush piles and farm lumber.

There are a couple opportunities for group/temporary openings. Many times, there are stands of trees within woodlands that have no current or expected future commercial value. These stands also tend

to lack the optimal food and cover for wildlife. When this condition exists within your woodland, group openings are a great option.

Groups of trees that are unacceptable growing stock (UGS) – poor form, poor vigor, and undesirable species – can be felled/harvested/girdled or deadened with herbicide. Selecting groups of trees in patches will allow these areas to regenerate to both shade intolerant (oaks, hickories, cherry, walnut) and shade tolerant (maples, elms, beech) species. The inherent value of a group opening is that it can potentially regenerate light demanding species that would otherwise die out in the shade of taller trees for timber production. The openings can be managed over time with crop tree release and thinning to produce potentially higher quality trees. Furthermore, openings quickly regenerate with thick cover and fruit bearing species favored by deer, turkey, songbirds, and other wildlife. Reserves within a group opening may also be left in very light density for aid in reproduction, and as a continued source of mast. Creating openings throughout a woodland on a rotational basis will provide multiple types of food and cover at a single point in time while maximizing future returns on timber and diversity in the next generation of trees.

Where there are any areas along the field edge with low value trees, Edge Feather management could be implemented. This could also be done by planting or a combination of planting and thinning of the forested edge. Edge feathering is a great way to increase available habitats for all your game and non-game wildlife. Pollinator habitat has been planted along the only field edge and would make this area opportune to thin the edge of all non-desirable species to complete this edge feather.

Other Resources:

[NNIS Control](#)

[Midstory Management](#)

[Temporary opening](#)

[Edge Feather](#)

Wildlife/Woodland Stand Description and Management Recommendations

Stand # 2 - 18 acres

Dominant Species: White oak, black oak, sycamore, sugar maple, red maple, hawthorn, sumac

Forest Type or Dominant Vegetation: Old field reversion

Stand Diameter or Size Class: Sapling -Poletimber

Stocking Level: Understocked - fully stocked

Stand History: Reverting agriculture ground

Topography: Rolling - ridgetop

Invasive plants or insects impacting this stand: Variable amounts of multiflora rose, autumn olive bush honeysuckle, oriental bittersweet and stiltgrass.

Stand Description: This stand is in the early forest successional stage while reverting from once open ground. The areas that are fully stocked with native flora are fantastic and need only grapevines removed from crop trees and any NNIS controlled. Other areas are dense with NNIS that should be controlled.

Past management activities completed in this stand: N/A

<i>Management Recommendations:</i>
<u>NNIS Control & Grapevine Control</u>
Continuously monitor and deaden any NNIS

Desired forest type or dominant vegetation: Upland Central Hardwoods

Desired stand structure: Uneven aged

Is a timber harvest recommended? No

Comments: This stand will take a couple treatments to thoroughly control NNIS. While controlling NNIS it will be advantageous to include Grapevine Control along the way. Not all grapevines need to be cut. Although native and beneficial to wildlife, grapevines can significantly impact tree growth and development. Cut grapevines out of the better formed trees in the stand. Vines should be cut twice, once at chest-height and again at ground level.

If cut grapevines are growing in open light conditions, treat the cut-stump with herbicide containing glyphosate to reduce stump sprouting. Furthermore, grapevines need to be treated with herbicide if the canopy will be opened within 1-5 years after the vines have been cut. Grapevines growing in arbors or in poorly formed cull trees can be left uncut to provide food and habitat for wildlife.

Other Resources:

NNIS Control

Grapevine Control

Wildlife/Woodland Stand Description and Management Recommendations

Stand # 3 - 31 acres

Dominant Species: Chinkapin oak, red maple, sugar maple, poplar, black locust, Dead Ash

Forest Type or Dominant Vegetation: Upland central hardwoods

Stand Diameter or Size Class: All size classes

Stocking Level: Understocked - fully stocked

Stand History: Unknown

Topography: Variable from rolling to steep

Invasive plants or insects impacting this stand: Heavy – very heavy densities of autumn olive, multiflora rose, privet, oriental bittersweet, Japanese barberry, vine & bush honeysuckle, carpetgrass, Japanese stiltgrass and emerald ash borer(EAB).

Stand Description: This stand is still suffering heavily from the ash dying out from EAB. Not only is this area a hard-hat kind of area but it is heavily infested with very heavy amounts of NNIS. Bittersweet and grapevine scattered through the dead ash and NNIS causing a very seemingly impenetrable area that has several hazards and broken tops of ash trees spattered throughout mashing the impenetrable mat even tighter.

Past management activities completed in this stand: Some areas have had cut stump herbicide applications implemented fall of 2022

<i>Management Recommendations:</i>
Deaden all NNIS & Grapevine control
Follow up <u>NNIS Control</u>
Continuously monitor and deaden any NNIS

Desired forest type or dominant vegetation: Upland Central Hardwoods

Desired stand structure: Native flora

Is a timber harvest recommended? No

Comments: This stand has great potential if the NNIS are controlled thoroughly. No further recommendations will be made on this stand outside of NNIS control until the NNIS have been managed.

This stand has an access road going through it that should have best management practices(BMP's) implemented before the road becomes heavily degraded.

Other Resources:

NNIS Control

Ohio BMP's

Wildlife/Woodland Stand Description and Management Recommendations

Stand # 4 - **28.75** acres

Dominant Species: Black walnut, sycamore, honey locust, hickories, sugar maple, buckeye, elm

Forest Type or Dominant Vegetation: Riparian watershed buffer

Stand Diameter or Size Class: All size classes

Stocking Level: Fully stocked

Stand History: Riparian buffer

Topography: Gently rolling bottomland

Invasive plants or insects impacting this stand: Variable densities of grass, forbs and shrubby NNIS. Stiltgrass, multiflora rose, autumn olive, privet, bush honeysuckle, oriental bittersweet.

Stand Description: This stand serves as a watershed area for the property's main watershed. All the trails are infested with Japanese stiltgrass and areas of heavy-very heavy densities of NNIS.

Past management activities completed in this stand: Cut-stump herbicide applications implemented fall 2022

<i>Management Recommendations:</i>
Deaden all NNIS
Follow up <u>NNIS Control</u>
Continuously monitor and deaden any NNIS

Desired forest type or dominant vegetation: Riparian buffer

Desired stand structure: Healthy riparian zone

Is a timber harvest recommended? No

Comments: This stand should be maintained as a **Riparian Buffer** and have minimal disturbance to protect the stream quality and should comply with Ohio BMP's for any stream crossings. Outside of controlling all NNIS no further recommendations are made for this stand.

Wildlife/Woodland Stand Description and Management Recommendations

Stand # 5 - **22** acres in two parts: *Stand 5a: 15.5 ac; Stand 5b: 6.5 ac*

Dominant Species: White pine, Norway spruce, black walnut, American elm

Forest Type or Dominant Vegetation: Pine

Stand Diameter or Size Class: Small – medium sawtimber

Stocking Level: Understocked – fully stocked

Stand History: Pine planting

Topography: Gently rolling

Invasive plants or insects impacting this stand: Very heavy amounts of autumn olive, multiflora rose, wineberry, garlic mustard, privet, bush honeysuckle, oriental bittersweet, Japanese barberry and stiltgrass

Stand Description: This stand is an older pine planting predominately all small to medium sawtimber pine with some scattered hardwoods. Heavily infested with NNIS that needs immediate control efforts.

Past management activities completed in this stand: N/A

<i>Management Recommendations:</i>
Deaden all NNIS
Follow up <u>NNIS Control</u>
Continuously monitor and deaden any NNIS

Desired forest type or dominant vegetation: Pine forest

Desired stand structure: Even aged

Is a timber harvest recommended? No

Comments: Once this stand has had all NNIS controlled it will likely be close to time to harvest the pine stand or allow them the trees to age out on their own through time. Consider pine harvest on next forest management plan revision if all NNIS have been controlled at that time.

Other Resources:

NNIS Control

Japanese Stiltgrass

Wildlife/Woodland Stand Description and Management Recommendations

Stand # 6 - 8.36 acres

Dominant Species: Fescue grass field

Forest Type or Dominant Vegetation: Early successional habitat

Stand Diameter or Size Class: Grass and forbs

Stocking Level: Fully stocked

Stand History: Hay/grass field

Topography: Rolling

Invasive plants or insects impacting this stand: Japanese stiltgrass, carpetgrass and fescue

Stand Description: This stand was all fescue grass and has recently had ~2 acres converted to native pollinator habitat. This stand was blanket sprayed multiple times the frost seeded in with a native seed mix from pheasants forever.

Past management activities completed in this stand: Pollinator habitat establishment

<i>Management Recommendations:</i>
Enhancement Planting (pollinator habitat, tree planting, food plot)
Mow, fallow disc or prescribe fire every 3-5 years in pollinator habitat areas

Desired forest type or dominant vegetation: Native early successional habitat field

Desired stand structure: Un-even aged

Is a timber harvest recommended? No

Comments: This stand is a great opportunity to create some wildlife cover. Being low value currently as a fescue grass field that once was hay but now is just mowed to maintain as open. This area has already started to be converted to a more native and beneficial cover but remains a few acres that could be managed for some type of enhancement planting. No matter the type of planting, take the time and ensure that proper site preparation is implemented to help ensure a successful planting.

Other Resources:

Food Plot

pollinator habitat

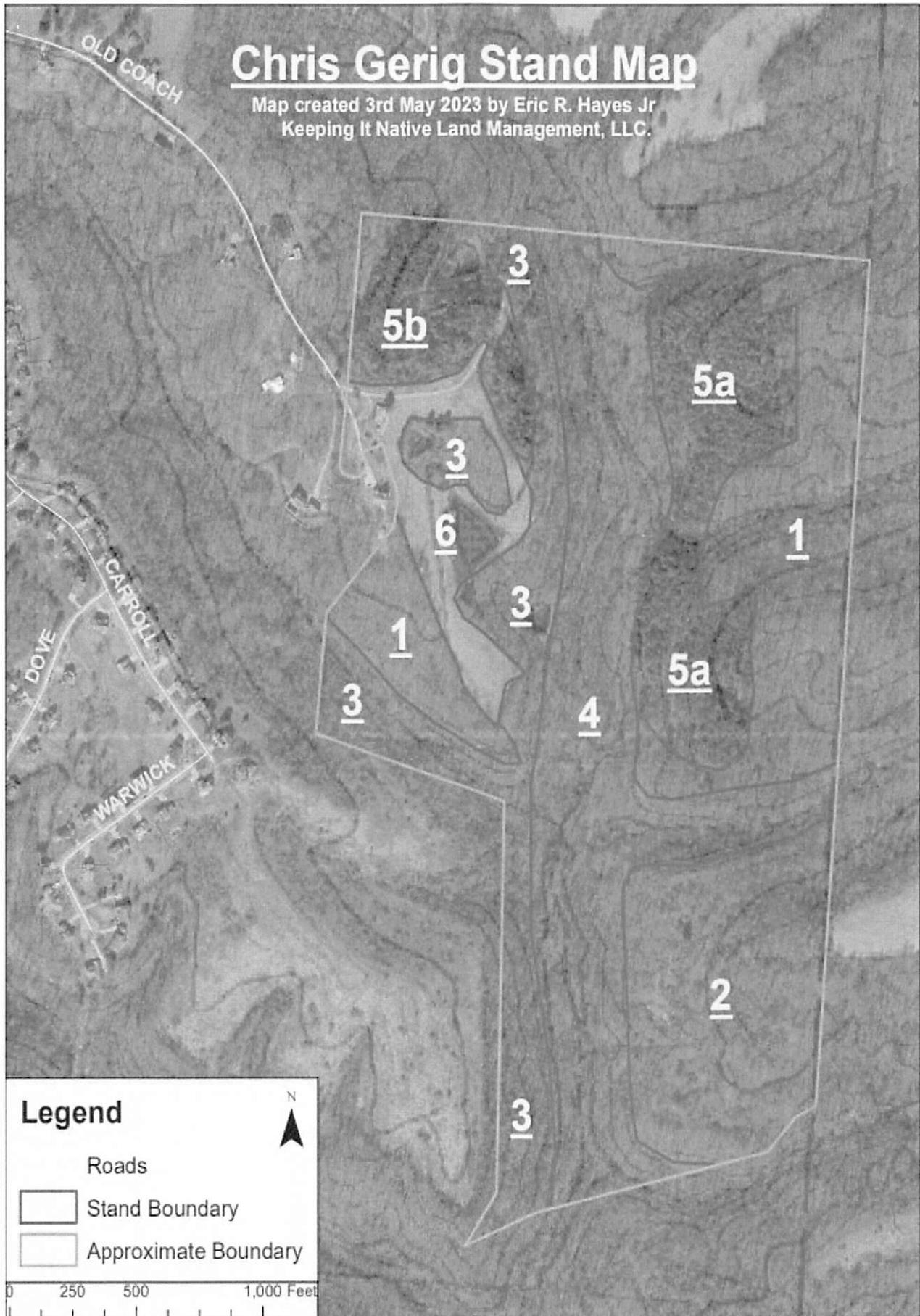
Tree Planting

Management Activity Schedule

Year(s) Suggested	Mgmt. Unit	Required Task?	Acres	Recommendations
2024	Entire Property	<input checked="" type="checkbox"/>	133.11	Mark and maintain all boundaries with oil-based tree marking paint every 5 years. Mark trees along lines so that someone can easily see from one mark to the next.
2024 - 2025	1 & 2	<input type="checkbox"/>	43	Deaden all NNIS and grapevine control
2025 - 2027	1, 2, 3	<input type="checkbox"/>	74	Follow up NNIS treatment
2026 - 2027	6	<input type="checkbox"/>	~4	Enhancement Planting
2026 - 2029	1	<input type="checkbox"/>	25	Midstory management Cull tree removal Temporary opening Edge feather
2029	Entire Property	<input checked="" type="checkbox"/>	133.11	Mark and maintain all boundaries with oil-based tree marking paint every 5 years. Mark trees along lines so that someone can easily see from one mark to the next.
2029 - 2030	4 & 5	<input type="checkbox"/>	50.75	Deaden all NNIS and grapevine control
2030 - 2032	4 & 5	<input type="checkbox"/>	50.75	Follow up NNIS treatment
2034	Entire Property	<input type="checkbox"/>	Next Site Visit – Woodland reviews are recommended at least once every five years, and plan updates once every ten years, based upon the date of the last woodland evaluation conducted by your forester	

Chris Gerig Stand Map

Map created 3rd May 2023 by Eric R. Hayes Jr
Keeping It Native Land Management, LLC.



Harvesting and Selling Timber

Selling timber can be one of the biggest financial decisions you make in your life. It's not something to enter into lightly. If you want a successful timber sale, you should:

- 1) Work with a professional forester who is committed first and foremost to serving **YOU**.
- 2) Have your forester—with your input—select, mark, tally, and estimate volume of trees for sale.
- 3) Sell **ONLY** the trees marked for sale by your forester. Don't make any side deals with the logger or timber buyer.
- 4) Advertise your timber sale to as many timber buyers as possible.
- 5) Sell your timber by way of a sealed-bid process. A sealed-bid sale sets timber buyers up in competition with each other, thereby maximizing the amount you receive for your timber.
- 6) Sell timber **ONLY** by way of a written contract presented by **YOU** to the timber buyer.
- 7) Require payment in full before the logging crew arrives on your property.
- 8) Require proof of workers' compensation and liability insurance coverage from the timber buyer and/or logger.
- 9) Visit the area where logging is going on at the outset of the operation and at least twice a week afterwards.
- 10) Require the logger to implement best management practices (BMPs) for water quality and soil conservation during and at the close of the logging operation.
- 11) Follow up timber harvesting with timber stand improvement (TSI) under the direction of a 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.
- 12) **BY NO MEANS HIGH-GRADE YOUR WOODS!** High-grading is an all too common practice whereby the best, most valuable timber is cut while leaving trees with little value in the woods. A high-grade cutting goes by many disguises:
 - **Select cut**—The term “select cut” has absolutely no specific meaning in forestry. It is commonly used to refer to any harvest that is not a clearcut. Often, it refers to a cut in which the trees were chosen based on their current economic value, not for the sake of improving the stand or establishing acceptable regeneration. If someone uses the term “select cut” or “select harvest,” **BEWARE!** What they want to “select” for cutting are your best, most valuable trees. **DON'T cut timber by a so-called “select cut.”**
 - **A diameter-limit cut**—In a diameter-limit cut, every tree of any value over a certain diameter—usually 12 to 20 inches—is cut. Diameter-limit cutting is a form of high-grading. **DON'T diameter-limit cut your woods.**
 - **Logger's choice**—Allowing a logger or timber buyer his choice of trees to cut usually results in high-grading. **DON'T allow the logger his choice when deciding what 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 forester or logger wants to cut trees of these species while leaving beech, gum, locust, elm, sycamore, and other low value species in your woods, he is looking to high-grade your woods. **DON'T high-grade by species.**
 - **High-grading by timber quality or value**—As the landowner, one of your objectives should be to improve growing conditions for your 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 defective. **DON'T leave these trees in the woods while cutting your best, most valuable timber.**

Addendums

A Key to Terms in the Stand Descriptions

Foresters measure trees in different dimensions, including diameter, height, and volume. **Diameter-at-breast-height** (dbh, measured at 4-1/2 feet above ground level) is one of the easiest measurements to make. Each tree then falls into a specific diameter class or category. These can include:

- **Seedlings** – Less than 1 inch dbh and/or less than 4-1/2 feet tall.
- **Saplings** – Between 1 and 5 inches dbh.
- **Poles or poletimber** – Between 6 and 11.5 inches dbh.
- **Small Sawtimber** – Between 11.5 and 17.5 inches dbh.
- **Medium Sawtimber** – Between 17.5 and 23.5 inches dbh.
- **Large Sawtimber** – 23.5 inches dbh and larger

Even-aged – All or most of the trees in the stand are the same age. They may vary in diameter, but most trees of the same species on the same site are also the same height. Stands of pine, yellow-poplar, and oak are usually even-aged.

Uneven-aged – Trees are different ages, hence different heights. Maple, beech, and other shade-tolerant species often form uneven-aged stands.

Two-aged – Trees are of two distinct age classes.

Stocking

Every growing site can support a certain amount of growth. Best growth occurs when stocking levels are at optimum levels, in other words, when you have a **well-stocked** or **fully stocked** stand. Stocking refers to how many trees are growing in each area and correlates the size of the trees to their general spacing. Stands can be under stocked where too few trees are utilizing the growing space, over stocked where too many trees are growing in each area, or fully stocked. Moreover, stocking can be referred to as acceptable growing stock (AGS) and unacceptable growing stock (UGS). AGS includes trees that enhance wildlife habitat and will provide products for sale. UGS refers to trees that are undesirable for reaching management objectives either due to species, form, or quality.

Under-stocked sites are under-utilized, that is, they could be used to grow more trees.

Over-stocked sites result in less-than-optimal growth due to intense competition among trees.

Thinning is needed in overstocked stands if they are to grow and produce at optimum levels.

Woodland Resource Descriptions

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



Soils are an important consideration whether you're growing forests, crops, or pasture. The most productive soils are deep, light in texture (i.e. loamy or silty), moist but well drained, and rich in nutrients and organic matter. Generally speaking, slopes that face north or east have more fertile soils. Greater exposure to sun, wind, and temperature variations on west and south facing slopes leads to drier conditions, slower soil development, and lower soil fertility. Soil quality also tends to improve from the top of a hill to the lower part of the slope. Lower slopes tend to have more moisture, deeper soil, and higher fertility. If other factors are equal, trees tend to grow more quickly on lower slopes, concave slopes, and on north or east facing slopes.

A wider variety of species will be capable of growing on the more fertile sites. However, each type of tree will achieve its best growth on a site where it has a competitive advantage. For example, red oak will make its best growth on lower slopes and concave slopes. Sycamore grows best in stream valleys. Scarlet oak and chestnut oak actually have a competitive advantage on the drier soil near the top of the ridge.

Soil scientists classify soils based on texture, content, color, and origin. Each soil type has a unique name and unique characteristics. Descriptions and maps of these soil types have been compiled in a published soil survey. The soils map and soil survey may be used to obtain a better understanding of the soils and how they affect the attainment of landowner management objectives. Specific information about the soils on your forestland may be obtained from the Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov/app/>.

Within each soil map unit are some significant variations in soil conditions. For accurate information about the soils in a specific location, it might be necessary to conduct a soil test.

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

Timber production is practical and possible for this property. The woodlands are stocked with a variety of marketable timber species that can produce valuable wood products now and into the future. Timber stand improvement (TSI) management practices such as grapevine control, cull tree & undesirable hardwood species control, and crop tree release will certainly enhance the quality and value of your timber resources over time, and are important tasks to implement in order to maximize the timber potential in your woodland.

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

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

Cover, food and water are all necessary to attract wildlife. Different species use different cover types, and maintaining a diversity of cover is key to attracting a wide variety of wildlife. A mixture of sapling areas, pole areas and sawtimber areas will help meet the need for habitat diversity. Small openings in the forest and/or open areas along woodland roads help provide areas for birds and their young to come and catch insects. Openings can also be seeded to grass and clover mixes to provide an additional variety of food.

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

Allowing a few responsible individuals to hunt deer on your property is beneficial to your forest by reducing browsing damage on seedlings and leaving more acorns that could contribute to oak regeneration. A reduction in deer browsing would also allow the survival of a greater diversity of wildflowers and other native plants. Encouraging hunters to take does is recommended to achieve better

health of the deer herd. Tree stands should be removed when not in use. Leaving a tree stand up during the growing season is detrimental to the growth and health of the tree.

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

Soil and water conservation practices can be applied to this property. Perennial streams should always be buffered with trees. Livestock should be kept out of streams. Water control structures should be used in areas where access trails and roadways are present.

The water and soil resources on your property should be protected and enhanced. Using the information in this plan and information available through your local Soil and Water Conservation District you can implement sound soil and water conservation practices on your property.

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

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

Hilly to steeply sloped terrain is more subject to site disturbance and subsequent soil erosion and sedimentation. Forest management often may still be accomplished on these steep areas with the use of BMP's. Even when the forest terrain is nearly level to gently rolling, and where slope does not present a hindrance to access for management activities, it is important to keep the trails up away from the small drainages where possible. This helps protect water quality by providing a buffer strip of undisturbed soil and leaf litter where any sediment can be trapped before reaching the drainage, if some should get washed off the path.

During timber harvest activities, follow the Best Management Practices outlined in the Ohio State University Bulletin #916 – BMPs for Erosion Control for Logging Practices in Ohio. This booklet is available online at www.ohiodnr.gov/forestry/ or at your local Division of Forestry office.

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

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

The main threat to forest health in this area is infestation by non-native, invasive species. The most common invasive plants in woodlands in this area are *Ailanthus altissima*, (also known as stinktree or tree-of-heaven), multi-flora rose, Japanese honeysuckle, Chinese privet, and Japanese stiltgrass.

Non-native Invasive Insects:

Emerald ash borer (*Agrilus planipennis*) is a beetle native to Asia that feeds on all species of ash. It is believed to have come to North America by way of the port of Detroit, Michigan in the 1990's. This insect can spread naturally from tree to tree, as well as artificially through the movement of ash material such as firewood.

No practical treatments have been found to prevent infestation or to save a tree once it is infested. Research indicates that emerald ash borer is incapable of completing its lifecycle on any North American timber species other than ash trees. Trees infested with emerald ash borer usually die within

two to five years. Once emerald ash borer has been identified in a particular location, it typically kills 99% of the ash in the vicinity over the next five years.

In well-stocked stands of oak, hickory, maple, and yellow-poplar, ash mortality typically results in small gaps in the forest that are quickly filled in with other desirable tree species. Stands of young, productive trees should not be harvested just to salvage a few ash trees.

The following websites should be checked periodically for the most up to date information on the emerald ash borer:

<http://www.ohioagriculture.gov/eab/>

<http://www.emeraldashborer.info/>

Gypsy moth is a non-native insect introduced in Massachusetts in 1869. It has spread as far as Minnesota, North Carolina, and Ohio. Gypsy moth caterpillars feed on several hundred species of trees and shrubs. Trees are damaged by gypsy moth caterpillars feeding on the leaves, causing partial defoliation. Complete defoliation is possible in severe outbreaks. April through early-July are the months gypsy moth caterpillars feed on the foliage. Repeated defoliations over a two to three year period can weaken trees and cause their death. Preferred hosts of gypsy moth include oaks, apple, aspen, hazelnut, and birch. They seldom feed on maple, locust, ash, walnut, sycamore, dogwood, or yellow-poplar.

Young stands of trees, stands of trees maintained at proper stocking, and trees growing on good growing sites are generally under less stress and are less susceptible to gypsy moth damage. Forest stand improvement can help maintain stands of trees in a vigorous condition and reduce the potential for gypsy moth damage.

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

Integrated Pest Management – A pest control, suppression or prevention approach that utilizes a suite of complementary strategies that considers a range of approaches including mechanical, cultural, physical and chemical:

Preventative measures, efforts to improve forest health or, in some other way, protect the property from injurious organisms are the most effective approach. The recommendations provided in this WSMP are preventative measure to make the woodland more resilient to pests. Pesticide applications are a necessary component of integrated pest management.

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

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

find that wetlands improve the aesthetics and overall enjoyment value to their land. It is very important to protect permanent and ephemeral wetland areas for the health of the forest and the environment.

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

Unless noted in your stand descriptions, no specific threatened or endangered species were noted in your woodland. Federally listed threatened or endangered species that may live in this area include Indiana bat, northern long-eared bat, timber rattlesnake, and American burying beetle. State listed threatened or endangered species that may live in this area include timber rattlesnake and black bear.

The Division of Wildlife (DOW) participates in an interdisciplinary Environmental Review Program within the Ohio Department of Natural Resources (ODNR). For its role as the state wildlife agency, the DOW provides guidance and recommendations on how to minimize and/or avoid impacts to threatened and endangered species, and other vulnerable wildlife. An environmental review considers documented species, the habitats that are present, and the potential impacts on species and habitats.

Specific information on threatened and endangered species may be obtained by contacting the Ohio Department of Natural Resources, Division of Wildlife at 614-265-6452 or 2045 Morse Rd., Columbus, OH 43229-6693, to access the “Ohio Biodiversity Database.”

Before any physical construction project is proposed for this tract, Landowner should submit a request for Environmental Review. To request an Environmental Review, please submit the project information to the following dedicated email: environmentalreviewrequest@dnr.state.oh.us. Please allow at least 30 days for review and for the coordination letter to be returned.

What to Submit for Environmental Review

For an environmental review of a proposed project, landowner must submit the following:

1. Project Description:
 - a. Site location (e.g., county, latitude and longitude), onsite habitats, proposed work
 - b. Proposed impacts
 - c. Proposed BMP's
2. Maps that delineate the area of impact or work area: topographic, aerial site plans
3. Photographs representative of the site
4. Shapefiles, KMZ files

Forests of Recognized Importance (FORI) – Forests that are recognized regionally or nationally for their importance to ecosystem function, impacts on society, or their uniqueness.

No FORI's were identified on the property. Very few FORI's exist in Ohio, with one primary example being the Muskingum Watershed Conservancy District.

Archeological/Historical Resources – No historical sites were noted during the site visit.

Historical and cultural resources are nonrenewable and can never be replaced if they are destroyed. These resources provide a unique glimpse into the past and a look at the people and how they used the land. Good stewardship involves recognizing these resources and protecting them. These resources should be conserved if they are present on the property. Some of the overhanging rock faces in southern Ohio are cultural heritage resource sites because of the flint tools and other relics of Native American activities that may be found there. Other types of cultural heritage resources sometimes found in southern Ohio include homestead sites, old wells and springhouses, and pioneer cemeteries.

Recreation – current and potential recreational activities at property:

Each forest has a unique history and character...and this continues to build under your stewardship. This forest could be used for hunting, picnicing, or wildlife watching. Many landowners find enjoyment in doing improvement work in their woods. Others find pleasure in watching the birds. Some folks gain gourmet foods from the woods, gathering fruits, nuts, or wild mushrooms. Flowering trees like dogwood, redbud and serviceberry, whenever present, add to the beauty of the forest. Maintaining some trails will improve access and your opportunities for use of the area. A walk in the forest provides a time of learning but also a time to relax. The woodlands can be a quiet place of solitude after a busy day at work, or anytime for that matter.

Aesthetics – current or future aesthetic considerations for the woodland:

Forest aesthetics is often associated with older, more mature forests. However, it also has been said that beauty is in the eye of the beholder. Many folks enjoy mature forests with big trees...yet other folks find beauty in a young forest vibrant with the songs of early successional forest songbirds, or where they can take their favorite bird dog for an autumn hunt for ruffed grouse. Forest stewardship management addresses these and other various aesthetic tastes, and may weigh in visual goals of the neighbors. When you are weighing aesthetic goals, consider as a "group" 1) visual aesthetics, 2) the aesthetics of a dynamic functioning forest ecosystem, and 3) the particular wildlife species you hope to encourage at your property.

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

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

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

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

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

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

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

Associated forest resources vary somewhat from forest to forest, but typically include a variety of herbaceous plants present within the woodlands or old fields within a property. Spring, summer, and fall wild flowers provide non-timber benefits to anyone who takes the time to enjoy the blossoms. Along with the flowers, there is a vast array of insect life – pleasant and sometimes unpleasant – that is essential to good ecosystem function. Native and non-native honey bees and butterflies are examples of beneficial insects. Medicinal shrubs and herbs and maple syrup are more examples of other beneficial forest resources.

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

Consistent forestry terminology is essential to anyone interested and involved in the science, management, and conservation of forests. The Society of American Foresters (SAF) offers a great resource for such forestry terminology: “The Dictionary of Forestry”. This dictionary is an excellent tool available for anyone to learn more about the language used in forestry. The dictionary provides precision, clarity, and consistency in communication of forestry terms. You may access “The Dictionary of Forestry” for free at SAF at www.dictionaryofforestry.org. If internet access is not available, one may purchase a printed version from SAF (toll free 866-897-8760).