HERITAGE
Habitat & Forestry

Sustainable & Comprehensive Forest Management

FOREST MANAGEMENT GUIDE

An introductory booklet on sustainable and comprehensive forest management for landowners.



HERITAGE HABITAT & FORESTRY

Anthony F. Pappas, CF

HeritageHabitatCo.com

(330) 419-1769

heritagehabitatco@gmail.com

Table of Contents

About Us 04
- Mission Statement
- Who We Are
- Why Choose Us

Wildlife Forestry 06
- Forestry, Wildlife, and Conservation

Where To Begin 07
- List Goals & Reasons for Ownership
- Have a Forest Management Plan
- Landowner Forest Management Plan Programs
- Forest Management Plan Styles

Forest Stand Improvement 15
- Introduction
- Herbicide Application
- Chainsaw Treatments
- Conclusion

Timber Sales and Logging 17
- Introduction
- Reasons for Logging

Forest Carbon Consulting 19
- Introduction
- CoreCarbon
- Forest Carbon Works
- Family Forest Carbon Program
- Natural Capital Exchange

Conclusion 20

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About Us

Mission Statement

To wisely manage, conserve, and utilize our shared natural resources for the benefit of not only economic returns but also to the perpetual existence of our forests and the life within them using scientifically-based and ecologically-sound forest and habitat management principles.

Who We Are

Owner **Anthony F. Pappas** has years of experience managing public land for the benefit of both wildlife and the eventual realization of economic returns on timber as well as working for a timber consulting company focused on ecologically-sound timber production.



Anthony F. Pappas **- Owner and Lead Consultant**

From the prairies of North Dakota down to the hills of northern Alabama and out to the Ozarks of Arkansas, Anthony has experience in a multitude of forest types and habitat diversities. Taking this first-hand knowledge of "wildlife forestry," Anthony has built his Ohio-based company around managing forests for multiple uses.

Why Choose Us

Forest management is not just about timber production or earning income. Forest management is about making conscientious decisions that will improve the long-term sustainability of our shared natural resources. Managing timber is important, but so is managing pollinator habitat, riparian zones, and other non-timber forest resources.

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Our forest management plans incorporate sustainable management practices to meet your goals and objectives for your property. Our focus is on the simultaneous management of both commercial timber production as well as the creation and enhancement of wildlife habitat. All recommended management practices are based on proven science and are only applied if they meet the following criteria: 1) ecologically and environmentally sound and will do no harm to the sustainability of the natural resource, 2) fits the landowner's goals and objectives, and 3) is realistically able to be accomplished given the landowner's constraints.

Credentials

Certified Forester, Society of American Foresters
NRCS Technical Service Provider
Registered Forester, Arkansas and West Virginia
Tree Farm Inspector, Pennsylvania

Memberships

Society of American Foresters
Ohio Forestry Association
West Virginia Forestry Association
Better Business Bureau

More Resources

Eforester.org – "Why Hire A Certified Professional?"
Nrcs.usda.gov – "Technical Service Providers"

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Wildlife Forestry

Forestry, Wildlife & Conservation

The proper use of forestry as a natural resource tool is paramount to conserving both our shared flora as well as fauna that populate our landscapes.



Forestry and wildlife go hand-in-hand. Actively managing your forest can ensure local wildlife populations have a variety of habitat types, a plethora of food on the forest floor (such as forbs and wildflowers) as well as in the trees (think acorns!), and adequate bedding and escape cover (like thicketts and grasses). All these wildlife-oriented goals can be accomplished by ecologically-sound and sustainable forest management!

Join us in improving our landscape for the benefit of not only future generations but the wildlife that live there as well!

How Heritage Habitat Can Help

Forest Carbon Consulting
Forest Improvement Practices
Forest Inventory and Appraisal
Forest Management Plans
Mapping Solutions
Property Evaluations
Timber Sale Administration

More Resources

HeritageHabitatCo.com/services

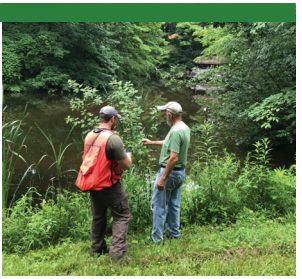
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Where To Begin

List Goals & Reasons for Ownership

As the landowner, you must iterate what the reasons for owning your property are, as well as any future goals you have for that property.

For example, you may own the property for aesthetics, recreation, hiking, hunting, etc. Most likely, it'll be multiple reasons.



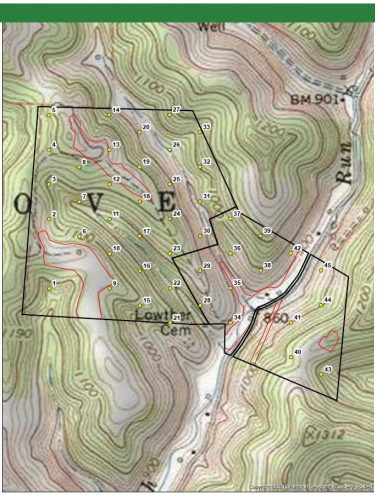
Meeting with the landowner is essential to writing your management plan.

The goals of your property ownership will dictate the path of forest management. Our forest management plans are never a "one-size-fits-all" approach. We begin with the landowner's goals and then formulate a plan on how to best achieve them through sustainable and comprehensive forest management.

Have a Forest Management Plan

As with any project, business, or daily routine, having a plan is always a smart decision! Our forest management plans will encompass a variety of topics, including:

- Landowner goals and objectives
- Long term forest sustainability & health priority
- Stand maps
- Soil map
- Treatment schedule
- Treatment map
- Forest stand descriptions & analyses
- Forest resource descriptions
- and more depending on the style of plan you chose *(more on this later!)*



A forest inventory is the first step to formulate a management plan.

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Landowner Forest Management Plan Programs

There are even state programs that may offer you a substantial tax discount on your wooded acreage by having a forest management plan in place:

Ohio - Ohio Forest Tax Law

OFTL provides a 50% reduction of property taxes on qualifying forested acreage.

Minimum qualifications include: 10 acres of forestland, marked boundaries, and approved forest management plan.

Source: Ohio Dept. of Natural Resources, Ohio Forest Tax Law
OhioDNR.gov – Woodland Management – Ohio Forest Tax Law



Ohio - Current Agricultural Use Value

CAUV provides tax savings to landowners by assessing the forested property as commercial agriculture rather than its "highest and best" potential use. Results in typically >50% reduction of taxes on qualifying acres.

Minimum qualifications include: 10 acres of forestland, marked boundaries, and approved forest management plan.

Source: Ohio Dept. of Taxation, Current Agricultural Use Value
Tax.ohio.gov – Current Agricultural Use Value (CAUV)

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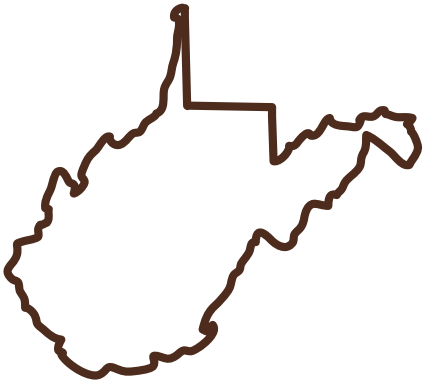
West Virginia - Managed Timberland Program

MTP provides significant tax incentives for forest landowners who practice sustainable forestry on their property.

Minimum qualifications include: 10 acres of forestland, halt on timber harvest until plan approved, and approved forest management plan.

Source: West Virginia Div. of Forestry, Management Assistance

Wvforestry.com – Management Assistance – Managed Timberland Program



Nationwide - Environmental Quality Incentives Program

EQIP is a program of the Natural Resources Conservation Service, under the USDA, that provides financial and technical assistance to landowners to address natural resources concerns on their property. Funding may be available to qualified landowners for practices such as: invasive species removal, forest stand improvement, and more.

Source: USDA, Environmental Quality Incentives Program

Nrcs.usda.gov – Environmental Quality Incentives Program

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Forest Management Plan Styles

We offer 4 styles of forest management plans to best fit your goals and objectives, all 4 qualify for the above-mentioned programs:

Basic Forest Management



This management plan style is geared towards the landowner who is primarily interested in saving tax dollars on the forested acreage.

This plan incorporates scientifically-backed and ecologically-sound forest management principles and techniques in order to grow, maintain, and reproduce commercially-viable timber species while providing periodic income for the landowner.

Includes:

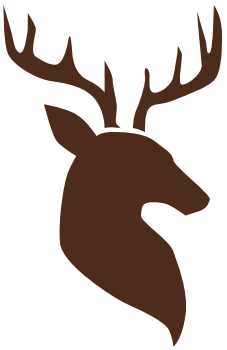
- Landowner Goals & Objectives
- Long Term Forest Sustainability & Health Priority
- Stand Maps
- Soil Map
- Treatment Schedule
- Treatment Map
- Forest Stand Descriptions & Analysis
- Forest Resources Description

Forest Wildlife Habitat Management

This management plan style's priority is both the creation, maintenance, and enhancement of wildlife habitat throughout your property as the primary priority as well as the sustainable growth and eventual harvest of commercial timber products as a secondary priority.

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This style incorporates scientifically-backed and ecologically-sound habitat management principles and techniques in order to promote and reproduce commercially-viable timber species while also prioritizing wildlife habitat enhancement practices such as: creation of bedding thickets, edge feathering, vertical and horizontal forest diversity, promotion of herbaceous species, etc.



Includes:

- Landowner Goals & Objectives
- Long Term Forest Sustainability & Health Priority
- Stand Maps
- Soil Map
- Treatment Schedule
- Treatment Map
- Forest Stand Descriptions & Analysis
- Forest Resources Description
- Historical Maps
- Habitat Conditions & Analysis
- Openlands Stand Descriptions & Analysis
- Threatened & Endangered Species Lists

Commercial Timber Management

This management plan style's primary priority is the sustainable growth and eventual harvest of commercial timber products off your land. This plan incorporates scientifically-backed and ecologically-sound forest management principles and techniques in order to grow, maintain, and reproduce commercially-viable timber species while providing periodic income for the landowner.

Typical forest management practices include but are not limited to: timber stand improvement through midstory treatment of non-desirable species, crop-tree release, periodic forest thinning, and so forth.



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You will be provided a statistically-sound timber inventory in order for us to collect relevant data to decide if/when a commercial timber sale operation is feasible, as well as an estimated valuation and projected timber sale removal volumes for a future sale.

A detailed Excel spreadsheet with the results of the timber inventory will be provided to you. Using the most recent state timber price publications, we will estimate the value of the standing timber as of the date of the timber inventory.

Includes:

- Landowner Goals & Objectives
- Long Term Forest Sustainability & Health Priority
- Stand Maps
- Soil Map
- Treatment Schedule
- Treatment Map
- Forest Stand Descriptions & Analysis
- Statistical Forest Inventory Information
- Forest Resources Description
- Timber Appraisal
- Timber Tax Basis Inventory
- Stand & Stock Tables
- Diameter Distribution
- Forest Productivity Map

Combination Forest Management

This plan is exactly as the heading implies! You receive both the wildlife habitat management recommendations as well as the commercial timber management details and treatment recommendations as described above.

This is Heritage Habitat and Forestry's signature product!

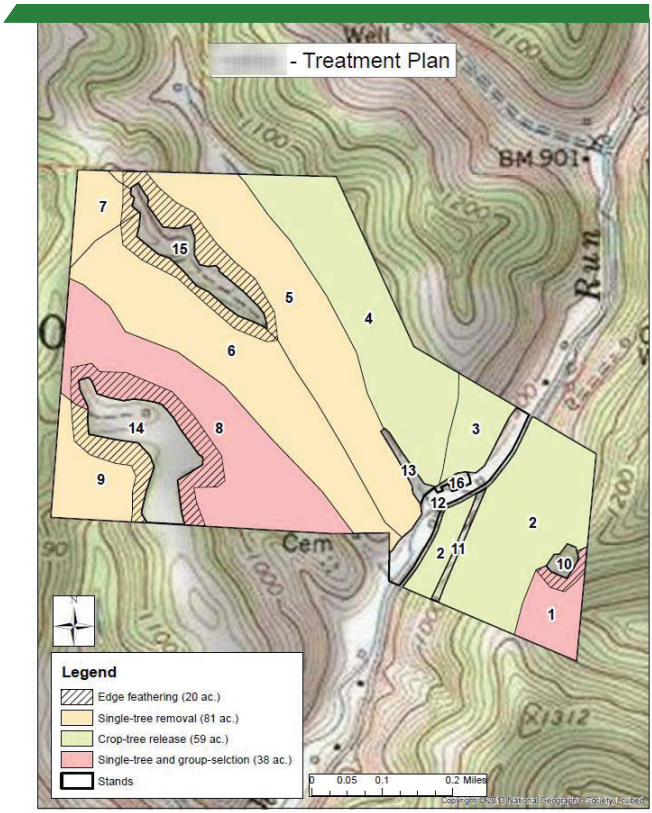
Includes:

- Landowner Goals & Objectives
- Long Term Forest Sustainability & Health Priority
- Stand Maps
- Soil Map
- Treatment Schedule
- Treatment Map
- Forest Stand Descriptions & Analysis
- Forest Resources Description
- Historical Maps
- Habitat Conditions & Analysis
- Openlands Stand Descriptions & Analysis
- Threatened & Endangered Species Lists
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- Timber Tax Basis Inventory
- Stand & Stock Tables
- Diameter Distribution
- Forest Productivity Map
- Statistical Forest Inventory Information

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For all our management plan styles, the landowner will receive the follow data package:

- Your personalized, property-specific management plan with recommended treatments and practices to improve your property based upon your goals & objectives
- A soil report of your property
- Any maps used to create your plan
- All digital GIS files used to create your maps
- Inventory data, both raw & refined in Excel worksheets
- Any relevant landowner fact sheets provided by the NRCS & OSU Extension, among others



A map of recommended treatments is provided.

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Management Plan Comparison

	Basic	Habitat	Timber	Combination
Landowner Goals & Objectives	X	X	X	X
Qualifies for OFTL, CAUV, MTP	X	X	X	X
Long-term Forest Sustainability & Health Priority	X	X	X	X
Stand Maps	X	X	X	X
Soil Map	X	X	X	X
Treatment Schedule	X	X	X	X
Treatment Map	X	X	X	X
Forest Stand Descriptions & Analysis	X	X	X	X
Forest Resources Description	X	X	X	X
Historical Maps		X		X
Habitat Conditions & Analysis		X		X
Openlands Stand Descriptions & Analysis		X		X
Threatened & Endangered Species List		X		X
Timber Appraisal			X	X
Timber Tax Basis Inventory			X	X
Stand & Stock Tables			X	X
Diameter Distribution			X	X
Forest Productivity Map			X	X
Statistical Forest Inventory Information			X	X

How Heritage Habitat Can Help
Forest Management Plans

More Resources
HeritageHabitatCo.com/forest-management-plans

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Forest Stand Improvement

Introduction



Now that you've decided to hire a professional forester to write your forest management plan, the next topic is what that plan may contain.

Not all forests are ready to be logged, both economically and/or ecologically. In instances where your property's woods are in a pre-merchantable stage, there are forest stand improvement treatments that can be employed to both, 1) improve the timber quality, and 2) improve and enhance wildlife habitat.

Herbicide Application



Almost all wooded properties are going to contain non-native invasive species. Some common examples are autumn olive, Japanese stiltgrass, tree-of-heaven, and multiflora rose, among others. Unless you're employing prescribed fire (of which this booklet will not discuss, due to the regulatory and complex nature of prescribed fire, it would demand its own booklet in of itself!), herbicide will need to be used to control various invasive species.

Common application methods of herbicide include foliar (spraying directly on the leaves), hack-and-squirt (using a hatchet to cut into the stem of the tree, then applying herbicide inside the hacks), and cut stump treatments (cutting the tree down, applying herbicide to the stump). Without herbicide application, almost all plants you are attempting to get rid of via cutting them down will sprout back up the following growing season. Then you're right back where you started!

There are great resources available discussing which herbicides to use, where, and on what plants. Always read and follow label instructions.

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Chainsaw Treatments



Another forest stand improvement method is using a chainsaw to manipulate species composition, structure, and diversity within a wooded property.

Examples of chainsaw treatments include edge feathering, hinge cutting, midstory tree removal, crop-tree release, and so forth. More details on each of these treatments are available with a quick internet search.

Conclusion

Not all treatments are necessary or ecologically sound for all properties. It is important to have a forest management plan in place that will detail where, when, and which species to control in which areas of your property. Forest management is never a one-size-fits-all approach! We always formulate our management plans specific to the landowner's' goals and what the forest needs to improve long-term health and sustainability.

How Heritage Habitat Can Help
Forest Improvement Practices

More Resources
HeritageHabitatCo.com/forest-improvement-practices
Ohio State University Extension – Factsheet F-51-06 – "Relative Effectiveness of Herbicides..."
Penn State University Extension – "Herbicides and Forest Vegetation Management"

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Timber Sales & Logging

Introduction

"I never intend to cut trees", or "why would I want to destroy my property?" ...have you said these sorts of statements before? There is some truth in those statements, especially considering the negative stereotypes logging has in general.
Some landowners have had their properties destroyed by unsustainable logging practices. But, if done correctly, timber sales and logging operations can vastly improve forest health and wildlife habitat simultaneously and sustainably!

Reasons for Logging

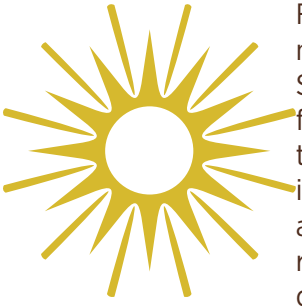
We at Heritage Habitat are never looking at a property and thinking "wow, we can really make some money by harvesting this timber!", but instead we use logging as a tool to improve forest health and wildlife habitat.



A closed canopy forest does not allow enough sunlight onto the forest floor.

Most properties in the East are overmature, over-dense, shade-tolerant forests. Next time you walk your property, take a look up at the tree canopy. Are most of the trees' crowns touching each other? Can you see 100-yards or so through your property? Almost park-like, right? Well, that's a sign of an overmature, over-dense forest. If you have an overcrowded overstory with very little to no sunlight reaching to forest floor, you will not see desirable tree regeneration underneath, especially oaks, which require large amounts of sunlight. You also may not see any desirable herbaceous or understory growth, such as native blackberry, dogwood, sumac, etc.

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Forest management is all about sunlight manipulation. More sunlight, more growth. Simple as that! Without disturbance, in the form of timber harvests, herbicide, fire, to overmature, shading out any shade-intolerant species, such as oaks especially, and promoting shade-tolerant species, like red maple, American beech, and other low quality hardwoods.

By removing some dominant trees on the property, you will increase the amount of sunlight on the forest floor. This sunlight will promote the growth of oak seedlings (if you have an oak forest to begin with) and desirable understory (think hip-high and lower) throughout your property.

Now, forest management isn't quite this simple and cut-and-dry. There is a lot of nuance and artistic management that occurs in order to promote a healthy forest. This is just a simplistic summary of how sunlight manipulation can improve your forest. It is vitally important to hire the help of a professional forester when deciding to harvest timber. There are a lot of wrong ways of doing it! Don't be the next landowner whose property had an unsustainable timber harvest occur.



Every tree to be harvested is selected purposefully and marked with paint.

How Heritage Habitat Can Help

Timber Sale Administration

More Resources

HeritageHabitatCo.com/timber-sale-administration
Best Management Practices for Erosion Control for Logging Practices in Ohio Ohio State University – "Getting the Most Return from your Timber Sale" Purdue University – "How to Treat Timber Sale Income"

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Forest Carbon Consulting

Introduction



There are several private companies that offer landowner forest carbon programs. These programs essentially pay the landowner for their trees' carbon dioxide storage. We offer free forest carbon consulting to advise landowners in the available forest carbon programs offered in their area.

Contract lengths vary from short-term (1-year) to long-term (100+ years) depending on the program you choose. Income may range from a couple hundred dollars to several thousand dollars!

We can advise you through the different programs to help you choose which program fits your goals and ownership plans for your property. We work directly with these companies to provide landowners with assessments, at no charge from us!

CoreCarbon

40-year contract, with two 20-year crediting periods. Landowner defers from harvesting timber in exchange for payments.

Minimum qualifications include: at least 40 forested acres, all or part of your property can be enrolled.

Source: Ariel Weisgrau, CORE Operations Analyst at Finite Carbon

Forest Carbon Works

25-year crediting period and 100-year monitoring period. Carbon credits are verified by the California Air Resources Board.

Minimum qualifications include: 40 acres of forestland, provide property access to FCW, and maintain timber rights through contract term.

Source: Sarah Ford, Regional Forester

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Family Forest Carbon Program

10- or 20-year contract, depending on chosen practice. Landowner receives payments to implement practices on their land that promote carbon sequestration.

Minimum qualifications include: 30 acres of forestland and additional eligibility criteria tied to the specific practice chosen.

Source: Sarah Hall-Bagdonas, Manager, Landowner Assistance

Natural Capital Exchange

1-year contract with opportunity to re-enroll the following year. Landowner defers from harvesting timber in exchange for payments.

Minimum qualifications include: no acreage minimum.

Source: Lillian Hogan, NCX Landowner Success Manager

How Heritage Habitat Can Help
Forest Carbon Consulting

More Resources
HeritageHabitatCo.com/forest-carbon-consulting
Corecarbon.com
Forestcarbonworks.org
Familyforestcarbon.org
NCX.com

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Conclusion

We hope this booklet provided some introductory information on active forest management and how Heritage Habitat and Forestry can aid landowners in their property management.

There are more resources available on our website, **HeritageHabitatCo.com**, or you can reach out to us directly at **HeritageHabitatCo@gmail.com** or by calling **(330) 419-1769**.

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