

# Woodland Health Practices Handbook

A Practitioner's Guide for Creating, Enhancing, and Maintaining Natural Areas





# Table of Contents

<b>Acknowledgments</b>	iv
<b>Disclaimer</b>	iv
<b>Herbicide/Pesticide Precautionary Statement</b>	iv
<b>About the Authors</b>	v
<b>Introduction</b>	<b>1</b>
CHAPTER 1	
<b>Woodland Ecology— Principles of Succession</b>	<b>4</b>
CHAPTER 2	
<b>Using the Woodland Health Assessment to Educate and Motivate Your Clients</b>	<b>10</b>
CHAPTER 3	
<b>Communicating Your Message to Prospective Clients</b>	<b>12</b>
CHAPTER 4	
<b>Land Care Practices</b>	<b>14</b>
<b>PART 1: Converting Lawn to Natural Area</b>	<b>14</b>
– Planting Trees and Shrubs	14
– Soft and Hard Edge Habitat	15
– Converting Lawn to Woodland Over Time with Natural Succession	22
– Establishing Warm Season Grasses and Native Wildflower Meadows	24
– Occasional Mowing	25
– Long-Term Management of New Natural Areas	26
– Creating Soft Edge Habitats	26
<b>PART 2: Modifying or Improving Existing Wildlife Habitat</b>	<b>26</b>
– Riparian Buffers: Streamside Woodlands	26
– Chosen Tree Management	28
– Pruning	30
– Creating and Managing Den Trees and Snags	31
– Unanticipated Issues with Deer and Other Wildlife	32
– Creating Wildlife Openings	33
– Food Plots	33
– Brush Piles for Wildlife	34
– Hinge-Cutting for Wildlife	34
– Firewood	34
<b>PART 3: Improving Privacy, Aesthetics, Natural Havens, Recreational Opportunities, or Products from the Woodland</b>	<b>35</b>
– Enhancing Privacy	35
– Creating a Natural Haven	36
– Creating or Enhancing Access to the Property	36
– Woodland Edibles and Other Hobbies	39
<b>PART 4: Controlling Undesirable Plants and/or Insects</b>	<b>39</b>
– How to Control Undesirable Plants	40
– Herbicide Selection	43
– Common Woodland Herbicides	45
– Woodland Herbicide Application Methods	45
– Vine Management	48
– Common Invasive Insect Pests	50
– Control Methods for Common Invasive Insect Pests	54
CHAPTER 5	
<b>Creating A Land Care Plan</b>	<b>55</b>
– Land Care Plan Template	57
– Land Care Plan Scenario A: The Machados	59
– Land Care Plan Scenario B: The Hardys	62
– Land Care Plan Scenario C: The Schlosbergs	65
<b>Conclusion</b>	<b>68</b>
<b>Resources</b>	<b>69</b>
<b>Glossary</b>	<b>70</b>
<b>Photo and Illustration Credits</b>	<b>73</b>
<b>Index</b>	<b>75</b>
<b>Woodland Health Assessment Checklist</b>	<b>76</b>

# Introduction

Many landowners value the natural areas on their property, whether woodland, field, or wetland. Scenery, nature trails, privacy, wildlife viewing opportunities, and shelter from the summer sun and winter winds are among the land features they value. Many owners of small natural areas (Figure 1) wish to improve the value they get from their property by implementing a number of practices, such as:

- enhancing wildlife habitat
- improving water quality for a creek, stream, or river that flows through the property
- saving time and money by reducing lawn mowing and maintenance
- improving access for recreation, nature exploration, or solitude



FIGURE 1: Owners of small-acreage properties with lawn and/or woodlands can benefit from a variety of practices found in this handbook.

- increasing hobby or enterprise opportunities for wood and woodland products, such as firewood, syrup, or cultivating edible or medicinal plants
- saving energy by creating shade/cooling from summer sun and/or windbreak during the winter.

This manual is for green industry professionals—such as arborists and landscape architects—working on private properties of 1–10 acres. The information in this guide will help this group to gain background on why and how to address common woodland health issues. *The aim is to help green industry professionals identify opportunities to expand their business by offering services in small woodland management, assisting woodland property owners to meet their individual goals and improve woodland and ecosystem health—becoming what we’ll call “woodland health professionals” (WHP)* (Figure 2).

The key for WHPs is to identify which of the services and opportunities outlined in this guide are appropriate for their business model. Not all the services and opportunities will be appropriate for every business, but a successful WHP has a wide variety of skills and expertise at their disposal, such as tree harvesting and pruning, invasive species control, habitat improvement for wildlife, and recreation access development. Additionally, WHPs and/or their employees should hold certifications in a wide variety of skills from state or national organizations. In this way, the WHP provides a “one-stop shop” for small-acreage owners wishing to get the most from their land.

The next step in growing the business is for the WHP to connect with their clients. The WHP should first discuss with the woodland owner their land use objectives.



FIGURE 2: A property owner working with a woodland health professional.

They can assist the client in completing the Woodland Health Assessment Checklist (see below) to identify their priorities for:

- woodland diversity and composition
- woodland structure
- habitat assessment
- site-level considerations.

Next, the WHP can assess which of the land care practices found in the Woodland Management Actions Tables (see below) meet the landowner’s objectives and priorities and proceed to develop a “Land Care Plan” with the client. See Chapter 5 for more information about Land Care Plans.

### WHAT IS A LAND CARE PLAN?

A Land Care Plan describes the property and states the landowner’s interests in and goals for the property. It lays out a timeline of projects to be completed to meet the goals. Completing the Woodland Health Assessment Checklist is a great first step to start developing a Land Care Plan. See the sample Land Care Plans in Chapter 5.

### WHAT ARE “LAND CARE PRACTICES”?

Any time someone plants a garden or prunes a tree, he or she is taking an active part in managing the landscape. In this handbook, we use the term “land care practices” to describe a number of techniques that you, your employees, forester/logger contractors, and property owners can perform to make changes to natural areas (Figure 3). Some land care practices, such as planting trees, take time to achieve a property owner’s objectives; others, such as choosing to stop mowing an area of lawn, will have more immediate effects. The key is to work with your clients to choose the most effective land care practices to reach their management goals.



FIGURE 3: Land care practices can help property owners meet their management goals.

Figure 4 illustrates the suggested flow of tasks to help WHPs tap a new market in land management for owners of 1–10 acres.

This publication has five chapters that provide WHPs the information they need to address client priorities.

**Chapter 1** covers woodland ecology and five principles of succession. WHPs need to understand how and why woodlands change and how wildlife habitat is affected by these changes. The concept of “land care practices” is introduced. These can alter succession, improve wildlife habitat, expand recreational opportunities, and benefit overall woodland health.

**Chapter 2** explains how to use the Woodland Health Assessment Checklist and Management Actions Tables with clients to identify issues of higher concern on the

## Using the Woodland Health Assessment to Educate and Motivate Your Clients

This chapter explains how the Woodland Health Assessment Checklist and Management Actions Tables, found on pages 76–85, are used with the client to identify woodland health issues on the property, potential woodland services to address the issues, and some suggestions on possible ways to charge for your service. Also addressed are state and federal cost-share programs that may help pay some of the cost of some practices, and some of the challenges to consider when using these programs.

### Purpose of the Checklist

The Woodland Health Assessment Checklist is a companion resource designed to help you and your potential clients assess a variety of conditions in their woodlands. The Checklist addresses four categories of woodland health issues: woodland diversity and composition, woodland structure, habitat assessment, and site-level considerations.

The Checklist is completed during a walk-through of the property with the client. Work with them to rate the property's health conditions on a scale of "higher concern" to "lower concern." It is essential to gather their input on the land uses and issues of greatest concern to them. Addressing those problems will motivate them to commit to the project(s). Not all conditions will apply to every property.

Following each section of the Checklist is a Woodland Management Actions Table noting some actions you and the landowner could take to address the property's areas of higher concern. With input from the client, identify and prioritize potential management projects for the

property. This information will be the basis for the Land Care Plan discussed in Chapter 5.

### Woodland Services of Interest to Property Owners of 1–10 Acres

Based on feedback from woodland owners, the following are some land care practices that may be of interest to your clients:

- Removing damaged or high-risk trees/limbs
- Improving tree growth by thinning
- Planting native shrubs/trees
- Encouraging growth of wildlife food trees
- Improving wildlife shelter opportunities
- Creating brush or rock piles
- Establishing/enhancing tree cover around water sources (riparian buffer)
- Controlling exotic/invasive plants
- Controlling exotic/invasive insects/tree diseases
- Creating/improving trails
- Creating a campfire or camping area
- Creating a natural-area haven
- Improving opportunities for hunting/wildlife viewing
- Creating/enhancing a scenic vista
- Improving fall colors with native trees and shrubs
- Planting native wildflower meadows
- Cleaning up natural area damage by insects, diseases, storms
- Increasing privacy
- Creating edge habitats along existing woodlands



## Possible Ways to Charge for Services

There are various options for charging for these services. Consider:

- **Hourly** – You may have a set hourly fee for your services. Given the objectives and financial resources of the client, you can offer to address the client's priorities with the time and budget available.
- **Overall package deal** – Focus on the property's priority areas and offer a package price for specified practices on defined sections of the property.
- **Annual inspection and services** – Establish an annual inspection schedule to determine need for services and details on cost and deliverables. Client then decides how to proceed.
- **By the practice or by the acre** – Larger properties or certain practices may require per-acre estimates for charges.
- **Subcontracting to others** – It is usually assumed that the person offering the services will perform them unless otherwise clearly specified. Some services, such as logging or herbicide spraying, may be subcontracted.

It is preferable to break down several projects into their individual prices, so that if all the suggested work is too expensive for a client, they can choose instead to do what is most important to them and what they can afford. The Woodland Health Assessment Checklist can help prioritize the most critical needs.

## Cost-Share Funding for Forestry Practices

Cost-share programs are funds provided by federal, state, and local governments, and conservation organizations. They reduce the cost of implementing forestry and wildlife practices that provide public benefits such as clean water, wildlife habitat, woodland restoration, or other objectives. Practices must first be approved by the funding agency before they are implemented. In some cases the landowner can do the work and receive the agreed-upon payment, but when using a contractor the landowner pays the contractor and is then reimbursed the agreed-upon amount by the cost-sharing agency or organization.

For example, the USDA Natural Resources Conservation Service (NRCS) offers cost sharing for various conservation practices to manage private woodlands through

the Environmental Quality Incentives Program (EQIP) Conservation Cost-Share Program. Contact the local USDA NRCS office to determine if the client's property may be eligible for assistance. A Forest Management Plan must be developed and approved before EQIP-funded conservation practices on woodlands can begin.

A Forest Management Plan (FMP) is a property-specific, written plan developed for a client that addresses resource concerns where woodland-related conservation activities will be applied. The landowner enlists the services of a certified Technical Service Provider (TSP) to develop the plan (Figure 15). The FMP outlines the landowner's objectives for the property and guides activities on the land. It provides descriptions and recommendations for management, serves as a record of accomplishments, and documents the landowner's philosophy, practices, and plans for the future. Your state forestry agency can usually help you with this process.



FIGURE 15: A *Technical Service Provider*, also known as a *forester*, can develop a *Forest Management Plan* for your client.

Cost-share options may not be appropriate for owners of small properties, given the paperwork and time required to apply. Some practices that may be eligible for cost sharing include tree planting, brush and weed control, upland habitat management, installation of riparian buffers, and woodland improvement.

It could be helpful to get to know the USDA NRCS certified Technical Service Providers in your area, because some jobs might require their assistance (see text box, *Know When to Seek Help*, p. 13). The resources list includes where to find the roster of Technical Service Providers on the NRCS website.

## Communicating Your Message to Prospective Clients

This chapter outlines the benefits of establishing effective communications with landowners. So how do you go about turning an “interested landowner” into *your client*? As you talk with the potential client, you’ll get a sense of what motivates them to want to work on their land, and their motivations will give you the keys to reaching them.

Private owners of woodlands are part of a group who collectively own more than half the woods in the United States. In the eastern U.S., about two-thirds of woodland owners have 1–10 acres of woods. The U.S. Forest Service surveys woodland owners on a regular basis. The results indicate that most own their land for:

- its beauty and scenery
- privacy
- wildlife habitat
- the protection of nature.

The same survey found that property owners are concerned about their woodland’s health, specifically threats from insects and diseases.

Finding out why the client owns the land and what concerns they have about its health will provide the motivating factors to prompt the landowner to take action. Woodland health is a concept that depends on the property owner’s perceptions of their land and how they want to use and maintain it. These perceptions are tied to the ecologically based realities presented in Chapter 1.

The Woodland Health Assessment Checklist will help the landowner understand the attributes of a healthy woodland and how you can help them address any concerns. For example, improving wildlife habitat is an interest

### AVOID CONFUSING JARGON

Forestry educators know from experience with many different landowners that some words inspire listening and action, and other words drive people away by being too technical or having negative associations. To help turn an interested landowner into your client, incorporate more “good” words into your client communications and leave the “bad” words behind.

Words to Avoid	Words to Use
Forest	Woods, woodland, woodlot
Forest owner	Woodland owner, landowner
Forest management	Caring for the land, looking after the land, creating healthy woods
Animal populations	Wildlife, critters
Hunting	Harvest, recreation, enjoying the land
Kill	Control, harvest, manage
Logging	Harvesting trees
Silviculture, forestry	Keeping woods healthy
Scientific names of animals and plants	Common names of animals and plants
Green	Sustainable, environmentally friendly
Resilient	Healthy
Infrastructure	Place in the landscape
Stand	Area, woods, woodland

**TABLE 4**  
**Preferred Site Requirements for Selected Eastern Forest Trees**

Species	Moisture Preference	Nutrient Preference	Tolerance to Shade
Ash, white	M*	H	L
Aspen	M	M	L
Bald Cypress	W	M	M
Basswood	M	H	L
Beech, American	M	M	H
Birch, black	M	L	M
Birch, yellow	W	H	M
Blackgum	M	M	H
Boxelder	W	M	M
Cedar, Atlantic white	W	H	M
Cedar, eastern red	D	L	L
Cherry, black	M	M	L
Cherry, fire	M	L	L
Cottonwood, eastern	W	M	L
Cucumbertree	M	H	M
Dogwood, flowering	M	M	H
Hackberry	D	L	M
Hemlock, eastern	M	M	H
Hickories	D	L	M
Holly, American	M	M	H
Larch	W	L	L
Locust, black	D	L	L
Maple, red	M	M	M
Maple, silver	W	H	M
Maple, sugar	M	H	H
Oak, black	D	M	M
Oak, chestnut	D	L	M
Oak, pin	M	M	L
Oak, northern red	M	M	M
Oak, scarlet	D	L	L
Oak, southern red	D	L	M
Oak, white	M	M	M
Pawpaw	M	H	H
Pine, loblolly & shortleaf	M	L	L
Pine, red	D	L	L
Pine, Virginia	D	L	L
Pine, white	M	M	M
Poplar, yellow	M	H	L
Redbud, eastern	M	M	L
Sourwood	D	L	H
Sweetgum	W	M	L
Sycamore	W	M	M
Willow, black	W	H	L
Walnut, black	M	H	L
Yellow buckeye	M	H	H

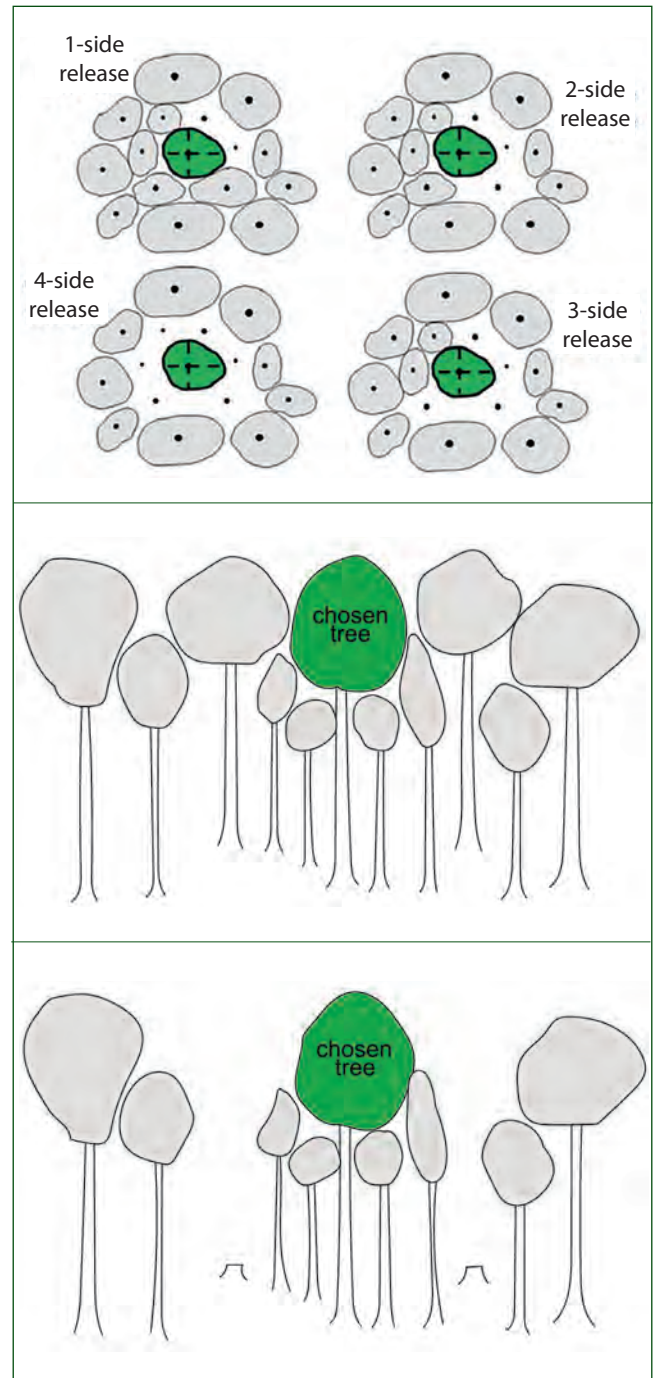
\* **KEY:** **D**=dry to moist, **M**=moist, **W**=moist to wet, **H**=excellent soils, **M**=average soils, **L**=poor soils; **H**=high, **M**=medium, **L**=low

Adapted from: Mollie Beattie, Charles Thompson, and Lynn Levine. *Working with Your Woodland: A Landowner's Guide*. © 1993 by University Press of New England. Reprinted with permission; Forest Landowner Fact Sheets, <http://dendro.cnre.vt.edu/dendrology/landowner.cfm>; and USDA Forest Service Agriculture Handbook 654, Silvics of North America, [http://www.srs.fs.usda.gov/pubs/misc/ag\\_654/table\\_of\\_contents.htm](http://www.srs.fs.usda.gov/pubs/misc/ag_654/table_of_contents.htm)





**FIGURE 34: Chosen tree management.**  
**A)** This hickory chosen tree has been freed of competition on at least two sides by removing trees.  
**B)** A dense canopy.  
**C)** Chosen tree management has removed several competing trees.  
**D)** A more open canopy can benefit more than one crop tree.



**FIGURE 35: Chosen tree management techniques.**

ment, only trees competing with the chosen trees are removed (Figure 36). If no chosen tree is present, then no cutting or removal is done in that area. Traditional thinning allows more light to reach the woodland floor across a large area by removing trees from all layers of the woodland canopy. Chosen tree management removes only trees whose canopies are touching the canopy of

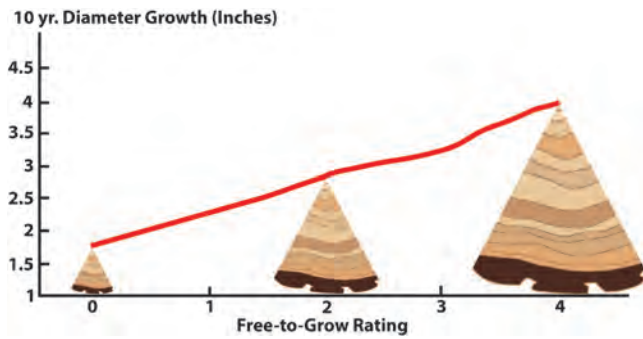


FIGURE 36: Chosen tree management removes the competition from trees a client wishes to encourage.

the chosen tree. Typically, up to 25 chosen trees per acre would be sufficient. Chosen tree management provides temporary openings in the canopy, which may stimulate some understory development.

### Selecting Chosen Trees and Removing Their Competitors

Chosen trees can be selected based on the species, crown class, form, and/or overall tree health and vigor (see Figure 36). The objectives of the client are important. For wildlife, tree species that produce hard and soft mast are desired. This includes oak, hickory, cherry, walnut, and others. If timber is important, then choose species that are valuable in local markets. For a client wanting a more diverse woodland, you might select tree species that are less common.

Select trees that are dominant, codominant, or intermediate based on the client's interests. At least 30 percent of a chosen tree's total height should have live branches. Select trees with good health and vigor. They should not have major rot, cankers, large broken limbs in the crown, thinning of leaves, or other signs of poor health. Chosen trees should be marked with flagging or paint at breast height for visibility.

The next step is to determine which trees are competing with your chosen trees. Looking up into the canopy, note trees that compete with the crown of each chosen tree. The objective is to open at least three sides (four sides, if possible) of the canopy around the chosen tree so it can expand and grow into the space created. The competing trees can be cut down, left standing but destroyed by girdling using an ax or chainsaw, or destroyed in place with herbicide (see *Creating and Managing Den Trees and Snags*, p. 31). Cutting the trees for firewood or other uses can be difficult in crowded woodlands, so

creating a snag tree in place is much easier and allows larger wooded areas to be managed much more quickly.

It is easiest to release chosen trees when tree trunks are 4–10 inches in diameter at breast height (DBH). The easiest time to initiate chosen tree management is when there are no leaves on selected trees, because it is easier to see the competition between tree crowns. However, chosen tree management can be used in all stages of woodland development.

The chosen trees may grow significantly in the first growing season after the crown release, but maximum growth usually occurs several years later following crown expansion. The crown release of the chosen trees will be apparent in three observable growth characteristics: height, diameter, and crown width. The greater exposure to sunlight will allow the tree to grow rapidly in height and the crown will expand into the open space provided by the removal of competing trees. Diameter growth will vary by species, but this management produces larger trees in a shorter time, which many clients desire. You might consider recording tree diameter before and a few years after releasing chosen trees to demonstrate to your client the effectiveness of this management strategy. Key to this is measuring the diameter in the same way (at breast height) and at the exact same location each time.

Suppressed trees have crowns below the canopy. Suppressed trees can be released, but the chances of them experiencing a growth spurt are less. After a number of years of being suppressed in the understory, most trees lose their ability to respond to more light and space.

### Pruning

Pruning involves removing lower tree branches (Figure 37). This is especially desirable on chosen trees you want to grow into the future. Knowing how to prune correctly is an important skill and will prove useful when developing trails, creating vistas or small openings, or improving aesthetics.

The decision to prune or not depends on management objectives:

- **Chosen trees:** It makes sense to prune chosen trees to shape them so that they best meet the client's objectives or will do so as they grow. Some of those objectives may be:
- **Wildlife cover:** Low-hanging branches, especially on conifers, provide wildlife cover, so the client may choose not to prune these.



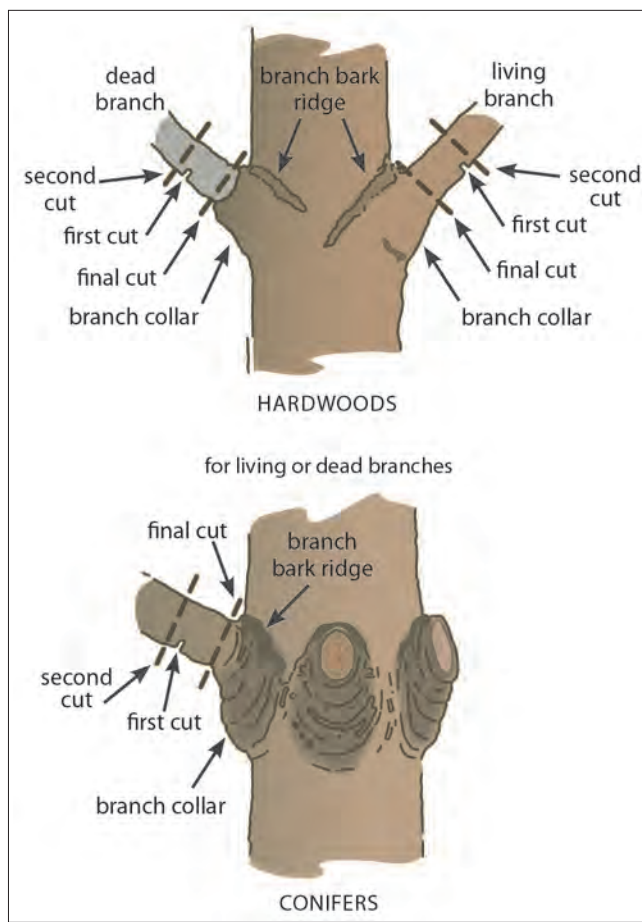


FIGURE 37: Making proper pruning cuts results in healthier trees.

- **Timber quality:** Some species, especially valuable hardwood species such as oak, cherry, and walnut, benefit from pruning because it removes knot-forming lower branches that reduce future timber quality.
- **Aesthetics:** Some pruning happens naturally, especially with woodland-grown deciduous trees. Some landowners may wish to have a better view into the woods, which can be accomplished not only by pruning lower tree branches but also by clearing vines and invasive plants.
- **Wildfire risk:** Pruning reduces the risk of wildfire damage, because a low-burning fire will not easily reach into the canopy of a pruned tree. This is of more concern in pine woodlands with dead branches and fuel close to the ground.
- **Recreation:** Cut trees or branches (dead or alive) hanging precariously over a trail or road or encroaching on a trail or road.

## Creating and Managing Den Trees and Snags

Den trees have a natural hollow, or cavity, in the trunk or limbs. A snag is a standing dead tree (Figure 38). Both are essential habitat for many kinds of woodland wildlife throughout the year for nesting, feeding, perching, escape cover, and protection from weather. As a tree dies, the process of decay attracts insects, which in turn attract woodpeckers that excavate nest holes that other wildlife use later. Limited den tree availability can reduce the diversity of wildlife in an area.

Woodlands often have few trees with cavities, so it is important to protect both existing and potential den trees. Old, open-grown, large-crowned trees (known as “wolf trees” because of the large amount of space they occupy) now surrounded by younger trees should be protected because they are likely to become good den trees someday. These trees are also typically good mast producers, making them doubly valuable for wildlife.

There are many opinions about how many snag trees are desirable per acre for wildlife. We suggest leaving or creating 5–7 snags or living den trees per acre if the landowner has improved wildlife habitat as an objective. Snags should be at least 6 inches in diameter to allow wildlife to create cavities and use them for food, perches, and nesting.

Insect and disease problems kill some trees in woodlands, resulting in snags. For example, emerald ash borer has killed all the ash trees in many areas, creating numerous snags. If you are in a woodland that has no snags and you want to provide that missing habitat structure, snags can be created using mechanical methods or herbicides.



FIGURE 38: (A) Pileated woodpeckers create cavities in trees that can provide vital wildlife shelter. (B) Snags can last for many years and provide needed habitat for birds, insects, and mammals as they slowly degrade and fall apart, leaving the main hole.

**TABLE 7**  
**Commonly Used Woodland-Labeled Herbicides Approved for Use in Most States.**  
**Trade Names Are Grouped According to Active Ingredient.\***

Active Ingredient (common name)	Trade Name (partial list)	Manufacturer	Application Equipment	Application Method
Glyphosate	Accord XRT II	Corteva Agriscience	Backpack sprayer; hatchet and spray bottle; vehicle-mounted; mist blower	Foliar; hack and squirt; cut stump
	Roundup Pro Concentrate	Bayer		
	Rodeo	Corteva Agriscience		
	Generic	Various		
	Escort XP	Bayer		
Imazapyr	Arsenal AC	BASF	Backpack sprayer; hatchet and spray bottle; vehicle-mounted	Foliar; hack and squirt; cut stump
	Polaris AC	Nufarm		
<b>Caution: Imazapyr (e.g. Arsenal and Polaris) has considerable soil activity and can injure nearby trees through root absorption. Follow label directions.</b>				
Metsulfuron-methyl	Generic Oust XP	Various Bayer	Backpack sprayer; vehicle-mounted	Foliar
Sulfometuron-methyl	Generic Oust Extra	Various Bayer	Backpack sprayer; mist blower; vehicle-mounted	Foliar; pre-emergent soil
Sulfometuron-methyl and metsulfuron-methyl	Garlon 3A	Corteva Agriscience	Backpack sprayer; vehicle-mounted	Foliar
Triclopyr	Vastlan	Corteva Agriscience	Backpack sprayer; hatchet and spray bottle; vehicle-mounted	Foliar; hack and squirt; cut stump
	Garlon 4 Ultra	Corteva Agriscience	Backpack sprayer; hatchet and spray bottle; vehicle-mounted	Foliar; hack and squirt; cut stump
	Pathfinder II (Ready-to-use)	Corteva Agriscience	Backpack sprayer	Basal bark; cut stump; hack and squirt
	Generic	Various		

\* Some herbicides can be purchased in a generic form at lower cost.

woods-your-backyard/resources for more information). By adjusting equipment to control application volume or herbicide concentration, the proper rate is obtained. Calibration is important because:

- applying pesticide at a rate greater than labeled is illegal
- nozzles and other equipment settings may vary depending on operating conditions
- the proper rates must be used for application to be cost-effective.

#### Directed Foliar Spray (Foliar Spot Treatments)

Used to control small woody plants, herbaceous weeds, grasses, and vines.



FIGURE 64: Directed foliar spray using an ATV-mounted broadcast sprayer.



## LAND CARE PLAN SCENARIO A: The Machados

### Land Care Plan

Developed by: Joe Smith, Green Places, Inc.

Date: July 22, 20XX

After visiting your property and completing the Woodland Health Assessment Checklist, we are recommending a number of practices for your consideration. We would be happy to discuss with you the recommendations to provide more detail and associated costs.

<b>Clients</b>	Ben and Tina Machado, 18077 Meadow St, Waterville VA 22651 (540) 555-2773
<b>Clients' Goals</b>	<ol style="list-style-type: none"> <li>1) Less lawn (reduce size of mowed areas)</li> <li>2) Healthier trees in wooded areas (larger crowns, better growth rate)</li> <li>3) Thin out mature woods</li> <li>4) Manage invasive plants</li> <li>5) Improve habitat for turkeys and songbirds</li> </ol>
<b>Property Summary/Description</b>	<ul style="list-style-type: none"> <li>– 7.7 acres total: 2.5 acres lawn, 1.8 acres pasture, 2.3 acres overgrown field, 1.1 acres mature hardwood/pine woods, and a pond.</li> <li>– The owners bought the property one year ago. The property was used as a horse pasture for over 30 years. Previous owners built the current house and let the lower field grow back into early successional vegetation.</li> <li>– There is a sizable fenced pasture area north of the mature hardwood/pine woods that includes the pond. It is not well maintained. Lawn area around the pond.</li> <li>– The existing pond area and small stream entering it have dense vegetation along the banks with some invasive plants. A stream flows from the adjoining property through the mature woods to the pond.</li> <li>– The mature woods are very dense and owners would like to encourage oak trees to produce acorns for the wildlife. The mature woods and overgrown field areas have many dead ash trees killed by emerald ash borer.</li> </ul>

### Woodland Health Assessment Checklist Results Summary

<b>I) Woodland Diversity and Composition</b>	<ul style="list-style-type: none"> <li>– High concern for lack of plant diversity in the mature woodland and old field area. Ash trees killed by emerald ash borer are being replaced by exotic invasive plant species. Increased sunlight in understory is resulting in rapid growth of invasive trees and shrubs.</li> <li>– High concern for overall tree health in mature woodland due to over-crowding, small crowns, poor form, storm damage, and heavy vines.</li> </ul>
<b>II) Woodland Structure</b>	<ul style="list-style-type: none"> <li>– Dead ash provide snags, dead wood, and canopy openings.</li> <li>– High concern for invasive plant species that are taking advantage of increased light and outgrow native trees and shrubs.</li> </ul>

**Land Care Plan: The Machados** *(continued from page 59)*

**III) Habitat Assessment**

- High concern for lack of young woodland and lack of soft edges along existing woods and old fields.
- Concern for browsing by deer on native tree seedlings. Lack of hunting opportunities provided for family and friends.
- High concern for lack of wildlife travel corridor between the pond and woodland habitat. There is interest in improving habitat for amphibians around the pond

**IV) Site-Level Considerations**

- High concern for lack of a vegetated or wooded buffer around the pond to minimize erosion of pond bank and trap run-off water from lawn area before it enters the pond.
- Concern for lack of access to the mature woodland and old field areas.

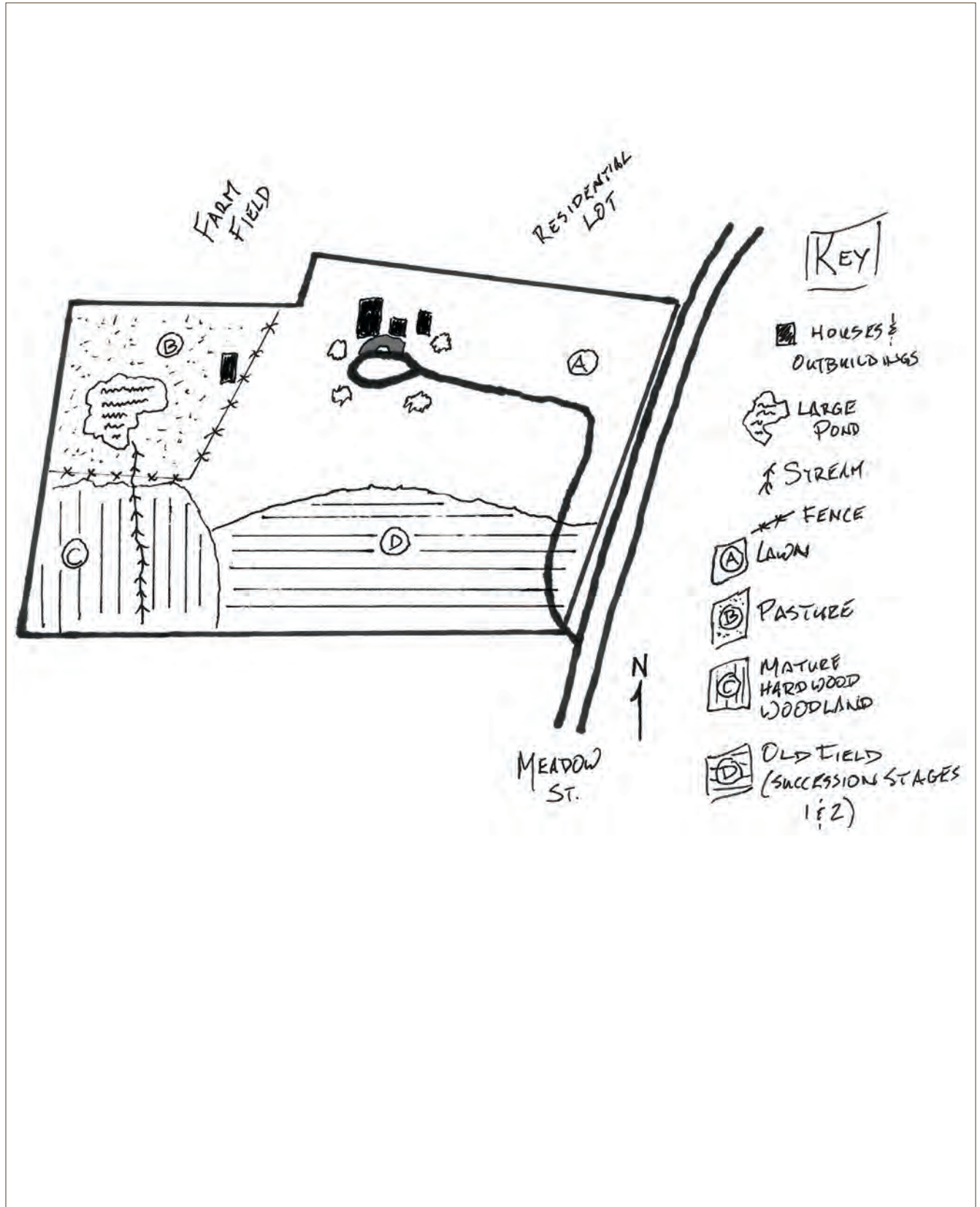
**Recommendations**

Habitat Area	Acreage	Project Description
Existing lawn	2.5	<ul style="list-style-type: none"> <li>a) Stop mowing or only mow occasionally minimum of 1.5 acres of existing lawn, particularly along the border with existing overgrown field area, to create edge habitat. Install bluebird boxes.</li> <li>b) [alternative to a) Establish soft edge habitat along existing woodland borders using widely spaced planting of mast-producing trees and eliminate mowing. Control invasive plants].</li> <li>c) Establish tree/shrub planting to provide privacy screen behind home. Install bluebird boxes.</li> </ul>
Pasture	1.8	<ul style="list-style-type: none"> <li>a) Convert pasture area (about 1 acre) between mature woods and around the pond to trees: plant tree seedlings, use tree shelters, and control competing vegetation.</li> </ul>
Pond/Stream		<ul style="list-style-type: none"> <li>a) Reduce/eliminate mowing minimum of 25' around the pond. Establish riparian buffer by planting trees and shrubs and control invasive plant species.</li> <li>b) Use willow stakes to stabilize eroding banks along the pond.</li> </ul>
Mature hardwood/pine woods	1.1	<ul style="list-style-type: none"> <li>a) Use chosen tree management to favor native tree species and to improve native tree diversity and health</li> <li>b) Control invasive trees, shrubs, and vines with selective herbicide applications</li> </ul>

*Thank you for considering this plan with many options.  
We look forward to working with you to identify priorities,  
provide cost estimates, and implement projects to meet your goals.*



Property Map: The Machados



## LAND CARE PLAN SCENARIO B: The Hardys

### Land Care Plan

Developed by: John Baker, A&B Landscape Services

Date: August 19, 20XX

After visiting your property and completing the Woodland Health Assessment Checklist, we are recommending a number of practices for your consideration. We would be happy to discuss with you the recommendations to provide more detail and associated costs.

<b>Clients</b>	George and Joanne Hardy, 1234 Daley Drive, Treeville MD 21111 (410) 555-1299
<b>Clients' Goals</b>	<ol style="list-style-type: none"> <li>1) Less lawn to mow</li> <li>2) Reduce erosion of lawn and stream bank</li> <li>3) Healthier trees and woodland (larger crowns, better growth rates, greater diversity of species)</li> </ol>
<b>Property Summary/Description</b>	<ul style="list-style-type: none"> <li>– 2.4 acres total subdivided from a farm about 10 years ago</li> <li>– Property is mostly lawn that slopes down from house to Jacobs Creek, and a wooded wetland at western end of property. Some of sloped lawn area has started to erode near the creek.</li> <li>– A large wooded area borders the property along the northern boundary and extends onto the neighbor's property. A narrow old fence-line of large trees borders the property along the southern property line.</li> <li>– The neighbors to the south have expressed interest in working with the client to expand a stream buffer planting project to their property.</li> <li>– Much deer sign was evident on the property primarily coming from the wooded wetland and large wooded area to the north.</li> </ul>

### Woodland Health Assessment Checklist Results Summary

<b>I) Woodland Diversity and Composition</b>	<ul style="list-style-type: none"> <li>– Concern for lack of plant diversity in the wooded wetland and the old fencerow on the southern boundary. Many existing plants are exotic invasive species of trees, shrubs, and vines.</li> <li>– High concern for overall tree health due to heavy vines causing tree damage.</li> </ul>
<b>II) Woodland Structure</b>	<ul style="list-style-type: none"> <li>– High concern for lack of structural diversity due to mostly large mature trees along the southern border.</li> <li>– The narrow width limits the development of understory layers of desirable trees and shrubs.</li> </ul>

# Woodland Health Assessment Checklist & Management Actions



The checklist is available for free download at  
[www.extension.umd.edu/woodland](http://www.extension.umd.edu/woodland)

## How to use this assessment:

The Woodland Health Assessment consists of two parts:

1. Checklist
2. Management Actions

The checklist will assist you in assessing a variety of conditions on your property. Each condition includes a statement of “higher concern” or “lower concern.” These statements will assist you in identifying potential areas for management, based on your objectives.

The Management Actions identify potential management projects for the property.

Provider company: \_\_\_\_\_

Employee performing assessment: \_\_\_\_\_

Date of property visit: \_\_\_\_\_

Client name & address: \_\_\_\_\_

Client phone & email: \_\_\_\_\_

Property location (if different from above): \_\_\_\_\_
















\_\_\_\_\_



### III) HABITAT ASSESSMENT

A habitat assessment will enable you to better determine which types of habitats are present on the property. It is important to identify the successional stages (early, mid, or late) of the woodland, which wildlife species they attract, and whether there are challenges such as over browsing by deer and competition from less desirable and/or exotic invasive plants.

#### III a) Checklist

	Higher Concern	← →	Lower Concern	
<p><b>Successional stages:</b> The woodland displays little or no variation in successional stages.</p>				Numerous successional stages are represented on the property, providing important habitats for a diversity of wildlife species.
<p><b>Edge habitat:</b> The woodland has little or no edge habitat. Or existing edge habitat is abrupt with no transition, a "hard" edge.</p>				The woodland has adequate edge habitat that provides a variety of food and cover. Existing edge habitat provides a good transition to different habitat types, a "soft" edge.
<p><b>Undesirable plants:</b> Less desirable competing and/or exotic invasive plants (herbaceous, woody, or vines) are common in the woodland.</p>				Less desirable competing and exotic invasive plants are absent or are not widespread.
<p><b>Deer browsing:</b> The presence of moderate to severe deer browsing creates substantial challenges for tree seedling regeneration. There is a clear browse line and few or no tree seedlings present.</p>				Deer browsing is not posing a substantial challenge to tree seedling regeneration. Little or no deer browsing is evident as supported by numerous native tree seedlings and a variety of herbaceous plants in the understory.
<p><b>Tree seedling regeneration:</b> Desirable tree seedlings and saplings are absent in the understory and/or understory is dominated by undesirable plant species.</p>				Desirable tree seedlings and saplings are present in the understory in good numbers; the species mix is conducive to achieving future management objectives.

Notes:

*Woodland Health Practices Handbook*  
was developed with cooperation  
from these organizations.

