

Welcome to Your Woods

Learn about the benefits of owning woods and the resources that are available to help you



Craig Highfield and Eric Sprague



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www.allianceforthebay.org

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Welcome to Your Woods!

Maryland's woods help to make our state the "land of pleasant living" by cleaning the air, naturally filtering drinking water, creating jobs and conserving wildlife. Your woods can also boost your property value, lower your energy bills and provide many other benefits to you each day.

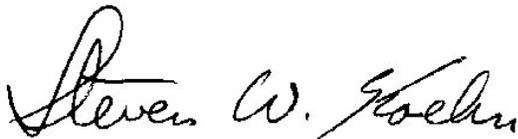
Of the 2.5 million acres of woodlands in our state, the vast majority are owned by people like you, private individuals and their families. That means that vast majority of the wildlife habitat, drinking water, wood products for home building, and clean air are managed by people like you.

The first step to maintaining these natural benefits is to get out and use your woods. Go hiking, go fishing or have a picnic. As you learn what you value most — protecting nature, viewing fall colors, generating extra income, etc. — the Maryland Forest Service and its partners like Forestry for the Bay can help you figure out what to do next.

This guide will help you get to know your woods by walking you through the numerous benefits that your woods provide, the ways your woods work and change over time, and how you can find people and resources to help you meet your goals.

We are glad you are here. Now go out and enjoy your woods.

Sincerely,



Steven W. Koehn

Director/State Forester

Maryland Department of Natural Resources/Forest Service

1 Welcome to Your Woods

Your Woods are Working for You



The trees, shrubs, plants, animals and soil that make up your woods provide you and your neighbors with a host of natural benefits that you use every day: clean air and water, lower energy bills, opportunities to see wildlife, and even higher property values.

- **Cleaning the air**
Your woods will make the air and water around your house cleaner. Trees reduce surrounding air temperatures by providing shade and releasing water into air through their leaves. The lower temperatures reduce the chemical reactions that form ozone pollution. Tree canopies also scrub the air of many other pollutants like dust, smoke and ash. One acre of trees in Baltimore County, for instance, was shown to remove thirty-eight pounds of ozone and thirty pounds of particulates from the air every year.¹ These pollutants can induce health problems like asthma and lung cancer.²
- **Cleaning the water**
Your woods improve water quality by scrubbing pollutants from the air and soil before they enter nearby streams. Cleaner water means safer and better swimming, fishing and canoeing. Trees that line streams are particularly important for keeping pollutants out of streams, cooling the water for fish, stabilizing stream banks and providing wildlife habitat.
- **Creating a quiet retreat**
One of the reasons you likely enjoy the countryside is the opportunity “to get away” — and a wooded setting is a peaceful setting in more ways than one. A band of trees one-hundred feet wide can reduce noises by 50 percent or more.³ Trees have also been shown to change moods and reduce stress.⁴

Your woods are at work for your neighbors too

We all give back to our communities in different ways, such as volunteering, donating money or participating in local politics. Did you know that you are giving back to your community by maintaining your woods?

Your woods are also part of big system that provides a host of natural benefits to a much larger area. Clear air produced by the woods on your property improves public health region-wide. Cleaner water flowing from your property helps your downstream neighbors enjoy clean water, too, and supports jobs and seafood — like crabs and oysters — for the entire region.



Your woods protect fresh, clean drinking water.

Your woods also protect fresh drinking water. Approximately, 75 percent of the people across the Chesapeake Bay region rely on surface water as their drinking water source. Water that flows to our streams and rivers from forests are the cleanest and costs less money to treat at drinking water plants. Water from forested land is better for our health and easier on our wallets.

Wildlife near and far also depend on woods like yours. The mix of birds, mammals, and fish vary from place to place, as wildlife lives and travels in the “eco-regions” that suit them best. Your woods are part of these eco-regions and allow wildlife to stopover and feed while traveling or find shelter and raise families.

Maintaining trees on your property (and planting more if possible) is the most important way you can contribute to clean air, clean water and healthy wildlife. Healthy woods provide the highest quality and most varied services.

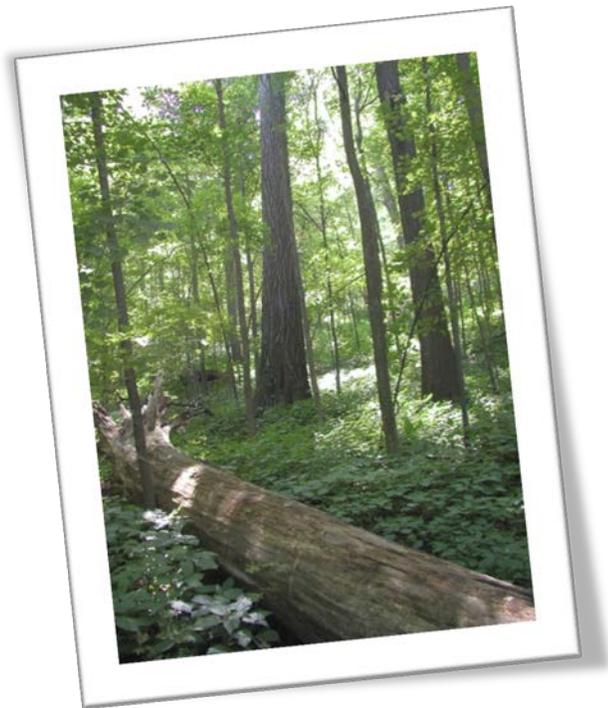
2 Welcome to Your Woods

The Woods of Maryland

You may already “see your forest for the trees,” but do you “see the trees in your forest”? Why are those particular types of trees growing there? What vibrant colors should you expect to see from them in the autumn? How old are your trees? Which of your trees does wildlife prefer? What will your woods look like in five, ten, or twenty years? To understand what is going on in your woods, it is important to know how the different kinds of life in your woods interact with each other and with their environment.

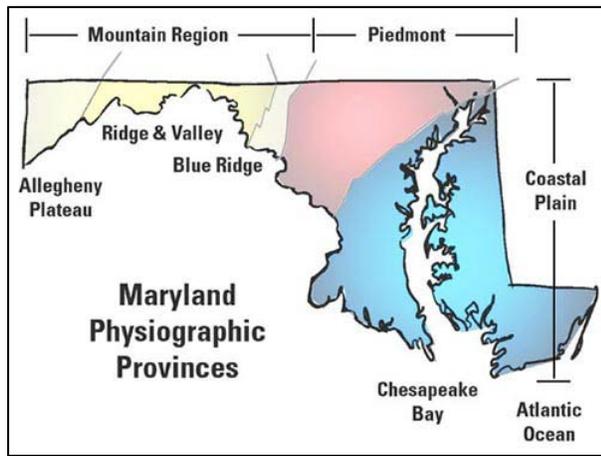
Our region’s natural land cover is forest and has been for thousands of years. Most of Maryland’s forests are deciduous, which is the most prevalent vegetative cover of the eastern United States. A deciduous forest is dominated by broad-leaf tree species like oaks, maples, and tulip poplars, often referred to as hardwoods. Most deciduous trees drop their leaves in the autumn as the weather becomes colder, and moisture and sunlight is less available for use. Their growth and development temporarily cease until favorable conditions return in late winter and early spring. Pockets of coniferous forests, which are composed of “evergreen trees” like pines, spruces, and fir, also exist in Maryland but don’t dominate the landscape like deciduous forests. You are more likely to find forests with a mixture of deciduous and coniferous tree species. Pine plantations, which are primarily grown for commercial purposes, are common in Maryland especially on the eastern shore.

Forest types, like deciduous and coniferous, are based on the tall trees that dominate the canopy of a particular forest. But all forests are complex ecosystems, comprised of layers of vegetation that interact and change as forests mature. The trees, shrubs and other plants that comprise Maryland forests vary dramatically depending on your location. While Maryland is a relatively small state, its geologic landforms are quite different. In fact, someone travelling from Garrett County to Worcester County will have moved through five separate geologic landforms — the Appalachian Plateau,



Forests have many layers of vegetation that interact and change as the forest matures.

Ridge and Valley, Blue Ridge, Piedmont, and Coastal Plain — and dropped an average of 2,300 feet in elevation.



The trees and plants in a Maryland forest vary dramatically depending on your location.

is common in low lying areas of the Coastal Plain but absent in Maryland's other provinces.

The most common forest type in Maryland is the Oak/Hickory forest association. It contains many species of oak trees, including white oak, northern red oak, black oak, and chestnut oak, along with a variety of hickory species like shagbark and pignut hickory. You'll likely find a plethora of other trees, shrubs and herbs growing in this forest type, including tulip poplar, red maple, dogwood, red bud, blueberry, mountain laurel, Solomon's seal, and may apple.

How Your Woods Work

All plants need basic resources to live: light, water and nutrients (growing space too). The plants in your woods are constantly competing with each other for these resources. Those that lose this competition simply perish. Most forest plants would probably grow quite well on moist, well-drained, fertile soils with adequate sunlight and growing space, similar to plants in a well-tended garden or a greenhouse. On these ideal, productive sites, however, competition is fierce and resources are quickly occupied by the species that are best at growing fast, putting out roots, spreading their crowns and producing plentiful seeds.

The plants in our woods have developed adaptations to help them better tolerate the incessant competition for resources. This is called "ecological tolerance." For example, American beech, a common tree in the region, has the ecological tolerance to develop and grow in low levels of light under the shade of a forest canopy. Pitch pine, which would probably grow best in fertile soils, has the ecological tolerance of shallow, less fertile soils. Black willow has the ecological tolerance of flooded and wet soils.

The characteristics of these landforms affect local climates, moisture, and soil types and offer a diversity of growing sites. Each typically supports a plant community with similar growth requirements.⁵ The forested communities of these landforms, also called forest associations, are typically named for the most dominant trees in the canopy. So, a Maple/Beech/Birch (Northern Hardwoods) forest association, which provides the most vibrant autumn colors, is common in the cooler and higher elevations of western Maryland but non-existent on the warmer more humid eastern shore. A Loblolly/Shortleaf Pine association

Eastern deciduous forests typically have ample annual precipitation and well developed soils, so the resource most limiting to the vegetation and, therefore, most competed for, is light. In general, the more light your trees get the faster they can photosynthesize (make their food), develop and grow as long as the other two resources are in good supply. As trees grow, they need to generate more food resources to maintain and support this new and existing tissue. Therefore, they need to expand their crown to capture more sunlight.

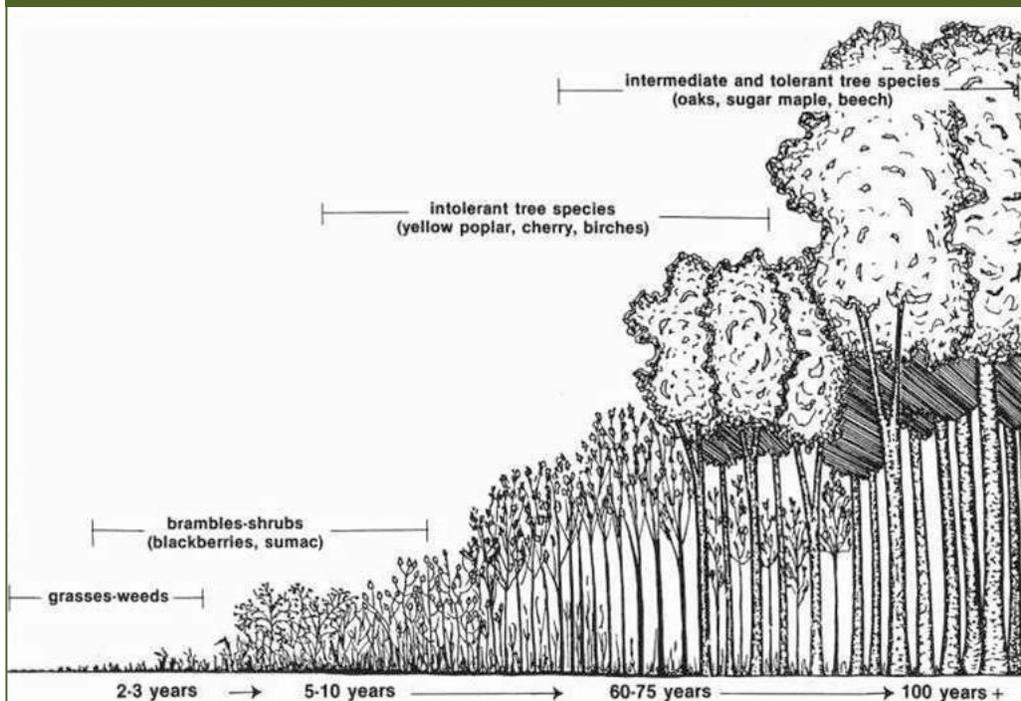


In your woods, the trees in the canopy that shade the forest floor are those that have won the long-standing competition for light. However, forests are dynamic ecosystems, and this canopy dominance may not last. Although you may not see it on a regular basis, change is always happening in your woods.

Trees that shade the forest floor have won the competition for light — at least for now.

One of the most important changes in a forest ecosystem is called “succession.” Succession is the replacement of one plant community by another as a result of natural and progressive development.⁶ This concept explains why your forest looks the way it currently does and how it will likely change in the future. Succession in the eastern forests is mainly influenced by the vegetation’s ability to grow and develop in various levels of sun light.

Succession: The Stages of a Forest Ecosystem



COURTESY WVU EXTENSION



Many centuries ago, Maryland was almost completely covered with forests. As settlers arrived, these forests were cleared for farming and put to human uses for homes, railroad ties and fuel. So in more recent times, your woodland was likely a farm field. Once farming ceased, succession continued.

Initially during this old field succession, the land is invaded by fast-growing plants that require full sunlight. In the first few years, these fast-growing species include short-lived grasses and forbs, but perennial herbs and woody shrubs soon replace them. Fast-growing, shade-intolerant trees also take advantage of the light. These trees eventually shade out the early shrubs and herbs, as the forest canopy closes and significantly reduces light to the forest floor.

Growing along with these shade-intolerant trees, however, are trees that can tolerate partial and significant shade. These species tend to use their food resources more efficiently to survive with less light, but grow more slowly. These new communities of shade-tolerant understory plants become

established in the new forest. (Shade tolerance is not always constant in a species. Many trees like oaks, maples and eastern white pine become more intolerant of shade as they age.⁷⁾)

Eventually, trees die and create gaps or openings in the forest canopy that allow these intermediate and shade-tolerant tree species to flourish with the additional sunlight. These trees tend to live longer and, once in the canopy, can persist. Shade-tolerant species can regenerate and mature under their own shade, so they can continually replace the forest canopy. When this occurs, succession has reached a climax. Further changes in vegetative species are limited without a disturbance. Stability, of sorts, takes hold, as long as the environment doesn't change.

But of course the environment does change. Fires, storms, droughts, insect infestations, diseases or human activities can disturb the forest structure. These events have always been a part of our forests, periodically creating space for new plants to grow or for surviving plants to expand. Our plant and wildlife communities have come to depend on such gaps, which are critical for maintaining diversity.

Where are the wild things?

When you purchased your woodlands, you also inherited a host of wild critters who don't necessarily recognize property lines. Wildlife viewing is a fast-growing activity and hopefully you'll have ample opportunity to appreciate your land's inhabitants.

The type of wildlife you should expect to see in your woods depends on the food, water, cover and space your land provides. During early forest succession, the grass/forbs stage will attract wildlife that feeds on plants and seeds (like insects, meadow voles or eastern cottontail rabbits). As woody shrubs become established, they can attract additional species like bobwhite quail that need the woody cover. Early successional forests will also attract animals like American kestrels, red-tailed hawks and foxes that hunt in open fields but find cover in other habitats.

Mature forests provide important food sources like acorns, hickory nuts, beechnuts and wild cherries, and have a more diverse vertical structure from herbs on the forest floor to the crown of the tallest trees. Forests that support trees of various ages usually have standing dead trees with nesting cavities that can support a whole host of birds and mammals. Some species require large tracts of mature forest to breed successfully and maintain viable populations. These include barred owls, scarlet tanagers and wood thrush, which seek cover deep in the forest in order to protect their eggs and young from the predators on the forest edges.

The habitat needs of many species also vary at different times of the year or at different stages in their lives. Eastern wild turkeys, for example, rely on both early successional fields and mature forests for habitat requirements.

The woods within your property lines will not completely account for the wildlife you see there, because wildlife often depends on the resources of a broad area. Ten acres of woods surrounded by agricultural land or subdivisions will attract different animals than ten acres that are part of a larger contiguous forest. Think about how your woods fit into the surrounding landscape. Does your land provide a unique need for wildlife? If not, could it?



The type of wildlife you see in your woods depends on the type of habitat your land provides.



Wildlife Food Plants	
Plant Species	Wildlife species using plant for food
Oaks	most wildlife species
Dogwoods	bluebird, cardinal, cedar waxwing, rabbit, ruffed grouse, wild turkey, wood thrush
Hawthorn	fox sparrow, gray fox, raccoon, ruffed grouse
Hickories	chipmunk, red-bellied woodpecker, rose-breasted grosbeak, squirrels, wood duck
Eastern hemlock	black-capped chickadee, porcupine, red squirrel, ruffed grouse, white-footed mouse
Sumacs	bluebird, cardinal, black-capped chickadee, hermit thrush, rabbit, robin
American beech	black bear, blue jay, chipmunk, porcupine, ruffed grouse, squirrels, tufted titmouse, white-tailed deer, wild turkey
Cherries	black bear, cedar waxwing, raccoon, red squirrel, rose-breasted grosbeak, ruffed grouse, white-footed mouse
Pines	beaver, black-capped chickadee, brown creeper, gray squirrel, mourning dove, porcupine, nuthatches
Wild grapevine	black bear, cardinal, fox sparrow, gray fox, mockingbird, ruffed grouse, wild turkey
Virginia creeper	bluebird, great-crested flycatcher, pileated woodpecker, red-eyed vireo
Blackberry	brown thrasher, chipmunk, gray catbird, rabbit, ring-necked pheasant, robin, white-tailed deer
Blueberry	black bear, gray catbird, rabbit, rufous-sided towhee, skunk, white-footed mouse, white-tailed deer

Compiled from Martin, A.C. et al. 1951. American Wildlife and Plants, A Guide to Wildlife Food Habits. Dover Publications, Inc.

Shade tolerance of common trees in Maryland		
Shade tolerant	Intermediate tolerant	Shade intolerant
Sugar maple	Red maple	Yellow poplar
Silver maple	Yellow birch	River birch
American hornbeam	Shagbark hickory	Bitternut hickory
Eastern hemlock	Eastern white pine	Loblolly pine
American beech	White oak	Eastern red cedar
Flowering dogwood	Northern red oak	Black cherry
Sourwood	Chestnut oak	Pin oak
Black gum	American basswood	Sweet gum

USDA Forest Service; *Silvics of North America*; Ag Handbook 654; 1990

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Your Woods and Your Wallet



In addition to helping you breathe a little easier and giving you chances to see wildlife, your woods can benefit your pocket book. Some financial benefits come with simply allowing the woods to exist. Others come through forest management and tax credits.

Higher property values

Maintaining healthy trees and woods on your property is a good investment. Wooded lots sell for 7 percent more than equivalent houses on open lots.⁸ Similarly, 83 percent of realtors believe that mature trees have a “strong or moderate impact” on the salability of homes listed for under \$150,000; on homes over \$250,000, this perception increases to 98 percent. Landscaping can add approximately 10 to 20 percent more value to a property — especially landscaping that incorporates mature trees.⁹

Lower energy bills

Trees can also help lower your energy bills. Through shading in summer and blocking wind in winter, trees can lower a home’s annual energy costs by 25 percent. The National Arbor Day Foundation reports that the net cooling effect of a young, healthy tree is equivalent to ten room-size air conditioners operating twenty hours a day.¹⁰

Lower taxes

Local and state governments have developed a number of programs to help you maintain healthy trees on your property.

If you own five or more acres of woods, then you are eligible to receive lower property taxes through a *Forest Conservation and Management Agreement*. In this program, you agree to develop and maintain a plan to take care of your woods for up to fifteen years. You assume the initial set-up and inspection fees, but your property taxes are then reduced and frozen for the life of the plan at low agricultural rates. If you own fifteen acres of woods with a value of \$5,000 per acre, your annual property tax bill would normally be approximately \$750. With a Forest Conservation and Management

Shading can lower a home’s annual energy costs by 25 percent.

Agreement, your taxes would be lowered to \$18.75 using an average agricultural property value of \$125 per acre.

The *Woodland Assessment* is a similar program for landowners with five or more acres of woods that will assess your property at \$187.50 per acre. Counties require that you maintain a forest management plan to receive the lowered tax rate. While the assessed value is higher in this program, there are no time commitments or initial set-up fees.¹¹ Entrance and withdrawal from the program is often easier.

The *Maryland Income Tax Modification* program allows woodland owners to deduct from their federal adjusted gross income on the Maryland tax return double the cost for reforestation and for approved practices that improve forest health. This deduction is applicable for properties with a total woodland ownership of three to one-thousand acres.

There are also significant tax benefits available for permanently protecting your woods from development through a conservation easement. An easement allows you to retain ownership of the land and authority to make decisions about its management, but you give up most or all of the rights to develop and subdivide the land. In exchange, you can enjoy local, state and federal tax breaks. The Maryland Environmental Trust can provide you with more information on the benefits of conservation easements.¹²

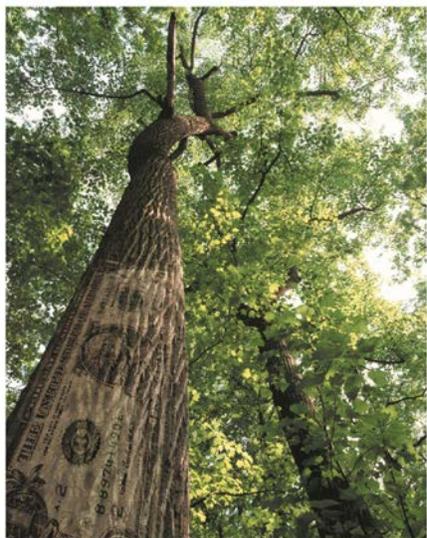
Opportunities to make money

You can generate income while enjoying your woods at the same time.

A thoughtful forest stewardship plan allows you to produce periodic income from your trees by selling wood to paper producers, furniture manufactures and other wood users. Timber harvest for these purposes will not threaten your woods if you have an informed and responsible management plan for your property. In fact, strategically cutting trees can actually help create wildlife habitat and encourage the healthiest trees to grow. The income generated by a harvest will depend on a variety of factors, including the type of trees, volume of wood harvested, current market prices and the effort needed to harvest the trees. Working with a consulting forester will often help you attain the highest value for your harvest while maintaining the integrity of your forest. Information about foresters is detailed in the next chapter.

You can also make money from your woodlands by selling the development rights to the land, without selling the land itself. When a developer builds new homes or businesses in certain areas, state and local governments require them to protect and replace trees lost. Developers can meet this requirement by “buying” newly planted and/or protected woods from you. The price paid for the protection of your woods will depend on the amount of development in your area. Values will be highest in counties and cities with high rates of development and limited supply of “credits” from landowners like you.

There are also many other ways to generate income and while enjoying your woods at the same time — such as leasing your land to hunters or anglers or growing mushrooms, medicinal herbs or other non-timber products.



4 Welcome to Your Woods

Keeping Your Woods Working for You



As a new woodland owner, the best thing you can do for your woods is to simply get outside and enjoy them. Take a walk. Discover how the terrain changes. Find easy ways to navigate through them. Learn to identify some of the trees. Look and listen for signs of wildlife. Figure out what you like about your woods — what you value the most (and even what you like least). Think of how you might use them now and in the future:

Get to know your woods and plan for ways enjoy them.

- Hiking, walking or jogging
- Viewing birds and other wildlife
- Hunting and fishing
- Harvesting mushrooms, medicinal herbs or other edible plants (wildcrafting)
- Enjoying privacy and seclusion
- Forest gardening
- Harvesting timber
- Collecting firewood
- Making maple syrup

How do you know if your woods are healthy?

As mentioned earlier, healthy woodlands provide the highest quality and the most varied services to you and the region. Measuring forest health can be complicated, but healthy woods do share common qualities, especially as they mature.

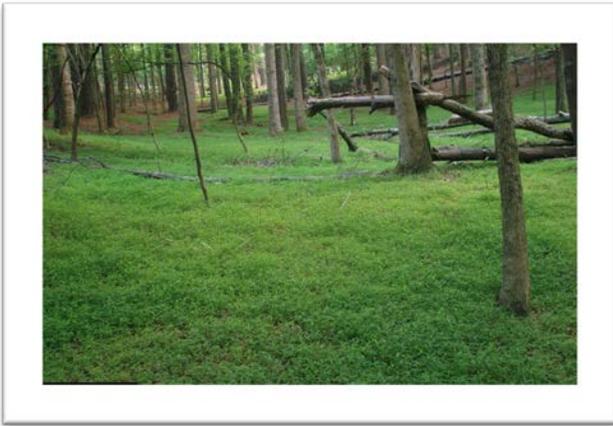
- **Structure:** There should be distinct and complex layers to mature woodlands consisting of forest soils, a duff layer (fallen leaves, branches and twigs), an herb layer, a shrub layer, understory trees and tall trees in the canopy.
- **Regeneration:** Seedlings and saplings (young trees) should be growing naturally in the understory that could eventually replace canopy trees lost to mortality.
- **Diversity:** There should be a variety of trees, shrubs and herbs growing in your woodlands. A diversity of vegetation provides a diversity of habitat and helps to

buffer your woods from the impacts of devastating pests, pathogens and other disturbances.

Threats to your woodlands

Our woods have always faced disturbances, but now experience a new set of threats. This limits the ability of woodlands to provide the very benefits we enjoy, expect and rely on.

- **Development:** Today, woodlands cleared for development are unlikely to ever become forested again. The permanent loss of forests is a serious concern for the region's environment, including clean air and clean water. Sprawl development, which places low-density development relatively far from community services like schools, stores and waste water treatment facilities, breaks up contiguous forests into smaller parcels. This makes them more vulnerable to pests and limits benefits to wildlife. Conserving the remaining woodlands in such areas is critical.



Invasive plants like stiltgrass (shown above) can stifle new growth in your woods.

- **Invasive plants:** Invasive plants are non-native plants introduced to our region both intentionally and unintentionally. They are well adapted to grow in their new environment and generally out-compete native plants. Invasive plants in your woods threaten the existing vegetation as well as future regeneration of the woods.

- **Invasive insects and diseases:** Invasive insects and diseases, like invasive plants, are introduced species that thrive in our environment. Native vegetation typically has not developed resistance or defenses to combat these invaders. Chestnut blight and gypsy moth are common examples that have drastically altered forests in Maryland.
- **Overabundant deer:** White-tailed deer have always been part of our forests. They were quite rare in Maryland one-hundred years ago due to over-hunting and habitat loss. Now their numbers have exploded due to conservation efforts, loss of natural predators, and their ability to thrive in a fragmented landscape. Deer are herbivores and, in large populations, can denude a forest of most vegetation within their reach.
- **Fire suppression:** Fire has always been important component of our forest ecosystems. Naturally occurring, low-intensity fires regularly reduced forest vegetation, leaving more fire-resistant trees like oaks to thrive. The drive to suppress all fire in the last century has unintentionally lead to an accumulation of fuel in our woods and an abundance of trees less tolerant to fire, both of which increases forest vulnerability to a catastrophic fire.
- **High-grade harvesting:** Timber harvesting is and has always been important to Maryland jobs and communities. Sustainable harvesting practices can also be used to improve forest health. High-grade harvesting, however, does more harm than good. Often marketed as a selective cut or a diameter limit cut, high-grading

is a harvesting practice that cuts the highest valued trees from the woods without regards to the present conditions or future composition of the woods. It is sometimes described as “cutting the best and leaving the rest.” (See Appendix B for a case study)

Recognizing and dealing with forest threats can be challenging, but most changes are gradual and forests are resilient. The important thing is to enjoy your woods and develop goals or objectives for the ways you’d like to use them. Caring for your woods with specific goals in mind is much easier and more focused than battling ceaseless threats. This is a first step in *forest management*.

Forest management is simply a process to improve the overall health and vitality of your woods. Managing your woods can reduce the risk of wildfire, increase its ability to withstand pests and enhance its wildlife diversity. Managing your woods will help ensure that they provide you and your neighbors with a host of lifetime benefits. Consider it to be like a form of insurance that nurtures the natural benefits of trees. Fortunately, there are lots of resources in Maryland to help you.

Where to start

- **Forestry for the Bay** was developed to be an easy starting place for new private woodland owners to discover the benefits of their woods, to learn about resources and opportunities to help them care for their land and to connect them to a variety of natural resource professionals. The program is coordinated by the Alliance for the Chesapeake Bay, with support from the U.S. Forest Service and Maryland DNR Forest Service. The program’s website serves as a clearinghouse for woodland and natural resource information. Visit www.forestryforthebay.org or call 410-267-5723.

Planning for the future

Whether you want to improve wildlife habitat, harvest some timber or just improve the aesthetics of your forests, it’s best to have a game plan. A forest management plan lays out the values you place on the property, your goals and your strategy to achieve or maintain them. There are a variety of tools, templates and professional services that can help write your plan.



Can someone come to my woods?

A professional forester has received special training, usually a four-year university degree, to practice forestry. Foresters understand how trees, other vegetation, and soil interact in your forest and how manipulating the vegetation affects this interaction. All foresters in the Maryland must be licensed by the state. A professional forester can provide a variety of services, such as developing your personalized forest management plan, enhancing wildlife habitat, improving fall color, helping you harvest and sell timber,

Professional foresters offer a wide range of advice and services for your land.

controlling your invasive plants, establishing trails through your woods, and so much more. There are four types of foresters in Maryland who work directly with landowners:

- **Service foresters** are employed by the Maryland Department of Natural Resources Forest Service. Service foresters are assigned and located throughout Maryland, so they have specific knowledge and expertise in their local forests. Many help manage state forests. A service forester can offer you advice about the stewardship of your land and inform you of potential opportunities, cost-share programs and other incentives. They can help you develop and implement a Forest Stewardship Plan and re-establish woodlands on your land. Most of their service is free but there is a fee for developing the management plan. Because service foresters work for the public, they cannot be involved in timber sales but can help plan for sustainable harvests.
- **Consulting foresters** are independent, professional foresters who can be hired for a variety of services, from developing a forest management plan to administering timber sales and controlling invasive species. Consulting foresters work for you and should incorporate your interests and goals in their management recommendations and subsequent work. Discuss your goals with multiple consultants to find one that best fits your needs.
- **Industrial foresters** work for businesses in the forest products industry, like a saw mill, timber company or paper company. They work with private landowners to procure timber or pulp for their employer. They can conduct an inventory of your woodlands, appraise your timber value, draw up a procurement contract and conduct the harvest. Typically there is no fee for their service if your current or future intentions involve selling them your timber. Using a forest management plan while engaging the services of an industrial forester ensures that timber harvests are planned in concert with your goals and result in enhancing your future objectives.
- **Extension foresters** are employed by the University of Maryland. Their main role is to provide private landowners with forestry education and outreach based on sound science.

6 *Welcome to Your Woods*

Helpful Organizations



Additional information about the following organizations including contact information is conveniently assembled and updated for you on the Forestry for the Bay website: www.forestryforthebay.com.

Maryland Department of Natural Resources Forest Service

Maryland Forest Service works to promote the sustainable use and management of the state's forests and offers technical assistance and resources to Maryland's private woodland owners. They maintain offices throughout the state.

USDA Natural Resources Conservation Service (NRCS)

NRCS assists private landowners with conserving their soil, water and forests. Although NRCS works mostly with farmers, the agency also offers natural resource assistance and cost-share programs to private (non-industrial) forest landowners.

University of Maryland Extension

The Extension is part of the College of Agriculture and Natural Resources at the University of Maryland. A wide range of educational programs and problem-solving assistance are available to forest landowners. Offices are located throughout Maryland.

Maryland Tree Experts

These individual arborists and tree care companies specialize on the care or removal of individual trees like the ones around your house. They must be licensed by the state, which requires passage of a rigorous test and proof of liability insurance.

Maryland Forests Association

The Maryland Forests Association is a membership-based organization comprised of private woodland owners, foresters, forest industry representatives, environmentalists, educators and others whose mission is to conserve and enhance forests in Maryland.

Maryland Forest Conservancy District Boards

The Maryland Forest Conservancy District Boards work with the Maryland Forest Service to promote rural forest management and educate the general public and landowners about the wide range of forest benefits.

Maryland Tree Farm

The American Tree Farm System® is a national program of the American Forest Foundation. It is committed to sustaining forests, watershed, and healthy habitats through the power of private stewardship. The Tree Farm System is the largest and oldest sustainable family woodland system in America, meeting strict third-party certification standards.

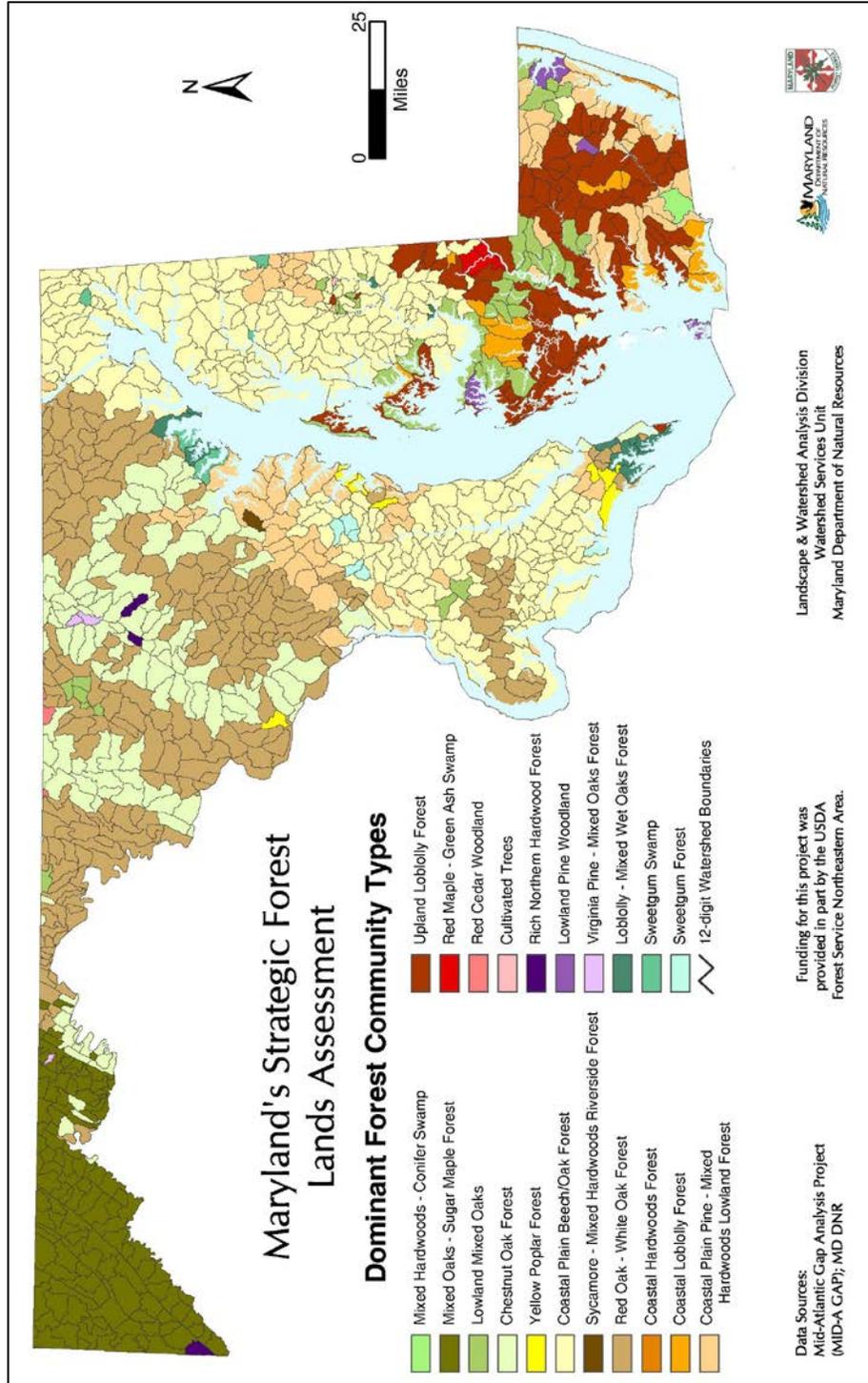
Maryland Department of Natural Resources - Wildlife and Heritage Service

This service has four offices in Maryland that provide advice to landowners on improving wildlife habitat on their property and making use of cost-share programs.

Maryland's Forests: A Health Report

This report from the Maryland Department of Natural Resources includes an extensive list of Maryland's forest types and associated species. Visit www.dnr.state.md.us/forests/healthreport/.

Types of Forest Cover in Maryland



A Tale of Two Harvests: A Case Study

This article was written by a private consulting forester to describe not only the potential economic and ecological perils of high grade harvesting practices to your woods, but also the advantages of working with a professional who is able to consider your interests and goals.

In 2003, a forest landowner in his mid-fifties approached me. A timber company had offered to buy a select cut of timber from his 200-acre property. They offered \$89,000 for a cut that he was assured would not only be sustainable, but would also allow him to harvest timber again at his retirement ten to fifteen years hence. His trees were already marked for the cut, yet this landowner wanted a second opinion on the value of his timber and the sustainability of the proposed cut.

I gathered more information. While the landowner welcomed immediate income, his first priority was to ensure that a significant income would be available to him through a harvest at the time of his retirement. He also wanted to be sure that the land — an inheritance from his parents — would be healthy and have value even after his retirement harvest. However, he felt he did not have immediate financial resources to develop a plan and care for the land in the short-term without some kind of immediate harvest.

I identified both high quality and low quality timber on the 100 acres of forested area (the other 100 acres were open field). The trees currently marked for harvest indicated a “diameter-limit cut” that would take all of the desirable trees measuring fourteen inches and bigger. Not only would this remove all of the genetically superior trees, it would completely rid the forest of cherry. Such a cut would leave the landowner with a genetically inferior forest that would have a significantly reduced value at the time of a second harvest. Although an exact dollar value was not immediately certain, it appeared that a harvest that considered the integrity of future forest could generate as much or more income if the timber were offered to a variety of buyers.

I proposed a stewardship plan that would generate enough income to pay for itself while enhancing the property for both short- and long-term goals. The plan would focus on a “Crop Tree Release” — a form of harvest that allows the very best trees in the stand to grow while removing the trees that are competing with them. In addition, only half of the forested area would be included in the immediate harvest. This would allow the rest of the area to receive a much needed invasive plant removal before it was harvested in order to ensure a re-growth of the desired species. It would also allow for five more years of growth, which would allow the timber to mature before harvest.

I marked about 50 percent of the trees that were originally marked for sale. This new selection of timber was offered to a variety of competitors through a sealed bid. The final bid came in at \$120,000. This price was 25 percent more than the original forester's offer, and this harvest left the best trees in the stand.

That additional 25 percent was used to pay for a stewardship plan, the removal of invasive species, and all costs associated with the sale. Another harvest was scheduled for a portion of the property in 2008, with an estimated worth of \$10,000. In addition, the previously harvested area will be ready for a second harvest in the desired ten-to-fifteen-year timeframe with an estimated income of \$120,000-\$150,000. Thus, the final income from the property over fifteen years totals between \$250,000 and \$280,000. Even after the last currently planned harvest, the property will retain its genetic integrity, long-term health, and potential for generations to come.

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Endnotes

- ¹ US Forest Service, Northern Research Station, Syracuse, NY. Unpublished results of i-Tree analysis of 2007 county data. October 2011
- ² U.S. EPA. Six Common Air Pollutants, In <<http://www.epa.gov/airquality/urbanair/>>. (Accessed 2013)
- ³ D.I. Cook. "Trees, Solid Barriers and Combinations: Alternatives for Noise Control." Paper presented to the National Urban Forestry Conference, SUNY College of Environmental Science and Forestry. Syracuse, NY 1978.
- ⁴ R.B. Hull. "Brief encounters with urban forests produce moods that matter." *Journal of Arboriculture* 19, no. 6 (1992):322-4.
- ⁵ C. Oliver and B. Larson- *Forest Stand Dynamics*; John Wiley & Sons, Inc. 1996; pg 10
- ⁶ E. Braun; *Deciduous Forests of Eastern North America*; Free Press 1950
- ⁷ W. Clatterbuck. *Shade and flood tolerances of trees*; University of Tennessee Extension; Fact Sheet SP656
- ⁸ A.F. Selia, and L.M. Anderson. "Estimating tree preservation costs on urban residential lots in metropolitan Atlanta." In *Georgia Forestry Research Paper No. 48*, 1984.
- ⁹ National Arbor Day Foundation. *The Value of Trees to a Community*, In <<http://www.arborday.org/trees/benefits.cfm>>. (Accessed 2013).
- ¹⁰ IBID
- ¹¹ J. Kays, and V.M. Schultz. "Tax and Estate Planning for Maryland Forest Landowners." Maryland Cooperative Extension, University of Maryland. Fact Sheet 630, 2002.
- ¹² Maryland Environmental Trust. "Tax Benefits of Conservation Easement Donations" 2011.