FOREST STEWARDSHIP PLAN

FOR

Bay Ridge Civic Association
80 East Lake Drive
Annapolis, MD 21403
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Email: jamesgonsalves89@gmail.com

Maryland Department of Natural Resources

LOCATION
Multiple Tracts
Property is located around Farragut Road, starting at the intersection of Bay Ridge Road with Farragut Road
Annapolis, MD

IN

Anne Arundel County

ON

Account #	Tax Map	Parcel	Lot	Forest Acres	Field Acres	Marsh Acres	Total Acres
Multiple Accounts	57	26,27,29,29	Multiple Lots	91.0	1.4	1.1	93.5

91.0 Wooded Critical Area Acres
93.5 Total Critical Area Acres

Sub-watershed: Severn River (#02131002)

PREPARED BY:

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STATE OF MARYLAND LICENSED FORESTER NO. 808 Brandon S. Willey BOARD OF FORESTERS

Initial Plan: August 27, 2025
Revised Plan: January 7, 2026

INTRODUCTION

Bay Ridge Civic Association owns 93.5 acres of land, of which 91.0 acres are wooded, in Annapolis, MD. The landowners wish to manage the property as a general source of recreation and relaxation, to maintain and improve wildlife habitat, control invasive species, improve water quality and reduce soil erosion. These goals correspond to the Stewardship objectives of **Fish & Wildlife** (primary objective) and **Natural Heritage & Recreation** (secondary objective). The overall goal of this Forest Stewardship Plan is to ensure the long-term health and sustainability of the forest.

FOREST MANAGEMENT PLAN DEVELOPMENT

To collect data for the development of this plan, a variable radius plot (point sampling) inventory was conducted. Tree data (species and diameter class) was collected at several points systematically distributed throughout the property. Additionally, an ocular assessment of understory vegetation, wildlife habitat elements, invasive species and diseases, etc. was conducted throughout the site during this inventory. Soils information included in this plan was generated by https://websoilsurvey.sc.egov.usda.gov/

PROPERTY OVERVIEW

The property is located around Farragut Road, starting at the intersection of Bay Ridge Road with Farragut Road. The property consists of relatively flat terrain, with rolling hills throughout. There are no blue-line streams located on the property; however, there is one non-blue-line stream, one tidal wetland (E2Em1p), and one non-tidal wetland (PuBHh). The forest is primarily composed of a mix of upland and bottomland hardwoods throughout the property.

NATURAL HERITAGE RECOMMENDATIONS

The term ”Natural Heritage” is used to describe the plants, animals, and natural ecosystems that make up the landscapes of Maryland. Thus, Natural Heritage Stewardship is concerned with preserving the plants, animals, and ecosystems of the state for the many benefits they provide us, especially those determined to be threatened, endangered, or in need of conservation. A survey of the property for rare, threatened, and endangered species has been completed. According to the current Natural Heritage Program database, there are no such species on the property.

However, the property provides an important habitat for a group of bird species that are considered in need of conservation. These groups of bird species are collectively called “Forest Interior Dwelling Species” (FIDS). The large size of the contiguous forest in this area and the age of this forest makes this site suitable habitat for a variety of forest interior breeding birds. The conservation of FIDS habitat is mandated within the Chesapeake Bay Critical Area, and strongly encouraged outside of the Critical Area. An information sheet about FIDS is included with this plan. In a general sense, the natural heritage and recreational opportunities of your woodland can be enhanced through a variety of forest management practices, which can increase

habitat diversity and food sources for wildlife. This will provide frequent recreational opportunities for watching birds and other animals and promote a diverse forest habitat.

SOILS

Annapolis Series: The Annapolis series consists of well drained soils. Runoff in these soils is low to very high. Slope ranges from 0 to 80 percent. Mean annual temperature ranges from 52 to 57 degrees F. Mean annual precipitation ranges from 40 to 50 inches.

Colemantown Series: The Colemantown series consists of poorly drained soils. Runoff in these soils is negligible. Slope ranges from 0 to 5 percent. Mean annual temperature ranges from 52 to 57 degrees F. Mean annual precipitation ranges from 40 to 50 inches.

Collington Series: The Collington series consists of well drained soils. Runoff in these soils is low to high. Slope ranges from 0 to 80 percent. Mean annual temperature ranges from 52 to 57 degrees F. Mean annual precipitation ranges from 40 to 50 inches.

Donlonton Series: The Donlonton series consists of moderately well drained soils. Runoff in these soils is low to medium. Slope ranges from 0 to 5 percent. Mean annual temperature ranges from 52 to 57 degrees F. Mean annual precipitation ranges from 40 to 50 inches.

PROPERTY-WIDE RECOMMENDATIONS

PROPERTY BOUNDARY LINES

One of the first steps in becoming a good land steward is locating the property boundary lines and corners. Property boundary lines should be well marked and maintained. Landowners can post their property as “No Trespassing” by using signs or by marking boundary trees or posts with bright blue oil-based paint, creating a vertical line (at least 2 inches wide by 8 inches in length), centered at least 3 feet, but not more than 6 feet above the ground. The distance between paint marks should be approximately 100 feet. When standing in front of a paint mark, the observer should be able to see paint marks off to each side. Posting your property has the effect of making it illegal for anyone to enter your property without your permission, and it can reduce property damage and illegal hunting. Freshen up your property boundary line markings periodically to ensure visibility.

WILDFIRES

Wildfires endanger homes, cause potential soil erosion by removing the litter from the forest floor and destroy wildlife, young plants and trees. The main causes of wildfire in Maryland are debris burning, arson and children playing with fire. The Maryland Forest Service enforces the "Forest Fire Regulations" in Maryland. Forest fire danger is most severe during the spring (March, April, May) and fall (October, November, December) forest fire seasons. Landowners can further reduce the risks of wildfire by maintaining access of forest roads and trails for forest fire suppression vehicles. All open-air burning activities require a permit from the local County Health Department. If a wildfire occurs, contact 911 immediately.

TRAIL SYSTEM

The trail system on the property should continue to be maintained and extended as needed. Not only will the trails allow the landowner to enjoy the beauty of the property, but they will also facilitate implementing the management practices and allow access to the property for wildland fire suppression. The trail should be 2-4 feet wide, enough to allow hikers to safely walk the path. Overhanging branches should be properly pruned and removed. Branches should be cut flush with the remaining branch or tree bole just above the branch collar. Switchbacks should be made on hillsides to reduce the amount of erosion that may occur (i.e., do not create paths that go straight up and down the slope; rather, lay out the trail along the slope contours and keep trail slopes less than 10%). Trails should be located along flat, upland areas whenever possible to reduce the potential for erosion.

Waterbars are also recommended at switchback corners and long straight sections. Waterbars are small obstructions (partially buried logs, rocks, or compacted/piled dirt) which are purposely placed across the trail at a 30 degree angle to slow water flow and divert water off the trail and into the surrounding forest. The number of waterbars needed is dependent on the length and slope of the trail - the greater the length and/or slope, the more waterbars are needed. Small trees (3-5 inches in diameter) may be used to line the sides of the trail and serve as a trail boundary.

The best practice when planning a trail system is to avoid crossing any streams or other Waters of the State. Where a crossing is unavoidable, the Maryland Department of the Environment Wetlands and Waterways Program should be contacted for assistance. They will determine which regulations, if any, apply to the crossing location and assist should any permits be required. A pre-application meeting request to schedule an appointment can be submitted online by visiting the MDE website:
mde.maryland.gov/programs/Water/WetlandsandWaterways/Pages/PreApplicationIntroduction.aspx

FOREST CARBON MANAGEMENT

In recent years, increased interest has developed in regard to managing woodlands to increase carbon storage for climate change mitigation. Atmospheric carbon dioxide can be stored as carbon in trees through normal growth processes, which can help to offset other sources of carbon dioxide entering the atmosphere from various other sources, such as fuel emissions.

When forests are harvested, long-term carbon storage can also be achieved through wood products made from the harvested trees. Sustainable forestry practices that promote healthy and vigorous growing woodland can increase the ability of your woodland to capture atmospheric carbon dioxide. By following the management recommendations provided in your Stewardship Plan your woodland can store more carbon and capture it at a faster rate. Further information on woodland carbon management can be found by visiting the USDA Forest Service website: http://www.fs.fed.us/ecosystemservices/carbon.shtml.

FOREST HEALTH

Maintaining the health of your forest is important to help prevent damaging problems from interfering with the benefits received from the forest. In order to maintain forest health, you should consider the following general guidelines:

1. Remove excessive numbers of over mature, weakened or damaged trees.
2. Encourage a mixture of tree species to minimize damage from problems that attack specific tree species.
3. Discourage tree species that are not well suited to the climate or site conditions.
4. Maintain a density of trees that provide adequate growing space.
5. Avoid wounding your trees and compacting soil during silvicultural treatments and recreational activities.
6. Stay informed of pest alerts and current pest outbreaks in your area.
7. Monitor your forest at least annually for symptoms of forest pest.
8. Prevent livestock from grazing in the woods.

INTEGRATED PEST MANAGEMENT

Insects and disease damage or destroy trees of all ages. Being observant of changes and unusual conditions during the growing season helps to detect these agents before they become hazardous. Insects and disease can attack the roots, trunk, branches and leaves of a tree. Forest pests include, but are not limited to anthracnose, galls, fungi, root rot, borers, leaf miners, sawflies, mites, scales, aphids and caterpillars. The project forester can be contacted for assistance in diagnosis and control.

HYPOXYLON CANKER

Hypoxylon canker is a disease caused by an opportunistic fungus, *Hypoxylon atropunctatum*, which enters through a wound, such as a broken branch, and proceeds to attack the tree. Observed occurrences of this disease have been addressed in the stand descriptions where it was found. Healthy and vigorously growing trees can often compartmentalize and resist the fungus until they are subjected to sources of stress which reduce water uptake, which appears to be the most significant factor in infection (e.g., drought, root damage, insect damage and defoliation, competition with other trees, etc.). Once these sources of water stress sufficiently weaken the tree, the hypoxylon fungus is able to actively develop and invade the tree.

Oaks are particularly susceptible to this disease and initial symptoms consist of noticeable thinning of the crown as branches begin to die. As the disease progresses, bark will begin to slough and expose thin patches of fungal mats called stroma. The stroma first appears as a brownish dusty patch which transitions to a silver color and then black as the fungus develops. Once stroma are visible, the infected tree will most likely die and quickly become dangerous.

There is no known control for hypoxylon canker other than maintaining tree vigor. Consequently, the most appropriate management technique for this disease is the avoidance of

infection by maintaining a diverse, healthy, and vigorous forest to limit susceptibility and minimize vulnerability to infection.

INVASIVE SPECIES IDENTIFICATION AND CONTROL

Many woodlands in Maryland are negatively impacted by a variety of introduced (non-native) species, including plants, insects, and diseases, that have the ability to "invade" an area of the forest and "take over" the ecosystem at the expense of native plants or animals. These types of organisms are known collectively as "Invasive Species."

Identifying invasive species that may be present in your woodland and minimizing their spread is an important activity in order to maintain a healthy forest. Since these species can become established at anytime, you should monitor your woodland for invasive species on a routine basis. The following invasive species were observed scattered throughout the property:

Common reed (Phragmites) - a tall perennial grass (15ft) that grows in wet areas including tidal and non-tidal wetlands. There are three types: North America, Gulf Coast and European. The European type is very invasive and vigorously pushes out other plants to form a monoculture. Herbicides are typically used since mechanical means are not very practical or effective. Glyphosate (e.g., Accord®, Glypro®, Rodeo®) is commonly used as a foliar spray and with the cut stem method. Controlled burning is also an acceptable way to control and manage common reed.
https://www.invasive.org/alien/pubs/midatlantic/phau.htm

English ivy – an evergreen climbing vine, introduced from western Europe, English ivy completely covers trees and shrubs, smothering them. English ivy can be controlled by herbicides, mulching and mowing (if the area is small). The most commonly used herbicides are triclopyr (e.g., Garlon® 3A & Garlon® 4) and glyphosate (e.g., Accord®, Glypro®, Rodeo®). Herbicides can be applied to the vine stem, a cut stem or to the leaves.
https://www.invasive.org/weedcd/pdfs/wgw/englishivy.pdf

Garlic mustard – an herbaceous species from Europe and parts of Asia believed to have been introduced into North American during the 19th century for medicinal purposes and food. This species forms dense stands which can exclude the establishment of native plants. Garlic mustard seeds can survive for five years or more in the soil and a long-term effort requires effective control through a combination of manual and chemical methods.
https://www.invasive.org/alien/pubs/midatlantic/alpe.htm

Grapevine – a vine native to the Mid-Atlantic area, it can become destructive if it is allowed to grow up into the canopy of the trees, covering their foliage with its own. In order to reduce the ability of grapevine to spread, large, climbing vines should be cut 2 in. above the ground in the early fall when the vine is translocating nutrients to its roots. Herbicides can be applied if desired. Apply a 25% solution of glyphosate (in water) to the freshly cut surface of the vine. After treatment, large vines can be left on hanging in order to avoid damage to the trees.

Japanese Barberry – an ornamental shrub introduced from Japan. This shrub displaces many native herbaceous and woody plants. Control options include hand-pulling, mechanical mowers, herbicides, or a combination of all three. The most commonly used herbicides are triclopyr (e.g., Garlon® 3A & Garlon® 4) and glyphosate (e.g., Accord®, Glypro®, Rodeo®).
https://www.invasive.org/alien/pubs/midatlantic/beth.htm

Japanese honeysuckle – a perennial vine native to Japan & Korea. which climbs small trees and shrubs. Very common to Maryland, it can be controlled in similar fashion to bittersweet, wisteria & grapevine, with the exception that the cut-stem method of herbicide application is not that effective, given that the vine has a very small diameter.
https://www.invasive.org/weedcd/pdfs/wgw/japanesehoneysuckle.pdf

Japanese stiltgrass - an annual grass that spreads across disturbed areas, open fields and semi-open forests. One stiltgrass stem can produce 100 to 1,000 seeds that are capable of germinating for at least 5 years. Seeds remain viable in the soil for up to 5 years and can easily be transported to other areas on the property or to other non-infested areas. Control is through mowing or herbicides such as glyphosate (e.g., Roundup® Pro) and Fluazifop-P-Butyl (e.g., Fusilade® DX). Since Japanese stiltgrass is an annual grass, a foliar spray during the growing season is the most common herbicide application.
https://www.invasive.org/alien/pubs/midatlantic/mivi.htm

Multiflora rose – a thorny shrub native to eastern Asia, it was introduced to the U.S. in the 1930's and was promoted as a "living fence". Multiflora rose spreads by seed and stem sprouts. Control is through hand pulling/root grubbing, mowing, grazing and/or herbicides. The most commonly used herbicides for controlling multiflora rose include glyphosate (e.g., Accord® XRT), triclopyr (e.g., Garlon® 4), and imazapyr (e.g., Arsenal® AC). Herbicides can be applied to the vine stem, a cut stem or to the leaves.
https://www.invasive.org/weedcd/pdfs/wgw/multiflorarose.pdf

Oriental bittersweet - a perennial vine native to eastern Asia. Bittersweet is a climbing vine and can also be described as a trailing shrub. Control is through hand pulling, heavy equipment (if necessary) and herbicides, usually a combination of two of the three gives the best results. Effective herbicides include glyphosate (e.g., Accord® XRT) and triclopyr (e.g., Garlon® 4). Herbicides can be applied to the bark of the vine, a cut stem or to the leaves.
https://www.invasive.org/weedcd/pdfs/wgw/orientalbittersweet.pdf

Privet – an invasive species introduced to the U.S. since the 1800s. Privets form dense thickets that shade out and take the place of native shrubs and herbaceous plants. Privet can be controlled through a combination of manual and chemical methods. The most commonly used herbicides are glyphosate (e.g., Roundup Pro®, Glyphomate 41® and Rodeo®), triclopyr (e.g., Garlon® 3A) and imazapyr (Arsenal AC®). Herbicides can be applied to the leaves or cut stumps.
https://www.invasive.org/alien/pubs/midatlantic/privets.htm.

Wineberry – a spiny shrub introduced into the U.S. from Japan, Korea and China. Common in Maryland, it forms dense thickets and displaces native vegetation. Wineberry can be controlled by cutting, mowing or herbicides. The most commonly used herbicides for controlling

multiflora rose include glyphosate (e.g., Round-up, Accord® XRT) or triclopyr (e.g., Garlon® 4). https://www.invasive.org/weedcd/pdfs/wgw/wineberry.pdf

Wisteria - an invasive climbing vine native to China, Japan and the United States. The Chinese and Japanese varieties are much more invasive than the American variety and can kill competing vegetation by either girdling the tree or shading out the foliage. In order to reduce the ability of wisteria to spread, large, climbing vines should be cut 2 in. above the ground in the early fall when the vine is translocating nutrients to its roots. Herbicides can be applied if desired. Apply a 25% solution of glyphosate (in water) to the freshly cut surface of the vine. After treatment, large vines can be left on hanging in order to avoid damage to the trees. https://www.invasive.org/weedcd/pdfs/wgw/exoticwisterias.pdf

There are two possible goals for invasive species control: eradication or containment. Eradication focuses on the complete elimination of invasive species from a particular area (stand, property, etc.). If the affected area is relatively small (0-10 acres) eradication may be a viable option; however, as the affected area gets larger or if neighboring properties are also heavily affected, total eradication may not be feasible. Containment focuses on limiting the spread of invasive species from their current area when eradication is not feasible.

Often a combination of chemical and mechanical control methods are used to remove invasive species, depending on the landowner's financial and labor resources. Regardless of which eradication option is chosen, it may take multiple applications of mowing, herbicides, grazing or a combination of methods before the invasive species are truly controlled. Government cost-sharing programs may be available to help defray the cost of controlling invasive species. Contact your local forester for more information.

SPONGY MOTH

The Spongy Moth has been a major problem in the Northeastern U. S. since 1869. Over the years they have become a defoliator of hardwood trees in Southern Maryland. Defoliation by the Spongy Moth will weaken a tree, reduce growth, and often kill the tree. Several factors determine the likelihood of a woodlot being infested by the Spongy Moth. The type of tree present is one factor, oaks are among the most preferred species, also favorable are sweetgum, black gum, dogwood, hickory, maple, and pine. Least preferred species include American holly, American sycamore, ash, black locust, and tulip poplar.

The condition of the woodland is also important. Areas with a considerable percentage of cull, damaged and deformed trees are highly susceptible. These conditions provide structural refuges and hiding places for larvae, pupae, and eggs. If a stand is attacked by Spongy Moth, its vulnerability will determine the amount of mortality. Trees in stressed conditions (overcrowded, over mature, overtopped, or damaged), are highly vulnerable. Good forest management can reduce the susceptibility of woodland to attacks by Spongy Moth. Thinning can be used to reduce the amount of structural refuges and the percentage of preferred food species present. Maintaining a healthy, vigorous forest is the best tool in controlling susceptibility and reducing vulnerability.

SPOTTED LANTERNFLY

Spotted lanternfly is an invasive planthopper than targets a wide variety of hardwood trees, grape vines, fruiting trees, and agricultural crops. It feeds on the sap and this process can be very harmful to the tree. It leaves behind an oozing, sappy substance called honeydew that attracts other insects and promotes growth of a black sooty mold on the infested tree. Spotted lanternfly was thought to get to the eastern United States in the mid 2010's via a stone shipment from China. These insects most preferred host is tree of heaven, which is an invasive tree species also from Asia and one of spotted lanternflies' natural host. Controlling both tree of heaven and spotted lanternfly are extremely vital.

Prevention for spotted lanternfly can be conducted by monitoring your woodland or agricultural fields for large gatherings of the insect on the trunks and stems of plants. They tend to accumulate in larger masses at dusk or night. Control methods of spotted lanternfly vary. If you find the insect in clusters on individual trees you can simply smash them. Traps are also commonly used and shown to be effective. Spotted lanternfly can only climb up the tree from the base so a strip of sticky tape around the diameter of the trunk of the tree can trap insects making their way up the tree. Window screening or some other easily manipulated fabric should cover the sticky trap so songbirds, bats, butterflies, bees, and other beneficial pollinator species don't get trapped. Funnel traps are also commonly used, applying a similar strategy in targeting spotted lanternfly crawling up the base of the tree, you would use some type of netting to funnel them into an enclosed container. Larger infestations may require insecticide treatments, especially in areas where agriculture is threatened.

EMERALD ASH BORER

The emerald ash borer (EAB) is a small metallic green insect that specifically infests and kills ash trees. This pest was first discovered in Prince George's County in August 2003 and has since spread throughout the state of Maryland. In response to this forest threat, a federal quarantine has been placed on the movement of EAB regulated articles. EAB regulated articles cannot exit Federal quarantine boundaries without Federal permits. Movement of EAB regulated articles within Federal quarantine boundaries may require State permits. Check for and follow any relevant Federal and State quarantine regulations before moving regulated articles.

For more information, please visit the MD Dept. of Agriculture website (http://mda.maryland.gov/plants-pests/Pages/eab.aspx) or call the USDA APHIS EAB Hotline at 866-322-4512.

DEER IMPACTS AND MANAGEMENT TOOLS

An overabundance of white-tailed deer can significantly affect forest structure, understory regeneration, and long-term species composition. Chronic browsing reduces the survival of young native trees and shrubs, limits natural regeneration, and can prevent the establishment of new plantings. To mitigate these impacts and support healthy forest conditions, a combination of management actions may be appropriate, including protective measures such as

fencing, tree tubes, temporary enclosures, and other forms of vegetation protection, as well as lawful population-management tools where warranted.

A Deer Management Permit (DMP) may be issued to a landowner who has sustained severe deer damage to a woodland area that has a forest management plan, or a planting plan, written by a licensed forester. This permit, in combination with other deer exclusion measures such as fencing or tree tubes, may help reduce browsing damage to newly planted trees and existing understory vegetation throughout the property. These permits allow the permittee to remove deer from the designated property outside the established deer hunting seasons and/or deer bag limits if an investigator by the Department of Natural Resource Wildlife and Heritage Service concludes sufficient deer browse damage is present and determines a permit is an appropriate solution for your property.

Current conditions in both stands of the Property reflect significant browse pressure from deer that has adversely affected understory regeneration and long-term species composition. Based on these documented impacts, the Bay Ridge Civic Association applied for and DNR has issued a DMP (#02111) for the Property. To improve and maintain forest health, it is recommended that the community continue to monitor, protect desired vegetation, and lawfully manage the deer population to sustainable levels.

If interested in more information on renewal or modification of the community's deer management permits, contact the Anne Arundel County office with the DNR Wildlife and Heritage Service at 410-260-8534.

TREE PLANTING OPPORTUNITIES

As you may know, trees can provide many benefits, not only to individual landowners, but to a community and to society in general. Viewed as a resource, trees provide many different products, such as lumber, firewood, paper products, medicines, etc. Forests can also be seen as part of an ecosystem, providing services such as filtering water, providing shade for houses, as habitat for wildlife, reducing soil erosion and improving air quality. Forests also speak to the soul, providing a place to connect with the land, recreate and reduce the stress in our daily lives.

Unfortunately, the sad fact is that there is less forested land in Maryland than there was in the past. This is mainly due to increased pressure from development and an increase in the population. While there will always be a balance between the amount of forest, farmland and developed areas in the state, recently, the balance has been tilting towards more development and away from forests. However, you, as a landowner, can help reverse this trend. By planting trees on your property, you can receive individual benefits (shade, increased wildlife, future timber products, aesthetics) and well as help improve society as a whole (cleaner air, cleaner water, reduced soil erosion). Planting trees is an investment, not only for you and your land, but for future generations.

To help landowners pay for this investment, there are several government programs aimed at reducing the cost of purchasing and planting trees. They range from individual backyard trees for schools and homeowner associations, to large scale reforestation of old fields

or the reforestation of recently harvested forest, to the creation of riparian forest buffers along streams, ponds and wetlands. Here are a few of the programs available and the options available for tree planting:

- **Healthy Forest Healthy Waters (HFHW) –** 100% payment of tree planting costs and maintenance for 2 years for qualifying properties.
- **Woodland Incentive Program (WIP)** – 65% cost-sharing (reimbursement) for tree planting and site preparation.
- **Conservation Reserve Enhancement Program (CREP)** -87.5% (reimbursement) cost-sharing for riparian forest buffer creation, plus soil rental payments.
- **Tree-mendous Maryland** – reduced price potted trees for schools and homeowner associations.
- **Marylanders Plant Trees (MPT)** - $25 coupon to purchase trees >$50 for urban/suburban settings.

Your property has the potential to utilize these programs and plant trees. Contact your local MD DNR Forest Service office for further planting assistance if you are interested in tree planting.

STAND DESCRIPTION & RECOMMENDED PRACTICES

Stand: 1

Acres: 51.32

Dominant Overstory Species: yellow-polar, sweetgum, chestnut oak

Dominant Understory Species: red maple, American holly, yellow-poplar

Shrub Species: wineberry, multiflora rose, Japanese barberry

Herbaceous Species: garlic mustard, knotweed, lowbush blueberry

Vine Species: English ivy, oriental bittersweet, Japanese honeysuckle

Development Stage: Sawtimber (89%), Poletimber (7%), Small Tree (4%)

Age: Even (Approximately 70-85 years old)

Stocking: Adequate (Fully Stocked at 77%)

Density: 69 trees/acre

Basal Area: 100 sq. ft./acre

Site Growth Potential: Good

Soil Types: AoB - Annapolis loamy sand, 2 to 5 percent slopes
AoC - Annapolis loamy sand, 5 to 10 percent slopes
AsB - Annapolis fine sandy loam, 2 to 5 percent slopes
CmA-Colemantown Silt Loam, 0 To 2 Percent Slopes
CRD-Collington And Annapolis Soils, 10 To 15 Percent Slopes
DuB-Donlonton-Urban Land Complex, 0 To 5 Percent Slopes

Additional Notes: Evidence of recent management activities was observed in this stand. Data provided by the Maryland Historical Trust (MHT) indicates there may be a historic or cultural feature in this stand. See the "Additional Comments" section for more details.

Stand Description:

This 51.32 acre stand is primarily composed of yellow-poplar (65%), sweetgum (8%), and chestnut oak (8%) with red maple, American holly, white oak, black walnut, hickory, southern red oak, sycamore, black oak, boxelder, northern red oak, black cherry, blackhaw, and paper mulberry scattered throughout. Current tree growth rates are fair, taking 7-12 years to

grow 2.0 inches in diameter and the stand has a good growth potential with a site index of 60 feet for Northern red oak and 119 feet for yellow-poplar.

This stand is located mainly in the southern portion of the property with pockets scattered throughout. The terrain consists of relatively flat terrain throughout. There are no blue-line streams located on the property; however, there is one non-blue-line stream, one tidal wetland (E2Em1p), and one non-tidal wetland (PuBHh). The understory density is moderate and includes species such as wineberry, multiflora rose, Japanese barberry, spicebush, devils walking stick, privet, garlic mustard, knotweed, lowbush blueberry, mayapple, blue spice, English ivy, oriental bittersweet, Japanese honeysuckle, greenbrier, and poison ivy.

100% of this stand is located within the Critical Area, which is defined as all land and water within 1000 feet of the mean high waterline. Forestry operations are regulated by law in this area. Additionally, the first 100 feet landward from the mean high water line of tidal waters, tributary streams, and the landward edge of tidal wetlands is considered a Habitat Protection Area (HPA) and is covered by specific regulations. No forestry operations should be performed in the HPA.

Additionally, this stand is subject to a Maryland Environmental Trust easement, and the easement holder should be contacted prior to implementing any forest management activities within this stand. Activities within these areas may be subject to specific constraints and should only be conducted in accordance with the provisions set forth in the conservation easement agreement for this property.

To meet the landowner's management objectives, implement the following practices:

Den Tree Operation

This operation will help maintain forest health and improve the wildlife value by exposing the forest floor to sunlight allowing legumes, forbs, and grasses to germinate and provide food for a variety of species. Upon request, the Project Forestry Office is available to mark the trees that should be selected. There is a nominal fee for tree marking ($12/acre); contact the forestry office for further assistance.

Three or more den trees per acre should be created and/or maintained, if they already exist. Den trees can be created by selecting trees which are 14 inches or greater in diameter and deadening those trees by a process called girdling. Girdling entails making a deep cut into the cambium layer (inner bark) with an ax or saw completely around the circumference of the tree. This will cease the flow of water and nutrients to the crown, and the tree will eventually die in a few years' time. By leaving the standing dead trees on the stump, den and nest habitat will be created for small mammals and birds. Red maples, sweetgums and tulip poplars in poor health and poor form should be favored for den tree selection. Oaks and hickories should be retained due to their mast (hard seed) production capability.

Trees located within 50 feet of a stream, or on steep slopes adjacent to the floodplain, should not be girdled. These trees serve as a riparian forest buffer, absorbing runoff, sediments,

and nutrients before they reach the streams. The duff layer on the forest floor, composed of dead and decomposing leaves, slows the overland flow of water and reduces erosion. The tree roots serve as anchors, holding the soil in place along the stream bank.

The den tree operation should be implemented at a suggested rate of 3-4 acres per year; and be completed by 2040.

Brush Piles

Many animals need dense cover throughout the year for various reasons: concealment and protection from predators, protection from weather, and for resting or loafing cover. The creation of brush piles can provide much needed low cover habitat for ground nesting birds, rabbits, squirrels, chipmunks, mice, songbirds, and other small animals. Brush piles can be constructed along forest edges and in openings, field corners, or along the margins of streams and marshes following MDE wetland regulations. Brush piles should be situated near grassy areas or cultivated lands, so that food and nesting habitat can easily be found near the protective cover of brush piles.

Brush piles can be built in conjunction with land clearing or forest thinning operations. The materials used for the brush pile will depend upon what is locally available. Rot resistant trees such as oak and locust make durable bases for brush piles, as do old lumber, pallets, or timbers you might have laid around. Brush piles are constructed on top of a base of small logs and fine brush is placed on top with pieces getting smaller and smaller. This construction provides an open area within the center of the pile for the animals to take shelter and move around. The base of the brush pile should be formed by placing alternate layers of logs at right angles to one another. The logs used should be at least six inches in diameter and spaced six to ten inches apart in each layer. To increase the durability of the brush pile, the base layers may be stacked on top of stones, cinder blocks, or around large stumps. It is important to remember that the base constructed will act to keep pathways open under the pile once the brush is placed on top. Smaller trees and brush may be used as filling on the piles, but evergreens (such as discarded Christmas trees) can provide excellent cover for a number of years. Finished piles should be four to eight feet tall and 10 to 20 feet in diameter. If you chose to build a rectangular shaped brush pile, it should be at least 10 to 15 feet wide and at least 10 to 25+ feet long. See the reference drawing within the plan to observe the proper base and structure of a brush pile.

Remember to build the brush piles dense enough in the center to provide adequate shelter from adverse weather and predators, but loose enough around the edges to allow for easy access. Strict attention should be given to the size of the brush piles constructed. Most people make brush piles too small. If a person can kick over the brush pile, or a dog can burrow through them, they are too small. An information sheet detailing the construction of the brush piles is located at the end of this plan.

One to two brush piles should be constructed and installed every year, totaling to no less than ten by 2035 and be maintained as needed.

Bluebird or Bat Boxes

In an effort to increase wildlife habitat along the edge of the forest, bluebird nesting boxes should be installed along the edge of the woods. These nesting boxes will provide a safe & secure location for bluebirds to nest and rear their young. An information sheet and detailed diagrams on blue bird nesting boxes can be found at the end of this plan.

Alternatively, bat boxes could be installed. Maryland bats eat insects and are the primary predators of night-flying insects, including many farm, forest and garden pests. Some common species such as red bats and hoary bats roost singly in the foliage of trees. Other species need tree cavities to raise their young. Like other cavity nesters, bat populations have declined due to habitat loss and disturbances in winter hibernacula and summer maternity colonies.

Outer surfaces and entry areas of bat houses should be painted with three coats of black or dark brown exterior latex paint. All outer seams should be caulked. Boxes can be mounted on a building or on a post 12-15 feet from the ground facing south or southeast and should receive at least 6 hours of direct sun daily. Maternity colonies select roosts that provide high temperatures. More information on bat habitat, including instructions for building a bat house, can be found in the University of Maryland Cooperative Extension Article "FS 791 Got Bugs? Get Bats!" available online:
www.extension.umd.edu/sites/default/files/_docs/articles/FS791_GotBugs_GetBats.pdf

Three to four bluebird and/or bat boxes should be constructed and installed in five years (2030) and maintained as needed.

Trail Construction and Maintenance

A trail system in this stand should be constructed and maintained as needed. Not only will the trails allow the landowner to enjoy the beauty of the property, but they will also facilitate implementing the management practices and allow access to the property for wildland fire suppression. Please refer to the "Trail System" section of the "Property-Wide Recommendations" section for more information on locating trail networks and best management practices to minimize erosion.

Initial trail construction activities should begin immediately and be completed in ten years (2035), at which point the trail network should continue to be maintained as needed.

Riparian Forest Buffer

Additionally, portions of this stand serve as a riparian forest buffer for the network of streams and wetlands on the property. The duff layer on the forest floor, composed of dead and decomposing leaves, slows the overland flow of water and absorbs nutrients before they reach the streams. Furthermore, the tree roots serve as anchors, holding the soil in place and reducing erosion along the stream bank.

Harvesting is allowable adjacent to streams or in wetlands, provided that the harvest operations adhere to soil erosion/water quality Best Management Practices (BMPs) required along blue line streams, Waters of the State (WOS) and wetlands.
Completion date: Continuous.

Habitat Restoration through Vine Control and Planting of Trees and Shrubs

To implement this practice, all vines on poletimber and sawtimber sized trees (6+ inches in diameter) throughout the stand should be cut to prevent any further loss of hardwood canopy. In areas where large canopy openings exist, 25-35 small native trees per acre should be identified and designated as "crop trees". These crop trees should be routinely monitored to ensure they remain free of vines so that they may survive and grow to maturity without further damage. Crop trees should be selected to represent the variety of species present in this stand. Trees with broken branches or existing vine damage should not be designated as crop trees whenever possible.

Areas lacking healthy native trees and shrubs can also be rehabilitated by planting native species. Landowners interested in planting trees and shrubs for conservation or forest management purposes can purchase seedlings directly from the John S. Ayton State Forest Tree Nursery at competitive prices.

A variety of cost-sharing programs and grants may also be available to help defray the costs of invasive species control and planting trees. The Anne Arundel Weed Resistance, an organization of volunteers dedicated to controlling invasive plants threatening the health of our natural areas, may also be available to assist with an invasive species removal project. Contact your local forester for further assistance and additional information on cost-sharing.

This operation should be completed at a minimum suggested rate of 3-4 acres per year and should be completed in 15 years (2040).

Limit Spread of Invasive Species and Vines

Several invasive species and vines were observed growing throughout this stand. See the "Property-Wide Recommendations" section for more information regarding the mechanical and chemical control options to limit the spread of these species.

In keeping with the landowner's objectives to provide wildlife habitat, five to six grape vines per acre may be left on trees with poor form to continue providing food and cover for many species of wildlife. Control of invasive species and vines should be performed continuously throughout the property.

STAND DESCRIPTION & RECOMMENDED PRACTICES

Stand: 2

Acres: 39.68

Dominant Overstory Species: yellow-poplar, sweetgum, black cherry

Dominant Understory Species: sweetgum, black cherry, hickory

Shrub Species: wineberry, multiflora rose, Japanese barberry

Herbaceous Species: garlic mustard, woodfern, lowbush blueberry

Vine Species: English ivy, oriental bittersweet, Japanese honeysuckle

Development Stage: Sawtimber (88%), Poletimber (10%), Small Tree (2%)

Age: Even (Approximately 65-85 years old)

Stocking: High (Overstocked at 128%)

Density: 94 trees/acre

Basal Area: 171 sq. ft./acre

Site Growth Potential: Good

Soil Types: AoB - Annapolis loamy sand, 2 to 5 percent slopes
AsA - Annapolis fine sandy loam, 0 to 2 percent slopes
AsB - Annapolis fine sandy loam, 2 to 5 percent slopes
AuD-Annapolis-Urban Land Complex, 5 To 15 Percent Slopes
CmA-Colemantown Silt Loam, 0 To 2 Percent Slopes
CRD-Collington And Annapolis Soils, 10 To 15 Percent Slopes

Additional Notes: Evidence of recent management activities was observed in this stand. Data provided by the Maryland Historical Trust (MHT) indicates there may be a historic or cultural feature in this stand. See the "Additional Comments" section for more details.

Stand Description:

This 39.68 acre stand is primarily composed of yellow-poplar (73%), sweetgum (12%), and black cherry (4%) with hickory scattered throughout. Current tree growth rates are poor, taking 14-20 years to grow 2.0 inches in diameter and the stand has a good growth potential with a site index range of 78-102 feet for yellow-poplar and 77 feet for sweetgum.

This stand is located mainly in the northern section of the property, with scattered pockets throughout. The terrain consists of relatively flat terrain throughout. There are no blue-line streams, or non-blue-line streams located in this stand; however, there is a tidal wetland (E2Em1p). The understory density is moderate and includes species such as multiflora rose, spicebush, devils walking stick, wineberry, Japanese barberry, privet, jetbead, garlic mustard, woodfern, jack-in-the-pulpit, lowbush blueberry, English ivy, oriental bittersweet, Japanese honeysuckle, greenbrier, and poison ivy.

100% of this stand is located within the Critical Area, which is defined as all land and water within 1000 feet of the mean high waterline. Forestry operations are regulated by law in this area. Additionally, the first 100 feet landward from the mean high water line of tidal waters, tributary streams, and the landward edge of tidal wetlands is considered a Habitat Protection Area (HPA) and is covered by specific regulations. No forestry operations should be performed in the HPA.

Additionally, this stand is subject to a Maryland Environmental Trust easement, and the easement holder should be contacted prior to implementing any forest management activities within this stand. Activities within these areas may be subject to specific constraints and should only be conducted in accordance with the provisions set forth in the conservation easement agreement for this property.

To meet the landowner's management objectives, implement the following practices:

Non-Commercial Timber Stand Improvement

In keeping with the landowner's goals of maintaining wildlife habitat and in order to reduce the stocking in this stand, a non-commercial timber stand improvement operation should be implemented in the form of a basal area thinning. A non-commercial thinning operation will not only help maintain the health and vigor of this stand and minimize its susceptibility to the insects and disease but will also improve the wildlife habitat value by maintaining the vigorous growth of hard mast producing species exposing the forest floor to sunlight allowing legumes, forbs, and grasses to germinate and provide food for a variety of species.

The goal of this operation would be to reduce the basal area from 171 ft^2/ac to no less than 120 ft^2/ac. The thinning can be accomplished by either girdling or felling the trees. Girdling entails making a deep cut into the cambium layer (inner bark) with an ax or saw completely around the circumference of the tree. This will cease the flow of water and nutrients to the crown and the tree will eventually die in a few years' time. By leaving the standing dead trees on the stump, den and nest habitat will be created for small mammals and birds. Felling is also an acceptable method of thinning, however two trees per acre should be girdled to serve as wildlife den trees.

The standing dead trees will provide nesting, denning, perching and insect foraging sites for a variety of wildlife species (hawks, owls, squirrels, raccoons, woodpeckers, etc.). Red maples, sweetgums, and tulip poplars in poor health and poor form should be favored for cavity

tree selection. Oaks and hickories should be retained due to their mast (hard seed) production capability.

Upon request, the Project Forestry Office is available to mark the trees that should be removed. There is a nominal fee for tree marking ($12/ac); contact the forestry office for further assistance.

The felled trees may be used as a source of firewood. The following information summarizes the various characteristics you should look for in a piece of firewood.

Species	Relative Amount of Heat	Easy to Split	Ease of Starting	Heavy Smoke	Sparks	Coaling Qualities
red oak, white oak, ash, beech, birch, hickory, hard maple	high	high	high	low	low	excellent
soft maple, black cherry	medium	high	high	low	low	good
elm, sweetgum	medium	medium	low	medium	low	fair
basswood, tulip poplar	low	high	high	medium	low	fair
yellow pine	high	high	high	high	low	good
white pine	medium	high	high	medium	high	fair
spruce	low	high	high	medium	high	poor

The following are recommendations for seasoning firewood:

1. Cut and stack firewood in early spring before the trees bud. If not possible, wait until leaves have formed. When cutting trees in leaf, allow them to lie about two weeks before cutting up.

2. Split wood dries faster, so split all wood before piling. Pile wood to take advantage of prevailing winds in a crisscross pattern with the wood bark side up. Space rows a few feet apart to allow for air circulation.

3. The best drying time is March through May.

4. Do not stack wood close to the house. Termites and snakes love woodpiles.

The timber stand improvement operation should be implemented at a suggested rate of 2-3 acres per year and be completed by 2040. Trees within 50 feet of a stream should not be cut. These trees serve as a riparian forest buffer, anchoring the soil in place and reducing erosion and runoff.

Brush Piles

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In keeping with the landowner's objectives to provide wildlife habitat, five to six grape vines per acre may be left on trees with poor form to continue providing food and cover for many species of wildlife. Control of invasive species and vines should be performed continuously throughout the property.

MANAGEMENT PRACTICE SCHEDULE

End Date	Frequency	Description	EQIP	WIP	Stands	Acres
August 2035	Continuous	Trail system construction		414	All	91.0
August 2030	As needed	Install and maintain Bluebird or Bat boxes	649		All	91.0
August 2035	1-2 piles/yr	Brush Piles	649		All	91.0
August 2040	3-4 acres/yr	Den Tree Operation			1	51.32
August 2040	2-3 acres/yr	Non-Commercial TSI			2	39.68
August 2040	Stand 1: 3-4 acres per year; Stand 2: 2-3 acres per year; continuous vine control	Tree/shrub site assessment, preparation and planting; maintenance vine control	490 612	410	All	91.0
August 2040	Continuous	Riparian forest buffer			All	91.0
August 2040	Continuous	Mark and maintain property boundary lines.			All	91.0
August 2040	Continuous	Protect woodland from wildfire, insects, disease, and over-browse by deer.			All	91.0
August 2040	Continuous	Monitor and limit the spread of invasive species.	666	410	All	91.0
August 2040	Continuous	Stabilize and maintain all roads and trails.			All	91.0
August 2040		Update forest stewardship plan.			All	91.0

* Expenses for a variety of practices required for reforestation and (e.g., tree and shrub costs, planting labor, tree shelters, site preparation, invasive species control, etc.) may be cost-sharable using the EQIP and WIP incentive programs. Contact your local forester for more information.

The Environmental Quality Incentives Program (EQIP) and the Woodland Incentives Program (WIP) may be available to provide financial assistance in the form of cost share payments for some of the forest management and conservation practices recommended in this plan. Additional documentation will be required to obtain approval for these programs prior to implementing these practices.

For further assistance in applying for EQIP / WIP cost-sharing or technical assistance in implementing the recommended practices above, please contact Brandon Willey, Project Forester, Maryland DNR-Forest Service, 8023 Long Hill Road, Pasadena, MD 21122. Phone: (410) 360-8421. E-mail: brandon.willey@maryland.gov

ADDITIONAL COMMENTS

1. The Project Forester is available to help the landowner initiate the recommended practices. Contact must be made at least six months before the scheduled practice is to be completed.

2. It is the landowner's responsibility to file this plan with the local State Department of Assessments office in order to receive a reduced tax assessment to an agricultural/woodland level. This plan must be filed before July 1 of the taxable year. In order to maintain the reduced assessment, the landowner must participate in the recommended practices.

3. For any future commercial harvesting activities that may be recommended, you should consider retaining a consultant forester to assist you. Nationwide, statistics show that landowners who retain a consulting forester receive about double the income from a forest harvest than landowners who do not retain a consulting forester. Additionally, hiring a consultant forester relieves you of handling all the details of a harvest, such as contracts, inspections, legal permits required, etc., which can be handled by the consultant forester. Most importantly, by hiring a forester to administer a harvest according to a management plan, you can be assured the condition of the woodland following the harvest will continue to be productive and valuable. You can visit www.callb4ucut.com/maryland for more information on woodland stewardship management planning or contact the forestry office for a list of private consulting foresters licensed to practice forestry in Maryland.

4. A Sediment and Erosion Control Plan is required prior to beginning a commercial timber harvest operation.

5. Upon request, the Maryland Forest Service will lay out a logging road system, mark trees to be removed during Timber Stand Improvement operations and provide technical assistance for the best management of the property. There is a nominal fee for marking the trees ($12.00/acre).

6. Boundary location and marking is essential in order to eliminate the potential threat of timber trespass during active timber cutting operations and will deter unwanted intruders. Boundary lines should be clearly marked with blue paint at eye level facing away from the property. A law passed a few years ago makes posting land much easier and cheaper by allowing the use of vertical strips of blue paint as an alternative to signs. Article 27, Section 576-576A states that

paint marks must be at least 2 inches in width and 8 inches in length and centered from 3 to 6 feet from the ground or water surface.

7. Tree seedlings are available at cost to landowners for reforesting cut over areas, afforesting old fields or improving wildlife habitat. Contact the project forester for ordering and planting details.

8. Cost-share assistance may be available through state cost-share programs to help pay for a portion of the expenses associated with implementing the forestry or wildlife management activities in this plan. Contact the forestry office for further information.

9. Branching Out is published quarterly by the University of Maryland Extension's Woodland Stewardship Education program. The newsletter covers a wide range of stewardship-related topics, including preserving healthy woodlands, managing for invasive species, and creating and maintaining wildlife habitats. Go to https://extension.umd.edu/programs/environment-natural-resources/program-areas/woodland-stewardship-education/your-woodland/branching-out-newsletter to subscribe. The Woodland Stewardship Education (WSE) program helps connect woodland property owners to their land. Through a variety of Extension offerings, WSE brings together professionals from such fields as forestry, wildlife ecology, and natural resource management to enable woodland property owners to make sound and informed decisions about managing their land.

10. This property was checked for cultural and historic resources as part of the Forest Stewardship Planning process using data provided by the Maryland Historical Trust (MHT). The MHT maps indicate there may be a historic or cultural feature on the property (Bay Ridge AA-950). If any forest management practices are undertaken on the property which require a Federal or State permit for management activities regulated under the authority of an Army Corps of Engineering permit (ex. a stream crossing permit or a regulated activity in a non-tidal wetland), the landowner should contact MHT for project specific comments as part of the permit planning process.

11. This property was checked for the presence of Forests of Recognized Importance (FORI) as part of the Forest Stewardship Planning process. FORI areas are defined as riparian forest areas within a 100-foot buffer of identified high quality streams. High quality streams are identified using specific data sets from the Maryland Biological Stream Survey, the Maryland Department of the Environment, and the Maryland Fisheries Service. After a review of these data sets, no FORI areas were identified on the property.

12. This property was checked for special sites, defined as areas in your woodland that offer unique historical, archeological, cultural, geological, biological, or ecological value. From this definition, it can be noted that special sites include a wide variety of features. Based on a review of the relevant information available, the landowner has designated the historic residences and old railbed as special sites. When planning any forest management activities near this cabin, you should work with a professional forester to ensure that the planned forest management activities do not harm or diminish this site.

13. 100% of the property falls within the Critical Area. The Critical Area includes all land and waters within 1000 feet of the mean high water line. Forest harvesting and tree removal are specifically regulated under the Critical Area Law. Additionally, the first 100 feet of forest buffer from the Chesapeake Bay is considered a "Habitat Protection Area" and is covered by specific regulations. Non-tidal wetlands within the Critical Area are also covered by the Critical Area Law. The landowner should contact the local County Planning & Zoning office for more detailed information on Critical Area regulations and permits. The local Forest Conservancy District Board must review all commercial timber harvesting in the Critical Area.

14. This property is subject to a Maryland Environmental Trust easement, and the easement holder should be contacted prior to implementing any forest management activities within this stand. Activities within these areas may be subject to specific constraints and should only be conducted in accordance with the provisions set forth in the conservation easement agreement for this property (Liber 11324 Folio 183). The landowner should contact the forestry office prior to implementing any forest management activities within these areas.

GLOSSARY

Age - A system of classifying stands based on the arrangement of the ages of the trees in the stand.

Even-aged - Trees have relatively small differences in age. (80% of the trees are no more than 10-20 years different in age)

Uneven-aged - Three or more age classes of trees represented.

Two-aged - Two distinct age classes of trees present. (Twenty or more years different in age.)

All-aged - All, or almost all, age classes of trees represented.

Basal Area - The area of a given section of land that is occupied by the cross-section of tree trunks and stems at their base. Basal area is expressed as square feet per acre (ft2/ac)

Best Management Practices (BMPs) - Conservation practices or systems of practices and management measures that control soil loss and reduce water quality degradation caused by nutrients, animal wastes, toxics, and sediment. Agricultural BMPs include strip cropping, terracing, contour stripping, grass waterways, animal waste structures, ponds, minimal tillage, grass and naturally vegetated filter strips, and proper nutrient application measures.

Buffer - A naturally vegetated area established or managed to protect aquatic, wetland, shoreline, and terrestrial environments from man-made disturbances.

Conservation easements - A non-possessory interest in land which restricts the manner in which the land may be developed in an effort to reserve natural resources for future use.

DBH - Diameter of a tree at a height of 4.5 feet above the ground measured from the uphill side.

Desirable & Undesirable - The percentage of desirable or undesirable trees. Desirability of a tree is based on the form of the tree (straight, crooked), species depending on the owner's objective, local markets, and the presence of disease or insects.

Development stage - The size class of the trees which are predominant in the stand. These classes include:

Seedling - Up to 0.9" in caliper (Diameter measure 6" above ground level)
Sapling - 1" to 5.9" DBH (Diameter measured 4-1/2 feet above ground level)
Pole Timber - 6" to 10.9" DBH
Sawtimber - 11" DBH and larger

Dominant species - Those trees species which dominate the stand.

Easement - A right given by the owner of land to another party for specific limited use of that land such as wildlife conservation or creation of natural habitat.

Estuaries - A somewhat restricted body of water where the flow of freshwater mixes with saltier water transported, by tide, from the ocean. Estuaries are the most productive water bodies in the world.

Forest interior-dwelling birds (FIDS) - Species of birds which require relatively large forested tracts in order to breed successfully (various species of flycatchers, warblers, vireos, and woodpeckers, for example).

Habitat Protection Areas - Those areas, including buffers, non-tidal wetlands, habitat of threatened, endangered, and species in Need of Conservation, Plant and Wildlife Habitat, and Anadromous Fish Propagation Waters that are protected under the Critical Area legislation.

Non-tidal wetlands - Those lands, in the Critical Area, excluding tidal wetlands, where the water table is at, or near, the surface or lands where the soil or substrate is covered by shallow water at some time during the growing season. These lands are usually characterized by one or both of the following: At least periodically, the lands support predominately hydrophytic vegetation; the substrate is predominately undrained hydric soil.

Overstory - The uppermost layer of foliage that forms a forest canopy.

Riparian habitat - A habitat that is strongly influenced by water and which occurs adjacent to streams, shorelines, and wetlands.

Recommendations - The practices which was as a landowner should follow to obtain your management objectives. Specific descriptions are included with the report.

Residual stand - The stand remaining after a partial harvest, such as a thinning or other treatment.

Riparian habitat - A habitat that is strongly influenced by water and which occurs adjacent to streams, shorelines, and wetlands.

Site growth potential - The inherent capacity of the site, which is made up of soil, moisture, topography and other environmental factors for tree growth. This is expressed in the terms: excellent, good, average, fair, poor. It is based on site index which is a standard based on the height a dominate tree reaches at age 50.

Site Index - A relative measure of forest site quality based on the height (in feet) of the dominant trees at a specific age (usually 25 or 50 years, depending on rotation length). Site index information helps estimate future returns and land productivity for timber and wildlife.

Small Tree - Trees with a DBH less than 6".

Stand - A basic forest management unit. A grouping of trees which are uniform in species composition, age arrangement, and condition, and are distinguishable.

Stand Density - A relative measure of the amount of stocking on a forest area.

Stewardship - The concept of land as a resource, our responsibility to wisely manage that resource, and our responsibility to future generations for the condition of that resource when we leave it.

Stocking - the number of trees growing in a stand.

High - too many trees, diameter growth rate is below normal.

Adequate - an optimum number of trees which have sufficient room to grow at an acceptable rate.

Low - an insufficient number of trees; the stand is not producing at full potential.

Understory - The area of a forest which grows at the lowest height level below the forest canopy. Plants in the understory consist of a mixture of seedlings and saplings of canopy trees together with understory shrubs and herbs.