FOREST STEWARDSHIP PLAN

FOR

Moyaone Association, Inc.
c/o Michael Leventhal
P.O. Box 113
Accokeek, MD 20607
Phone: 301-642-4847
E-mail: all.leventhal@verizon.net

LOCATION

Various locations on Apple Valley Road, Sanford Drive and Bryan Point Road.
Accokeek, MD

ON

Account#	Tax Map	Parcel	Forest Acres	Field Acres	Total Acres
05-0368415	151	123	5.66	0.0	5.66
05-0355818	151	104	0.15	0.0	0.15
05-0355776	151	184	16.52	0.0	16.52
05-0368480	150	0000	6.08	0.0	6.08
05-0355800	150	0000	2.5	3.86	6.36
TOTALS			30.91	3.86	34.77

6.0 Total Critical Area Acres
2.5 Total Wooded Critical Area Acres

Sub-watershed: Patuxent River, Upper Tidal (#02140201)

IN

Prince George's County

PREPARED BY:

Brian J. Stupak, Project Manager
Ryan E. Galligan, Forest Technician

MD DNR Forest Service
P.O. Box 3109
Prince Frederick, MD 20678
Phone: 410-535-1303
E-mail: brian.stupak@maryland.gov

Initial Plan: 4/3/2020

INTRODUCTION

Moyaone Association Inc. owns 34.77 acres of land, 30.91 acres of which are wooded, in Accokeek, MD. The landowner wishes to manage the property for soil erosion control, water quality improvement, recreation, wildlife habitat and forest health. These goals correspond to the stewardship objectives of **Soil & Water** (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.

PROPERTY OVERVIEW

The property consists of five parcels located throughout the Moyaone Association community, with parcels located on Apple Valley Road, Sanford Drive and Bryan Point Road. The parcels all wooded, except for the parcel on Bryan Point Road, which is half wooded and half open field. The topography varies between flat upland and stream/ravine bottoms. There are three blue line streams, fourteen non-blue line streams, two non-tidal wetland types (PFO1A & PFO1E) and one tidal wetland type (PFO1R) on the property. The forest is made up primarily of upland and bottomland hardwoods. Approximately 17% of the property lies within the Chesapeake Bay Critical Area. See the individual Stand Descriptions and the Additional Comments section for more information regarding Critical Area laws and regulations.

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 is threatened or endangered species on the property.

ECOLOGICAL SIGNIFICANCE:

The steeply sloped ravines along Accokeek Creek on the property supports an unusually diverse deciduous forest. The soils of the forested ravines formed from the Aquia Formation and are rich in calcium from fossil shell material. There is a well-developed organic layer formed from decaying plant matter that has accumulated over many years. The variety of soil fungi supported by the downed wood and other decaying matter play an important role in the growth of trees and other plants of the forest, facilitating the absorption of nutrients and water. Shell material in the ravine soils provides calcium, reducing soil acidity and increasing nutrients available to plants. The rich, circumneutral soils and lack of recent disturbance have resulted in a very high diversity of native species in a relatively small acreage, and a flora more typical of the Piedmont than the Coastal Plain, with lush spring wildflowers. This upland forest type, Basic Mesic Forest, is uncommon in Maryland (State Watch List).

Among the spring wildflowers in this ravine is a population of Spring coralroot (*Corallorhiza wisteriana*), state-listed as Endangered. Glade fern (*Homalosaurus pycnocarpos*), state-listed as Threatened, grows with paw-paw and spicebush on the lower slopes. Although glade fern has a broad range, from the Midwest to the Atlantic coast and from Ontario to Louisiana, it is rare or uncommon in the southeastern states, along the Atlantic coast, and in the upper Midwest.

Along Bryan Point Rd, on or adjacent to Parcel 28, is a population of the State Endangered plant, Anglepod (*Matelea caroliniensis*). It grows on slopes, typically in sunny openings where shell deposits are visible. Maryland's populations of Anglepod are growing at the northern edge of its range. This rare vine of the milkweed family has the milky sap that is characteristic of milkweeds.

The forest on the property is part of a large block of forest in the Accokeek Scenic Easement Area and adjacent Piscataway National Park that provides habitat for forest interior breeding birds (FIDS). FIDS require large, contiguous blocks of forest to successfully reproduce, and populations of many FIDS are declining. Most FIDS are neotropical migrants, birds that travel long distances to breed in North America and winter in Central and South America. These species include some of our most brilliantly colored songbirds such as the scarlet tanager and prothonotary warbler. These birds and others play many important roles in our forests such as insect control, seed dispersal and providing food to other predators. The declines in FIDS have been attributed largely to the loss and fragmentation of forests in the eastern United States by urbanization, agriculture and some forest management practices. Deforestation of tropical wintering grounds also is an important factor. The key to maintaining breeding habitat for FIDS and halting their decline is to protect extensive, unbroken forested areas throughout the region. 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.

MANAGEMENT RECOMMENDATIONS:

The calcium-rich soils of the ravines are particularly vulnerable to the encroachment of invasive plants. Control of invasive plants will be important to maintain the rare plant species. The rare plant species are browsed by deer. As the deer population increases, repeated browsing may prevent flowering and fruiting, or spore production in the fern, and lead to the extirpation of these rare plants. Management of the deer population in the vicinity is essential to maintain the rare plant populations.

As the forest on the property ages it provides better habitat for a variety of reptiles, amphibians, birds, and small mammals that nest in tree cavities and in the well-developed leaf litter and woody debris of the forest floor, and that forage for insects or fungi on the snags and dead branches of standing trees as well as in the leaf litter and woody debris. This woody debris is also important in supporting the growth of the rare Spring coralroot. The well-stratified canopy of the older forest provides excellent habitat for a variety of birds, including forest interior dwelling species. In order to maintain habitat quality as the forest ages, the Natural Heritage Program has the following recommendations.

1. Retain dead and downed woody debris on the forest floor. In addition to its habitat value, this material absorbs water, and as it decays it increases the water holding capacity of the soil. It is also vital for the growth of the Spring coralroot.

2. Retain snags to provide wildlife habitat as described above. Creation of snags is not necessary.

3. Monitor and control invasive species. Vines such as Japanese honeysuckle, Oriental bittersweet, English ivy, Porcelain berry and Climbing Euonymus are of particular concern. These vines can inhibit the growth of saplings and slow the process of forest regeneration as they grow over and around saplings, shading them and causing branches to break off under their added weight. Also pursue control of invasive ground cover, such as English ivy and periwinkle, which reduces the quality of nesting habitat for ground-nesting species, including several species of FIDS. A list of invasive species that degrade our natural habitats is available at: http://mdinvasives.org/species-of-concern. The Invasive Plant Atlas of the United States website provides species-specific guidance on the control of many invasive plants of concern: https://www.invasive.org/weedcd/html/wgw.htm .

4. Regarding protection of habitat for forest interior breeding birds, please incorporate the guidelines for FIDS conservation in riparian forests in the plan.

5. Work with adjacent landowners and property managers to control the deer population.

For additional information concerning rare & endangered species on the property, please contact Katharine McCarthy of the Wildlife & Heritage Service at 410-260-8569 or katharine.mccarthy@maryland.gov.

SOILS

Beltsville Series: The Beltsville series consists of moderately well drained soils. Runoff in these soils is low to very high. Slope ranges from 0 to 40 percent. Mean annual temperature ranges from 48 to 61 degrees F. Mean annual precipitation ranges from 35 to 55 inches.

Croom Series: The Croom series consists of well drained soils. Runoff in these soils is low to high. Slope ranges from 0 to 40 percent. Mean annual temperature ranges from 46 to 59 degrees F. Mean annual precipitation ranges from 30 to 50 inches.

Howell Series: The Howell series consists of well drained soils. Runoff in these soils is medium. Slope ranges from 10 to 15 percent. Mean annual temperature ranges from 52 to 57 degrees F. Mean annual precipitation ranges from 40 to 50 inches.

Issue Series: The Issue series consists of somewhat poorly drained soils. Runoff in these soils is low to very high. 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.

Marr Series: The Marr 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.

Widewater Series: The Widewater series consists of poorly drained soils. Runoff in these soils is very high. Slope ranges from 0 to 2 percent. Mean annual temperature ranges from 52 to 57 degrees F. Mean annual precipitation ranges from 40 to 50 inches.

Woodstown Series: The Woodstown series consists of moderately well drained soils. Runoff in these soils is negligible to high. Slope ranges from 0 to 25 percent. Mean annual temperature ranges from 52 to 58 degrees F. Mean annual precipitation ranges from 40 to 50 inches.

PROPERTY-WIDE RECOMMENDATIONS

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.

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 September 2003 and has since spread to every county in the state. EAB is also found in a majority of the states in the Northeast and Mid-West and is spreading to the South. In response to this forest threat, a federal quarantine has been placed on the movement of any and all ash products (logs, stumps, branches, etc.) out of the quarantine zone and to a non-infested state. However, ash products can be moved within the quarantine zone. This is especially important if you harvest timber off the land. For more information about EAB and the latest quarantine map, please visit the MD Dept. of Agriculture website (www.mda.maryland.gov/plants-pests/Pages/eab.aspx).

GYPSY MOTH

The Gypsy 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 Gypsy Moth will weaken a tree, reduce growth, and often kill the tree. Several factors determine the likelihood of a woodlot being infested by the Gypsy Moth. The type of tree present is one factor, oaks are among the most preferred species, and also favorable are sweetgum, blackgum, 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 Gypsy 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 Gypsy 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.

INVASIVE SPECIES CONTROL

Generally, invasive species are considered destructive since they outcompete the native species for space, water and sunlight. Left unchecked, these invasive species can spread throughout the property and on to adjacent properties. The following invasive species are found on the property, all in Stand #1:

- **Autumn olive** – a small to medium height shrub species from China and Japan. It thrives in disturbed areas open to full sun. It is fast growing and spread through seeds. It also resprouts after being cut. Autumn olive can be controlled by cutting, girdling, hand pulling or herbicides. 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 shrub stem (basal bark), a cut stem or to the leaves (foliar spray). https://www.invasive.org/alien/pubs/midatlantic/elum.htm
- **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.
- **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

There are two possible goals for invasive species control: eradication or containment. Eradication focuses on the complete elimination of the invasives 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 bigger, total eradication may not be feasible due to costs or equipment limitations. Containment focuses on limiting the spread of invasives from their current area. Containment is a more feasible option when dealing with a large affected area (10+ acres). Regardless of which goal is selected, removal of some or all invasives are required.

Removal Options

There are two options for removing invasives, chemical and mechanical. Both require time, effort and funding. Chemical control consists of the application of various types of herbicides to the invasives. Herbicide control is generally a cost-effective way to control invasive species as it doesn't require a lot of manual labor or use of heavy machinery. However, special care must be taken when mixing herbicides to the correct ratio, applying the herbicides when weather conditions are favorable and using appropriate personal protective equipment

(PPE, gloves, respirators, coveralls, etc.). Drawbacks also include possible removal of nearby desired species (i.e. spray drift).

Mechanical control consists of cutting or removing the invasive species either by hand, equipment or by animal. Frequent cuttings will exhaust the energy reserves of the plant and will eventually lead to the plant's death. Removal of the entire plant and its root system will ensure that the plant will not re-grow. Use of grazing animals (goats, etc.) can be done with very little human labor. Drawbacks to mechanical control include time spent repeatedly mowing or cutting the invasives, limited accessibility of the affected area for the equipment, possible loss of desired native plants due to equipment or animal grazing.

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 all three before the invasives are truly dead. Government cost-sharing programs may be available to help defray the cost of controlling invasives. Contact your local forester for more information.
Completion date: Continuous.

PROPERTY BOUNDARY LINES

One of the first steps in becoming a good land steward is locating your 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 on 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.

FOREST CARBON MANAGEMENT

In recent years, increased interest has developed in regards 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 a 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.

TRAIL SYSTEM

Recreational opportunities can be enhanced by creating a trail system throughout the property. 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%). The majority of the trail should be located along the flat, upland portion of the stand to reduce the potential for erosion. Foot bridges should be constructed if any large stream is crossed. Small to mid-sized streams can be traversed by placing large, flat stepping stones in the creek bed.
Completion date: April 2025.

STAND DESCRIPTION & RECOMMENDED PRACTICES

Stand: 1

Acres: 25.25

Large Tree Species: tulip poplar, sweetgum, American beech

Small Tree Species: American beech, sweetgum, American holly

Shrub Species: paw-paw, spicebush, autumn olive

Herbaceous Species: Japanese stiltgrass

Vine Species: multiflora rose, grapevine

Development Stage: sawtimber: 84%, poletimber: 14%, small tree: 2%

Age: Even (35-55 years)

Stocking: Adequate (Fully stocked at 94%)

Density: 112 trees/acre

Basal Area: 118 ft^2/ac

Site Growth Potential: Excellent

Soil Types:
CsD - Croom-Howell-Collington Complex, 10 to 15 percent slopes
CsF - Croom-Howell-Collington Complex, 25 to 40 percent slopes
CwD - Croom-Marr Complex, 10 to 15 percent slopes
CwE - Croom-Marr Complex, 15 to 25 percent slopes
CwG - Croom-Marr Complex, 25 to 60 percent slopes
WE - Widewater and Issue Soils, frequently flooded
WoA - Woodstown Sandy Loam, 0 to 2 percent slopes

Additional Notes: A Forest Of Recognized Importance (FORI) is found throughout this stand. See the Additional Comments section for more information about FORIs.

Stand Description:

This 25.25 ac stand consists primarily of tulip poplar (46%), sweetgum (17%) and American beech (14%) with red maple, northern red oak, southern red oak, black cherry, black locust, green ash, hickory and sycamore scattered throughout the stand. Current growth rates are excellent to good, taking 6-10 years to grow 2.0 inches in diameter, and the stand has an excellent growth potential with an average site index of 87 feet for tulip poplar.

The stand is located throughout most of the property and the terrain consists primarily of ravines and stream bottomlands. Three blue line streams, thirteen non-blue line streams, two non-tidal wetland types (PFO1A & PFO1E) and one tidal wetland (PFO1R) are located throughout the stand. The understory density is moderate and includes species such as American beech, sweetgum, American holly, red maple, tulip poplar, paw-paw, spicebush, autumn olive, Japanese stiltgrass, multiflora rose and grapevine.

To meet your management objectives, implement the following practices:

Snag Trees

This stand has the potential to serve as habitat for cavity nesting wildlife species. Cavity nesting birds such as woodpeckers, chickadees, titmice, great-crested flycatchers and bluebirds nest in tree cavities which they excavate themselves or which were excavated by other cavity nesting birds. Therefore, a potential limiting factor for these birds is the number of standing dead trees which are suitable for nesting. Cavities are also important habitat for other forest wildlife including gray treefrogs, skinks, bats, squirrels, opossums and raccoons.

To further the landowner's goal of wildlife management and to reduce the stocking of the stand, snag tree creation is recommended. Three to five snag trees per acre should be maintained throughout the stand. If there are not enough existing snag trees in the stand, additional snags should be created. Snag trees can be created by selecting trees which are 12 inches or greater in diameter and deadening those trees. The trees can be deadened 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 over a few years' time. It is recommended to make 2-4 parallel cuts in each tree as some species are known to heal over the cuts (tulip poplar, sweetgum, American beech). Removing the wood between the cuts can also be done to ensure the tree's mortality.

Trees to be girdled should include tulip poplar, sweetgum or poorly formed trees which will improve timber quality while creating wildlife habitat on your forest land. Live trees with existing cavities should not be girdled as they are more beneficial and the cavities last longer than cavities in dead trees. If possible, avoid girdling healthy mast producing trees (i.e. oaks & hickories) as they produce nuts, which are beneficial to many species of forest wildlife.

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. Snag trees should not be created adjacent to streams or on steep slopes, as over time the tree will fall and increase the chances of stream bank erosion.
Completion date: April 2030.

Riparian Forest Buffer

This stand serves as a riparian forest buffer, absorbing runoff, sediments and nutrients before they reach the streams. Trees within 50 feet of a stream or wetland should be retained as a riparian forest buffer. 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. It is recommended that the stand continue to serve as a buffer.
Completion date: Continuous.

STAND DESCRIPTION & RECOMMENDED PRACTICES

Stand: 2

Acres: 5.66

Large Tree Species: white oak, blackgum, American beech

Small Tree Species: blackgum, red maple, American holly

Shrub Species: n/a

Herbaceous Species: n/a

Vine Species: n/a

Development Stage: sawtimber: 53%, poletimber: 27%, small tree: 20%

Age: Even (70-80 years)

Stocking: High (Overstocked at 128%)

Density: 220 trees/acre

Basal Area: 150 ft^2/ac

Site Growth Potential: Fair

Soil Types: BaA - Beltsville Silt Loam, 0 to 2 percent slopes
BaB - Beltsville Silt Loam, 2 to 5 percent slopes

Additional Notes: n/a

Stand Description:

This 5.66 ac stand consists primarily of white oak (27%), blackgum (20%) and American beech (13%) with persimmon, northern red oak, southern red oak and red maple scattered throughout the stand. Combined, oaks make up 47% of the tree species in the stand. Current growth rates are fair, taking 12 years to grow 2.0 inches in diameter, and the stand has a fair growth potential with a site index of 63 feet for white oak.

The stand is located in the southern most parcel and the terrain is flat. One non-blue line streams and one non-tidal wetland type (PFO1A) are located in the stand. The understory density is low and includes species such as blackgum, red maple, American holly and white oak.

To meet your management objectives, implement the following practices:

Non-Commercial Timber Stand Improvement

Improving the health and vigor of the forest can have several benefits, such as improved growth rates, resistance to attack from insects and disease and improving wildlife habitat. To accomplish these goals, a Non-Commercial Timber Stand Improvement Operation should be implemented in the form of a basal area thinning. This practice will also reduce the stocking in the stand and provide a source of firewood. The goal of this operation is to reduce the basal area from 150 ft^2/ac to 100 ft^2/ac.

The thinning can be accomplished by either girdling or felling the trees. Girdling entails making 2-4 parallel cuts into the cambium layer (inner bark) with an ax or saw completely around the circumference of the tree. The cuts should be at least 1" deep and go through the bark and well into the cambium. This will cease the flow of water and nutrients to the crown and the tree will eventually die over a few years' time. It is recommended to make 2-4 parallel cuts in each tree as some species are known to heal over the cuts (tulip poplar, sweetgum, American beech). Removing the wood between the cuts can also be done to ensure the tree's mortality. 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. Tree species such as oak, hickory and beech should also be retained as much as possible as a source of food for wildlife. Upon request, the Project Forestry Office is available to mark the trees that should be removed. There is a nominal fee for treemarking ($12/ac); contact the forestry office for further assistance.
Completion date: April 2024.

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.

MANAGEMENT PRACTICE SCHEDULE

End Date	Frequency	Description	EQIP	WIP	Stands	Acres
April 2024		Non-commercial timber stand improvement	666	407	1	5.66
April 2025		Trail creation			All	30.91
April 2030		Snag trees (3-5 trees per acre)			1	25.25
April 2035		Invasive species control	314, 315	410	1	2.0
April 2035	As Needed	Mark and maintain property boundary lines.			All	34.77
April 2035	Annually	Protect FORI and special sites.			All	30.91
April 2035	Annually	Protect woodland from wildfire, insects and disease.			All	30.91
April 2035	Annually	Stabilize and maintain all roads and trails.			All	30.91
April 2035		Update forest stewardship plan.			All	30.91

To provide you with further assistance in carrying out the recommended practices please contact Brian Stupak, Project Manager, Maryland DNR-Forest Service, P.O. Box 3109, Prince Frederick, MD 20678. Phone: (410) 535-1303. E-mail: brian.stupak@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 September 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. To get more information about consulting foresters and loggers, contact "Call Before You Cut" at the University of Maryland Extension Service (301-432-2767 ext. 315 or http://callb4ucut.com/maryland) or contact your local Forest Service office.

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 non-commercial 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 several 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. To subscribe, go to https://extension.umd.edu/woodland/subscribe-branching-out or email Editor Andrew A. Kling at akling1@umd.edu. 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. Additional information about forestry can be found at https://extension.umd.edu/topics/environment.

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. The property is located within the boundaries of Piscataway Park, managed by the National Park Service. Significant restrictions are listed in the easement to protect the scenic viewshed of Mount Vernon. The National Park Service (Piscataway Park) should be contacted prior to any timber harvesting on the property.

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, an FORI area was identified on the property. The FORI area is identified on the map included in your Plan. When planning any forest management activities within this FORI area, you should work with a professional forester to ensure that the planned forest management activity does not harm or diminish the high quality stream resource that *designates this as an FORI.*

12. Special sites are those 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, no special sites are noted as being present on the property.