

FOREST STEWARDSHIP PLAN

Kevin R. and Jennifer B. Casey
8907 Knollwood Way
Frederick, MD 21701
410-404-8159

Location

On the south side of Stottlemyer Road
.4 mile west of Hayes Road

Map 30 Parcel 209

-77.543283 39.574584

GPS Coordinates

Catoctin Creek Watershed – 2140305

In

Frederick County

On

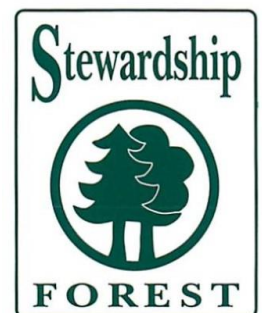
17.018 acres of forestland
1 acre reserved for future home site

Prepared by

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Maryland
Department of
Natural Resources

PROPERTY DESCRIPTION AND LANDOWNER OBJECTIVE

Property Description

The Kevin Sutter and Jennifer Casey property is located in western Frederick County just outside Wolfsville on Stottlemyer Road. The surrounding area is divided almost equally between forests and fields. This 18.018 acre tract is composed of 17.018 acres of forest and an acre dedicated to a future home site. There is a single forest stand associated with the property containing a wide variety of tree species. More stand information will be presented in the Stand Description and Recommended practices section of this report. The main channel of Middle Creek bisects the southern portion of this property. This property is part of the Catoclin Creek Watershed.

Mr. Sutter and Ms. Casey recently purchased this property and intend to build a house here in about 2 years. The owners wish to have a Stewardship Plan prepared to direct management and to participate in the Woodland Assessment Program.

The terrain is fairly level around Stottlemyer Road then it descends at a moderately steep gradient before it levels off in a fairly wide flood plain associated with Middle Creek. The Ravenrock - Highfield, soils are the dominant soil types on this property. These soils contain greenstone along with various amounts of quartzite as the parent material. Ravenrock – Highfield soils are rated high in fertility and productivity; their only limitation is due to steepness or stoniness of terrain.

Objectives

- 1) Primary – Wildlife
- 2) Secondary – Recreation, Forest Products

Mr. Sutter and Ms. Casey would like to maintain their forest in a healthy, sustainable condition. The landowners intend to establish hiking trails and enjoy the amenities of owning a wooded parcel.

Cultural and Historic Resources

This property was checked for cultural and historic resources using data provided by the Maryland Historical Trust, and no resources were noted as occurring on your property.

Forests of Recognized Importance

These are areas of woodland that have been identified at a larger landscape level which contain exceptional ecological, social, cultural or biological resource values. In Maryland, Forests of Recognized Importance (FORI) have been defined as those streamside woodland areas (also known as riparian woodland areas) which are of special importance to protecting the water quality of the Chesapeake Bay and the water quality of reservoirs that serve metropolitan areas. Specifically, these important riparian woodland areas are identified using specific data sets from the Maryland Biological Stream Survey, the Maryland Department of the Environment, and the Maryland Fisheries Services. Collectively, the woodland areas adjacent to these high quality stream areas – that is, within a 100-foot stream buffer area – are defined as Forests of Recognized Importance (FORI). Your woodland was checked for the presence of FORI and a FORI area exists in the lower section of your property adjacent to Middle Creek. Please review your map to see the location of this area.

Special Sites

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. The rocky ledges and other rock outcrops would certainly be considered special land features.

Forest Health

Maintaining the health of your forest is an important goal for all land owners. Trees provide some of the basic necessities of life (oxygen, shelter, forest products) as well as maintains and improves the environment in which we live. A healthy forest provides cleaner air and water as well as reduced soil erosion. By maintaining and improving forest health through sustainable forestry practices, the health of the environment as a whole is sustained.

Threatened and Endangered Species: The Threatened and Endangered Species data base of the MD Wildlife and Heritage division was accessed to determine if there are any threatened or endangered species on this tract and no listings were found.

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.

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 Frederick County. 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, 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 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 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.” Mile-a-minute vine, with its amazing growth speed, nasty thorns, and ability to entirely smother native plant species, is an example of a well-known invasive species in Maryland. Kudzu, gypsy moths, emerald ash borer, and multiflora rose are other well-known invasives. These invasive plants and insects can be problematic for forest landowners. From vines that take over disturbed areas, forest edges, and tree canopies, to insects that defoliate and girdle trees, to diseases that kill desirable tree species, these pests not only have the ability to decimate the natural ecosystem, they are difficult to control. 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 any time, you should monitor your woodland for invasive species on an on-going basis. Most invasive species can be controlled with persistent efforts, but you need to know the right approaches and timing to avoid wasted effort and money. Contact the MD DNR Forest Service for further assistance if you note any occurrence of invasives. Information sheets on selected forest invasive species can be found on the DNR Forest Service website at:

<http://www.dnr.maryland.gov/forests/programapps/pests.asp>.

Additional information on invasives, as well as many other useful and informative weblinks related to this topic can be found at the DNR Wildlife and Heritage website at:

<http://www.dnr.state.md.us/invasives/index.asp>

Please utilize these web links to improve your knowledge in identifying and controlling invasive species in your woodland.

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/ecosystems/services/carbon.shtml>.

DEFINITION OF TERMS

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

DOMINANT SPECIES: Those tree species which dominate the stand.

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 measured 6" above ground level)

Sapling - 1" to 5.9" DBH (Diameter measured 4 2 feet above ground level)

Pole - 6" to 10.9" DBH

Sawtimber - 11" DBH and larger

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.

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.

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.

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.

RECOMMENDATIONS: The practices which you as a landowner should follow to obtain your management objectives. Specific descriptions are included with the report.

BASAL AREA: A measure of density of stocking. It is the area of the cross-section of tree stems including bark at breast height, measured in square feet.

RESIDUAL STAND: The stand remaining after a partial harvest, such as a thinning or other treatment.

MAST: Collective name for fruits, nuts, and seeds produced by trees and shrubs. Mast can be hard or soft, e.g., acorns and hickory nuts vs. black cherries and dogwood berries

STAND DESCRIPTION AND RECOMMENDED PRACTICES

Owner's Objective: Primary – Wildlife
 Secondary – Recreation, Forest Products

Stand #	Area Acres	Dominant Species	Development Stage	Age	Stocking	% Des. Trees	% Undes. Trees	Site Growth Potential	Recommendations and Practices
1	17.02	Hickory White Oak Red Maple	Immature Sawtimber Poletimber	Uneven	Adequate	67%	33%	Good	Control invasives growing throughout forest.

STAND DESCRIPTION AND RECOMMENDED PRACTICES		
Stand #: 1		Area (Acres): 17.018
Dominant Overstory Species: Hickory, White Oak, Red Maple,		
Dominant Understory Species: Red Maple, Beech, Black Haw		
Development Stage: Immature Sawtimber, Pole		
Invasive Species: Japanese Barberry, Ailanthus, Norway Maple, Mile-a-Minute		
Stewardship Practices (past 10 years): Nothing Noticed		
Forests of Recognized Importance: Present around Middle Creek		
Slope: 0% – 30%	Topo Positions: South facing hillside, Floodplain	Aspect: Variable
Age (if even, give age): Uneven		Stocking/Basal Area: Adequate/ 76% stocking 86 BA./acre
Soil Type: Ravenrock – Highfield		Site Growth Potential: Good
RECOMMENDATIONS/PRACTICES		

Stand #1 contains all of the forest on this property. The soils found here belong to the Ravenrock – Highfield Series.

The diverse topographic features correspond to the wide variety of tree species found here. The upland section of the property contains trees like white oak, red oak, black oak, tulip poplar, beech, shagbark hickory, pignut hickory, red maple, hackberry, and black gum. The floodplain section contains red maple, shagbark hickory, bitternut hickory, tulip poplar, swamp white oak, pin oak, red oak, black birch, sycamore, hackberry, and boxelder. Stand #1 is properly stocked with a desirable amount (67%) of acceptable sawtimber and pole sized trees. This forest is uneven aged having developed from a number of light selective harvests over the years. Tree growth was measured at a good to fair rate of 8 to 12 rings per inch. Most of the remaining ash trees have died as a result of emerald ash borer. Many of these trees have broken apart and have fallen. Most of your ash are in the upper part of the property near the rock ledges. Some of the invasive Norway maple and ailanthus trees are found here as well.

Stand #1 is a mixed hardwood forest.

This forest has a very unique understory containing a wide variety of native understory species such as ironwood, musclewood, witch hazel, black haw, flowering dogwood, spicebush, and pawpaw. The exception to this is the Japanese barberry that is quite extensive. Barberry is an exotic invasive plant that is especially bad in that it can spread under a closed canopy like this forest community. In addition, it has been found that barberry makes ideal breeding grounds for ticks and the spread of Lyme's disease. For these reasons, the barberry should be controlled because this aggressive invasive has the potential to continue its spread engulfing much of the forest. Enclosed with this report is more information on barberry control. Some of the ground cover observed during the early March visit includes greenbrier, ferns, grapevine, and various grasses. No doubt the herbaceous layer would be very lush during the growing season. The dried up vine draping over the vegetation around the right-of-way is mile-a-minute vine. Aptly named for its very aggressive growth characteristics. Enclosed is more information on mile-a-minute.

The invasive Japanese barberry is well established throughout this forest.

The variety of species comprising this stand makes it valuable for many forest animals. The presence of white oak and red oak, combined with other oaks, hickory, and valuable fruit and seed bearing species in the overstory and understory ensure that abundant and desirable foods are available throughout the year. Hard mast, especially acorns is very important for forest inhabiting wildlife. Deer, wild turkeys, and squirrels depend heavily on acorns as a fall and winter food source. Usually, mast production improves in oaks as they mature. I noticed numerous tree cavities in the larger birch and red maple trees. In addition, many of the standing dead "snags" have woodpecker cavities. All of these hollow areas will be utilized by forest inhabiting wildlife. A number of dead ash trees have fallen to the ground. This downed material will eventually rot and be incorporated into the soil. This process plays an important role recycling nutrients throughout the ecosystem. This "coarse woody debris" also provides excellent cover for animals, especially salamanders. The understory in this uneven aged forest has good "vertical stratification" meaning that numerous layers of subcanopy growth are present. Being vertically stratified is beneficial to woodland inhabiting birds since it provides numerous layers of canopy for these animals to exist.

The main channel of Middle Creek bisects the southern part of this property.

The oak component in this forest produces acorns which are an important food source for local wildlife populations. Keeping the oaks healthy and a vital part of the forest is an important consideration for maintaining the viability of this area for wildlife. Gypsy moth is an insect that can defoliate oak forests early in the growing season thereby causing great harm to these trees. At present, gypsy moth populations are in a low ebb of their cycle but there is a chance that they could increase to damaging levels sometime in the future. You should monitor the site for gypsy moth and consider spraying if a large number of egg masses are present. Given your objectives of recreation and forest health you should endeavor to control the barberry and other invasives now, before you move to the property. Enclosed is a list of professional contractors who can carry out this work for you. Please note that there is cost share assistance available to help defray the expense of this practice. Please refer to the section on cost share in the additional comments section of this plan. Getting the barberry and other invasives under control will help ensure that the forest continues its positive development. Most of the dead ash trees are around the upper section of the property where your home will be. It might be a good idea to identify those dead trees and remove them in a safe manner before the home is built or you create hiking trails.

ADDITIONAL COMMENTS

Invasive Species Control: The Frederick County office of the MD Forest Service and Frederick County Weed Control reached out to local weed control contractors to determine if they would be interested in conducting weed control practices on forested properties like yours. Three contractors responded to these inquiries and we met with them to discuss potential projects. All three contractors indicated that they are interested in bidding on, and doing the work. Enclosed is a list of the contractors. You are encouraged to contact them if you would like professional assistance with your weed control projects.

Forest Stand Improvement: The weed control practices recommended in this plan are cost sharable through the WIP, or EQIP programs. Please call if you have any questions regarding control strategies or wish to apply for cost share assistance. To learn more about opportunities within the EQIP program you can call the Natural Resources Conservation Service at 301-695-2803 ext. 3 and speak to Brent Camauff about this program.

Maintaining Property Boundaries: Marking and maintaining property boundaries is an important but often neglected practice. Posting of private lands with paint marks or permanent signs should be done when a landowner is interested in preventing or minimizing trespassing. It is also recommended that the boundaries be well marked prior to the implementation of management practices, especially any timber cutting. The paint marks should be at least two inches in width and eight inches in length and centered at three feet, but no more than six feet from the ground. The marks should be readily visible to a person with normal eyesight who approaches the property. Using blue paint in Maryland is the universal sign for no hunting is permitted without the landowner's permission. Boundary marking paint can be purchased through outlets such as Ben Meadows and Forestry Supplies. Boundary marking paint normally lasts for 5 – 10 years on trees before it needs to be reapplied. Marking boundaries is most easily carried out during the winter when the leaves are off trees. Enclosed with this plan is more information on boundary line maintenance. The ash trees and trees that you clear for your home should satisfy for firewood requirements for a while. If, in the future you need additional firewood we can mark trees to remove with tree marking paint. Please let us know if you would like us to mark firewood.

MANAGEMENT PRACTICE SCHEDULE

COMPLETION DATE	PRACTICE	EQIP	WIP	STAND	ACRES
Annually:	Monitor for gypsy moth, spray if necessary.			1	17.018
2021 - 2026:	Invasives control*	314	410	1	17.018
Ongoing:	Monitor and limit the spread of invasive species.*	314	410	1	17.018
Ongoing:	Protect woodland from wildfire, insects, and disease.*			1	17.018
Ongoing:	Harvest firewood for your own use.			1	17.018
Ongoing:	Stabilize and maintain all roads and trails			1	17.018
2036:	Update plan.*	106	500	1	17.018

To provide you further assistance and advice in carrying out the recommended practices, please contact

Michael F. Kay, Forester.

Telephone Numbers

Forestry – 301- 473-8417

* Certain conservation programs provide private landowners with financial cost share and technical assistance to implement on the ground conservation practices. There may be cost-share monies available through various programs to assist in implementing some of the recommendations in this plan. A brochure and application form for the Woodland Incentives Program (WIP) has been included. WIP is administered through your local Maryland Forest Service Office, and may provide up to 65% reimbursement of funding spent on certain forest management practices. The Environmental Quality Incentives Program (EQIP) is administered through your local USDA Natural Resource Conservation Service (NRCS) Office. EQIP rates vary by practice, and can be combined with WIP for additional reimbursement of funding spent on forestry activities. Practices eligible for cost share assistance will be marked with and asterisk (*) and the appropriate practice code will be noted. Contact the forestry office for additional details.