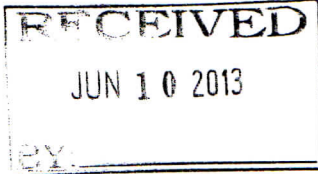


# FOREST STEWARDSHIP PLAN



Maryland  
Department of  
Natural Resources



FOR

Greenbelt Homes Inc. (GHI)  
c/o Eldon Ralph, General Manager  
1 Hamilton Place  
Greenbelt, MD 20770  
Phone: 301-474-4161  
E-mail: e.ralph@ghi.coop

LOCATION

Various tracts of land along Crescent Road  
Greenbelt, MD

MD Grid 148,500N X 410,800E (NAD83, Meters)  
Tax Map 26, Parcel A, H, L, M, V, W, X  
Tax Map 27, Parcel B, C, D, E, F  
Watershed: Anacostia River (02140205)

IN

Prince George's County

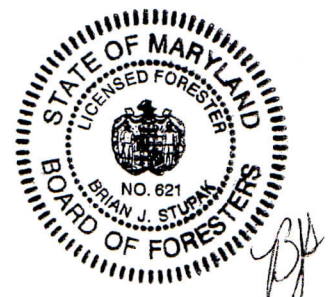
ON

87.65 Acres Woods (in FCMA)  
166.39 Acres Residential  
254.04 Acres Total

PREPARED BY:

Brian J. Stupak, Project Manager  
&  
Rick Long, Forest Technician

May 30, 2013



## INTRODUCTION

Greenbelt Homes, Inc. (GHI) owns 254.04 acres of land, 87.65 of which are wooded and in a Forest Conservation Management Agreement (FCMA), on twenty-seven tracts of land along Crescent Road in Greenbelt, Maryland. Greenbelt was developed in 1937 by the federal government as the first government planned community and in 1952 the government sold the town to its residents, who formed a housing cooperative, now known as GHI. The cooperative wishes to manage the property to control invasive species, provide wildlife habitat and recreational opportunities, improve water quality and control erosion. These goals correspond to the Stewardship objectives of **natural heritage & recreation** (primary objective) and **soil & water** (secondary objectives).

## PROPERTY OVERVIEW

The property is located across twenty-seven tracts (A-Y, Z1 & Z2) along Crescent Road and Greenhill Road. The FCMA is located on twelve of the twenty-seven tracts (A, B, C, D, E, F, H, L, M, V, W & X). The terrain consists of rolling uplands, upland plateaus and flat bottomlands. Seven non-blue line streams are located throughout the property. The forest is comprised of predominantly mixed hardwoods with some pine scattered throughout. A few trails are located on some of the tracts.

## 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. The DNR-Natural Heritage Program maintains a database that has indicated that no rare and endangered species were found 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). An information sheet about FIDS is included with this plan. In a general sense, the natural heritage and recreational opportunities of the 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.

## INVASIVE SPECIES

Invasive species are plants and animals that "invade" another species natural range & habitat and replace a native species with itself. Many invasive species are from other countries & continents and are introduced, either intentionally or inadvertently, into the United States. Some invasives are native to the U.S. and simply grow very quickly. Whatever their origins, invasive species are a threat to our natural resources and wooded areas. Left uncontrolled, they can take over entire acres of land, converting diverse ecosystems into monocultures, areas of land with

only one species. This has not only an aesthetic impact, but also an impact on the local wildlife by replacing their habitat and food sources. A major hurdle in the struggle against invasive plants is the fact that, to the untrained eye, they look like a natural part of the environment. They typically have green leaves and showy flowers and often blend in with the species they are replacing. Since they are not easily recognizable, people overlook the threat they represent and tend to dismiss their control. A major part of any eradication program should be an educational component to teach the local community the threats and dangers of invasive species. Only then will there be a collective effort to remove these invasives from the woods.

### VOLUNTEERISM

Given the size and scope of the management of Greenbelt Homes, Inc., volunteers are an essential part the management of GHI's woodlands. The majority of the recommendations in this plan center around the control of invasive species. Typically, control can be done with manual labor, chemical applications or both. Due to the large amount of invasive species on GHI land, and the cost of hired labor, volunteers from the GHI community would significantly lower the cost of controlling these unwanted plant invaders. By engaging community members, GHI can educate their community about the dangers of invasive species, continue to control the invasives and hopefully prevent their potential spread. Nature clubs, 4H groups and high school students with community service graduation requirements would be an ideal pool of volunteers.

## STAND DESCRIPTION AND RECOMMENDED PRACTICES

**STAND NUMBER:** 1A, 1B, 1C, 1D, 1F, 1H, 1L, 1V, 1W & 1X

**AREA ACRES:** 69.7

**DOMINANT OVERSTORY SPECIES:** red oak, white oak, sweetgum

**DOMINANT UNDERSTORY SPECIES:** American holly, greenbriar, American beech

**TIMBER SIZE:** sawtimber (66%), poletimber (22%), small tree (12%)

**AGE:** uneven (40-70 years)

**STOCKING:** overstocked (126%)

**GROWTH POTENTIAL:** good to excellent

**SOIL:** Beltsville Silt Loam (Bab), Beltsville-Urban Land Complex (BuB, BuD), Christiana-Downer Complex (CcC, CcD, CcE), Christiana-Downer-Urban Land Complex (CdD), Russett-Christiana Complex (RcB), Zekiah & Issue Soils (ZS)

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### **RECOMMENDATIONS/PRACTICES:**

This 69.7 acre stand is comprised mainly of red oak (26%), white oak (26%) and sweetgum (14%) with tulip poplar, red maple, willow oak, chestnut oak, black cherry, blackgum, hickory, American beech, black locust, Virginia pine and loblolly pine scattered throughout. The stand has a good to excellent growth potential with a site index average of 64 feet for red oak, 89 feet for sweetgum and 101 feet for tulip poplar. The tree density (or stocking) in this stand is high in relation to maintaining the optimum growing space per tree. As trees in the stand continue to grow larger, growing space per tree will continue to decrease. This creates an "overstocked" condition where the stand will not grow as vigorously as it has in the past due to competition for limited resources such as soil nutrients, water, and sunlight. Over time, the stand will naturally thin itself through sporadic tree mortality.

This stand is located throughout ten of the twenty-seven tracts and the stand terrain is a mix of moderate slopes to rolling terrain. Two blue line streams and five non-blue line streams are located throughout the stand. The understory is moderately thick with American holly, greenbriar, American holly, sweetgum, red maple, hickory, dogwood, English ivy, multiflora rose, Japanese honeysuckle, golden bamboo and wisteria. The stand is overstocked and current growth rates are fair (avg. of 10 years to grow 2.0 inches in diameter). In an effort to meet the landowner's goals (invasive species control, recreation, wildlife habitat, etc.) the following management practices are recommended:

#### **Invasive Species**

This stand has pockets of golden bamboo, English ivy, wisteria, multiflora rose and other

miscellaneous vines scattered throughout the stand, mostly along forest edges, roadsides, right-of-ways and other areas of disturbance. Some of these species are considered non-native and invasive, imported from outside of the U.S.

Golden bamboo is an invasive reed grass from China and can grow to a height of 25 feet. It reproduces through rhizomes and can create dense thickets that are difficult to eradicate. Control options include hand-pulling, mechanical mowers, herbicides or a combination of all three. The most important aspect of the eradication process is the removal or death of the root system. Any remaining roots that are left alive in the soil can resprout. See the enclosed Forest Pest fact sheet for more detailed information on controlling & eradicating golden bamboo.

English ivy is an invasive, evergreen climbing vine native to Europe, western Asia and northern Africa. The vine climbs trees and other vegetation, killing competing vegetation by either girdling the tree or shading out the foliage. As with bamboo, eradication can be accomplished through hand pulling, mechanical mowing, herbicides, or a combination of all three. Again, removing or killing the root system is the most important aspect of the control process. Any living root can resprout and grow again. See the enclosed Forest Pest fact sheet for more detailed information on controlling and eradicating English ivy.

Wisteria is 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, similar to English Ivy. Control options are the same as English ivy.

Multiflora rose is an invasive, thorny shrub native to eastern Asia. It produces dense thickets which are impossible to penetrate. It spreads through both seed and stem sprouts. Stem sprouting occurs when the branches of the shrubs bend over from their weight and contact the ground. The branch sprouts roots into the soil and continues to grow, creating a longer, denser thicket. These dense thickets, while a habitat for some small birds and mammals, replace native vegetation. Control methods include mechanical and chemical means. See the enclosed Forest Pest fact sheet for more information on control options for this species.

The landowner has had considerable success in eradicating some of these invasive plants throughout the stand and should focus their efforts on eradicating the remaining populations. This process will take several years and should be an ongoing process. Once a patch of invasives has been removed from an area, it should be monitored for three years for any re-sprouting or new infestations. If herbicides are used, they should be applied according to the specifications on their label and always by a qualified and licensed applicator, if required.

### **Trail System**

Recreational opportunities can be enhanced by creating a trail system throughout the stand. Not only will the trails allow the landowners 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.

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 slope of the trail - the greater the 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. 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.

### **Riparian Forest Buffer**

Portions of 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.

### **Summary**

The invasive species control should be continuous. The trail system should be constructed within ten years (one tract per year). The stand should be re-examined in fifteen years (2028) to update the management recommendations.

## STAND DESCRIPTION AND RECOMMENDED PRACTICES

**STAND NUMBER:** 2B, 2C, 2E, 2F & 2M

**AREA ACRES:** 17.95

**DOMINANT OVERSTORY SPECIES:** tulip poplar, red maple, sweetgum

**DOMINANT UNDERSTORY SPECIES:** sweetgum, American holly, greenbriar

**TIMBER SIZE:** sawtimber (68%), poletimber (25%), small tree (7%)

**AGE:** even (40-60 years)

**STOCKING:** overstocked (127%)

**GROWTH POTENTIAL:** excellent

**SOIL:** Beltsville-Urban Land Complex (BuB, BuD), Christiana-Downer Complex (CcC, CcD), Russett-Christiana Urban Land Complex (RuB), Zekiah & Issue Soils (ZS)

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### **RECOMMENDATIONS/PRACTICES:**

This 17.95 acre stand is comprised mainly of tulip poplar (50%), red maple (22%) and sweetgum (19%). White oak, red oak, sycamore and black cherry are scattered throughout. The stand has an excellent growth potential with an average site index of 100 feet for tulip poplar and 90 feet for sweetgum. The tree density (or stocking) in this stand is high in relation to maintaining the optimum growing space per tree. As trees in the stand continue to grow larger, growing space per tree will continue to decrease. This creates an "overstocked" condition where the stand will not grow as vigorously as it has in the past due to competition for limited resources such as soil nutrients, water, and sunlight. Over time, the stand will naturally thin itself through sporadic tree mortality.

This stand is located in the southwestern, northeastern and southeastern portions of the property and is located on five of the twenty-seven tracts. The terrain ranges from flat to moderate slopes and the understory is moderately thick with sweetgum, American holly, greenbriar, American beech, English ivy, golden bamboo, Japanese honeysuckle, multiflora rose and mile-a-minute. The stand is overstocked, yet current growth rates are good (an average of 7.7 years to grow 2.0 inches in diameter). One non-blue line stream is located in the northeastern portion of the stand. In an effort to meet the landowner's goals (invasive species control, recreation, wildlife habitat, etc.) the following management practices are recommended:

#### **Invasive Species**

This stand has pockets of golden bamboo, English ivy, mile-a-minute, multiflora rose and other miscellaneous vines scattered throughout the stand, mostly along forest edges, roadsides, right-of-ways and other areas of disturbance. Some of these species are considered non-native

and invasive, imported from outside of the U.S.

Golden bamboo is an invasive reed grass from China and can grow to a height of 25 feet. It reproduces through rhizomes and can create dense thickets that are difficult to eradicate. Control options include hand-pulling, mechanical mowers, herbicides or a combination of all three. The most important aspect of the eradication process is the removal or death of the root system. Any remaining roots that are left alive in the soil can resprout. See the enclosed Forest Pest fact sheet for more detailed information on controlling & eradicating golden bamboo.

English ivy is an invasive, evergreen climbing vine native to Europe, western Asia and northern Africa. The vine climbs trees and other vegetation, killing competing vegetation by either girdling the tree or shading out the foliage. As with bamboo, eradication can be accomplished through hand pulling, mechanical mowing, herbicides, or a combination of all three. Again, removing or killing the root system is the most important aspect of the control process. Any living root can resprout and grow again. See the enclosed Forest Pest fact sheet for more detailed information on controlling and eradicating English ivy.

Mile-a-minute is an annual trailing vine native to eastern Asia. Also called Devil's tearthumb, because of its barbs, it can colonize almost any disturbed area including right-of-ways, powerlines, open fields and even areas cleared from other invasives. It reproduces primarily through seed and resprouting roots. It can be controlled either through hand pulling, mowing or herbicides. See the enclosed Forest Pest fact sheet for more detailed information on controlling mile-a-minute.

Multiflora rose is an invasive, thorny shrub native to eastern Asia. It produces dense thickets which are impossible to penetrate. It spreads through both seed and stem sprouts. Stem sprouting occurs when the branches of the shrubs bend over from their weight and contact the ground. The branch sprouts roots into the soil and continues to grow, creating a longer, denser thicket. These dense thickets, while a habitat for some small birds and mammals, replace native vegetation. Control methods include mechanical and chemical means. See the enclosed Forest Pest fact sheet for more information on control options for this species.

The landowner has had considerable success in eradicating some of these invasive plants throughout the stand and should focus their efforts on eradicating the remaining populations. This process will take several years and should be an ongoing process. Once a patch of invasives has been removed from an area, it should be monitored for three years for any re-sprouting or new infestations. If herbicides are used, they should be applied according to the specifications on their label and always by a qualified and licensed applicator, if required.

### **Trail System**

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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.

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### **Riparian Forest Buffer**

Portions of 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.

### **Summary**

The invasive species control should be continuous. The trail system should be constructed within five years (one tract per year). The stand should be re-examined in fifteen years (2028) to update the management recommendations.

## 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 State Department of Assessments in Prince George's County 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 worrying about 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 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. The University of Maryland Cooperative Extension Service maintains a website with information for forest landowners. The address is [www.naturalresources.umd.edu](http://www.naturalresources.umd.edu).

### MANAGEMENT PRACTICE SCHEDULE

Completion Date	Practice	Stand	Acres
May 2018	Trail Construction	2B, 2C, 2E, 2F, 2M	17.95
May 2023	Trail Construction	1A, 1B, 1C, 1D, 1F, 1H, 1L, 1V, 1W & 1X	69.7
Continuous	Invasive Species Control	All	87.65
Continuous	Riparian Forest Buffer	5	87.65
Continuous	Maintain Property Boundaries	All	87.65
Continuous	Monitor for Insect & Disease	All	87.65
Continuous	Maintain Roads and Trails	All	87.65
May 2028	Re-examine to Update Management Recommendations	All	87.65

To provide you with further assistance in carrying out the recommended practices please contact Brian Stupak, Project Manager, Maryland DNR-Forest Service, 6904 Hallowing Lane, Prince Frederick, Maryland 20678. Phone: (410) 535-1303. E-mail: [bstupak@dnr.state.md.us](mailto:bstupak@dnr.state.md.us)