POTOMAC / GARRETT STATE FOREST

ANNUAL WORK PLAN

FISCAL YEAR 2016

Prepared:	(Forest Manager)	7/30/2015 Date
Reviewed:	(Regional Forester)	8/3/15 Date
Reviewed:	(Land Acquisition and Planning)	8/10/15 Date
Approved:	(Environmental Specialist)	8.17.15 Date

Potomac-Garrett State Forest
FY-16
Annual Work Plan

Potomac- Garrett State Forest
FY-16 Annual Work Plan

I. State Forest Overview

The Potomac-Garrett State Forests situated in southwestern Garrett County in Western Maryland have the distinction of being the birthplace of forestry conservation in Maryland. The generous donation of 1,917 acres by the Garrett Brothers in 1906 not only serves as the foundation of the Garrett State Forest, but is the root of both Maryland's present Public Lands system and Forest Service. Mountain forests, streams and valleys make up the nearly 19,000 acres of this State Forest. The forest cover is predominantly a second growth mixed hardwood forest dominated by mixed oaks, sugar and red maples, black cherry, basswood, ash and birch. The geography of this area provides for a wide range of growing conditions from the harsh, wind and ice swept ridge tops of Backbone Mountain to the deep rich slopes above the North Branch of the Potomac River. Much of the State Forestlands contain excellent quality hardwoods.

II. Annual Work Plan Summary

In addition to the routine operations and management of the State Forest, the FY-16 Annual Work Plan for Potomac-Garrett State Forest details six "special management" projects and fifteen land management projects that will be the focus of the State Forest management staff for FY-16. All projects and proposals within this Plan have been developed to meet one or more of the Land Management Guidelines and Objectives as seen in the Potomac-Garrett State Forest Sustainable Forest Management Plan including:

***Forest Economy**: management activities with a purpose to maintain an economically sustainable forest and contribute to the local economy through providing forest-related employment and products*

***Forest Conservation**: management activities with a purpose to protect significant or unique natural communities and elements of biological diversity, including Ecologically Significant Areas, High Conservation Value Forests and old growth Forests. Old growth forest management serves to restore and/or enhance old growth forest structure and function.*

***Water Quality** : management activities designed to protect or improve ecological functions in protecting or enhancing water quality.*

***Wildlife Habitat**: management activities with a purpose to maintain and enhance the ecological needs of the diversity of wildlife species and habitat types.*

***Recreation and Cultural Heritage**: management activities with a purpose to maintain and enhance areas that serve as visual, public camping, designated trails, and other high public use areas.*

A. Special Management Projects Include:

1. **Storm Damage Recovery** - October 2012's 'Super Storm Sandy' very effectively shut down all public access throughout the Potomac Garrett State Forests 59 miles of roads and trails that make up the State Forests transportation system. While the State Forest staff continued to work toward restoring access and function of the road and trail network, a severe summer thunder storm hit much of the State Forest over the July 4th weekend, 2014. This storm left residents in the Oakland Area without power for 3-5 days, having caused widespread damage to trees throughout the area. The Garrett State Forest suffered considerable damage to road and trail side trees, setting back trail and road reclamation efforts nearly completed from the 2012 storm.

2. **Continued Development of the Certified, Potomac-Garrett State Forest Sustainable Forest Management Plan -** with special focus on addressing items identified as in need of improvement as a result of the 2014 FSC/SFI Certification Audits.

3. ESA Management Plan Development – Forest management staff will begin to work with Natural Heritage staff to develop management plans for the 34 + ESA areas identified on the forest.

4. Forest Stand Delineation, Inventory and Monitoring – Completion of the 5-year project to re-inventory and redefine stands on the entire forest. With the initial effort to collect forest wide data completed, FY-16 will allow a thorough analysis of this complete data set from which further management plans will be derived. Inventory work will continue in the form of follow-up monitoring protocols associated with the initial inventory and certification requirements.

5. Non-Native Invasive Species (NNIS) Inventory and Control Work - The Sustainable Forest Management Plan calls for various responses to NNIS and the Forest Inventory Project has allowed for a broad view of the problem forest wide.

6. Wallman Recreational Access Restoration Project - In January of 2012, the Governor announced approximately $23 million in the proposed capital budget for public land projects that will support nearly 300 jobs, help restore the environment, reduce energy usage, and improve services to visitors and citizens. Approximately $300,000 of this will be directed to improving the public access and trail network on the Potomac - Garrett State Forests in 2014-2015. Improvements are planned for the *Wallman Recreational Access Area.*

7. Garrett County Forests & Parks Natural Surface Trail Project- Additional capital funds (approximately $650,000) have been directed toward the development of a new nested loop bicycle trail network involving the Garrett State Forest, Herrington Manor and Swallow Falls State Parks. IMBA (International Mountain Biking Association) had been contracted to develop a plan and design this multi-phased trail

development. Concept plans have been developed. Planning and design work will begin in FY-16 for four phased projects to take place on the Garrett State Forest as part of the *Garrett County Forests & Parks Natural Surface Trail Project.*

B. Land Management Projects Include:

-Continuation of the watershed protection project mitigating impacts of the harmful forest pest carried out as: Hemlock Wooly Adelgid Mitigation / Red Spruce Restoration.

- Continuation of the ecosystem restoration project involving control of invasive, exotic plants in Backbone Mtn. and more broadly, forest wide.

- 13 silvicultural projects

5 Commercial Thinning Harvests on 270 acres including:

1 Immature hardwood stand of 62 acres.
1 Conifer plantation of 15 acres.
3 Mature hardwood stands, receiving shelterwood treatments. The first stage of these "2-Stage Shelterwood Systems" involves 'establishment /seed cuts' prescribed to create conditions suitable for seedling establishment. These proposals include light commercial harvests, as well as non-commercial work using low volume applications of herbicides to control interfering, undesirable vegetation. These projects require an investment up front to assure sustainable and diverse forest ecosystems for the future.

8 Noncommercial silvicultural practices to promote regeneration associated with the above noted commercial shelterwood thinnings including:

3 Projects to control interfering and undesirable woody vegetation to promote seedling establishment over 150 acres.
5 Projects to control interfering and undesirable fern, grass and non-native vegetation to promote seedling establishment over 265 acres.

Forest harvest operations are undertaken to utilize mature and dead/dying/diseased trees; to thin overstocked stands; to improve and diversify wildlife habitat; to effectively correct public safety concerns and issues; to reduce the forests vulnerability to insect attack, disease or wildfire hazard; to facilitate certain approved research needs; to improve certain aesthetic aspects of an area; and to improve the proportions of age class and species diversity within stands and management blocks. This forest has been intensively managed for over 100 years, utilizing both even and uneven-aged techniques via selective removals and regeneration harvests. Early records indicate that as cut over land was acquired, foresters 'culled' the forest, removing the poorly formed and damaged timber left behind in the wake of the cut and run practices employed by early timber speculators. By removing these undesirable trees, newly

forming seedlings were released from competition and were thus cultured into the future growing stock of trees that we enjoy today. The benefits of this work have been significant including: improved wildlife habitat diversity, improved forest health and more abundant mast production, improved utilization of gypsy moth damaged trees, reduced forest fire hazard, and the considerable financial contribution of management to the state and local economies as well as to those employed in the forest products industry.

The FY-16 Annual Work Plan calls for 5 harvests on 270 acres accounting for the harvest of approximately 634,000 Bd.ft. of hardwood saw timber, putting an estimated $126,800 worth of raw wood products out into the local markets. Much of the silvicultural work laid out in this work plan is focused on initiating seedling development to better insure regeneration successes in future harvests. Much of the value of the harvests in the work plan will be directed back into the forest providing the essential investment in pre-harvest cultural work that will assure the long term sustainable management of these important forest resources.

The cultural operations and management projects outlined within the FY-16 Annual Work Plan are selected to provide significant contributions to sustainability of the forest resources found within the Potomac-Garrett State Forest and the ecosystems associated with it.

III. General Location Maps for FY-16 Land Management Proposals

Map Key

Potomac State Forest

1) Comps. 5 & 7 Ecosystem Restoration - Japanese Knotweed Control

2) Comp. 14-12 Silviculture - Hardwood Thinning

3) Comp. 19-3a Silviculture - Conifer Thinning

4) Comp. 19 Watershed Protection - Lostland Run HWA Mitigation / Red Spruce Planting

5) Comp. 23-1 Silviculture - Hardwood Shelterwood / Thinning

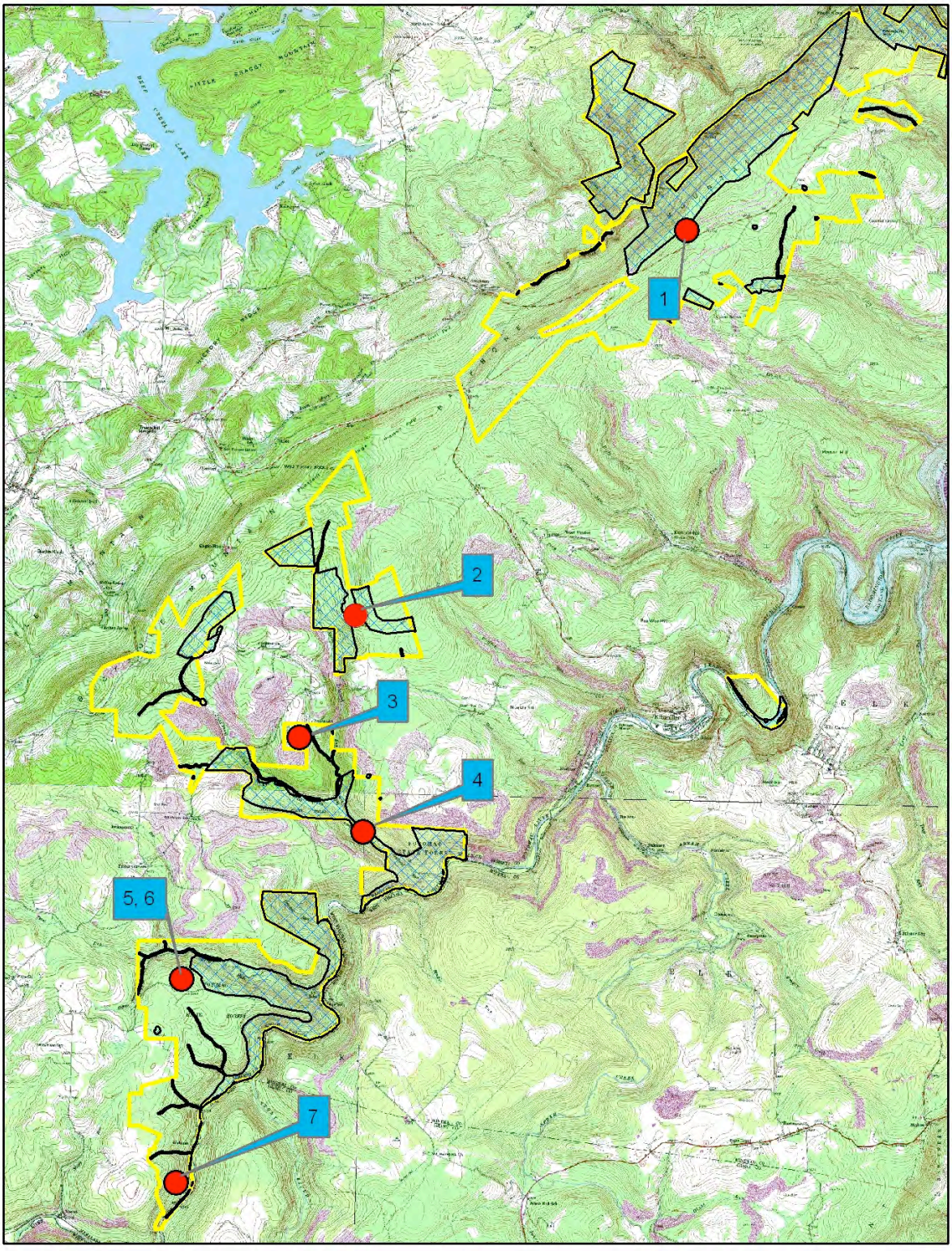
6) Comp. 25-30 Silviculture - Hardwood Shelterwood / Thinning

7) Comp. 26-5 Silviculture - Hardwood Shelterwood / Thinning

Garrett State Forest

1) Comp. 37-1 & 37-2 Silviculture - Hardwood Shelterwood / Thinning

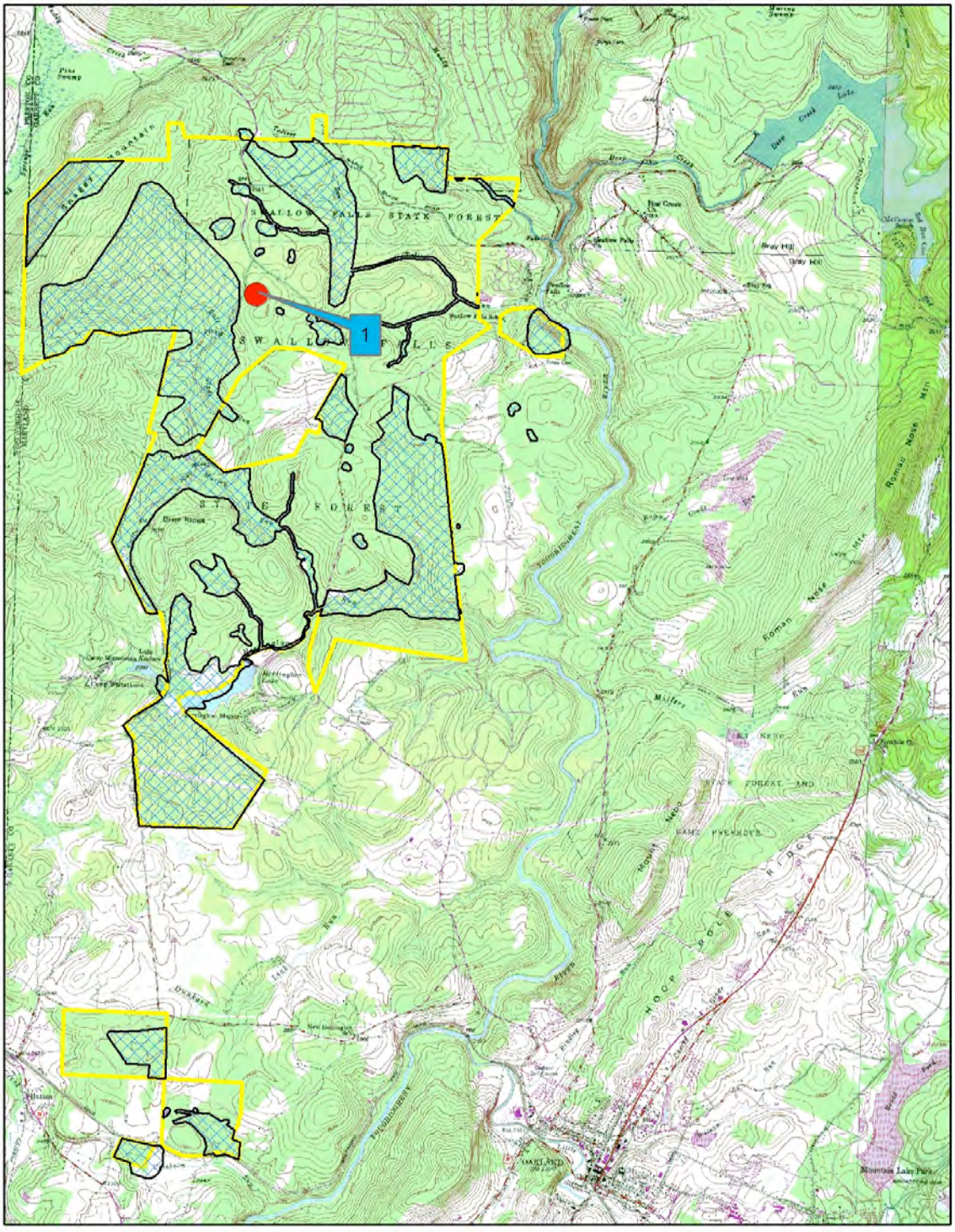
Potomac State Forest
FY-16 General Location Map



1:100,000

High Conservation Value Forest (Total)

Garrett State Forest
FY-15 General Location Map



1:60,000

High Conservation Value Forest (Total)

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W
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S

IV. Special Projects - Forest Resource Management and Planning

A. Storm Damage Recovery

October 2012's 'Super Storm Sandy' very effectively shut down all public access throughout the Potomac-Garrett State Forests 59 miles of roads and trails that make up the State Forest's transportation system. This transportation system is divided among the following general classifications:

Trails – Year round, natural surface trails open to non-motorized use only.
Class 1 – Year round, permanent, public vehicle access, high traffic areas(non primitive).
Class 2 – Year round, permanent, public vehicle access, low traffic areas (primitive).
Class 3 – Seasonal, gated, public vehicle access, low traffic areas (primitive).
Class 4 – Gated, service vehicle road (primitive).

When the snow melted and the FEMA Crews went home, State Forest staff continued to work toward restoring access and function of the road and trail network. With limited resources, the staff employed a 3-stage clearing approach: Stage 1 = single lane open / passable to facilitate emergency access and limited use; Stage 2 = full traveled surface cleared of debris and obstructions; Stage 3 = travel corridor cleared of all obvious and immediate hazards and trees expected to obstruct travel with any snow load; ditches and road shoulders cleared of debris to restore drainage and function of the road / trail bed. This work was set back with the July 2014 summer storm that hit the Oakland area leaving residents without power for 3-5 days. At the close of the 2014 summer season (layoff of seasonal labor), road and trail clearing plans include:

Hiking Trails: All cleared to Stage 2

Roads: Class 1 - All cleared to Stage 3
Class 2 -All cleared to Stage 3
Class 3 - 4.5 mile of 7.25 miles completed through Stage 2
Class 4 - 26 miles of 38.2 miles completed through Stage 2

FY-16 brush clearing efforts will include:

Hiking Trails: 9.5 miles of Stage 3 clearing to be completed

Roads: Class 3 - 2.75 miles of Stage 2 and 3 to be completed
Class 4 - 12.2 miles Stage 2 and all 38.2 miles of Stage 3 to be completed

B. Continued Development of the Certified Potomac-Garrett State Forest Sustainable Forest Management Plan.

(This work done with special focus on addressing items identified as in need of improvement as a result of 2014 FSC/SFI Certification Audits.)

Beginning in 2011, the Forest Service began revising the long term sustainable management plans for all three of the State Forests in the Western Region. The initial framework follows the sustainable management plan format established for the State of Maryland's Chesapeake Forest on the Eastern shore. The Department's goal is to have the updated sustainable forest management plans receive dual third party certification under both the Forest Stewardship Councils (FSC) and Sustainable Forestry Initiatives (SFI) standards and guidelines.

Throughout the course of the last two years, broad resource assessments were carried out identifying the various management units and features located on the forests including identification and mapping of High Conservation Value Forest Areas (HCVF), much of which was formerly identified as the State Forests "Special Management Zone". Within the HCVF are located a broad range of Ecologically Significant Areas (ESA). These areas typically contain rare, threatened or endangered species and their critical habitats. Management schemes for the ESAs on Potomac–Garrett State Forest will be developed in the winter of 2011. By spring of 2011 initial drafts of the Forest's Sustainable Management Plan were developed and shared with stakeholders for initial comment and review. The plans were submitted to both the FSC and SFI organizations in the spring of 2011, at which point audits have been completed on all three of the western state forests. Following the audits, draft plans and audit findings were presented to the State Forests Citizen Advisory Committees for review and comments. The Draft Sustainable Management Plans were made available for public comment fall of 2011.

Each year the State Forests Management Program is audited for compliance to the standards set forth by the Certifying Organizations. Any shortcomings in the programs identified during the audits are identified in a Corrective Action Reports (CARs) and/or observations identified as being in need of improvement in order to be "certified" as sustainably managed forest lands under the internationally recognized FSC and SFI standards. These corrective actions vary from simple formal documentation of routine practices, to more complex policy and procedure development involving various stakeholders and partners. The program requires that all of these items be addressed before the next annual audit, with some needing more immediate attention. The 2014 audit turned up 13 minor CARs or observations that are to be addressed by the next audit. (See Appendix 1 for brief summary of audit findings.) State Forest staff time and field operations are adjusted and redirected to assist in addressing these Corrective Action items in the course of the next year.

C. ESA Management Plan Development

Thirty-four Ecologically Significant Areas have been initially identified on PGSF. Each area harbors unique habitats and sensitive communities that generally contain RT&E species. These communities are in need of special conservation measures. In the winter of 2014, these areas will be reviewed with the region's Natural Heritage Biologist to develop site specific management plans to identify conservation measures appropriate for each ESA. This will be done in order that these significant features are not just assumed protected by steering direct management activity away from them, but rather actively identifying appropriate management practices that may increase the stability and long term existence of the communities and habitats that make up these ESAs. These ESA plans will be incorporated into the Potomac-Garrett State Forest Sustainable Forest Management Plan before the next audit cycle.

D. Forest Stand Delineation, Inventory and Monitoring

A critical part of developing long term sustainable management plans is the availability of up-to-date forest inventory data. To this end, the State Forests' staff has been fully engaged in revising the forest stand delineation on the forests. The process continues to consume considerable staff resources as this project is taking shape. This ambitious undertaking has involved collecting detailed inventory data on both overstory and understory conditions over the entire State Forest. The data has been collected and analyzed using the SILVA Inventory System developed by the USFS.

The project involves collecting information on some 22,200 sample points. As the data must be collected during full leaf out seasons between hard frost dates, the working window is five months. The work force of skilled technicians available to us are generally college students that can only offer us three months work before returning to school. To this end, the project is expected to take 4-5 years to complete and will cost approx. $20,000/yr. Our two full time technicians lead and manage this special project on top of their full work load implementing the Annual Work Plan on the forest. The stand delineation and inventory project has resulted in the pulling of one man from his normal duties for the equivalent of approximately six months time each year of the project to serve as crew leader, provide project planning, and processing data. Staff assignments and field operations have been adjusted to assure the timely and accurate completion of this important field level assessment that will serve as the basis which we will draw management decisions from for the next 10-15 years.

With the close of the 5th inventory season, data collection is on track for completion of this stage of the forest monitoring program. The demand for this important data set is increasingly evident as special projects evolving out of demands placed by Forest Certification Standards, are utilizing portions of this work in progress / partial data set for project planning. Examples include the

NNIS Inventory and Control Project in the ESAs on Potomac SF, as well as each years FY-Annual Work Plan.

What had historically been carried out on a 10 year interval offering a 'snap shot' in time view of the forest, has evolved into a regular (annual) sampling approach that gives a more frequent look at overall forest condition throughout the years. This approach will allow a much closer watch on developing forest conditions and allows for a more rapid and timely response. This approach is especially valuable in light of the numerous and frequent introductions of foreign insects, diseases, and invasive plants that can rapidly disrupt forest systems. The initial 'Stand Delineation and Inventory Project' will be continued as a Forest Monitoring program as required under certification in order to allow for documented observations of changing conditions throughout the forest. Program focus will include: monitoring of developing regeneration sites allowing for the timely response to the investment in intensive silvicultural work such as herbicide control of invasive and interfering plants, fencing, and prescribed fire; NNIS monitoring and control work (beyond the special project area identified in this AWP below); silvicultural results with respect to management objectives and outcomes and recreation / visitor impacts, etc.

E. Capital Improvement Fund Projects – To Enhance Recreation and Trails

In January of 2012, the Governor announced approximately $23 million in the proposed capital budget for public land projects that will support nearly 300 jobs, help restore the environment, reduce energy usage, and improve services to visitors and citizens. Approximately $950,000 of this will be directed to improving the public access and trail network on the Potomac-Garrett State Forests in 2014-2015.

1. Wallman Recreational Access Restoration Project

Improvements are planned for the *Wallman Recreational Access Area.* This project will dedicate $300,000 to restore 3.9 miles of multi-use trail and access road. Improving public access to 2,419 acres of State Forest lands and Potomac River access to increase recreational opportunities for: fishermen, hiking, biking, hunting, campsite access, horseback riding, and other nature based recreation. Work will include grading and reshaping road and trail beds, correcting/restoring drainage, replacement of failing water control devices (culverts, ditches, swales etc.) and stone resurfacing and parking lot improvements. Trails to be addressed include the **Wallman Road / ORV Trail (3.9 miles**) an improved gravel road which provides motor vehicle access (including ORVs) to campsites, day use, and fishing areas, as well as trail heads for the 2.6 mile long Loop Road ORV/Snowmobile Trail. The State Forest management staff has developed initial 'scope of work' proposals. The project is expected to be put out for bids in spring of 2015 with work to be completed in 2015.

2. Garrett County Forests & Parks Natural Surface Trail Project

Additional $650,000 in Capital funds have been directed toward the development of a new nested loop bicycle trail network involving the Garrett State Forest, Deep Creek Lake State Park, Herrington Manor and Swallow Falls State Parks. IMBA (International Mountain Biking Association) had been contracted to develop a plan and design this multi-phased trail development. Concept plans have been developed; initial work to begin with trail segments at Deep Creek Lake State Park. Funding is expected to be available in FY-16 to begin planning and design work for Projects on the Garrett State Forest. As trail developments move forward, detailed plans will be included in the State Forests AWP for public review.

Conceptual plans include a 4-phase approach with individual projects to include:

Project G-1. Garrett State Forest and Swallow Falls Stacked Loop Trails (Budget: $270,000)
Develop a stacked loop trail system west of the main body of Swallow Falls State Park hosting approximately 12 miles of trail. System is assembled from a combination of rehabilitated existing trails and 8-9 miles of new singletrack.
Due to the gentle slopes and terrain prevalent in the area, the bulk of the proposed system is easier "green" and intermediate "blue" loops. It is possible that most challenging loops will not be included in this project. Design criteria are to optimize each loop for the longest possible length while preserving a backcountry feel. Project footprint is east of Cranesville and Snaggy Mountain Roads, comprising approximately 900 acres.

Project G-2. Garrett State Forest and Herrington Manor Ski System Singletrack (Budget: $145,000)
Develop singletrack trail opportunities within the existing winter sports trail loops south of Herrington Manor. Project will result in approximately 4 miles of new singletrack. While attempts will be made to provide a full range of trail experiences, steep slopes and significant elevation gains combined with constraints from existing uses may limit opportunities to create significant easier family-friendly opportunities within the project footprint.
As part of new development, include a connection from the area of the winter sports trails around its south shore and headwaters to facilitate opportunities for trail circumnavigation of Herrington Lake via Snaggy Mountain Road/Trail.

Project G-3. Snaggy Mountain Trail; Rehabilitation and Additions (Budget: $195,000)
Improve and enhance the existing trail opportunities north of Herrington Lake. Improved and new singletrack would total up to 7 miles.
Along the existing Snaggy Mountain Trail corridors, explore opportunities to improve diversity and sustainability and to increase depth of experience for warm season activities while preserving critical winter sport utility. Parallel and north of the corridor create longer looping opportunities via new singletrack that takes advantage of available terrain and topography overlooking Murley Run.

A potential new loop and singletrack opportunity leverages the existing trailhead where the "5 ½ Mile Trail" crosses Herrington Manor Road. On its south bank, a new trail would further explore Herrington Run valley as it drops toward the Youghiogheny before looping back toward the Herrington Manor entrance to a link with the park's Yellow or Green Trail corridors.

Project G-4. Wayfinding and Trailhead Improvements (Budget: $40,000)
Throughout the existing system, review and revise wayfind scheme to enhance usability. As part of any trail modifications, reconfigure intersections to improve intuitive flow of the system. At primary and secondary internal trailheads add kiosks to clearly present forest and park and wayfinding information to trail users.

V. Maintenance and Operations

Aside from the detailed cultural work planned for the State Forests, the following is a partial list of projects that are often on-going from year to year and are an integral part of State Forest operations.

A. Maintenance and Management of Roads and Trails

PGSF staff maintains 59 mi. of roads and trails including 37 miles of improved road and 22 mi. of multi-use trails. This work is ever on-going. A lack of sufficient road maintenance budget makes the upkeep of this road and trail system a considerable challenge. A reduction in ORV Permit revenue has left a considerable void in the routine maintenance budget of the State Forest. In FY-13 $12,000 from 'ORV Permit Funds' was budgeted for maintenance to ORV trails and primitive roads on PGSF. In subsequent years, the limited ORV Permit Funds available were redirected toward new trail construction on Savage River and Green Ridge State Forests. Preliminary projections for FY-16 ORV Funds for PGSF are also zero. In order to attempt to meet this challenge, alternative sources are continuously sought to provide the necessary equipment, labor and materials required for the routine maintenance and improvements needed to sustain this aging and primitive transportation system.

In FY-15/16 maintenance staff will be involved in the coordination of private contractors carrying out over **$300,000** worth of planned capital improvements and critical maintenance associated with the *Wallman Recreational Access Restoration Project* (improvements to this motorized-use trail.) As this will require considerable attention, maintenance staff will concentrate remaining time on storm damage clean-up and basic maintenance on the segments of multiple-use and motorized-use trails that have been rehabilitated using National Recreation Trail Grants over the past 5 years.

In addition to the regular and routine business of road and trail maintenance, as a result of the State Forests Certification Audit, State Forest staff has developed a formalized transportation plan in which the entire transportation (road and trail) network has been inventoried and assessed for management, use, and maintenance needs. From this assessment, the State Forest Manager will develop a maintenance plan geared toward

making the road and trail system sustainable. Information gathered for this plan is presently being used to prioritize improvements to be made with the access trails grant referenced above, NRT Grant funds, Critical Maintenance Projects, etc. As work is contracted out, plans will be updated with regard to needs.

As noted in section II.A.1 - Special Management Projects, Storm damage recovery has been the focus of the maintenance staff for the past 3 years, has consumed the lions share of available road and trail maintenance resources and will be a major focus of resources in FY-16.

B. Boundary Line Maintenance

PGSF has 130 miles of boundary line, including interior lines, exterior lines, and road frontage. Boundary maintenance is critical to the management of all public lands. In order to keep up with this effort, PGSF maintains approximately 30 miles of line each year. In addition to routine marking/painting, considerable effort is spent on researching relocating or establishing missing and/or new line, as well as addressing boundary conflicts. As conflicts arise, every effort is made to resolve the issue in a timely and professional manner. Often, this work leads to the need for a licensed surveyor and legal recourse in order to resolve the issue. Boundary work in FY-16 will focus on resolving known boundary conflicts, and routine maintenance of located boundary lines.

C. Campground Operation and Maintenance

PGSF offers year round, primitive camping in five separate areas of the State Forest; Lostland Run Area, Laurel Run / Wallman Areas, Snaggy Mt. Area and Piney Mt. Area. Within each area is a 'group site', a rustic trail shelter and several primitive campsites offering a picnic table, lantern post/table and fire ring. From 2003-2009, vault toilets were installed in each of the five areas to improve sanitary conditions for campers and forest visitors. Campsites and trail shelters are available on a first-come, first-served basis. A self-registration kiosk is available at the entrance to each area. Additional seasonal staff is hired to operate and maintain the campgrounds during peak summer use to provide a quality camping experience.

Maintenance and operation of these primitive campsites includes: managing group site reservations; maintenance of information / bulletin boards; camper contacts to insure policies are understood; self registration fee collections and deposits; weekly site inspection and cleaning; hazardous tree evaluation and removals; grass mowing (typically the week before the summer holidays and otherwise as needed); maintenance and replacement of picnic tables, lantern posts, and fire rings; site impact monitoring.

D. 3-D Archery Range Maintenance and Management

PGSF offers the only 3-D Archery Range in the State's Public Lands System. The facility is located behind the State Forest Headquarters. The range offers a 30-target course, with four separate skill levels at each target. The facility is open April 1st - Oct. 1st, dawn to dusk.

Maintenance and operation of this facility includes: promotion of the facility; maintenance of information / bulletin boards; weekly inspection and cleaning; periodic maintenance and replacement of targets; hazardous tree evaluation and removals; brush removal as needed; site impact monitoring, annual overhaul and patching of targets; seasonal set up and take down for the off season.

E. Interpretation and Education

With limited staffing resources, interpretive efforts have been focused on Sustainable Forest Management Programs for targeted audiences using the interpretive features at the "Kindness Demonstration Area". Targeted audiences have been Agricultural and Natural Resource Leaders, Extension Service, Forestry Boards, forest land owners, and forest land managers. The facility is set up as a self-guided lesson in forestry and wildlife management practices, and is available to groups and individuals wishing to learn more about managing forests.

VI. Recreation Proposals

A. Capital Improvement Fund Projects – To Enhance Recreation and Trails

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Road ORV/Snowmobile Trail. The State Forest management staff has developed initial 'scope of work' proposals. The project is expected to be put out for bids in fall of 2014, with work to be completed in 2015.

2. <u>Garrett County Forests & Parks Natural Surface Trail Project</u>

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Conceptual plans include a 4-phase approach with individual projects to include:

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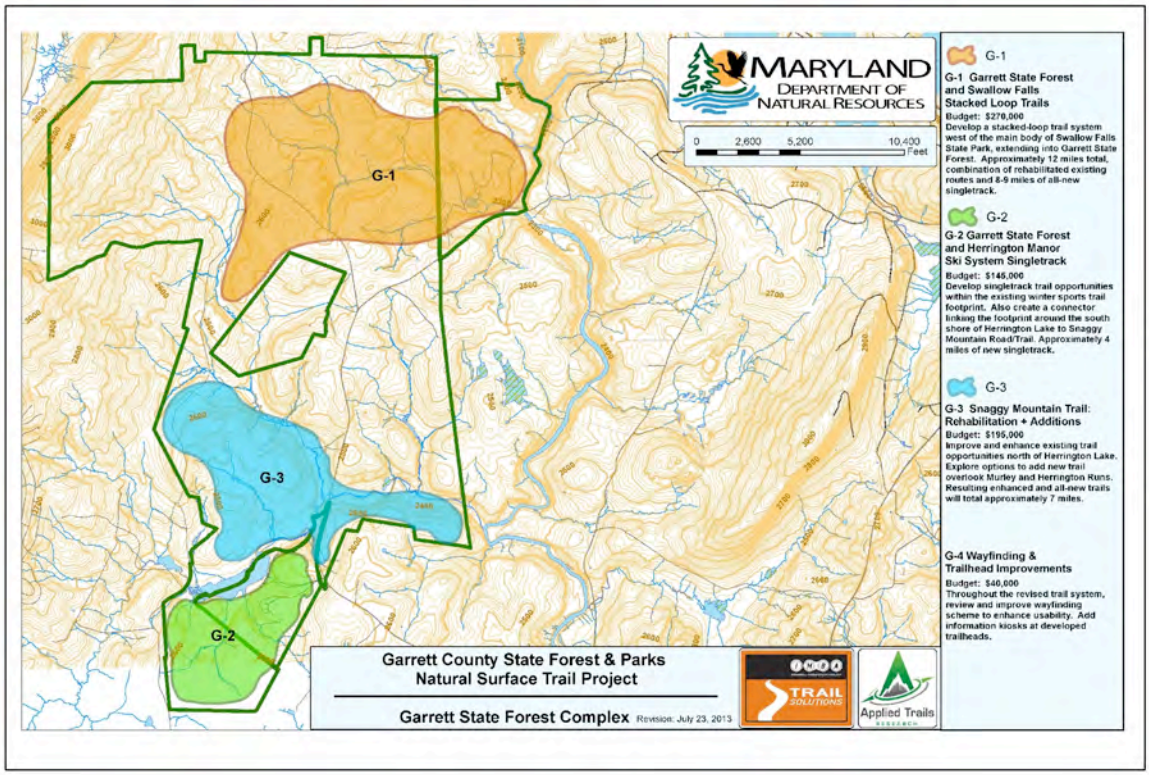
Project G-2. Garrett State Forest and Herrington Manor Ski System Singletrack (Budget: $145,000)
Develop singletrack trail opportunities within the existing winter sports trail loops south of Herrington Manor. Project will result in approximately 4 miles of new singletrack. While attempts will be made to provide a full range of trail experiences, steep slopes and significant elevation gains combined with constraints from existing uses may limit opportunities to create significant easier family-friendly opportunities within the project footprint.
As part of new development, include a connection from the area of the winter sports trails around its south shore and headwaters to facilitate opportunities for trail circumnavigation of Herrington Lake via Snaggy Mountain Road/Trail.

Project G-3. Snaggy Mountain Trail; Rehabilitation and Additions (Budget: $195,000)

Improve and enhance the existing trail opportunities north of Herrington Lake. Improved and new singletrack would total up to 7 miles.
Along the existing Snaggy Mountain Trail corridors, explore opportunities to improve diversity and sustainability and to increase depth of experience for warm season activities while preserving critical winter sport utility. Parallel and north of the corridor, create longer looping opportunities via new singletrack that takes advantage of available terrain and topography overlooking Murley Run.
A potential new loop and singletrack opportunity leverages the existing trailhead where the "5 ½ Mile Trail" crosses Herrington Manor Road. On its south bank, a new trail would further explore Herrington Run valley as it drops toward the Youghiogheny before looping back toward the Herrington Manor entrance to a link with the park's Yellow or Green Trail corridors.

Project G-4. Wayfinding and Trailhead Improvements (Budget: $40,000)
Throughout the existing system, review and revise wayfind scheme to enhance usability. As part of any trail modifications, reconfigure intersections to improve intuitive flow of the system. At primary and secondary internal trailheads add kiosks to clearly present forest and park and wayfinding information to trail users.



B. National Recreation Trails Grant Requests – To Enhance Recreation and Trails

1. **Snaggy Mtn. ORV Trail Improvements**

(Budget: $42,670--$30,000 requested grant funds and $12,670 'in kind' match.)

This project will involve resurfacing 1.6 miles of Snaggy Mtn. ORV trail; to include 'top dress' the gravel surface with compacted crushed stone, and repairing approx. 500 feet of eroded road base (problem /pothole areas) to restore proper drainage and sufficiently harden the traveled ORV trail surface on the Snaggy Mtn. ORV trail. Work planning is completed for part of the motorized trail maintenance plan for the State Forest. As this project does not involve disturbing any earth and will be all done within existing trail bed (resurfacing), no permits are required.

Considerable trail damage was incurred during storm clean up efforts associated with Super Storm Sandy. Heavy equipment was brought in to clear fallen trees and many of the ditches were filled with storm debris or damaged by equipment turning and running in tight quarters. Much of the needed repairs and corrections to drainage were carried out last year with trail 'base layer' repairs made using $11,098, from the State Forests " ORV Funds" (receipt monies collected from ATV permits and redirected toward ATV trail maintenance and repairs) Our initial work fell short of completion as funds fell short, hence the need for this grant request.

As part of the State Forests third party Sustainable Forest Management Certification, we have completed an inventory of the motorized trails, and considerable work has been done to the Snaggy Mountain ORV trail. The trail is part of the 28.3 mile ORV trail network on the State Forest. It is under a maintenance rotation in order to keep these heavily traveled trails in a sustainable condition. The requested funds will help fulfill the necessary maintenance to keep the trail in sustainable condition.

2. Trail Shelter Repairs

(Budget: $13,900 - $9,150 requested grant funds and $4,750 'in kind' match.

This project will involve making significant structural repairs to all 5 primitive trail shelters located within the 5 separate camping areas on Potomac-Garrett State Forest. The Trail shelters were constructed of local cut, pine logs and were built by the MCC (Maryland Conservation Corp) crews stationed here at Potomac-Garrett State Forest from 1995-2000. These unique hand built, trail shelters constructed in the spirit of the original CCC crews, are our most popular campsites and see a very high rate of occupancy. Time and the elements have caught up to these natural material structures and some significant repairs are necessary to keep them in service. Repairs will require

new roofing, replacement of sill logs and footings, insect pest treatments re-chinking and staining the structures.

Clean, well maintained camping facilities are an important part of the multi-use trail system on the State Forest, making the forest a destination recreation area that is important to the local community's tourism industry, as well as making the area an attractive place to locate new business.

VII. Watershed Protection

COMPARTMENT 19 **FY-16**
Lostland Run HWA Mitigation / Red Spruce Planting

Description

In 2004 the significant forest pest, Hemlock Wooly Adelgid (HWA), was discovered in the Lostland Run drainage. This Asian, exotic, insect pest is a killer of Hemlock trees. It has been in the U.S. since 1924. With no natural enemies in this country, it has left a trail of dead hemlock forests in its wake. MD Dept. of Agriculture and State Forest staffs have been monitoring the infestation in Lostland since its discovery. The population has remained at a low level. Winter temperature extremes here in Garrett County appear to be keeping the population in check. Presently, there are no readily available biological or chemical controls suitable for stand level control of this pest, though on-going research is showing positive results with a number of biological controls including predatory insects.

Historically, stands infested with HWA have been relatively short lived, resulting in complete stand conversions often in the course of one decade. As hemlock stands on the State Forest are generally associated with riparian forested stream buffers, the loss of these stands may have significant negative impacts to the water resources.

Up until 2013, the Lostland HWA population seemed to be minor and somewhat stable. Last years moderate winter seems to have caused a significant increase in HWA activity, and evidence of the impending mortality is becoming more noticeable. HWA can be found throughout the entire drainage, and trees in several locations are beginning to show signs of stress as a result of the infestation. In order to provide further protection against the shocking loss of the hemlock trees, the State Forest staff has initiated a project to mitigate the likely loss of the hemlock cover. In an attempt to establish a native conifer that will provide benefits similar to those offered by the hemlocks, test plots of Red Spruce seedlings were planted beneath the hemlock canopy in both the spring of 2007 and 2008. In the spring of 2009, 500 Red Spruce seedlings were planted in the

riparian buffer zone. These plantings have been monitored, and planting methods have been modified to insure the best possible survival in this difficult planting site. Analysis of these three test plantings indicate that the dense shade present in these relatively undisturbed hemlock/hardwood riparian forests does not allow sufficient sunlight to penetrate to the forest floor for the successful establishment of even the very shade tolerant red spruce seedlings. Our observations indicate that forest floor light levels must be increased in order to allow the seedlings to be able to photosynthesize and become established.

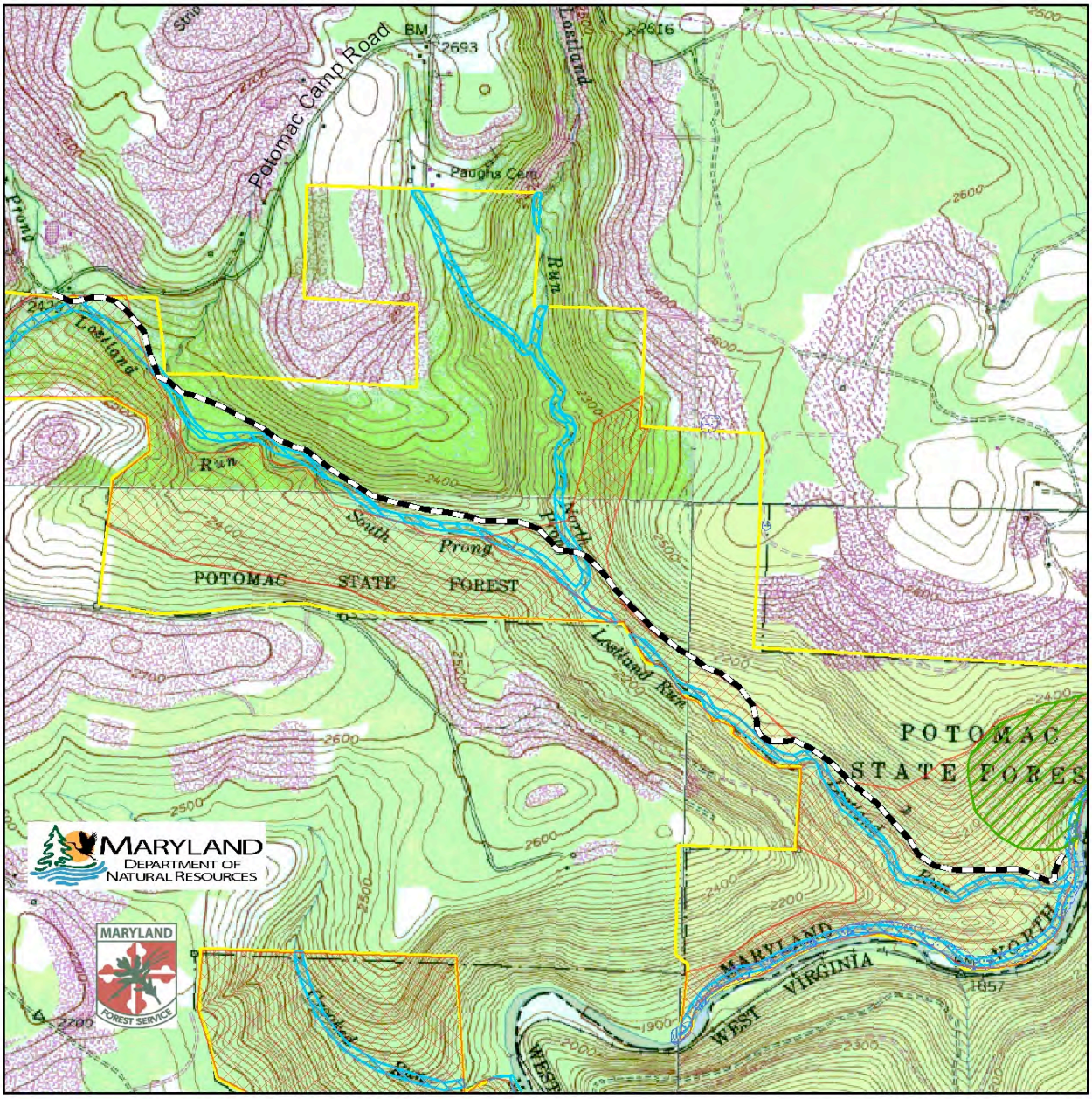
Further research and experimentation with control of the available light is necessary to determine if under planting with Red Spruce is a viable option that may offer a natural means of off setting the negative impacts associated with the likely loss of the hemlock stands along this important brook trout stream.

Management and Silvicultural Recommendations

In 2013/2014 State Forest staff establish three 1-acre planting sites that have varying levels of understory light controls carried out by having thinned these sites "from below", reducing the basal area of the stands by 10-30 %, focusing on removing stems from the 1 inch diameter class and up until desired stocking was met. Each of the sites was planted with 100-200 Red Spruce seedlings. The tops of all trees cut were left on the forest floor to serve as a protection from deer browsing the seedlings. All hardwood stumps were treated with appropriate herbicide to prevent sprouting. These plantations first year survival rates were 62-87%. The small sample size, and considerable variability in specific site conditions does not allow for development of tight prescription parameters. However, the success of these plantings seems to indicate that this general 'thinning from below' approach provides conditions better suited to the establishment of the nursery grown seedlings in the deep shade of this riparian buffer area. Successful treatments are to be duplicated in FY-16 with an additional 3 acres treated and planted within the riparian buffer of the stream.

The objective is to determine what measures are necessary to successfully establish Red Spruce seedlings that may eventually replace the hemlocks in the 100 ft. riparian zone along Lostland Run. Once regeneration measures are determined, the goal is to establish an approximately equal area of seedling spruce cover along the hemlock covered stream bank. If research and development in forest pest management does not provide the key to successful HWA eradication and hemlock protection in the next 10-20 years, the establishment of a healthy under story of Red Spruce of equal acreage may buffer the stream against the shock and likely inevitable loss of hemlock cover, further safeguarding the water quality of this mountain stream.

Compartment 19 Lostland Run HVA Mitigation/ Red Spruce Underplanting FY-16



Compartments.....18,19,20,21

39 22' 54.69" N 79 16' 41.63" W

0 6501,300 2,600 3,900 5,200 Feet

HCVF Components

- Old Growth and 300' Buffer
- Old Growth
- Wildlands
- Wetlands of State Concern and 100' Buffer
- Ecologically Significant Areas
- Streams and 50' Buffer
- Wetlands and 50' Buffer
- Lostland Run Road

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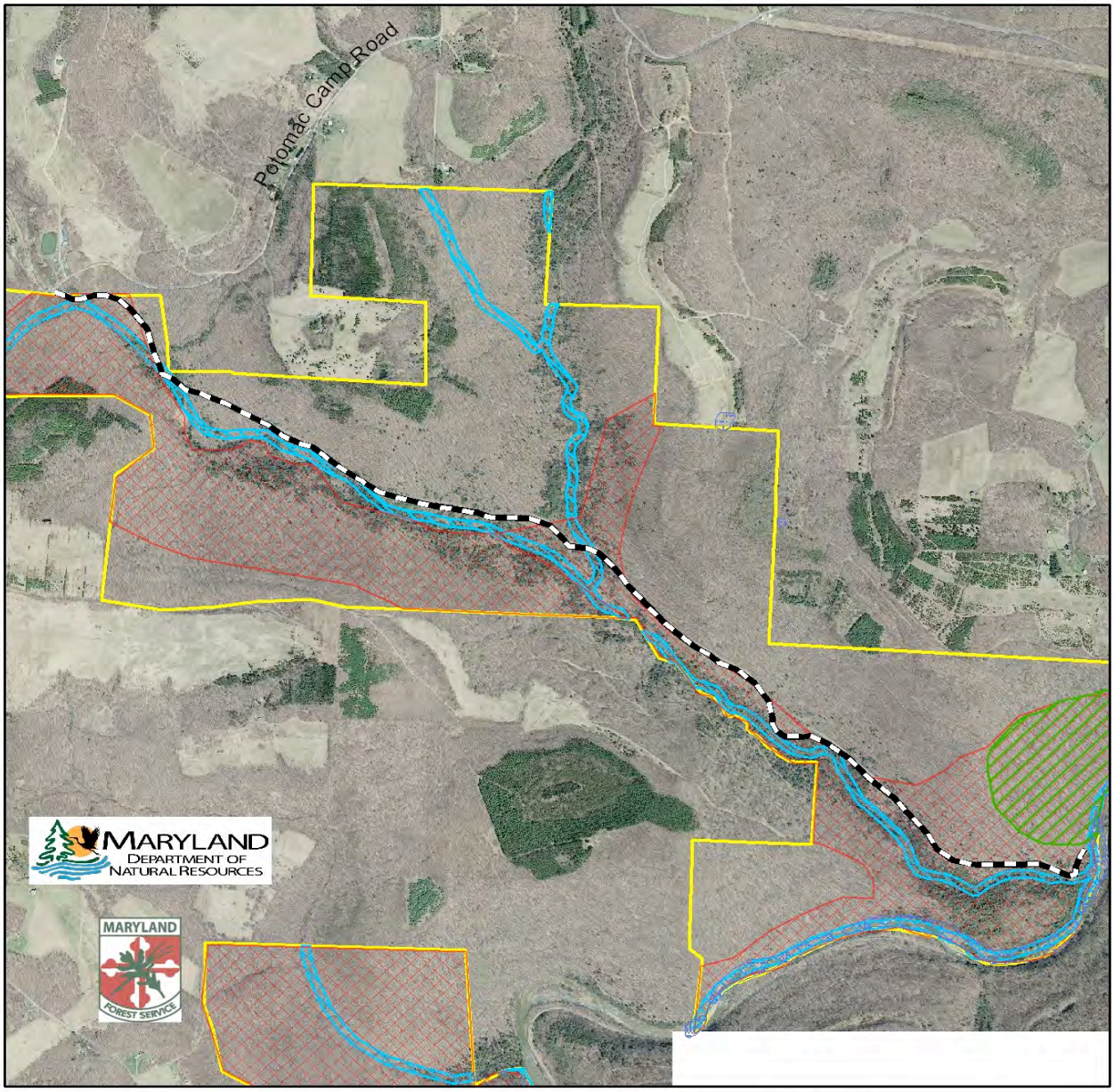
Compartment 19 Lostland Run HWA Mitigation/ Red Spruce Underplanting FY-16



Compartments.....18,19,20,21

39 22' 54.69" N 79 16' 41.63" W

0 6501,300 2,600 3,900 5,200
Feet

HCVF Components

- Old Growth and 300' Buffer
- Old Growth
- Wildlands
- Wetlands of State Concern and 100' Buffer
- Ecologically Significant Areas
- Streams and 50' Buffer
- Wetlands and 50' Buffer
- Lostland Run Road

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VIII. Ecosystem Restoration / Protection Projects

A. Non-Native Invasive Species (NNIS) Control

Across the State, a biological invasion of non-native plants is spreading into our fields, forests, wetlands and waterways. Variously referred to as exotic, non-native, alien, or non-indigenous, invasive plants impact native plant and animal communities by displacing native vegetation and disrupting habitats as they become established and spread over time. 'Early Detection and Rapid Response' (EDRR) to control the spread of problematic species is important for the conservation of our native flora and fauna. Control efforts often require considerable resources (labor, time and money). As in many cases, the introduction of these widespread and invasive plants cannot be prevented. It is important to evaluate and plan control efforts in order that such efforts contribute meaningfully to the success of forest conservation plans. EDRR efforts targeting NNIS discovered during the forest wide inventory have been successful in identifying and controlling 18 isolated populations of several problematic species including:

13 - Tree of Heaven (*Ailanthus altisima*) occurrences.
1 - Japanese Knotweed (*Polygonum cuspidatum*) occurrences.
2 - Mile a Minute (*Persicaria perfoliatata)* occurrences.
1 – Japanese Spirea *(Spiraea japonica)* occurrences.

These aggressive non-native invasive plants are found throughout Garrett County, but are not considered to be established on PGSF. The small colonies are now part of our long term monitoring program, with follow-up treatments planned as necessary in the interest of preventing these species from establishing themselves in the otherwise natural forest communities in which they were found.

Larger populations of two invasive exotic plant species have been identified as being in need of control on PGSF. They are Japanese Knotweed (*Polygonum cuspidatum*) and garlic mustard (*Alliaria petiolata*). The following efforts are being taken to limit the impacts of these invasive species.

1. COMPARTMENTS 5&7 **FY-16**

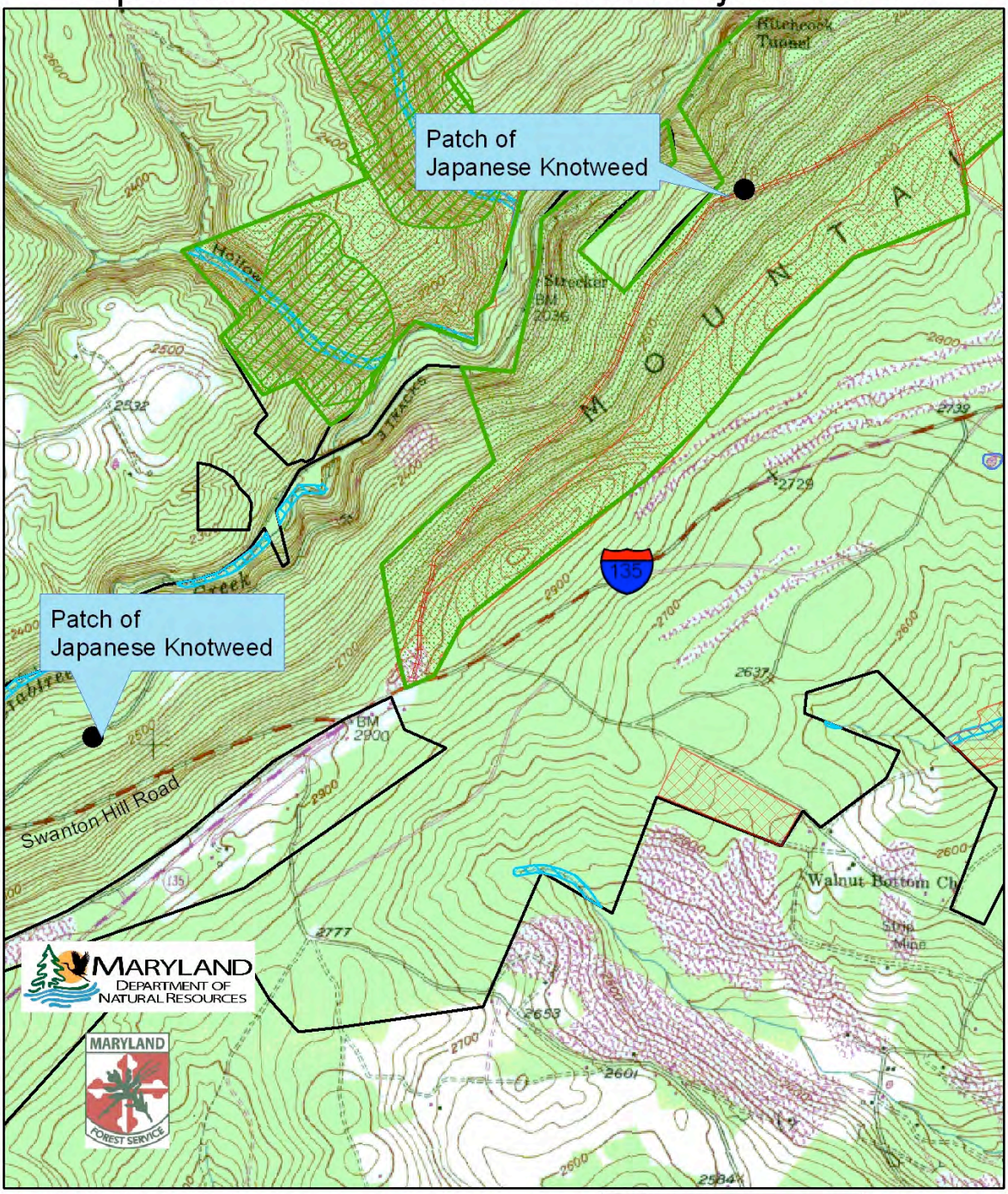
Japanese Knotweed Control Project (Continued) – Backbone Mtn.

Ongoing Project

Within the Potomac State Forest, Japanese Knotweed is well established along the base of Backbone Mountain following the railroad bed at the base of the mountain. It has overtaken much of the lower reaches of Crabtree Creek which runs along the railroad grade. However, within the State Forest, its spread has been generally limited to the base of Backbone Mountain; the area associated with the railroad and Crabtree Creek. In recent years, two 'patches' have been found on the upper slopes of Backbone Mt. The first is located on the roadside edge of a section of the State Forest access road that serves as the Backbone Mt. ORV trail. This road defines the upper boundary of the Crabtree Slopes Special Management Zone. The second and smaller population is located along a gated forest access on the east side of Swanton Hill Road. State Forest staff has been working to restrict the spread of these populations by mowing the roadsides prior to seed development. In 2004, as an educational program for the Maryland Conservation Corps., an effort was made to eliminate the plant colony by strictly mechanical means including mowing and later grubbing out the plants roots and rhizomes. This effort was not successful. Mechanical controls alone cannot eliminate this aggressive plant invader.

In 2005 and 2006, in a cooperative effort between MD DNR Wildlife and Heritage Service, MDA Plant Protection and Weed Management Program, and Potomac-Garrett State Forest staff took an integrated pest management approach toward the control of these knotweed populations. Carefully timed mechanical and chemical treatments were applied to the plant colonies. The areas were mowed just prior to seed development and later following re-sprouting, but just before the start of fall dormancy, the plants were sprayed with an appropriate herbicide. In 2009-2014 only a few persistent individual plants were present, and they were treated with the same mechanical and herbicide treatments. These areas will continue to be monitored annually and follow-up treatments will be applied as necessary to prevent reestablishment of these colonies as the viable soil seed bank is slowly exhausted. One other small colony of Japanese Knotweed had been located and treated on the Garrett State Forest. This small colony will be monitored and managed for eradication as well.

Compartment 5 Backbone Mtn.
Japanese Knotweed Control Project FY-16



Compartment.....5

39 27' 24.63" N 79 12' 59.11" W

0 625 1,250 2,500 3,750 5,000
Feet

HCVF
- Old Growth and 300' Buffer
- Old Growth
- Wildlands
- Wetlands of State Concern and 100' Buffer
- Ecologically Significant Areas
- Streams and 50' Buffer
- Wetlands and 50' Buffer
- Potomac ORV Trails

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2. COMPARTMENTS 21-26 **FY-16**

Garlic Mustard Control Project - Wallman/Laurel Run

The ongoing Garlic Mustard control project in the Wallman/Laurel Run area will be suspended this year (see prior year AWP). New available research on this species indicates that it appears to begin to fall out on its own after approximately 10 years. Further research on the species is being conducted and efforts to control this species at the Wallman/ Laurel Run areas are being reevaluated.

IX. Silvicultural Proposals

A. COMPARTMENT 14 Stand 12 FY-16

Description/Resource Impact Assessment

Location: This area is located on the east side of the State Forest's North Hill Forest Access Road, approximately 0.4 miles north of the intersection with the county road in Compartment #14 Stand 12 of the Potomac State Forest. An additional decommissioned, primitive access road splits the stand running north to south and will be incorporated into the planned skid trail system.

Forest Community Type and Condition: This 62-acre site contains a 74 year old mixed oak stand. The over story is made up primarily of Red Oak (41%), Red Maple (32%), and White Oak (7%). This stand is well over stocked at 94% relative density and 141 sq.ft. BA/acre. Typical of such heavily overstocked, unmanaged, stands there is little or no established desirable regeneration present.

Interfering Elements: Deer browse pressure in this area is estimated to be high and must be addressed when considering regeneration efforts on this site. Interfering plant competition is a moderate to high, and poses a significant impediment to future regeneration: 47% of the stand supports tall woody interference (primarily Witch Hazel), and 15% supports interfering levels of dense ferns in the understory. No non-native invasive species (NNIS) were observed in the stand inventory. No sign of significant insect pests or disease were observed in the stand.

Historic Conditions: This site, like most of PGSF, was likely cutover and burned around the turn of the last century. This stand had been sprayed for Gypsy Moth Control in 1990, and has not been entered for harvest within the last 20 years. No evidence of recent fire activity was observed during the recon.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the proposed silvicultural prescription.

Habitats and Species of Management Concern: The stand sits midslope between two sections of HCVF (High Conservation Value Forest) which include 2 Ecologically Significant Areas. The area to the west, below the North Hill Access Road, is known as North Prong Lostland ESA; to the east is the North Hill ESA. These ESAs are established to provide protection to certain critical habitats for various Rare, Threatened or Endangered species. There are no known habitats or species of management concern on this site.

Water Resources: This midslope stand drains toward the North Prong of Lostland Run and its headwater tributaries which are part of the greater Potomac River Watershed. The proposed silvicultural treatments will be outside of all HCVF areas. No heavy equipment will be permitted within the protective riparian buffers of the streams and any associated wetlands per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

Resources: Underlying soils include: 'Dekalb and Gilpin very stony loams'. These soils are generally moderately deep and well drained with inclusions of some poorly drained soils, with moderate equipment limits because water table is close to the soil surface in winter and early in spring. Degree of slope ranges from 0-25% throughout the site. The site has very good productivity for woodland management, with a site index of 65-75 for upland oaks.

Management and Silvicultural Recommendations

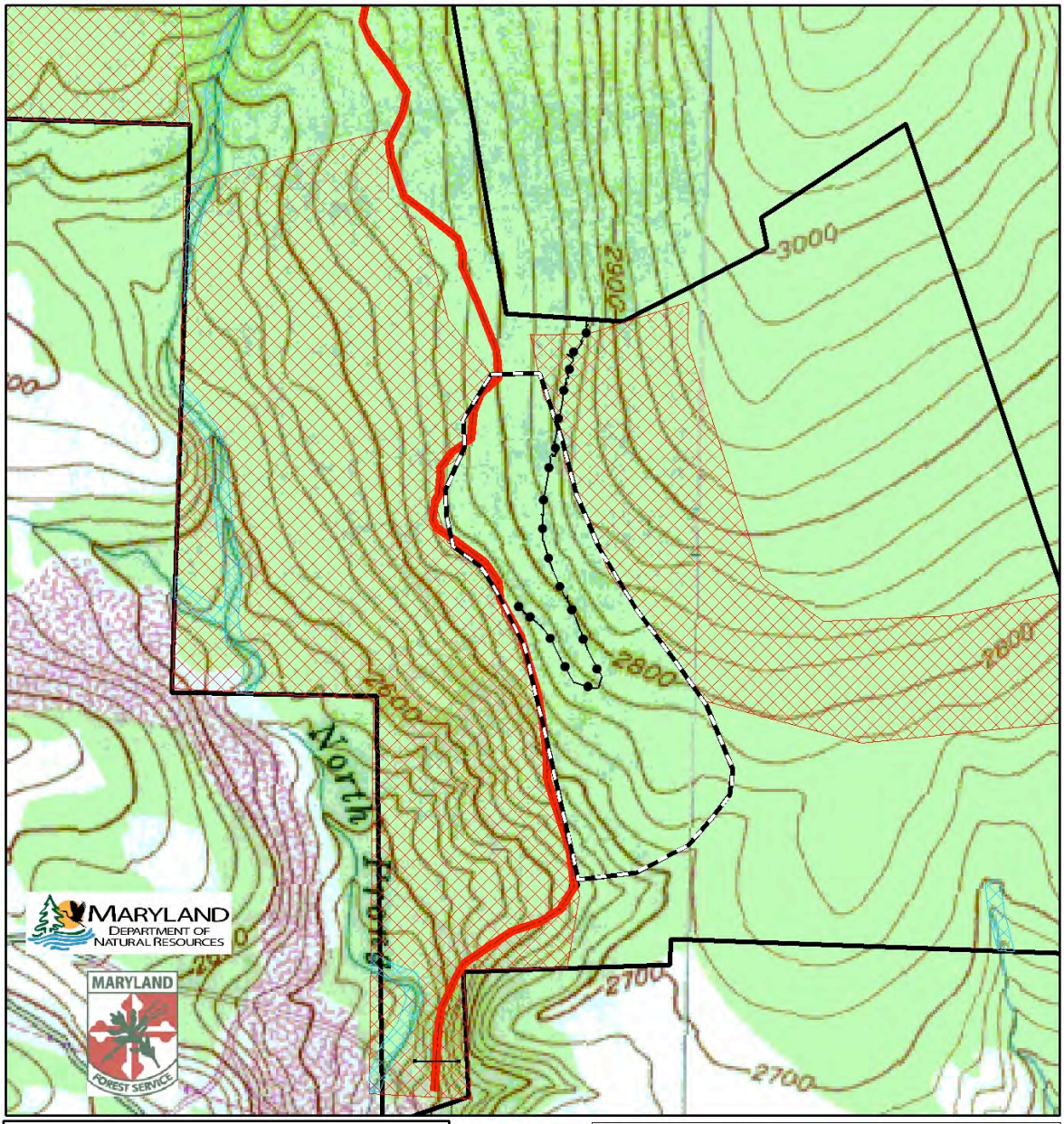
The planned silvicultural treatment for this site is a commercial thinning. The objective of this thinning is to reduce the stocking level to approximately 65% relative density by applying a free thinning throughout the stand. Approximately, 80-90 sq. ft. of basal area per acre is the target for the residual stand providing a harvest of approximately 2,000 Bd. Ft. per acre. This practice will remove nearly all the unacceptable merchantable growing stock thereby improving the vigor and health of the residual trees. Prior to harvest, ESA boundaries will be field located with assistance from DNR Natural Heritage Biologist.

In order to retain important wildlife habitat elements, and to preserve a 'legacy' component of the original stand, retention areas will be identified during this thinning operation to be carried through to future final harvest. This 'green tree' retention will account for 5% of the mapped / managed area and will include buffers to unmapped aquatic resources, single trees containing important habitat elements, and islands comprised of 8-12 dominant or co-dominant trees and the lower canopy trees and shrubs beneath them.

The area should be examined again in 15 years to begin planning for a regeneration harvest. While the health and vigor of the residual overstory trees will improve from this

immediate practice, the present interfering understory species (ferns, and Witch Hazel) are expected to respond as well. Future regeneration efforts are expected to include interfering understory controls to facilitate successful seedling development.

Compartment 14 Stand 12 North Hill FY-16



Approx. Acres.....62
Age.....74
Forest Type.....Mixed Oak
Trees/Acre.....327
Basal Area.....141
AGS BA.....120
Stocking.....94 %
Growth Rate.....2.5%
Site Index.....70 for NRO
Composition.....Red Oak 41%
. Red Maple 32%
. White Oak 7%

79°15'3.576"W 39°24'7.289"N

0 312.5 625 1,250 1,875 2,500 Feet

HCVF Components

- Wetlands of State Concern and 100' Buffer
- Streams and 50' Buffer
- Ecologically Significant Areas
- Wildlands
- Old Growth
- Old Growth and 300' Buffer

- Wetlands and 50' Buffer
- Proposed Area
- North Hill Road
- Gates

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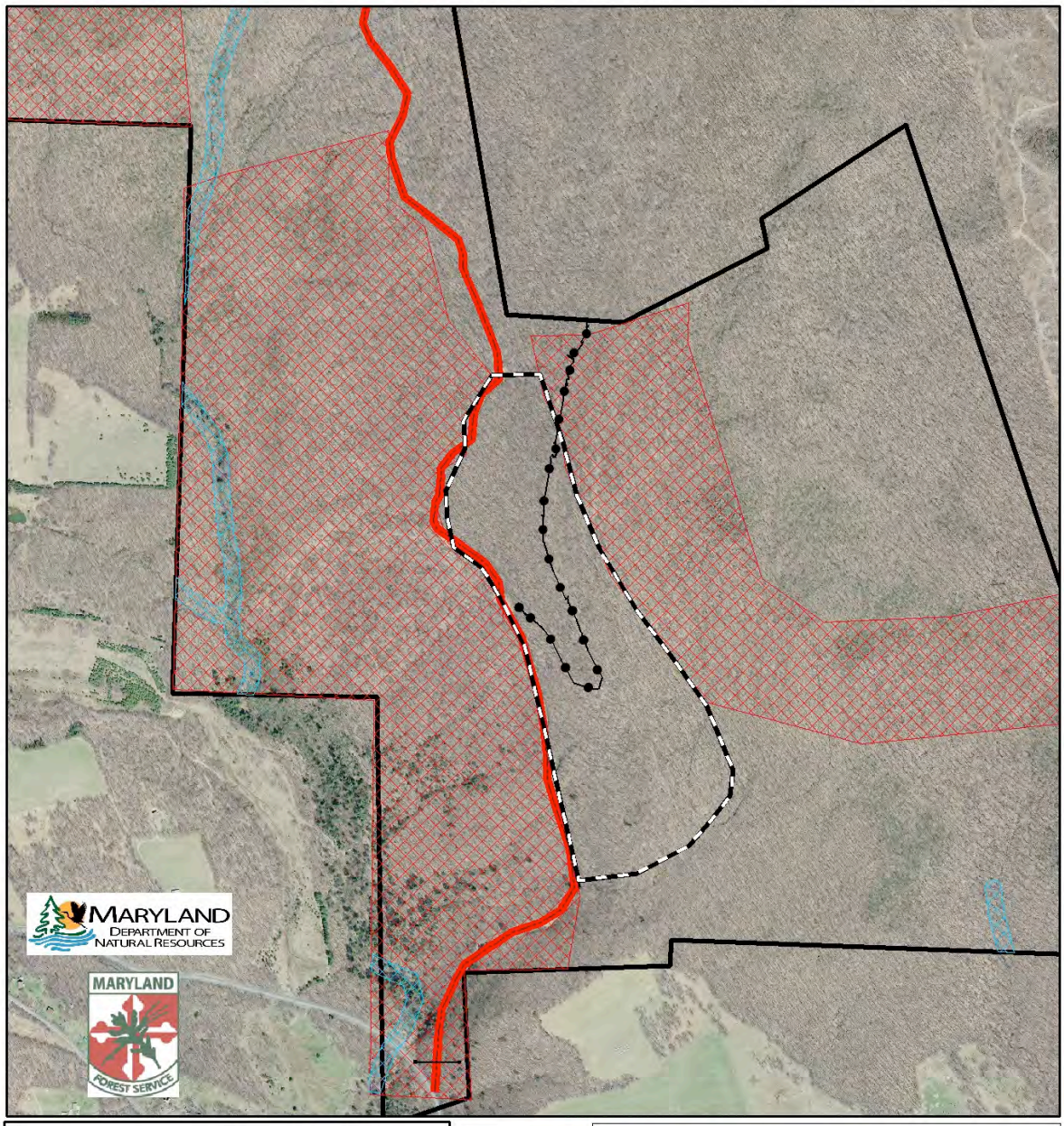
Compartment 14 Stand 12 North Hill FY-16



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0 312.5 625 1,250 1,875 2,500 Feet

HCVF Components

- Wetlands of State Concern and 100' Buffer
- Streams and 50' Buffer
- Ecologically Significant Areas
- Wildlands
- Old Growth
- Old Growth and 300' Buffer

- Wetlands and 50' Buffer
- Proposed Area
- North Hill Road
- Gates

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B. COMPARTMENT 19 Stand 3a FY-16

Description/Resource Impact Assessment

Location: This area is located on the east side of Potomac Camp Road, approximately 0.6 miles north of the intersection of Potomac Camp Road and Lostland Run Road at the Calis Mine reclamation site in Compartment #19 of the Potomac State Forest. The stand is virtually landlocked and must be accessed across the private land fronting Potomac Camp Road at this location.

Forest Community Type and Condition: This 15-acre site contains a 47 year old mixed conifer plantation made up primarily of Norway Spruce (40%), and Red Pine (38%) with a lesser component of mixed hardwoods including Chestnut Oak (7%). This stand is well overstocked at 134% relative density and 187 sq.ft. BA/ac. Typical of such heavily overstocked, unmanaged, conifer stands, there is little or no established desirable regeneration present.

Interfering Elements: As this stand is young, and not being viewed for regeneration, the various interfering elements are of little consequence at this time. No non-native invasive species (NNIS) were observed in the stand inventory. However, Tartarian Honesuckel, Autumn Olive and Multiflora rose, were observed in adjacent stands occurring on the reclaimed and previously mined area. No sign of significant insect pests or disease were observed in the stand.

Historic Conditions: This stand is located at the 'Calis Mine' strip mine reclamation area. The area was cutover to accommodate the strip mining of the coal from the remaining strip pits on both the east and west sides of the stand. The plantations appear to occur on natural soils, on the unmined, higher ridge between the two strip pits. At the time the site was mined, mining costs restricted the removal of the coal in this center area, allowing only for the mining of the coal in the outcropped seam on either side of the ridge. This stand has not been entered for harvest since its establishment. Super Storm Sandy caused significant widespread damage throughout the stand. No evidence of recent fire activity, nor significant insect pest activity was observed during the recon.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the proposed silvicultural prescription.

Habitats and Species of Management Concern: There are no known habitats or species of management concern on this site.

Water Resources: This ridge top stand drains toward the two unreclaimed strip pits on either side of the stand with this water percolating down into Lostland Run and its headwater tributaries, which are part of the greater Potomac River Watershed. The proposed silvicultural treatments will be outside of all HCVF areas. No heavy equipment

will be permitted within the protective riparian buffers of the streams and any associated wetlands per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

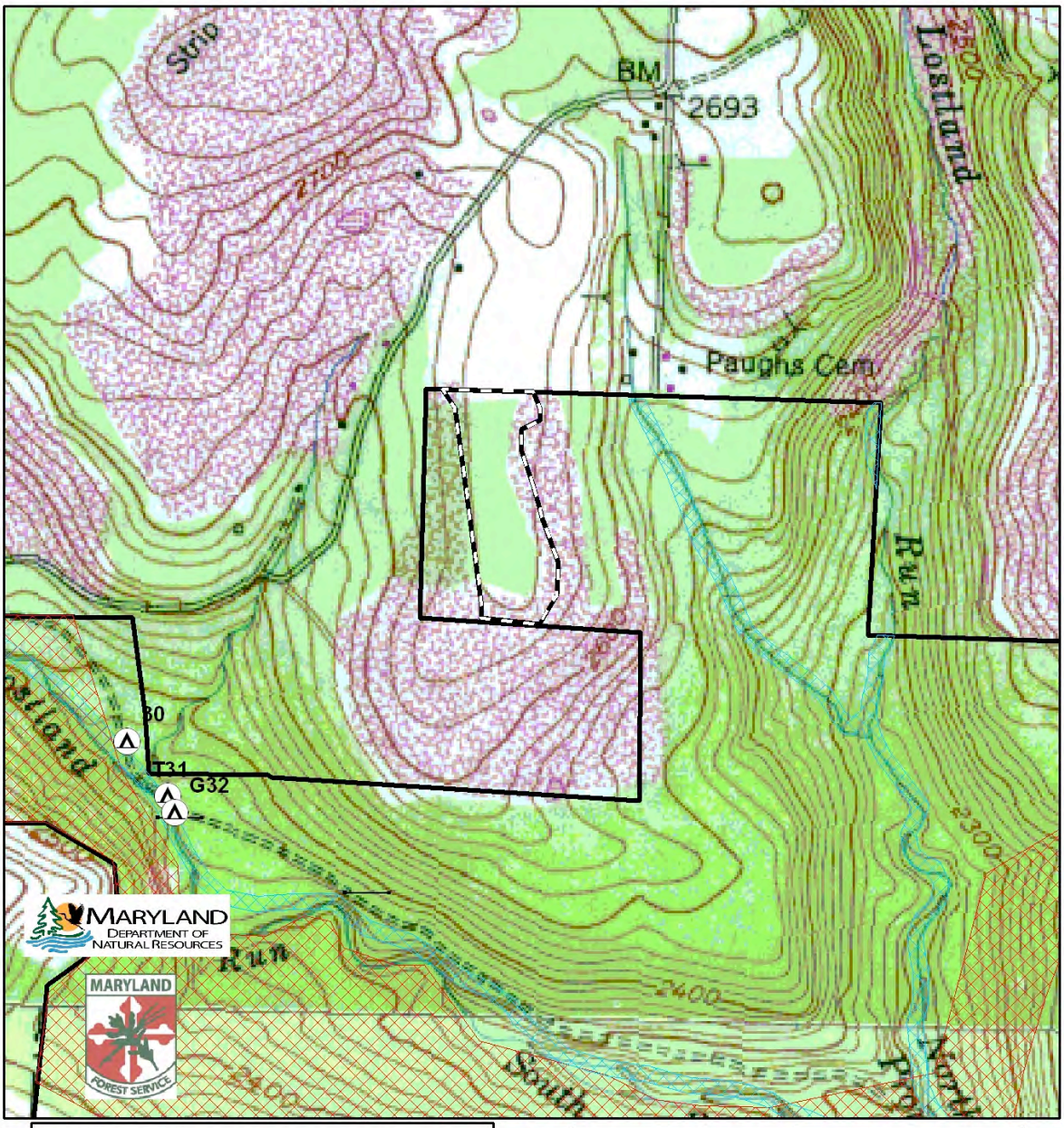
Resources: Underlying soils include: 'Dekalb and Gilpin very stony loams'. These soils are generally moderately deep and well drained. Degree of slope ranges from 0-15% throughout the site. The site has very good productivity for woodland management, with a site index of 65-75 for upland oaks.

Management and Silvicultural Recommendations

The planned silvicultural treatment for this site is a commercial thinning. The objective of this thinning is to reduce the stocking level to approximately 65% relative density by combining a third row thinning and free thinning throughout this irregular stand. Stocking will be reduced to approximately 65 % and 100 sq.ft. BA/ac. This thinning will provide a harvest of approximately 2,500-3,000 Bd. Ft. and approximately 10 cord/ac. This practice will remove nearly all the unacceptable merchantable growing stock thereby improving the vigor and health of the residual trees.

The mixed oaks found throughout the stand will be favored in the thinning both for their wildlife value and to help steer this 'nurse crop'of conifers toward the eventual native hardwood stand in the future.

Compartment 19 Stand 3a Lostland FY-16



Approx. Acres 15
Age.....47
Forest Type.....Plantation
Trees/Acre.....518
Basal Area.....187
AGS BA.....184
Stocking.....134
Growth Rate.....3.5%
Site Index.....60 for OSW
Composition.....Norway Spruce 40%
. Red Pine 38%
. Chestnut Oak 7 %

79°15'54.548"W 39°23'1.955"N

0 345 690 1,380 2,070 2,760 Feet

HCVF Components

- Wetlands of State Concern and 100' Buffer
- Streams and 50' Buffer
- Ecologically Significant Areas
- Wildlands
- Old Growth
- Old Growth and 300' Buffer

- Wetlands and 50' Buffer
- Proposed Area
- Gates

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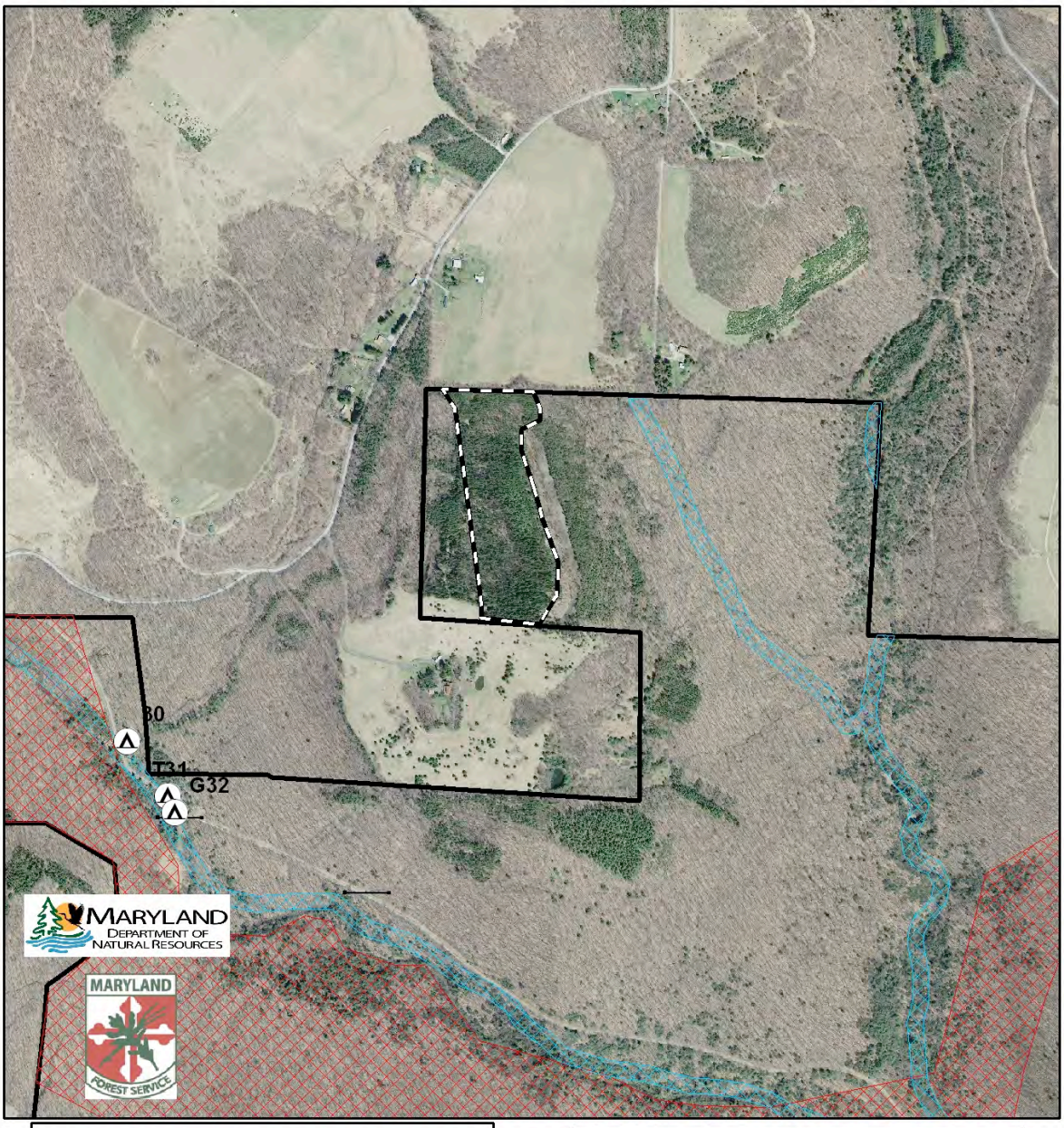
Compartment 19 Stand 3a Lostland FY-16



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- Wetlands of State Concern and 100' Buffer
- Streams and 50' Buffer
- Ecologically Significant Areas
- Wildlands
- Old Growth
- Old Growth and 300' Buffer

- Wetlands and 50' Buffer
- Proposed Area
- Gates

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C. COMPARTMENT 23 Stand 1 FY-16

Description/Resource Impact Assessment

Location: This hardwood stand is situated on the north side of the State Forest's Wallman Road, extending east from the intersection of Wallman and Laurel Run Roads to campsite #41 in Compartment #23 Stand 1 of the Potomac State Forest. A day use picnic site and two campsites (#40 and #41) front the Wallman Road and the edge of this stand.

Forest Community Type and Condition: This 77-acre site contains an 102 year old mixed hardwood stand, transitioning from a Mixed Oak stand to Northern Hardwoods stand. The overstory is made up primarily of Red Oak (24%), Red Maple (24%) Sugar Maple (16%), as well as a notable 6% American Beech component. This stand is over stocked at 100% relative density and 136 sq.ft. BA/acre. There is insufficient desirable regeneration present with <10% of the area being sufficiently stocked.

Interfering Elements: Deer browse pressure in this area is estimated to be high and must be addressed when considering regeneration efforts on this site. Interfering plant competition poses a significant impediment to future regeneration with 70% of the site containing tall woody interference primarily in the form of undesired American Beech, Striped Maple, Black Birch and Witch Hazel. Fern and grass cover are < 6% and are not expected to present an immediate impediment to regeneration efforts at this time. Non-native invasive species, (NNIS) were observed on only 5% of the observation plots. Species found include: Ailanthus, Japanese Barberry and Multiflora rose. No significant insect pest or diseases were observed.

Historic Conditions: The stand was sprayed for Gypsy Moth Control in 1889, and the upper slopes (approx 47 acres.) were thinned in 1990. No evidence of recent fire activity was observed during the recon.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the silvicultural prescription.

Habitats and Species of Management Concern: The stand borders two sections of HCVF (High Conservation Value Forest) so designated as they include an Ecologically Significant Area (ESA). These ESAs are established to provide protection to certain critical habitats for various Rare, Threatened or Endangered species. The ESA to the south of the stand along the Wallman Road includes the adjacent conifer plantations and is known as WALLMAN ESA which had supported critical habitat (conifers) for certain RTE animals. The planned work will not take place within the critical habitats of the conifer stands. The northeast corner of the harvest area bounds on the HCVF /ESA

known as Laurel Run/Crooked Run ESA which is known to have contained a number of RTE plant and animals.

The Forest Manager knows of no habitats or species of management concern on the site that would be impacted by the silvicultural prescription.

Water Resources: This ridge top stand drains toward Laurel Run, a high quality native trout stream, within the greater Potomac River Watershed. The proposed silvicultural treatments will be outside of all HCVF stream buffer areas. No heavy equipment will be permitted within the protective riparian buffers of any streams or associated wetlands per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

Soil Resources: Underlying soils include: 'Dekalb and Gilpin very stony loams' and some 'Stony land'. These soils are generally moderately deep and well drained with inclusions of some poorly drained soils. Degree of slope ranges from 0-35% throughout the site. Equipment limits range from moderate to severe as slopes approach 35%. Hazard of erosion is slight to moderate on the steeper slopes. The site has very good productivity for woodland management, with a site index of 65-75 for upland oaks.

Management and Silvicultural Recommendations

The planned silvicultural treatment for this site is to regenerate using a 2-stage shelterwood system. The first stage of this regeneration system will be an "establishment / seed cut" that will involve thinning the stand to enhance conditions for seed production and seedling establishment. Emphasis will be placed on the retention of oaks for acorn production. This practice will reduce stocking to approximately 60-65% relative density and a basal area of 90 sq. ft. of BA/acre. The work will be carried out as a 'thinning from below' concentrating removals on the sapling, poles and suppressed sawtimber; there-by allowing sufficient sunlight to reach the forest floor to promote seedling development while providing a commercial sale opportunity. Approximately 2,000 Bd. Ft. / acre will be removed in this minimally commercially viable operation. In order to retain important wildlife habitat elements and to preserve a 'legacy' component of the original stand, retention areas will be identified during this thinning operation to be carried through to future final harvest. This 'green tree' retention will account for 5% of the mapped / managed area and will include buffers to unmapped aquatic resources, single trees containing important habitat elements, and islands comprised of 8-12 dominant or co-dominant trees and the lower canopy trees and shrubs beneath them.

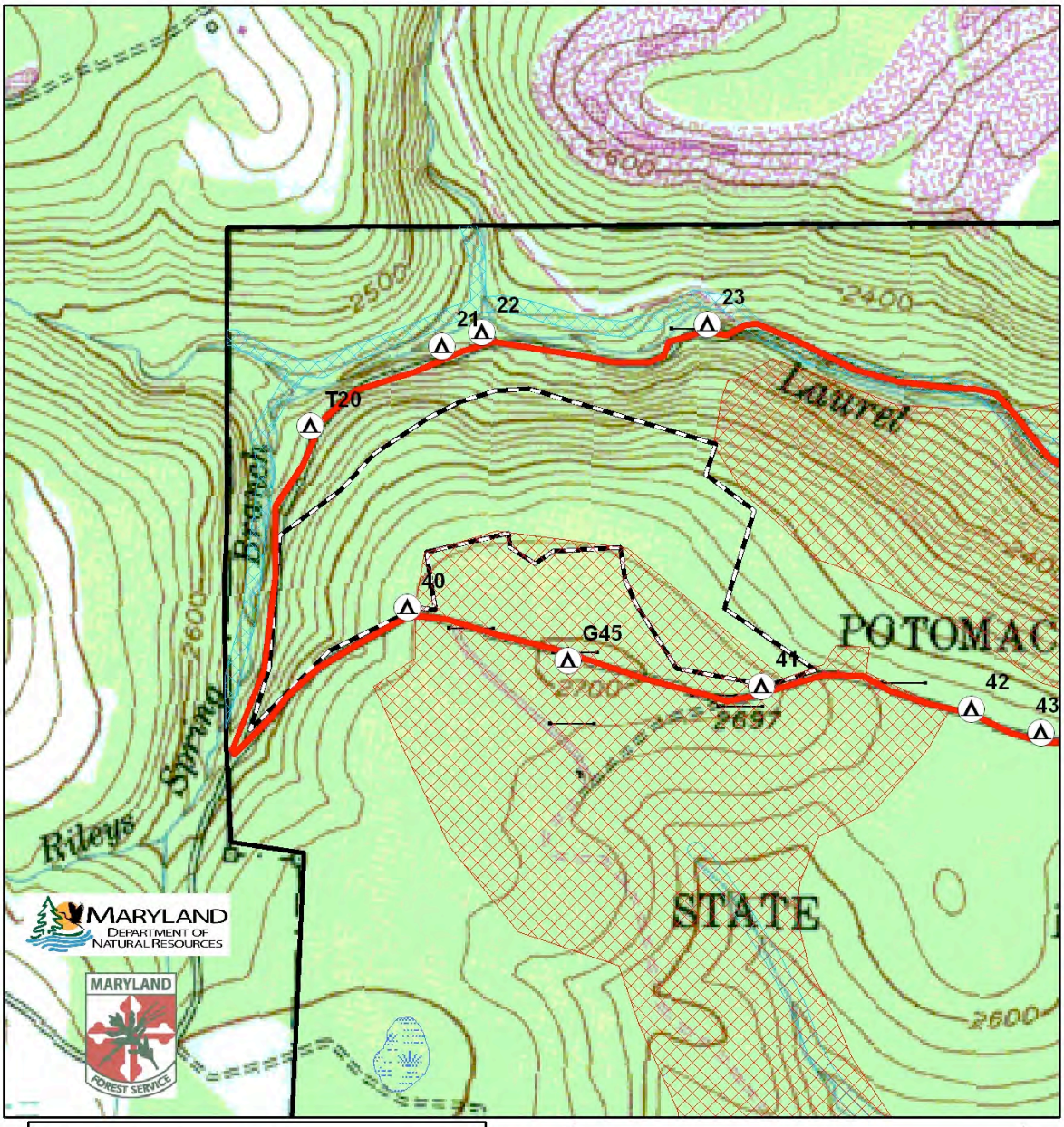
Additionally, prior to harvesting, the interfering woody understory vegetation will be treated with appropriate herbicides in order to open the forest floor to increased sunlight necessary for seedling development and to reduce potential for stump sprout regeneration of this undesired component at harvest. All woody vegetation 1-6 inches in diameter will be removed using a combination of cut surface and 'hack and squirt' treatments applying the herbicide directly to the target tree effectively removing it from the stand. The

minimal (< 6%) fern and grass coverage is not expected to be an impediment to developing regeneration. In keeping with the State Forests “Early Detection-Rapid Response Policy”, the NNIS - Ailanthus individuals have been treated with appropriate herbicide. The NNIS observed here will be monitored and addressed as necessary.

A 100 ft. buffer will be established around the campsites and picnic area. Limited removals may occur within this buffer, focusing on any hazardous, dead, dying or damaged trees to improve site safety and aesthetics.

The stand will be monitored for regeneration over the next 5-10 years. Once the stand is fully stocked with acceptable seedlings, the 'second stage' of this 2-stage shelter wood system will be carried out as an overstory removal. This final harvest will release the now competitive seedlings from overhead competition to fully regenerate the site.

Compartment 23 Stand 1 Wallman FY-16



Approx. Acres.....77
Age.....102
Forest Type.....Transition
Trees/ Acre.....408
Basal Area.....136
AGS BA.....117
Stocking.....100%
Growth Rate.....1.8%
Site Index.....72 for NRO
Composition.....Red Oak 24%
. Sugar Maple 16%
. Red Maple 24%

79°17'23.096"W 39°20'43.201"N

0 355 710 1,420 2,130 2,840 Feet

HCVF Components
- Wetlands of State Concern and 100' Buffer
- Streams and 50' Buffer
- Ecologically Significant Areas
- Wildlands
- Old Growth
- Old Growth and 300' Buffer

Wetlands and 50' Buffer
Proposed Area
Gates

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D. COMPARTMENT 25 Stand 30 FY-16

Description/Resource Impact Assessment

Location: This area is situated on the south side of the State Forests Wallman Road, behind the Wallman 'group campsite', approximately 0.5 miles beyond the intersection of Wallman and Laurel Run Roads in Compartment #25 Stand 30 of the Potomac State Forest. The southern portion of the stand fronts on the snowmobile trail. This stand falls within an 'Ecologically Sensitive Area' with a history of containing critical habitat for a 'State Endangered Species'. The species was last recorded as using the area in 2006, and was first found in 2001.

Forest Community Type and Condition: This 26-acre site contains an 108 year old Alleghany hardwoods stand. The overstory is made up primarily of Red Maple (32%), Red Oak (21%), Black Cherry (15%), and Sugar Maple (13%). This stand is overstocked at 99% relative density and 150 sq.ft. BA/acre. Typical of such heavily stocked stands, there is little or no established desirable regeneration present(<10% of the area contains sufficient desired regeneration.)

Interfering Elements: Deer browse pressure in this area is estimated to be high and must be addressed when considering regeneration efforts on this site. Interfering plant competition poses a significant impediment to future regeneration with 79+% of the site harboring some form of undesirable plant competition. Both tall and low woody interference occur on 59% of the site; this comprised largely of witch hazel which accounts for 34 of the 59%. Much of the balance being otherwise desirable species that have been severely damaged by the heavy wet snow associated with Super Storm Sandy in October 2012. Problematic, dense fern or grass cover 19% of the forest floor, further impeding seedling development. Non-native invasive species, (NNIS) were observed on only 5% of the observation plots including: Japanese Spirea and Multiflora rose. No significant insect pest or diseases were observed.

Historic Conditions: This stand had been thinned in 1985 and was sprayed for Gypsy Moth Control in 1989. No evidence of recent fire activity was observed during the recon.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species presently on the site, or that would be impacted by the management prescription.

Habitats and Species of Management Concern: The stand is surrounded on three sides by conifer plantations which had prompted the designation of the surrounding HCVF area as an ESA. The conifer plantations are known to have supported critical habitat for a ***State listed RTE species***". The planned habitat improvement work will take place in this hardwood stand within the ESA; with a management goal of restoring suitable habitat conditions for the RT&E species that has been recorded as using this area. The Forest

Manager knows of no other habitats or species of management concern on the site that would be impacted by the management prescription.

Water Resources: This ridge top stand drains eastward toward a couple of unnamed tributaries of Bradshaw Run, a small headwater tributary of the greater Potomac River Watershed. The proposed silvicultural treatments will be outside of all HCVF stream buffer areas. No heavy equipment will be permitted within the protective riparian buffers of the streams and any associated wetlands per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

Soil Resources: Underlying soils include: 'Dekalb and Gilpin very stony loams'. These soils are generally moderately deep and well drained with inclusions of some poorly drained soils, with moderate equipment limits because water table is close to the soil surface in winter and early in spring. Degree of slope ranges from 0-25% throughout the site. The site has very good productivity for woodland management, with a site index of 65-75 for upland oaks.

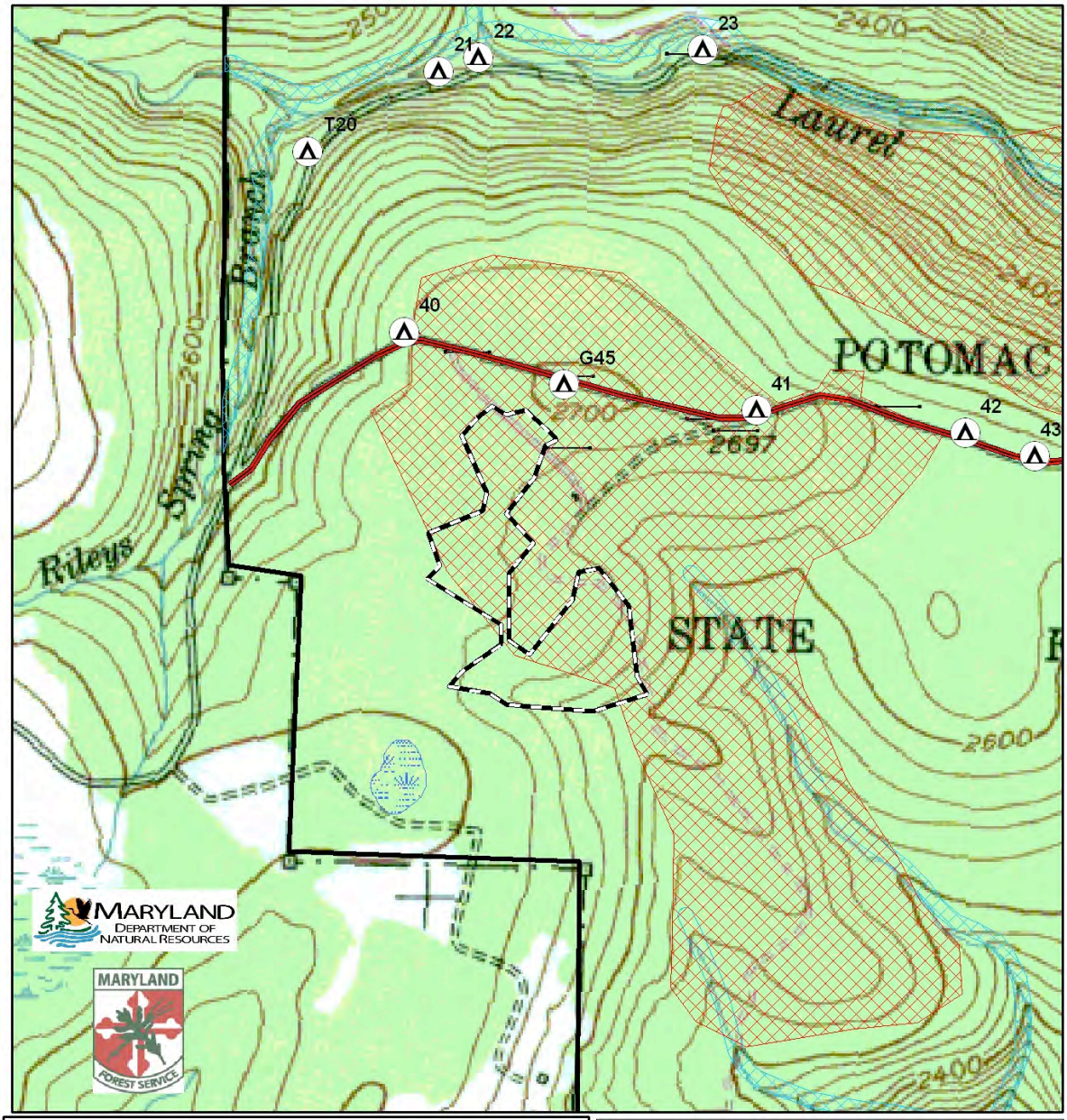
Management and Silvicultural Recommendations

This hardwood stand will be managed using a combination of even-aged and uneven-aged silvicultural treatments. The goal for the site is to restore important habitat conditions required by the RT&E species know to utilize this site. Desired conditions include a relatively closed upper canopy layer and an open, un-stratified mid canopy layer (between the shrub layer and main canopy). To that end, management objectives will include thinning the stand "from below" to reduce stocking to approximately 65-75% relative density and a basal area of 100 sq. ft. of BA/acre. The thinning will concentrate on removals taken primarily from the suppressed and overtopped crown positions; largely pole and smaller sawtimber trees. Where appropriate, dominant and co-dominant trees will be removed through single tree and group selection, to release suitable white pine seedlings and saplings from competition. This will facilitate expansion of the important mixed hardwood/conifer cover type. Approximately 2,000 – 2,500 Bd. Ft. / acre will be removed in this commercially viable operation.

Prior to harvesting, the interfering and undesired hardwood understory will be treated with appropriate herbicides in order to obtain the desired open mid canopy layer. All woody vegetation 1-5 inches in diameter will be removed using a combination of 'cut surface', 'hack and squirt', or 'basal bark' treatments applying the herbicide directly to the target tree effectively removing it from the stand. In keeping with the State Forests "Early Detection-Rapid Response Policy", the NNIS – Japanese Spirea individuals have been pulled and or treated with appropriate herbicide.

The Departments Wildlife and Heritage staff will assist with the layout and marking of this harvest. Financial support for the management of this critical habitat will be sought through funds earmarked specifically for the management and protection of RT&E species. The commercial harvest and non-commercial understory control work will be combined with other planned management work in the area to allow for the timely and economic completion of the project.

Compartment 25 Stand 30 Wallman FY-16



Approx. Acres 26
Age.....78
Forest Type.....Transition
Trees/Acre.....503
Basal Area.....150
AGS BA.....135
Stocking.....99 %
Growth Rate.....1.6 %
Site Index.....65 for NRO
Composition.....Red Maple 32%
. Red Oak 21%
. Black Cherry 15%

HCVF Components

- Wetlands of State Concern and 100' Buffer
- Streams and 50' Buffer
- Ecologically Significant Areas
- Wildlands
- Old Growth
- Old Growth and 300' Buffer

- Wetlands and 50' Buffer
- Proposed Area
- Gates

79°17'26.618"W 39°20'22.457"N

0 355 710 1,420 2,130 2,840 Feet

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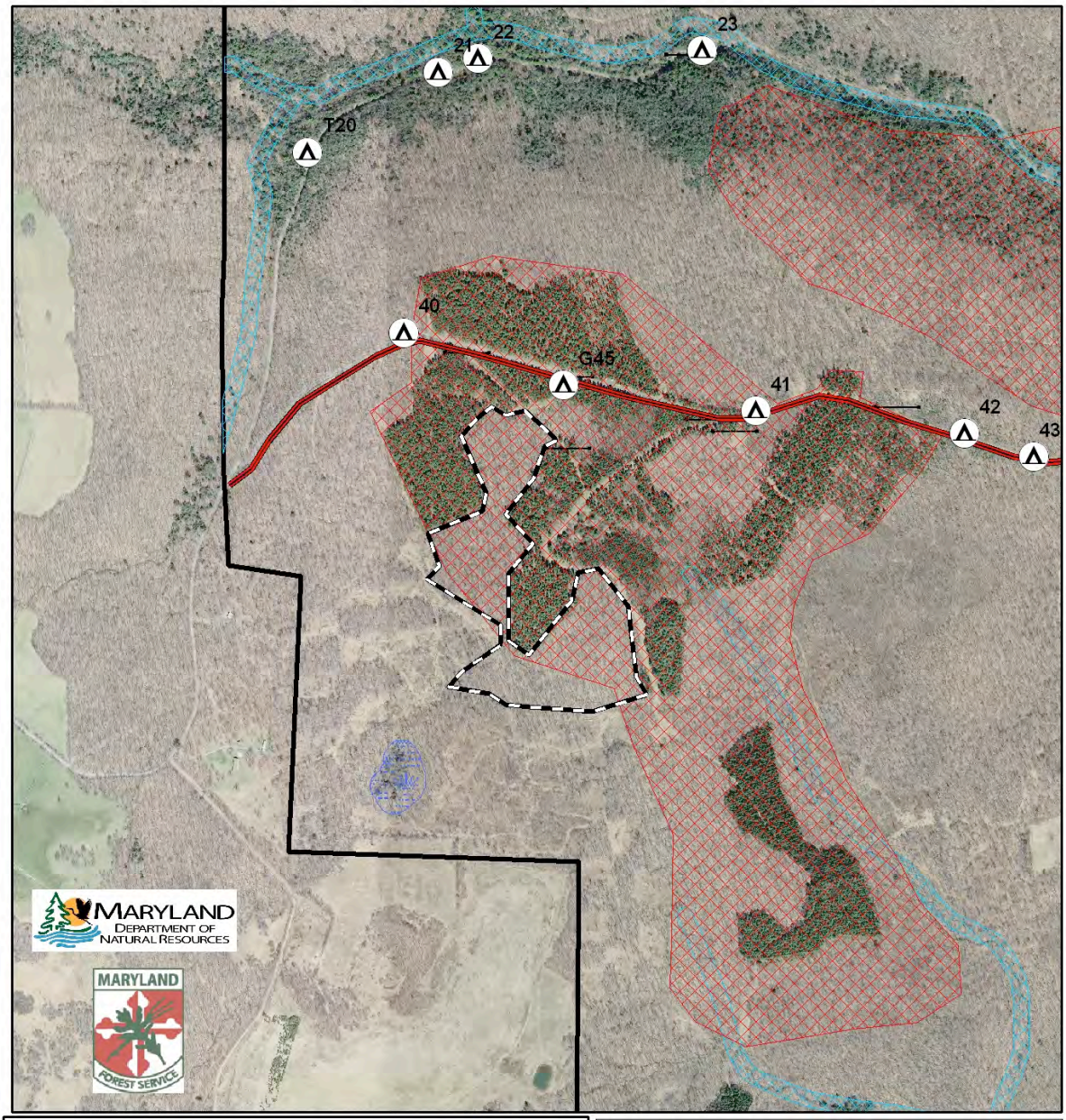
Compartment 25 Stand 30 Wallman FY-16



Approx. Acres 26
Age.....78
Forest Type.....Transition
Trees/Acre.....503
Basal Area.....150
AGS BA.....135
Stocking.....99 %
Growth Rate.....1.6 %
Site Index.....65 for NRO
Composition.....Red Maple 32%
. Red Oak 21%
. Black Cherry 15%

HCVF Components

- Wetlands of State Concern and 100' Buffer
- Streams and 50' Buffer
- Ecologically Significant Areas
- Wildlands
- Old Growth
- Old Growth and 300' Buffer

- Wetlands and 50' Buffer
- Proposed Area
- Gates

79°17'26.618"W 39°20'22.457"N

0 355 710 1,420 2,130 2,840 Feet

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E. COMPARTMENT 26 Stand 5 FY-16

Description/Resource Impact Assessment

Location: This area is situated at the end of the State Forests Wallman Road, along the east facing slope above the road in Compartment #26 Stand 5 of the Potomac State Forest. The Loop Road Snowmobile Trail runs through the north/northeast portion of the stand.

Forest Community Type and Condition: This 90-acre site contains a 95 year old Northern hardwoods stand. The overstory is made up primarily of Sugar Maple (41%), Red Oak (20%), Basswood (14%), White Oak (13%) and Hickory (12%). This stand is overstocked at 93% relative density and 129 sq.ft. BA/acre. Typical of such heavily stocked, mature, stands there is very little established desirable regeneration present. Less than 19% of the area contains "desirable" regeneration, though much of this is found as suppressed saplings, many of which have been damaged (bent over) by the heavy snows of "Super Storm Sandy" in Oct. 2012.

Interfering Elements: Deer browse pressure in this area is estimated to be high and must be addressed when considering regeneration efforts on this site. Interfering plant competition poses a significant impediment to future regeneration with 61% of the site harboring some form of undesirable plant competition. Tall woody interference occurs on 15% of the site and is comprised largely of witch hazel and some storm damaged hardwoods. Problematic, dense fern and grass cover 45+% of the forest floor, having increased from merely 12% prior to "Sandy", two years ago. The storm damage opened up the canopy enough to allow the fern and grass sufficient light to expand their coverage, but not enough to allow for any measurable seedling development. Non-native invasive species (NNIS) were observed on 13% of the sample points, and included Autumn Olive, Garlic Mustard and Multiflora rose. No significant insect pest or diseases were observed.

Historic Conditions: State Forest records show no history of harvest since the State's acquisition from the Manor Mining Co. in 1931. The site is laced with what appear at first to be old skid trails, but are more likely old coal exploration roads. This area sits upslope of the long gone coal town of Wallman which was located along the railroad tracks below the Wallman Road. The stand was sprayed for Gypsy Moth Control in 1989. No evidence of recent fire activity was observed during the recon.

Rare, Threatened and Endangered Species: During field review, 3 different rare plant species were observed within the management unit that could be impacted by the silvicultural prescription, as initially written.

Habitats and Species of Management Concern: During field review, 3 different rare or uncommon plant species were observed within the management unit that could be impacted by the silvicultural prescription, as initially written.

These species are ranked as an S3 / S2 being 'State Rare' or 'State Rare to Uncommon', though their status has not been determined as "Threatened" nor "Endangered."

Water Resources: This east facing slope drains directly toward the North Branch of the Potomac, within the Potomac River Watershed. The proposed silvicultural treatments will be outside of all HCVF stream buffer areas. No heavy equipment will be permitted within the protective riparian buffers of the streams and any associated wetlands per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

Soil Resources: Underlying soils are vaguely mapped as 'Stony land, steep'. These soils are generally moderately deep and well drained with inclusions of some poorly drained soils. Degree of slope ranges from 0-35% throughout the site. Equipment limits range from moderate to severe as slopes approach 35%. Hazard of erosion is slight to moderate on the steeper slopes. The site has very good productivity for woodland management, with a site index of 65-75 for upland oaks.

Management and Silvicultural Recommendations

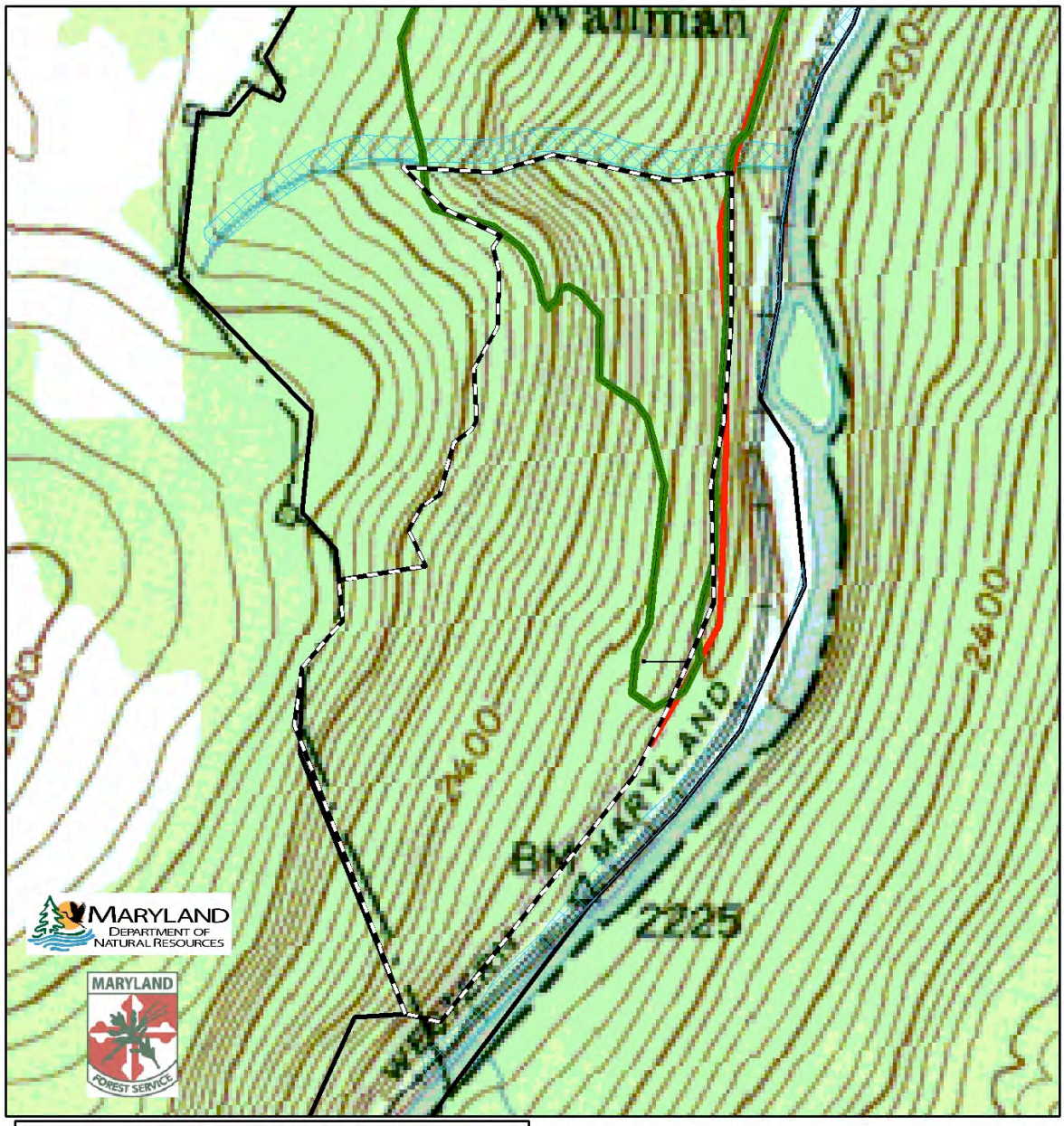
The planned silvicultural treatment for this site is to regenerate this mature stand using a 2-stage shelterwood system. The first stage of this regeneration system will be an "establishment / seed cut" that will involve thinning the stand to enhance conditions for seed production and seedling establishment. Emphasis will be placed on the retention of oaks for acorn production. This practice will reduce stocking to approximately 60-65% relative density and a basal area of 90 sq. ft. of BA/acre. The thinning will largely be a 'thinning from below' with removals taken primarily from the suppressed and intermediate crown positions, with some dominant and co-dominant trees removed to allow sufficient room for the best trees on site to grow as seed producers. Storm damaged saplings will be cut to encourage stump sprouting. Approximately 3,100 Bd. Ft. / acre will be removed in this commercially viable operation. In order to retain important wildlife habitat elements, and to preserve a 'legacy' component of the original stand, retention areas will be identified during this thinning operation to be carried through to future final harvest. This 'green tree' retention will account for 5% of the mapped / managed area and will include buffers to unmapped aquatic resources, single trees containing important habitat elements, and islands comprised of 8-12 dominant or co-dominant trees and the lower canopy trees and shrubs beneath them.

To assure successful seedling establishment, prior to harvesting, the interfering understory vegetation will be treated with appropriate herbicides in order to open the forest floor to increased sunlight necessary for seedling development. The 45% interfering fern and grass coverage will be foliar sprayed using low volume spray equipment and a combination of broadcast/spot- spray technique. To further assure a measure of protection to the rare and uncommon species of concern, prior to treatment, the individual perennial plants will be clipped off at ground level to prevent contact with herbicide. Additionally, the licensed herbicide applicator will be directed to focus treatments only on the targeted fern, grass/sedge and problematic species. He will be

informed of the presence of, and shown for identification, the 4 species of concern, to assist in assuring their protection. In keeping with the State Forests “Early Detection-Rapid Response Policy”, the NNIS – Autumn Olive individuals have been treated with appropriate herbicide and the Multiflora rose observed here will be treated with herbicide along with the fern and grass.

The control of the invasive fern, grass and Multiflora rose cover, should not only allow for the development of desired tree seedlings, but will also provide conditions for the further regeneration and establishment of other desirable herbaceous plants, thereby working toward the conservation of the known species of special concern, as well as other plants naturally associated with this forest community. Once the stand is fully stocked with acceptable seedlings, (approx. 5-10 years) the 'second stage' of this system may be carried out as an overstory removal. This final harvest will release the now competitive seedlings from overhead competition to fully regenerate the site.

Compartment 26 Stand 5 Wallman FY-16



Approx. Acres.....90
Age.....94
Forest Type.....Transition
Trees/Acre.....322
Basal Area.....129
AGS BA.....123
Stocking.....93 %
Growth Rate.....2.6 %
Site Index.....73 for NRO
Composition.....Sugar Maple 41%
. Red Oak 20%
. Basswood 14%

79°17'13.306"W 39°18'42.505"N

0 235 470 940 1,410 1,880
Feet

HCVF Components
- Wetlands of State Concern and 100' Buffer
- Streams and 50' Buffer
- Ecologically Significant Areas
- Wildlands
- Old Growth
- Old Growth and 300' Buffer

- Proposed Area
- Snowmobile Trails
- Gates
- Wetlands and 50' Buffer

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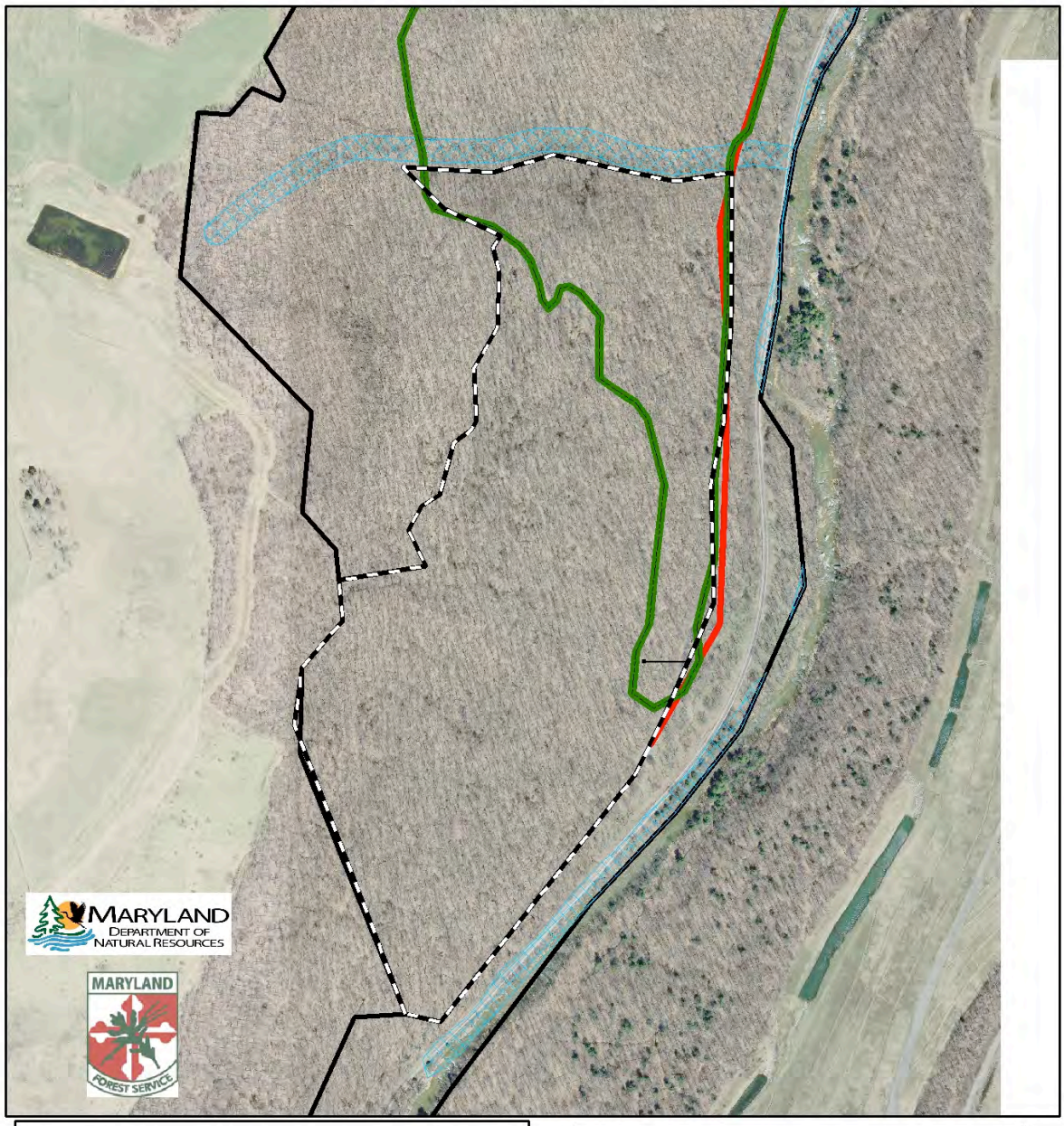
Compartment 26 Stand 5 Wallman FY-16



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Age.....94
Forest Type.....Transition
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Composition.....Sugar Maple 41%
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79°17'13.306"W 39°18'42.505"N

0 235 470 940 1,410 1,880 Feet

HCVF Components

- Wetlands of State Concern and 100' Buffer
- Streams and 50' Buffer
- Ecologically Significant Areas
- Wildlands
- Old Growth
- Old Growth and 300' Buffer

- Proposed Area
- Snowmobile Trails
- Gates
- Wetlands and 50' Buffer

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F. COMPARTMENT 37 Stand 1 FY-16

Description/Resource Impact Assessment

Location: This area is located near the southeast corner of the intersection at Cranesville Road and the Snaggy Mountain Road, within Compartment #37 of the Garrett State Forest.

Forest Community Type and Condition: As with the adjacent Stand #2, the stand was thinned in 1989 and consists of a 25 acre 117 year old, mature, transitioning mixed hardwood stand made up primarily of Red Maple (46%), and 37% mixed oak species including: Red Oak (15%),White Oak (13%), with Scarlet, Black, and Chestnut Oaks making up an additional 9%, and Black Cherry at (9%) of the trees in the stand. This stand is fully stocked at 90% and contains 129 sq.ft. BA/acre.

The thinning work carried out in 1989, resulted in a well developed understory, of mixed hardwoods. However, the existing 19% stocked plots with competitive oak, and no other appreciable amount of new or established oak seedlings, indicates that stand density has grown beyond conditions suitable for retention and development an oak seedling component. At this time, established oak regeneration is insufficient to provide for the desired oak component in the future. Only 25% of the site contains sufficient desirable seedling or sapling stock capable of competing with the other established hardwoods and expected deer impacts, with 19 of the 25% being oak.

Interfering Elements: Deer browse pressure in this area is estimated to be moderate to high and must be addressed when considering regeneration efforts on this site. Interfering plant competition is a significant factor affecting desired oak regeneration, with over70% of the site harboring some form of plant competition that is interfering with acorn germination and seedling development. This plant interference is primarily in the form of mid-canopy woody stems comprised primarily of Red Maple saplings and poles, along with abundant Black Birch seedlings and saplings which are found on 22% of the site.

Problematic, dense fern and grass cover 45% of the forest floor,(having increased from only 25% prior to “Super Storm Sandy” in October 2012.) The storm damage opened up the mid-canopy enough to allow the fern and grass sufficient light to expand their coverage, but not enough to allow for any measurable seedling development. No non-native invasive species (NNIS) were observed in the stand inventory.

Historic Conditions: The stand was sprayed for Gypsy Moth control 1989, and thinned the same year. No evidence of recent fire activity was observed during the recon.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the silvicultural prescription.

Habitats and Species of Management Concern: The Forest Manager knows of no rare, habitats or species of management concern on the site, or that would be impacted by the silvicultural prescription.

Water Resources: This ridge top site has a northwestern aspect and falls within the Toliver Run watershed, part of the Youghiogheny River drainage system. The proposed silvicultural treatments will be outside of all HCVF stream buffer areas.

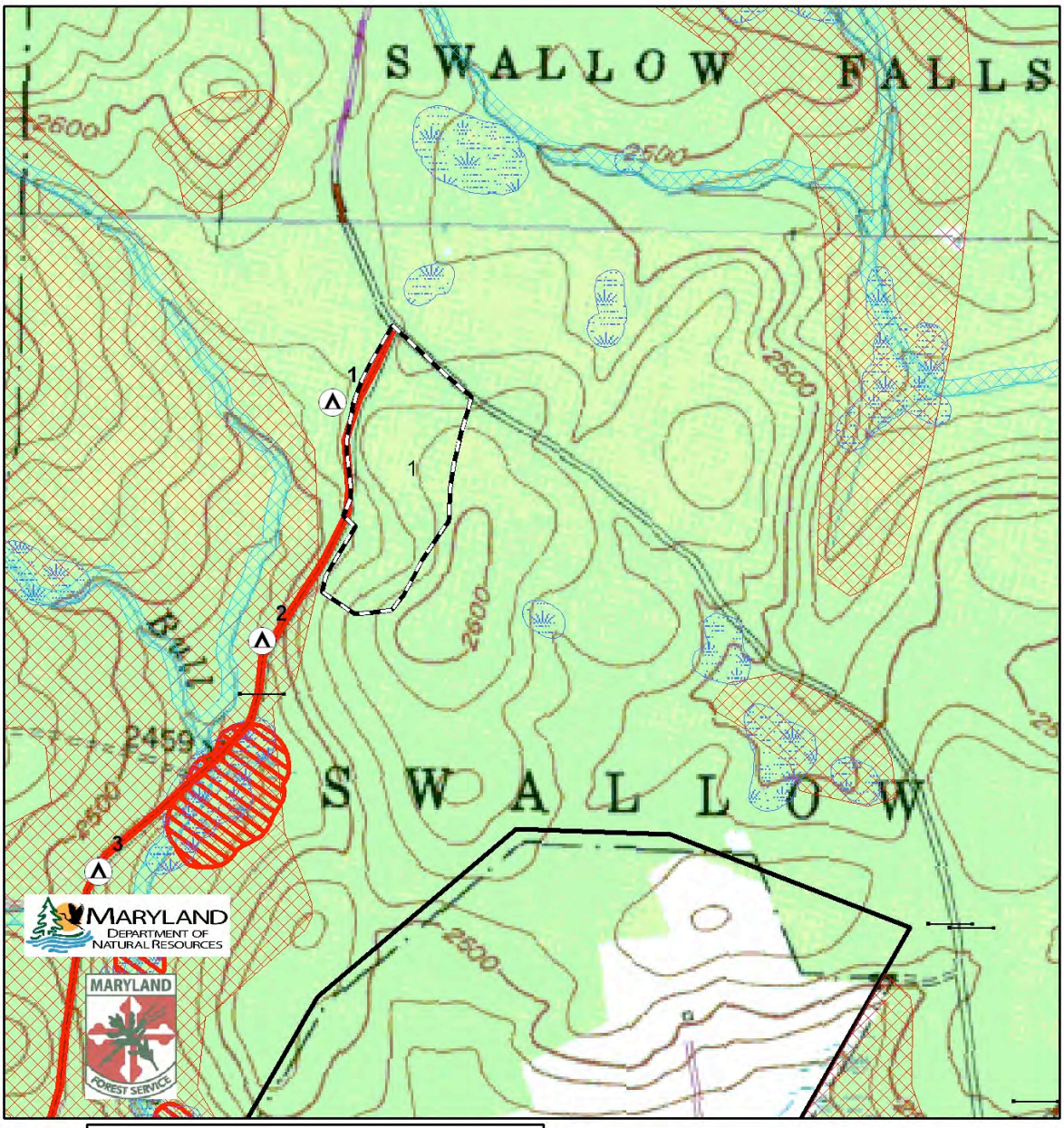
Soil Resources: Underlying soils include: 'Dekalb and Gilpin very stony loams'. These soils are generally moderately deep and well drained with inclusions of some poorly drained soils, with moderate equipment limits because water table is close to the soil surface in winter and early in spring. Degree of slope ranges from 0-25% throughout the site. The site has good productivity for woodland management, with a site index of 60-70 for White oak.

Management and Silvicultural Recommendations

The FY-13 AWP called for this site to be managed with a shelterwood system, with the first stage involving a noncommercial thinning from below. This work has been contracted out for completion in fall of 2014. For FY-16 we are including treatment of the interfering fern and grass due to the significant increase in these problematic species following 'Sandy'. This fern and grass cover will be treated with an appropriate herbicide using a foliar application spray, applied using low volume spray equipment. With over 45 % of the site occupied by fern and grass, this control work will involve broadcast spraying methods to assure thorough site coverage. The control of the invasive fern and grass cover should not only allow for the development of desired tree seedlings, but will also provide conditions for the regeneration and establishment of other desirable herbaceous plants, thereby working toward conserving the diversity of plants naturally associated with this forest community. This fern control work will be combined with work planned for the adjacent stand # 2.

Once the stand is fully stocked with acceptable seedlings, (approx. 5-10 years) the 'second stage' of this system may be carried out as an overstory removal. This final harvest will release the now competitive seedlings from overhead competition to fully regenerate the site.

Compartment 37 Stand 1 Snaggy Mtn. FY-16



Approx Acres.....23
Age.....117
Forest Type.....Northern Hardwood
Basal Area.....128
AGS.....113
Stocking.....90%
Growth Rate.....1.8%
Site Index.....75 for Northern Red Oak
Composition.....Red Maple 46%
. Northern Red Oak 15%
. White Oak 13%

79°27'6.871"W 39°29'39.539"N

0 337.5 675 1,350 2,025 2,700 Feet

HCVF Components

- Old Growth and 300' Buffer
- Old Growth
- Wildlands
- Wetlands of State Concern and 100' Buffer
- Ecologically Significant Areas
- Streams and 50' Buffer

- Wetlands and 50' Buffer
- Proposed Area
- Gates

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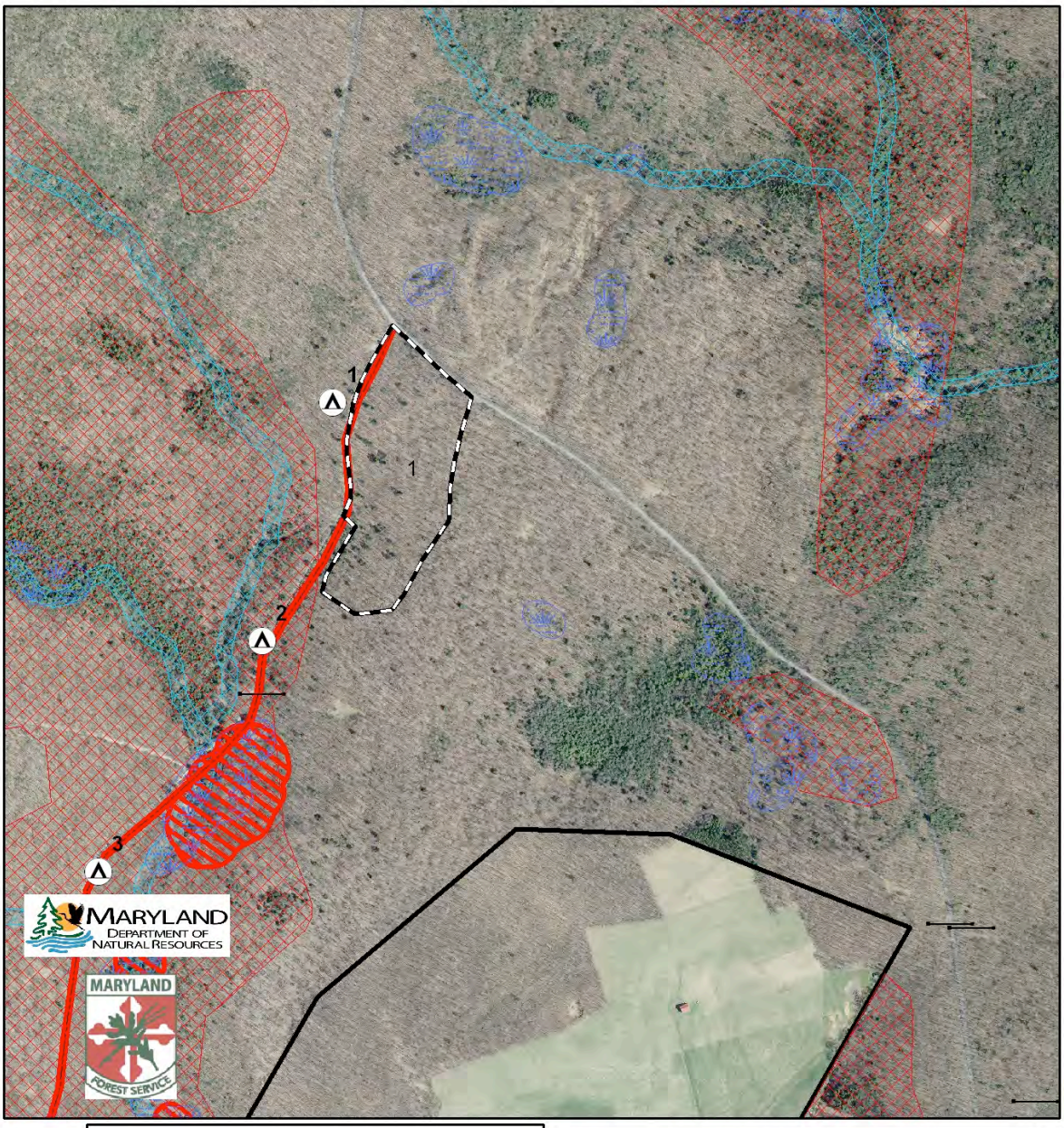
Compartment 37 Stand 1 Snaggy Mtn. FY-16



Approx Acres.....23
Age.....117
Forest Type.....Northern Hardwood
Basal Area.....128
AGS.....113
Stocking.....90%
Growth Rate.....1.8%
Site Index.....75 for Northern Red Oak
Composition.....Red Maple 46%
. Northern Red Oak 15%
. White Oak 13%

79°27'6.871"W 39°29'39.539"N

0 337.5 675 1,350 2,025 2,700 Feet

HCVF Components

- Old Growth and 300' Buffer
- Old Growth
- Wildlands
- Wetlands of State Concern and 100' Buffer
- Ecologically Significant Areas
- Streams and 50' Buffer

- Wetlands and 50' Buffer
- Proposed Area
- Gates

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G. COMPARTMENT 37 Stand 2 FY-16

Description/Resource Impact Assessment

Location: This area is located near the southeast corner of the intersection at Cranesville Road and the Snaggy Mountain Road, to the east of Stand #1,within Compartment #37 of the Garrett State Forest.

Forest Community Type and Condition: As with the adjacent Stand #1, this stand was thinned in 1989 and consists of a 47 acre 117 year old, mature, transitioning Northern hardwood stand made up primarily of Red Maple (52%), and mixed oak species including Red Oak (14%),White Oak (11%), and Black Birch (9%). This stand is fully stocked at 81% and contains 118 sq.ft. BA/acre.

While the thinning work carried out in 1989, met the goals of putting additional growth on the remaining high quality timber, it has also resulted in the development of an understory dominated by undesirable Black Birch. There is little to no desirable advanced regeneration present in this fully stocked mature stand.

Interfering Elements: Deer browse pressure in this area is estimated to be moderate to high and must be addressed when considering regeneration efforts on this site. Interfering plant competition is a significant factor affecting desired regeneration, with over 70% of the site harboring some form of plant competition that is impeding seedling development. This plant interference is primarily in the form of mid-canopy woody stems comprised primarily of Black Birch saplings and poles which are found on 55% of the site. Problematic, dense fern and grass cover 45% of the forest floor, having increased from only 12% prior to “Super Storm Sandy”(October 2012), two years ago. The storm damage opened up the mid-canopy enough to allow the fern and grass sufficient light to expand their coverage, but not enough to allow for any measurable seedling development. No non-native invasive species (NNIS) were observed in the stand inventory.

Historic Conditions: The stand was sprayed for Gypsy Moth control 1989, and thinned the same year. No evidence of recent fire activity was observed during the recon.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the silvicultural prescription.

Habitats and Species of Management Concern: The Forest Manager knows of no rare, habitats or species of management concern on the site, or that would be impacted by the silvicultural prescription.

Water Resources: This ridge top site has a northeastern aspect and falls within the Toliver Run watershed, part of the Youghiogheny River drainage system. The proposed silvicultural treatments will be outside of all HCVF stream buffer areas.

Soil Resources: Underlying soils include: 'Dekalb and Gilpin very stony loams'. These soils are generally moderately deep and well drained with inclusions of some poorly drained soils, with moderate equipment limits because water table is close to the soil surface in winter and early in spring. Degree of slope ranges from 0-25% throughout the site. The site has good productivity for woodland management, with a site index of 60-70 for White oak.

Management and Silvicultural Recommendations

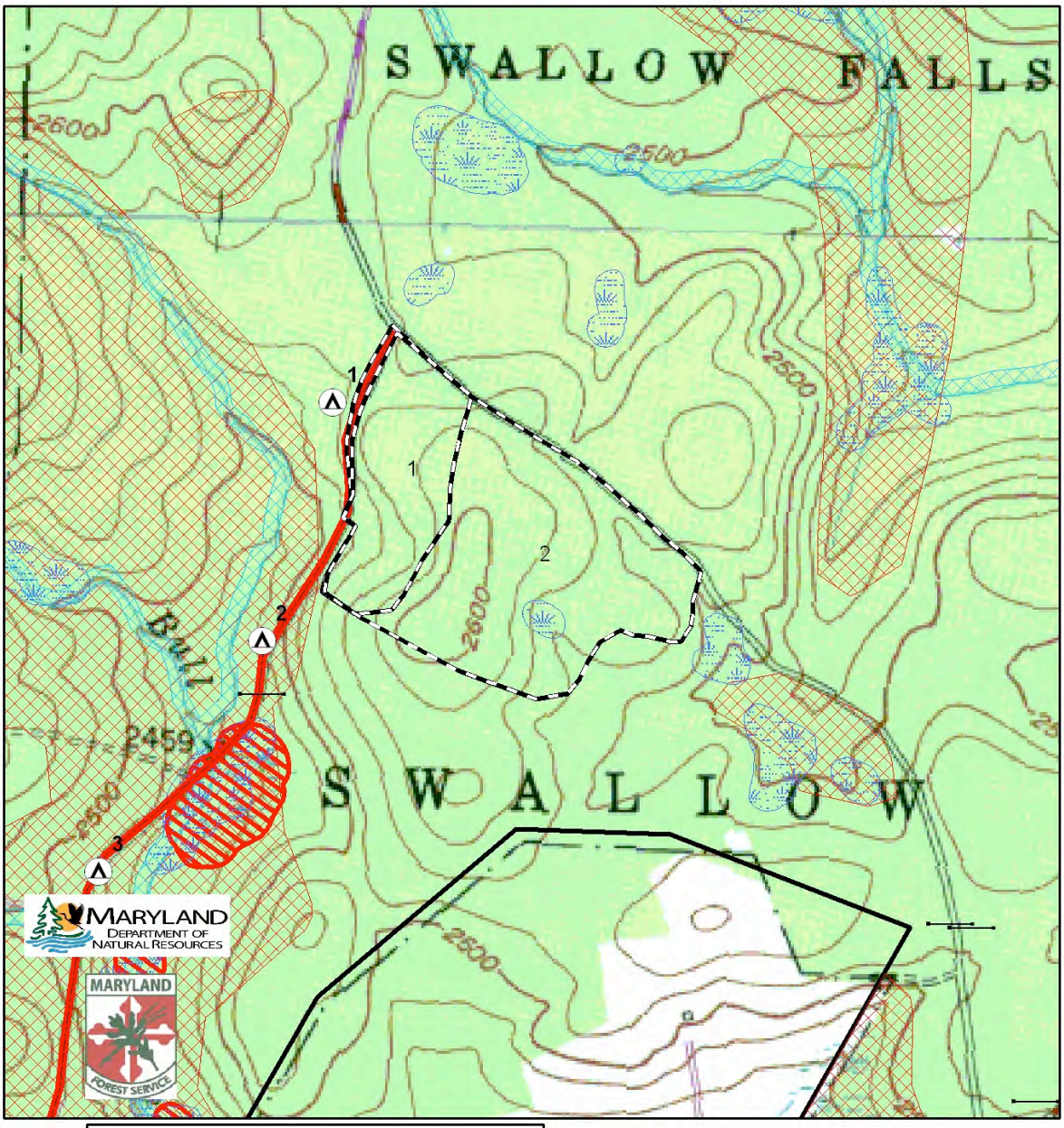
The planned silvicultural treatment for this site is to manage it with the same approach as stand #1, thereby combining these very similar stands into one manageable stand. This stand will be regenerated using a 2-stage shelterwood system. The first stage of this regeneration system, will be an "establishment / seed cut" that will involve thinning the stand and controlling the interfering understory to enhance conditions for seed production and seedling establishment. The stand will be thinned to approximately 60-65% relative density, "thinning from below" the main canopy. As this "thinning from below" will not remove sufficient volume to support a commercial sale, the work will be carried out as a non-commercial practice. The trees to be removed from the growing stock in this thinning will be treated with an appropriate herbicide using direct application to cut surface treatments and 'hack and squirt / frill techniques. Targeted trees will be left standing dead to slowly decay and fall to the forest floor as has been contracted out in the adjacent stand #1 to be completed in the fall of 2014.

As with Stand #1, the interfering fern and grass cover will be treated with an appropriate herbicide using a foliar application spray applied using low volume spray equipment. With over 45 % of the site occupied by fern and grass, this control work will involve broadcast spraying methods to assure thorough site coverage. The control of the invasive fern and grass cover should not only allow for the development of desired tree seedlings, but will also provide conditions for the regeneration and establishment of other desirable herbaceous plants, thereby working toward conserving the diversity of plants naturally associated with this forest community.

As the planned work is slated for the land lying outside of any HCVF buffers, DNR WHS Biologist will assist in filed locating the buffers along the wetlands that lie upstream of the mapped Ecologically Significant Area.

Once the stand is fully stocked with acceptable seedlings, (approx. 5-10 years) the 'second stage' of this system may be carried out as an overstory removal. This final harvest will release the now competitive seedlings from overhead competition to fully regenerate the site.

Compartment 37 Stand 2 Snaggy Mtn. FY-16



Approx. Acres 72
Age.....117
Forest Type.....Northern Hardwood
Trees/Acre.....419
Basal Area.....118
AGS BA.....102
Stocking.....81 %
Growth Rate.....1.8%
Site Index.....75 for NRO
Composition.....Red Maple 52%
. Red Oak 14%
. White Oak 11%

79°27'6.871"W 39°29'39.539"N

0 337.5 675 1,350 2,025 2,700 Feet

HCVF Components

- Old Growth and 300' Buffer
- Old Growth
- Wildlands
- Wetlands of State Concern and 100' Buffer
- Ecologically Significant Areas
- Streams and 50' Buffer

- Wetlands and 50' Buffer
- Proposed Area
- Gates

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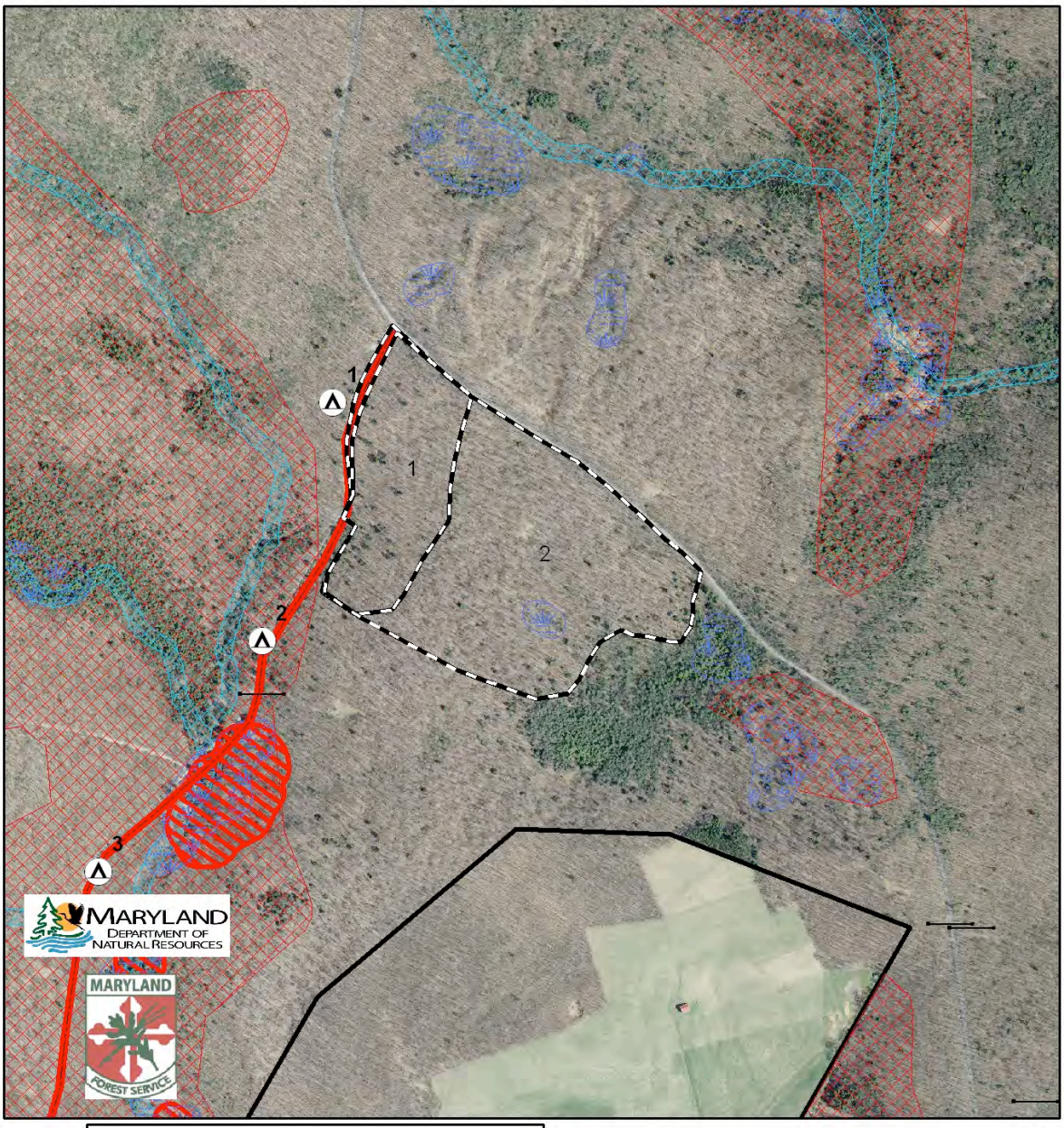
Compartment 37 Stand 2 Snaggy Mtn. FY-16



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X. Operational Management and Budget Summary

A. INTRODUCTION

This section of the plan is designed to cover the annual cost and revenues associated with the operational management of Potomac-Garrett State Forest (PGSF). It is the Department's intent that all revenues generated from PGSF will be used to pay for the management and operation of the Forest. The numbers expressed in this section are only estimates and averages of annual expenses and revenues. These numbers will fluctuate each year based on management prescriptions, economic conditions and public use of the forest.

The following information is a breakdown of Funding Sources and Operational costs associated with PGSF. These figures are only estimates that are based on projected revenues and operational expenses. Yearly changes in timber markets and weather conditions can severely affect revenues. Operational expenses will vary from year to year. The numbers below are based on the budget request submitted for FY-2015, as the FY-16 request has not been prepared at the time this document is being released for initial review.

B. PGSF FUNDING SOURCES: Estimated - $1,539,551

1. *General Fund: $303,911*

State Forests in Maryland are funded from several sources. The first is the **General Fund**. This is money generated from taxes. It is used in State Forests primarily to fund classified (permanent) employee salaries and benefits.

2. *Special Fund: $224,890*

The second source is the **Special Fund**. This is money generated from revenue. The State Forests generate revenue through the collection of service fees, as well as the sale of timber and forest products as detailed within the annual work plan and deposited in the Department of Natural Resources Forest or Park Reserve Fund. These funds must be appropriated by the General Assembly through the annual budgeting process before being spent. It is used in State Forests to fund operational costs. The State Forest budget is prepared approximately one year before the beginning of the fiscal year in which it will be spent. The budget then goes through the legislative approval/review process along with all other

State operating budgets. Once adopted, the budget goes into effect the first day of the fiscal year (July 1st). The Special Fund contribution of revenue generated by PGSF for FY-16 is expected to be $93,800.

3. ORV Fund: $0

In addition, PGSF is included in the Maryland Forest Service's Off Road Vehicle (ORV) Budget. This separate budget is based on **revenue generated from ORV permit sales** statewide and is allocated back to the State Forests through the budgeting process. ORV funds are a restricted special fund and can only be spent for ORV Trail related expenditures. In FY-13, PGSF received $12,000 from this fund source; with $0 budgeted in the past 2 years. The fund source (permit sales) has dwindled with the necessary closure of significant trails on the Savage River and Green Ridge State Forests. The limited funds available have been directed toward replacement trail developments on the Savage River and Green Ridge State Forests.

4. Other Funding:

With limited budgets available for operations, State Forest staffs have been seeking alternative funding sources to carry out necessary maintenance and operations of the State Forest. Sources of potential funding include:

a. *Forest Inventory Grants: $20,000*
Grant monies secured for the completion of the forest inventory project.

b. *National Recreational Trail Grant: $39,150*
These grants are competitive and are generally limited to $30,000 per year per grant. The source of this funding is the Federal Department of Transportation administered through the Maryland Department of Transportation, State Highway Administration. These funds are designated reimbursable funds and are applied to various trail related projects as detailed in specific grant requests. For FY-16, PGSF has requested NRT Grant funds for:

Trail shelter restoration ($9,150)

Snaggy Mt. Road /ORV trail resurfacing ($30,000)

c. *Other Grants: $950,000 Capital improvement funds*
In January of 2012, the Governor announced approximately $23 million in the proposed capital budget for public land projects that will support nearly 300 jobs, help restore the environment, reduce

energy usage, and improve services to visitors and citizens. Approximately $950,000 of this will be directed to improving the public access and trail network on the Potomac and Garrett State Forests according to the plans outlined in the Recreation section of this work plan.

d. ***RGS/ SCI Partnership***

State Forest staff has regularly sought wildlife habitat improvement funds from various conservation organizations. For the past 3 years, the Ruffed Grouse Society has provided grants of $1,000 -$1,600 each year for specific habitat work. Grant requests will be submitted for FY-16 to assist in carrying out the wildlife habitat work on the forest.

C. OPERATIONAL COST: **Estimated Annual Expenses - $528,801**

Operational expenses are those costs paid directly out of the PGSF operational budget by the State Forest Manager and vary based on approval of operational budgets. The Forest Manager prepares a proposed operational budget for the forest based on instructions provided approximately one year in advance of the fiscal year. The FY-2015 budget proposal was prepared in July of 2013.

1. Classified Salaries,Wages and Benefits: $303,911

This cost is associated with General Funds which are State tax revenues provided annually. These funds are used to pay PGSF Maryland Classified Employee Salaries responsible for the management, operations and maintenance of the State Forest.

2. Contractual Staffing: $83,728 does not include Contractual Inventory Staff

This cost is associated with contractual personnel hired to assist the classified staff in conducting work outlined in the annual work plan, managing the daily activities on the forest, including boundary line work, maintenance of trails, forest roads, maintaining primitive campsites, a public shooting range, overlooks, wildlife habitat areas, and implementing all maintenance, recreational, silviculture, and ecosystem restoration projects.

3. Special project staffing: $20,000

This cost is associated with contractual personnel hired to carryout special forest inventory projects associated with forest certification monitoring requirements.

4. Land Management and Operation Cost: $103,912

This includes expenses for office and field equipment, vehicles, gravel, signs, boundary paint, roadwork contracts and construction, trash removal from illegal dumping, boundary line work & surveying, tree planting, site preparation, control of invasive species, non-commercial thinning and other forest management practices. These costs vary greatly from year to year based on the activities identified in the Annual Work Plan.

5- County Payments: $23,450

These are revenue payments to local county governments which will vary every year. Payments are made on an annual basis to Garrett County based on 25% of the gross revenue generated from PGSF. These payments come out of revenue generated from timber sales and recreation. These payments are used to help the counties offset the loss in property tax revenues which are not paid on State owned lands.

The FY-16 Work Plan calls for the harvest of approximately 634,000 Bd.ft. of hardwood and softwood saw timber, putting an estimated $126,800 worth of raw wood products out into the local markets. With the repeated Gypsy Moth infestations and weather related damages to the State Forests oak stands in the past decade, much of the silvicultural work laid out in this work plan is focused on initiating seedling development to better insure oak regeneration successes in future harvests. Much of the value of the harvests in the work plan will be directed back into the forest providing the essential investment in pre-harvest cultural work that will assure the long tern sustainable management of these important forest resources.

6. ORV Funds: $0

ORV funds are a restricted special fund and can only be spent for ORV Trail related expenditures.

D. SUMMARY

This is the general breakdown on Revenues and Operational Costs associated with the Potomac-Garrett State Forest. As described, these figures will vary from year to year. A more detailed picture on revenues and operational cost will be reviewed quarterly as the actual picture develops within implementation of Annual Work Plan and as operating budgets are approved.

Appendix 1

2014 Audit Report Summary

Forest Stewardship Council

2014.1 – Observation FME should conduct an analysis of international binding agreements to determine which are applicable to its management system so that it can ensure that forest management plans and operations comply with relevant provisions of said agreements.

2014.2 – Minor CAR FME shall prepare a publicly available statement of commitment to manage the FMU in conformance with FSC standards and policies.

2014.3 – Observation FME should consider developing a policy or procedure for when to notify the Certifying Body of significant changes in ownership and/or significant changes in management planning within 90 days of such change.

2014.4 – Minor CAR Contracts or other written agreements shall include safety requirements.

2014.5 – Minor CAR FME should investigate what the First AID/CPR requirements are for employees of tree planting/TSI contractors and determine what corrective actions, if any, are warranted.

2014.6 – Minor CAR A summary of social impacts that covers the elements of indicator 4.4.a shall be made available.

2014.7 – Minor CAR In the Western Region, when even-aged systems are employed, and during salvage harvests, live trees and other native vegetation shall be retained within the harvest unit as described in indicators, 6.3.f (b), 6.3.g.1 and Appalachian Regional 6.3.g.1.a. Operational constraints, future economic value of retained trees, and effects on desired regeneration can be taken into account.

2014.8 – Minor CAR FME shall either bring its SMZ widths into conformance with Appalachian Regional indicators 6.5.e.1.a-g or seek a variance per indicator 6.5.e.2. If the 6.5.e.2 option is selected, an independent expert in aquatic ecology or closely related field must be made available for consultation to the CB.

2014.9 – Observation

6.6.b: FME shall provide justification for chemical use and develop a written strategy that justifies the use of chemical pesticides per indicator 6.6.b.
6.6.d: FME shall ensure that its chemical use prescriptions address the provisions of indicator 6.6.d.

2014.10 – Minor CAR
7.1.h: FME should update the management plan to include an explanation of how the management system conforms to Criterion 6.6.
7.1.l: FME should include a description of commonly used silvicultural systems of the Western Region in the management plan

2014.11 – Minor CAR
7.1.p: The management plan shall describe and justify the types and sizes of harvesting machinery and techniques employed on the FMU to minimize or limit impacts to the resource.
7.1.q: Annual Work Plans, or other site-specific plans, shall clearly describe the relationship to objectives and desired outcomes defined in the SFMPs.

2014.12 – Observation FME should consider providing an explanation as to how public comments were considered in the modification of management plans (e.g., SFMPs, AWPs).

2014.13 – Minor CAR FME shall monitor relevant socioeconomic issues (see Indicator 4.4.a), including the social impacts of harvesting, participation in local economic opportunities (see Indicator 4.1.g), the creation and/or maintenance of quality job opportunities (see Indicator 4.1.b), and local purchasing opportunities (see Indicator 4.1.e).

2014.14 – Major CAR (closed) While protecting confidentiality, either full monitoring results or an up-to-date summary of the most recent monitoring information shall be maintained, covering the Indicators listed in Criterion 8.2, and be made available to the public, free or at a nominal price, upon request.

Sustainable Forestry Initiative

SFI Indicator 2.3.7 requires "Road construction and skidding layout to minimize impacts to soil productivity and water quality".

SFI Indicator 2.4.2 requires "Management to promote healthy and productive forest conditions to minimize susceptibility to damaging agents.

SFI Indicator 20.1.1 requires "System to review commitments, programs and procedures to evaluate effectiveness".

The next SFI Surveillance audit is scheduled for April 6, 2015.

Appendix 2

Annual Work Plan Review Summary
Potomac Garrett State Forest
FY16 – AWP

The following is a summary of the comments received, and actions taken, in response to the three-part review of the Potomac-Garrett State Forest FY-15 Annual Work Plan. Comments were received through DNR ID Team review, State Forest Advisory Committee review, and public review of the internet posted AWP. (See copies of all written comments attached.) Items below are listed as they appear in the in FY-16 AWP table of contents:

Potomac- Garrett State Forest
FY-16 Annual Work Plan

ID Team Comments: No specific comments or concerns; A-E.
Advisory Board Comments: No specific comments or concerns; A-E.
Public Comments: No comments received A-E.

- Final Proposals I-IV.A-E : Included as initially presented.

V. Maintenance and Operations

ID Team Comments: No specific comments or concerns; A-E.
Advisory Board Comments: No specific comments or concerns; A-E.
Public Comments: No comments received: A-E.

- Final Proposals V.A-E : Included as initially presented.

VI. Recreation Proposals

ID Team Comments: No specific comments or concerns with proposals as written.
Advisory Board Comments: No specific comments or concerns, with proposals as written.
Public Comments: No comments received:

- Final Proposals: Included as initially presented.

VII. Watershed Protection

ID Team Comments: No specific comments or concerns.

Advisory Board Comments: No specific comments or concerns.
Public Comments: No comments received.

- Final Proposals : Included as initially presented.

VIII. Ecosystem Restoration / Protection Projects

26 Non-Native Species Control

27 Comps. 5&7 – Backbone Mtn. Japanese Knotweed Control (Continuation of FY-12 Proposal)

29 Comps. 21-26 - Garlic Mustard Control Project

ID Team Comments: No specific comments or concerns; section VIII.
Advisory Board Comments: No specific comments or concerns; section VIII.
Public Comments: No comments received; section VIII.

- Final Proposals : Included as initially presented; section VIII.

IX. Silvicultural Proposals

29 Comp. 14 -Stand 12 Shelterwood

ID Team Comments: Heritage biologist agreed to assist State Forest staff in field delineating the ESA boundaries; otherwise no specific comments or concerns.
Advisory Board Comments: No specific comments or concerns.
Public Comments: No comments received.

- Final Proposals : Included as initially presented.

34 Comp. 19– Stand 3a Commercial Thinning

ID Team Comments: No specific comments or concerns.
Advisory Board Comments: No specific comments or concerns.
Public Comments: No comments received.

- Final Proposals : Included as initially presented.

38 Comp. 23– Stand 1 Shelterwood

ID Team Comments: No specific comments or concerns.
Advisory Board Comments: No specific comments or concerns.
Public Comments: No comments received.

- Final Proposals : Included as initially presented.

43 Comp. 25– Stand 30 Shelterwood

ID Team Comments: No specific comments or concerns, initial draft was written in concert with WHS.

Advisory Board Comments: No specific comments or concerns.
Public Comments: No comments received.

- Final Proposals : Included as initially presented.

47 Comp. 26- Stand 5 Shelterwood

*ID Team Comments***:** Minor concerns over occasional observance of 4 rare or uncommon plants, and how they may be protected during treatments. Certain plants near targeted problem plants will be clipped off at ground level to avoid herbicide contact; also, herbicide applicator will be directed to focus on the targeted problematic species, and made aware of / shown the species of concern to help avoid collateral damage to these plants, where possible. Further site investigation with WHS and PGSF staff, indicate that proposal is acceptable with inclusion of educating applicator, and clipping plants as planned.
Advisory Board Comments: No specific comments or concerns.
Public Comments: No comments received.

- Final Proposals : Edited to include reference to informing and showing applicator the species of concern as well as clipping off at ground level, those growing near problem/targeted species to eliminate opportunity herbicide contact

52 Comp. 37- Stand 1Understory Control

ID Team Comments: No specific comments or concerns.
Advisory Board Comments: No specific comments or concerns.
Public Comments: No comments received.

- Final Proposals : Included as initially presented.

56 Comp. 37- Stand 2 Understory Control

ID Team Comments: No specific comments or concerns.
Advisory Board Comments: No specific comments or concerns.
Public Comments: No comments received.

- Final Proposals : Included as initially presented.

(end, summary doc.)

Maryland DNR Forest Service
Potomac Garrett State Forest
September 16, 2014

Annual Work Plan Review – FY 2016

Attendance: John Denning (PGSF staff), Noah Rawe (PGSF staff), Jason Savage (PGSF staff), Rick Latshaw (WHS), Mike Friend (NRP), Joe Riley (NRP), John Wilson (LAP), Steve Carr (LAP), Don VanHassent (Forest Service), George Eberling (Forest Service), Jack Perdue (Forest Service), Alan Klotz (Fisheries), Eric Null (Parks), Ed Thompson (WHS), Dave Brinker (WHS).

AWP Introduction (Denning)
600,000 board feet proposed annual harvest, AWP review is mainly silvicultural proposals, and no new trails are proposed. The looped trail that has been discussed has not seen any further development at PGSF. The efforts for the trail segment at Deep Creek State Park is now working on its third alignment.

COMPARTMENT 26 Stand 5
Wallman (field stop)
Page 47

Proposal (from AWP): regenerate it using a 2-stage shelterwood

system. The first stage of this regeneration system will be an "establishment / seed cut" that will involve thinning the stand to enhance conditions for seed production and seedling establishment.

Habitat (from AWP): One species of management concern was observed during the woodland inventory. The species is ranked as an S3 / S2 being 'State Rare' or 'State Rare to Uncommon'

Comments:

- The ORV trail ends here at this site. Illegal ORV activity has become a DNR priority with recent arrests in the Yough corridor.
- A two-staged shelterwood is proposed.
- Hay scented fern is an issue with forest regeneration on this site. There are historic indicators of disturbance from the old mining community that was once here. Current access will be an issue.
- An S2/3 species ('State Rare' or 'State Rare to Uncommon' is present on this site. The important question is how will the proposed fern control effect the population of this species of management concern?
- Heritage has concerns about killing more than just ferns with the herbicide treatment. If the observed S2 / S3 plants are present then other plants of concern will probably be present, too. Spraying is expensive, target spraying is even more so.
- Much discussion followed and the ID Team walked into the site for a closer look at the overstory and understory. One thought was that spraying the fern may actually improve growing conditions for the identified S2/S3 species, as the slash from logging will keep people and deer from the plants. A 10x10' patch is the minimum size area of fern and grass to be treated

Comments On-Site

Many fern species were found. Broad-beech fern should be preserved if able. Pipe Vine is present and may be more rare than

the observed S2/ S3 plants. The forest harvest may even help bring this species back here.

Consensus: fern control is accepted but broad beech fern should be maintained. Hay scented and New York fern should controlled. A pre-bid meeting with Natural Heritage Service will be scheduled to discuss and identify what will/can be treated. NHS and forest manger will return to site to detail the grass spray issues.

Follow-up: From John Denning (10/2/14): *As a follow-up to the FY-16 - ID Team Review, Ed [Thompson], Jason Savage and I [John Denning] met to look closer at the work proposed for Compartment 26-5 (the south end of Wallman area). During the ID Team Review, Ed had expressed concerns over the proposal to foliar spray the 'interfering fern and grass'. His concerns were more specifically with the spraying of the "grasses". We spent time looking over the site more closely, specifically looking at the various grasses and sedge (collectively labeled as 'grass' for prescription purposes) so that he could get a better idea of the 'grass' competition / regeneration issue, our desired objectives (control of competing plants interfering with seedling regeneration efforts) and, to get a better feel for whether the site may contain sensitive grass or sedge species that should not be broadly targeted for control.*

After this additional site visit, Ed suggested that: the 'grasses' and sedges that we were targeting were generally very common plants; that this previously disturbed area with a very apparent history of mining exploration and associated harvest was not very likely to contain critical grass or sedge species; and that the proposal was fine by him as written.

Compartment 25 Stand 30
Wallman Road (field stop)
Page 43

Proposal (from AWP): Regenerate it using a 2-stage shelterwood system. The first stage of this regeneration system will be an

“establishment / seed cut” that will involve thinning the stand to enhance conditions for seed production and seedling establishment.

Habitat (from AWP): The stand is surrounded on three sides by conifer plantations which had prompted the designation of the surrounding HCVF area as an ESA as these plantations are known to have supported critical habitat for a State listed RTE species”. The planned work will not take place within the critical habitats of the conifer stands.

- This is an ESA site with a history of a containing critical habitat for a ‘State Endangered Species’. The species was last recorded as using the area in 2006, and was first found in 2001. Primary conifer cover on this forest.

- Dave Brinker re. this endangered species needs: This species has population has declined since 2001 possibly due to know disease outbreaks. There are four critical habitat areas in Maryland and we need to maintain them. They like open understory. Only one critical habitat area is being used now. Dave likes the first part of the shelterwood but not the second. The question is, can we do the necessary work to benefit the endangered speciess and make the work pay for itself. Hertiage program has funds that may be able to be directed toward this project.

COMPARTMENT 37 Stand 1
Snaggy Mt (field stop)
Page 52

Proposal (from AWP): The FY-13 AWP called for this site to be managed with a shelterwood system, with the first stage involving a noncommercial thinning from below. This work has been contracted out for completion in fall of 2014. For FY-16 we are including treatment of the interfering fern and grass due to the significant increase in these problematic species following ‘Sandy’.

Habitat (from AWP): The Forest Manager knows of no rare, habitats or species of management concern on the site, or that would be impacted by the silvicultural prescription.

Comments: Natural Heritage Program feels an adjustment of the ESA is necessary to protect the stream and bog. Natural Heritage Program will work with PGSF staff to delineate the correct stream and ESA buffer.

COMPARTMENT 14 Stand 12

North Hill Site
Page 29

Proposal (from AWP): The planned silvicultural treatment for this site is a commercial thinning. The objective of this thinning is to reduce the stocking level to approximately 65% relative density by applying a free thinning throughout the stand.

Habitat (from AWP): The stand sits mid-slope between two sections of HCVF (High Conservation Value Forest) which include 2 Ecologically Significant Areas (ESA).

Comments:

- Buffer any streams or wet areas
- Natural Heritage Program will visit site with staff to determine field delineation No additional visit for IDT will be necessary.

Trails

- LAP raised the question, what is necessary for PGSF. The current working model currently is to use geo-PDFs which can be downloaded and stored offline on any smart phone device.
- LAP will engage the assistance of their staff to create these for

state forest maps.

- The PGSF Rec Trail Grant (RTG) was approved.
- Rec Trail Grants are now more competitive with other groups discovering their value
- Wallman CIP road improvements were bid and awarded under $30k
- Garrett Trails has produced a trails map and is looking for review by our state forest staff.

Mid-Atlantic Council Trout Unlimited
P.O. Box 2865
Wheaton, MD. 20715
www.mac-tu.org
Chapters: Maryland, National Capital, Nemacolin, Patapsco Valley, Potomac-Patuxent, Seneca Valley, Youghiogheny

December 4, 2014

Maryland Department of Natural Resources
Forestry Division
Annapolis, MD
Sent via email: jack.perdue@maryland.gov

The Maryland Department of Natural Resources (DNR) is seeking public comment on the proposed 2016 fiscal year work plan for Potomac Garrett, Green Ridge, Savage River, Chesapeake and Pocomoke State Forests. The State Forest annual work plans identify the work that is to be accomplished on the forest in the next fiscal year within the scope of the forest's long-range management plan. The plans will address establishment, growth, composition, health and quality forest management operations, along with maintenance and construction projects, and other required work. Comments will be received through December 5, 2014.

The Mid-Atlantic Council of Trout Unlimited represents over 2500 members in Maryland and the immediate environs. We are always watchful of any activities that might have any impact on our cold water resources, particularly when our native brook trout are in the planned area of any such activities.

We have reviewed the plans for FY 2016 for the Savage River State Forest. This forest protects the only relatively secure population of wild, native brook trout in the state and the immediate area. The loss of any forest cover over any stream inhabited by trout could mean a serious thermal impact to those fish. From our review of the plans for this forest, we do not see any significant impacts to the native brook trout in the Savage River watershed.

We would appreciate being kept informed of any changes to these or any other plans for this forest.

Sincerely,

Don Haynes, Chair
Mid-Atlantic Council Trout Unlimited

11/25/14

Ruffed Grouse Society (RGS) comments on Fiscal Year 2016 Annual Work Plans

Green Ridge State Forest

The Ruffed Grouse Society (RGS) has supported projects on Green Ridge State Forest in the past for the creation of young regenerating forest habitat for grouse, woodcock and other wildlife species. These habitats afford wildlife viewing opportunities and access for users engaging multiple facets of recreational activities.

The proposed acreage for variable retention management constitutes less than 1% of the general management zone. In reviewing the Silvicultural Activity Summary for GRSF the acreage completed from 2006-2012 trends to under 60% of the proposed acres. Thus it can be anticipate for approximately 110 acres of GRSF to receive the proposed silviculture treatment. RGS would strongly encourage furthering this percentage to increase the diversity and age class structure of the forested area for the benefit of those species demonstrating regional declines in populations requiring young forest habitat.

It is stated that continued habitat enhancement will be conducted in current upland management areas of Kirk Orchard, Kasecamp Bottomlands, Bull Ring Ranch, and Anthonys Ridge. There is no description of what these management enhancements would be in the upcoming Plan of Work. Including the proposed actions within these areas would provide the public and potential partners with a better overview for both comment and involvement.

Savage River State Forest

Conifer plantations within the landscape provide a unique habitat component for some obligate species of primarily songbirds. From a historic perspective these stands should be managed to remain as legacy stands within SRSF.

RGS would suggest the creation or maintenance of cutback borders around the herbaceous and wildlife openings for increased benefit to wildlife as potential escape cover where appropriate. We would also request the opportunity to comment or assist in the development of the Margroff wildlife habitat unit operating plan scheduled for completion during the upcoming FY.

Following the completion of surveys of the Rounds and Owings Property and a determination of management direction is reached, RGS would be very interested in providing assistance in developing the management plan and subsequent implementation for quality ESH creation on these two properties. Engaging potential stakeholders in the initial stages may prove beneficial long-term.

Under the proposed Silviculture treatments / prescriptions it becomes very apparent there is a uniform lack of advanced desirable regeneration on most of these stands. The regeneration present is of undesirable and interfering woody / herbaceous species. The focus for the following FY and in previous plans then involves intensive stand prep for future commercial harvests. Altering the pre - or immediate post-harvest procedures could eliminate the added cost during stand development. This effect of deer legacy seems perpetual within this forest. The willingness of the staff of SRSF to focus on the development of future stand conditions is professionally appreciated.

Historically the acres completed comprise less than 50% of the acres proposed for work during any given Plan beginning in 2002 (excluding the proposed prescribed fire acreage). The RGS would again strongly support increasing the accomplished acres with regard to silviculture treatment.
The soft edge creation proposed for the gas well site to a distance of one chain states cutting and leaving all stems within this zone. If this is accomplished as stated it is difficult to conceptualize how the edge created as soft. I would suggest establishing a criteria such as all stems whose canopy will enter the well site area be removed with preference for leave trees being given to species beneficial for wildlife. This list would be developed with input from the Wildlife and Natural Heritage personnel. Other suggestive criteria could include to leave no more than 2 trees >12" DBH within 100' linear distance, and removal of stems > 3" DBH.

Potomac / Garrett State Forest
This Annual Work Plan contains a strong emphasis on trail maintenance and creation. Although 270 acres are proposed for silviculture management, some of which will create young regenerating forest habitat, past completed acres is just above 50% of those proposed for work. RGS strongly encourages the consideration of forest health, diversity and wildlife populations to be high priority in Annual Work Plans.
Much of the proposed silviculture work focuses on stand health and diversity for future development. If permitted to be managed through long-term planning the resulting stands will exhibit the varying age and structure necessary for a sustainable forest system. Routinely being deficient (to the degree shown) in completing the planned work jeopardizes the ability to ensure quality forest management, thus healthy forests and wildlife populations in perpetuity.
The Ruffed Grouse Society would like to thank you for the opportunity to comment on the proposed FY 2016 Annual Work Plan for Maryland State Forests. It is our hopes that the emphasis on management activities continues to revolve around ecological issues affecting wildlife populations at a regional scale. Wildlife knows no jurisdictional boundaries and we as conservationists cannot depend on private lands to provide the quality habitat required by resident and migrating species. We commend the MD DNR Forest Service on their past management practices and request that future management continues to include the interests of all forest users at equal levels. We look forward to continuing our cooperative affiliation where appropriate.
Feel free to contact me for any necessary clarification or further discussion regarding these submitted comments.
Professionally

Linda D. Ordiway PhD
Ruffed Grouse Society
Mid-Atlantic Southern Appalachian Regional Biologist
412-720-6034
LindaO@ruffedgrousesociety.org

12/4/14

don wolf <wolfdon38@yahoo.com>

to jack.perdue, DaveH, LindaO, me

Greetings Mr. Perdue:

Thank you for the opportunity to make a public comment on the upcoming work plans for the Management of the State Forest. Thank you for all the present and past work that the MD DNR does and has accomplished on the State Forest.

I briefly reviewed the plans for the Savage River State Forest and Potomac-Garrett State Forest. The plans were very extensive.

I am a Member of the Ruffed Grouse Society/Backbone Mountain Chapter and a user of the State Forest to enjoy hunting with my bird dogs and enjoying the pursuit of Ruffed Grouse and the American Woodcock.

I support all efforts to create habitat for the Ruffed Grouse and American Woodcock which also benefits other wild game species and songbirds.

This habitat support is for the creation of more young regenerating Forest through timber management.

Their is also the importance of varying standing aged trees and structure to increase overall forest health.

This type of habitat is necessary for a variety of declining wildlife species within the region.

Thank you once again for the opportunity to provide comments on your management plans.

Your consideration and hard work in managing the State Forest is greatly appreciated.

Sincerely,
Don Wolf Jr.
Ruffed Grouse Society Member/Backbone Mountain Chapter

---------- Forwarded message ----------
From: **Chip Heaps** <cheaps@ducks.org>
Date: Wed, Nov 26, 2014 at 8:41 AM
Subject: FY 2016 MD State Forest Annual Work Plans
To: "jack.perdue@maryland.gov" <jack.perdue@maryland.gov>

Good morning Jack,

I would like to make a couple of quick comments on the upcoming FY 2016 MD State Forest Annual Work Plans for Green Ridge State Forest, Savage River State Forest, Potomac-Garrett State Forest and Chesapeake Forest/Pocomoke State Forest.

I am an upland bird and turkey hunter and a user of the Forests in Maryland and I would like to thank MD DNR Forest Service for their past work and the opportunity to provide comments on the management of your State Forests.

I support the creation of more Young Regenerating Forest Habitat through timber management and stress the importance of varying stand age and structure to increasing overall forest health. This type of habitat is necessary for a variety of declining wildlife species within the region.

Thanks again for the opportunity to comment.

Sincerely,

Chip Heaps

CHIP HEAPS
Director of Development - South-Atlantic
Delaware, DC, Maryland, Virginia, West Virginia
136 Goucher Way, Churchville, MD 21028-1218
Bus. 410.399.4093 Mobile 410.688.0161
cheaps@ducks.org

---------- Forwarded message ----------
From: <dlgomez@comcast.net>
Date: Sat, Nov 29, 2014 at 9:10 PM
Subject: Comment on FY 2016 MD State Forest Annual Work Plans for Green Ridge, Savage River, Potmac-Garrett, Chesapeake Forest/Pocomoke State Forests
To: jack.perdue@maryland.gov

Dear Mr. Purdue:

I advocate the cutting of mature trees in accordance with timber management best practices. The cutting of mature trees will help regenerate young forest habitant, and promote much desired biodiversity in plant species and wildlife species within the region. A mature forest is a dying forest. A healthy forest will provide benefits for all concerned.

As a father, I want my children and their children to be able to experience the benefits of a healthy, regenerating forest system. As a bird hunter, I am a user of the forest, and want it to be able to support my activities.

I'd like to thank the MD DNR Forest Service for all of their great work in the past, and encourage their initiative. Thank you for the opportunity to comment.

Sincerely,

Dan Gomez
18700 Shremor Drive
Derwood, MD. 20855
DanGomezMBA@gmail.com

The following comments are for all 4 Maryland State Forests annual work plans for fiscal year 2016, including Green Ridge State Forest, Savage River State Forest, Potomac & Garrett State Forest and the Chesapeake & Pocomoke State Forest. They are general comments for all the forest work plans in Maryland and not specific to each work plan. I'm very experience about Green Ridge Forest, spending much time hiking and exploring the forest and hiking the Green Ridge Trail-starting in Pa. along 15 mile creek and other public lands, all the way to the C&O Canal and Potomac River. I have also commented at many public hearings at Green Ridge and other places in Maryland about Maryland forests and other public lands. I also have spent time in the Savage River Forest and it's trails and other areas. The Potomac/Garrett Forest areas I have visited but have spent less time there, as well as a few trips to the Pocomoke Forest. I oppose all of the work plans, as I do not agree on how Maryland and the DNR do there so called management plans. My first area, of comments, is all about the so called economic value and benefits to the state and it's citizens, taxpayers and to local and regional communities. The state forests are under attack by logging/timber companies, many from other states, and not from Maryland. Contracts awarded to these mostly out of state companies, does not provide much economic value to Maryland citizens and taxpayers, and local employment to Maryland workers. The finished wood products, pulpwood and saw timber goods are often made from out of state producers (mills and factories) or even sent as raw material to oversea countries. The use of public lands for forest goods directly competes with the private land owners and their ability to profit from their own private property. Another aspect is that is deters more acquisition and protection of forest lands in Maryland by private ownership, which would benefit the environment, wildlife and tax base for Maryland citizens and taxpayers. There is much more economic value, for Maryland citizens and taxpayers, coming from recreational, tourism and increase property values, that are year long lasting and not from a short term time frame natural resource extraction, such as logging that has a negative impact on the environment and wildlife. There have been many economic reports and studies to back this up, for positive policies that benefits from environmental sound practices versus negative use of public lands and forests. State timber and logging contracts (based on state forest management plans by state employees) are also approved by some of the same state employees and politicians, who may benefit, either directly or indirectly, from such actions. They have an inherit conflict of interests, of being to closed to the logging and timber industries, who are awarded contracts, with potential personal, business, financial and political ties, including going to work or as personal consultants, for these companies, later on after leaving the employment for the state of Maryland. The state of Maryland should not ever be in direct business competition with the private land and forest owners of Maryland citizens and taxpayers for economic gain, advantage and profit. Maryland and DNR- must stop using this economic bias, as a reason for timber and logging, on our public lands, as a benefit for it's citizens, taxpayers and certainly not to promote forest health. The only true winners at the money table are the timber companies, consultants and maybe some state employees or politicians for Maryland. The forests, wildlife, habitats, biodiversity and the environment, along with the citizens, taxpayers and local communities, end up as the big losers of these forest plans. While I have listed that the economics of Maryland state forest plans are a negative reason for opposition to all 4 plans, it is the least of the my concerns, on the over all, DNR

and states so called management of our public forests and public lands. The following issue points, listed next, starting with the most destructive, first- now allowed under current management practices and policies of the state of Maryland and DNR for all state forest and public lands are my objections to each and every one of these forest plans.

1- Logging/timber resource extraction (listed in plans under many names of silviculture harvesting practices)
2-Road building and all other permanent man made structures/activities
3-Off road and all other motorized trails
4-All other types of resource extraction operations
5-Use of chemicals, herbicides and pesticides
6-Allowing very intensive and damaging high level activities with large numbers of participants and motor vehicles
7-Connections to educational institutions (example-Allegheny College of Maryland-Forestry Program and its Summer Harvesting Course)-while preaching a multi-use and even age stand forest practices and then setting aside public lands for them to timber and harvest as an experimental project. Public land use should not be used this way, allowing only this certain practice as the only way.
8-Any and all other private development and or use of public lands

Commercial logging and timber harvesting, along with the above mentioned items-should never be allowed on our forest and other public lands in Maryland. They are destructive practices that bring many threats to a natural forest ecosystem and all living processes within. We must do all we can to protect the biodiversity of these forests, and it's wildlife, birds, reptiles, amphibians, fish, other aquatic species, bats and other pollinators, plants, flowers, rare, threatened and endanger species-in other words all flora and fauna. The above mentioned 8 items, also bring problems by use of heavy industrial equipment, skid (logging) staging areas, runoff, erosion, pollution of waterways, lack of strong regulations and enforcement of buffers, steep slope activities, compaction of soils, and poor oversight, before, during and after logging. The percentage of Maryland public state lands, compared to that in private ownership in Maryland and to other states is very small and needs to be use for other purposes that private ownership does not provide, for the common good and benefits of all citizens and not for resource extractions or very damaging environmental practices. They also have a negative impact on migration routes (air-water-land),hiking trails, fire safety, hunting, and historical sites. Still more they open up areas for invasive and non-native species, reduce larger tracts of land space for interior forests dwelling species that need it to breed, raise it's young, food sources, and shelter so they may survive and flourished and to prevent devastating impact from outside activities and edge forest type predators. These activities also create noise, light, air and visual pollution, mar scenic sites-all of which can last for a long time and have negative consequences for forest inhabitants and their daily and seasonal activities. Trees may be the major component and most visible of forest systems-but to survive it needs many others-different layers of flora and fauna from the top canopy to beneath the ground and soils-decaying matter-snags-insects-fungi-bacteria-worms-pollinators-seed carriers-root systems-many different animals-birds and plants-all interconnected to a living, vibrant community that has a symbiotic relationship for a healthy natural and diverse

forest. Long before many of the early inhabitants of this country and state set foot on this land-we had immense large tracts and intact old growth forests that stretch from the Atlantic to prairie states and plains-fill with large and abundant species of many sizes and quantities, in our forests and in our waterways and skies-doing just find without a management plan. It has been mainly human activities that have brought the diseases, even insects and drought, along with greedy consumption of resources-both of flora and fauna-without considering the carrying capacity of the lands, waters and skies-for a more sustainable presence and to share with future generations. The Maryland DNR can call it what ever they like-timber-logging-even age management-multi use(more like abuse)-monoculture-silviculture practices(retention harvest-timber stand improvement-variable retention-clear cut(not so much now-this label-because of public outcry)-commercial thinning-shelterwood-understory control-culling and whatever else they come up with),all of which equals to treating our public lands-like a plantation crop and nothing more-even though they try to throw in a few crumbs of environmental hype-here and there-calling it mixed use. They also come up with such names as managed areas-harvest areas-general management areas to cover up their board feet quotas to satisfy a so called sustainable management plan/principles/practices-which it is not. I believe you can not have a healthy forest-using their current practices-for a species to survive-like the American Chestnut-you don't keep on logging-until you reach a point of no return (if you would really know or care)-and destroy all the surrounding components so that a species is no longer healthy enough to survive a blight and pass on its genetic diversity to a next generation of American Chestnut. We could have save it and others-if not for greed and ignorance. Lastly, I will give my opinions on how and what the state of Maryland and DNR can really do-to protect-preserve and enjoy the wonders of our states public forests and public lands.

Positive actions and steps for a healthy, sustainable, natural forest ecosystem
1-Stop all of the harmful and destructive actions-mentioned in my 8 points above
2-Protect against all the negative issues and practices-mentioned above
3-Increase and enforce stronger environmental regulations to preserve biodiversity, habitats, species, wildlife and protect our water-air-land from pollution and degradation
4-Increase budgets for all public lands and-forests acquisitions and protection
5-Increase the areas and sites for wildlands
6-Acquisitions priorities-connection to already owed lands-inholdings-larger intact tracts-adjoining to other states public lands and trails-to missing links and migration routes (air-land-water)
7-Change Program Open Space Funding-so that all funds go to land acquisitions and none to development-giving larger tracts and sensitive areas-top priority
8-Increase old growth forests-by various means
9-Provide more incentives for private land owners to invest in forest (large tracts) and practice sound environmental and long lasting sustainable practices and policies, if they log and harvest their lands.
10-Provide more incentives for in state manufacturers, sawmills and factories to produce sustainable and environmental friendly local wood products, from those private forest lands-yes it can be done

11-Eliminate any and all conflict of interest issues between state employees and politicians of the State of Maryland, from personal, business, relatives, financial and political connections.
12-Have a much more open and public disclosure of all Maryland public land issues, by various news media (all types), weekly updates and disclosures, county by county monthly public meetings, all public meetings and hearings announced 2-3 months in advance and weekly notices the last 4 weeks before those meetings and hearings-at least 60 days for all comment periods-frequent communications with organizations and groups that have like concerns with land issues and wildlife in Maryland with DNR. The meetings and hearings should be held at places and times, that most citizens and working folks can attend in each and every county in Maryland and not at the Holidays (esp.-Nov.15 to Jan.7-or holiday weekends) and postpone with adequate notification because of bad weather- I included all of these examples-because of my past experiences with local-state and federal officials and agencies.

We can reverse all the negative environmental accumulative impacts from past policies and practices of Maryland's and DNR State Forests and other public lands, only if we start the process now-for it will not happen overnight and may need adjustments and additions.
We all need to work together for a brighter and more healthy future for the generations to come, so all can share the joy and wonder of our Forests and all public lands in Maryland, to protect, explore and enjoy the natural world and all its gifts.

Thank You for the opportunity to voice my opinions, share my concerns and comments on Maryland's State Forest Work Plans.

FOREVER WILD/FOREVER FREE

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Appendix 3

10 Year Timber Harvest Summary
for
Potomac-Garrett State Forest

Fiscal Year	***Planned harvest***	***Bd. Ft Vol. Harvested***	***Gross Value of sale***
2006	750-1,000 MBF	731,568	$ 355,712
2007	500 – 750 MBF	487,027	$ 288,133
2008	500 – 750 MBF*	793,002	$ 288,102
2009	500 MBF *	251,990	$ 29,578
2010	500 MBF *	168,131	$ 31,720
2011	500-600 MBF	465,653	$ 155,900
2012	500-600 MBF	534,679	$ 207,454
2013	500-600 MBF	331,052	$ 139,300
2014	300 MBF	298,221	$ 90,031
2015	552 MBF	492,401	$ 201,311

* salvage driven plans.