

POTOMAC / GARRETT STATE FOREST

ANNUAL WORK PLAN

FISCAL YEAR 2013

Prepared: _____ Date _____
(Forest Manager)

Reviewed: _____ Date _____
(Regional Forester)

Reviewed: _____ Date _____
(Land Acquisition & Planning)

Approved: _____ Date _____
(Environmental Specialist)

**Potomac- Garrett State Forest
FY-13 Annual Work Plan**

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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 forestland contains excellent quality hardwoods.

II. Annual Work Plan Summary

In addition to the routine operations and management of the State Forest, the FY-2013 Annual Work Plan for Potomac-Garrett State Forest details three “*special management*” projects and thirteen *land management projects* that will be the focus of the State Forest management staff for FY-13.

A. Special Management Projects Include:

-Developing the Potomac-Garrett State Forest Sustainable Forest Management Plan, with special focus on addressing items in need of improvement as identified in the 2011 FSC/SFI Certification Audits.

-Working with regional Natural Heritage Biologist to develop management plans for the Ecological Significant Areas identified within the Potomac-Garrett State Forest Sustainable Forest Management Plan.

-The 4th summer season of the 4-5 year Forest Stand Delineation and Inventory Project.

B. Land Management Projects Include:

-Three recreation management projects: One involving trail improvements submitted for various grant funding to address grading and erosion control work for the Lost Land Run Trail / Road. The second project involves snowmobile trail re-routing. And a third project involves a review of existing and proposed multi-use trails in order to address an increase in outlaw trail developments that may be occurring in part due to a use demand that is not being adequately met.

-One wildlife habitat project involving improvements to several grassy openings, partnering with the Ruffed Grouse Society and Safari Club International.

-One continued watershed protection project mitigating impacts of a harmful forest pest; Hemlock Wooly Adelgid mitigation / Red Spruce Restoration.

-Two continued ecosystem restoration projects involving control of invasive, exotic plants in both the Wallman/Laurel Run area and the Backbone Mtn. area.

- Five silvicultural projects including:

1. Two regeneration harvests using a clear cut with variable retention; one using deer fencing for seedling protection, the other not needing the additional protection of fence.

2. Three Shelter Wood Systems.

Two of these will involve 3-stage systems in mixed oak stands with the initial stage being a 'preparation cut', a light commercial thinning that will prepare the residual stand for optimum growth, seed production, and new seedling development. One of these will require additional control of interfering woody stems, and protection from deer via fencing. The other will include only a light commercial thinning.

The 3rd shelter wood will involve a 2-stage system in an Alleghany Hardwoods stand with the first stage being a seed cut by way of a commercial thinning along with control of fern and grass interfering with seedling development.

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 or wildlife 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-13 Work Plan calls for the harvest of approximately 548,659 Bd.ft. of hardwood saw timber, putting an estimated \$143,200 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 term sustainable management of these important forest resources.

The cultural operations and management projects outlined within the FY-13 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

Map Keys

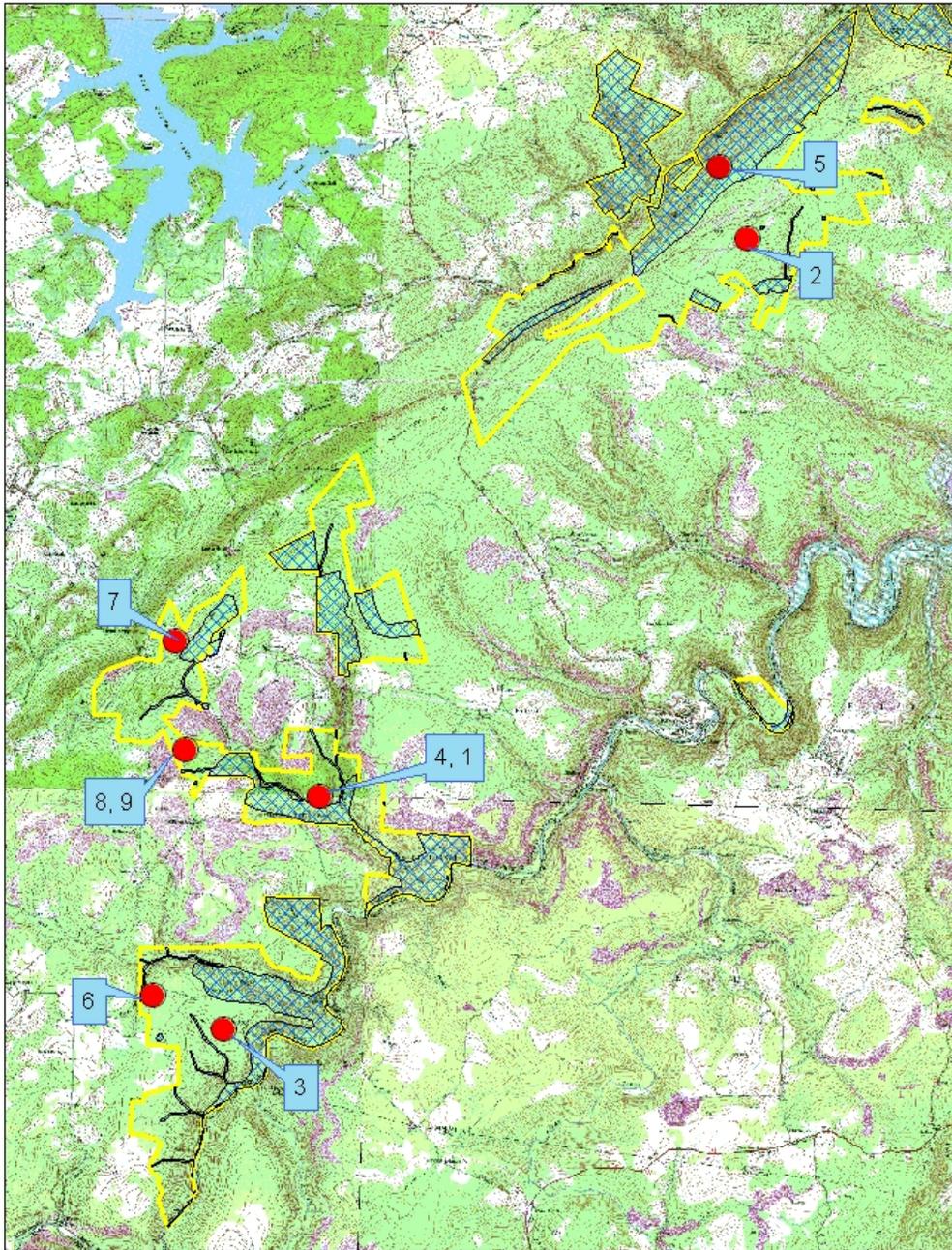
Potomac State Forest

- 1) Comp. 18-21 – Lostland Road Retrofit and Rehabilitation Proposal
- 2) Comp 11 - Snowmobile Re-route Proposal
- 3) Comp 24&25 - Wallman Area Wildlife Habitat Improvement
- 4) Comp. 19 – Lostland Run HWA Mitigation/Red Spruce Planting Proposal
- 5) Comps. 5&7 – Backbone Mtn. Japanese Knotweed Control Proposal
- 6) Comps. 21-26 – Wallman/Laurel Run Garlic Mustard Control Proposal
- 7) Comp. 15 -Stand C Regeneration Proposal
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- 9) Comp. 17– Stand G Regeneration Proposal

Garrett State Forest

- 1) Comp 37,38,40&41 - Snaggy Mt. Trails Proposal
- 2) Comp. 33 - Stand I Intermediate Harvest Proposal
- 3) Comp. 33 - Stand J Shelterwood Proposal

Potomac State Forest FY-13 General Location Map

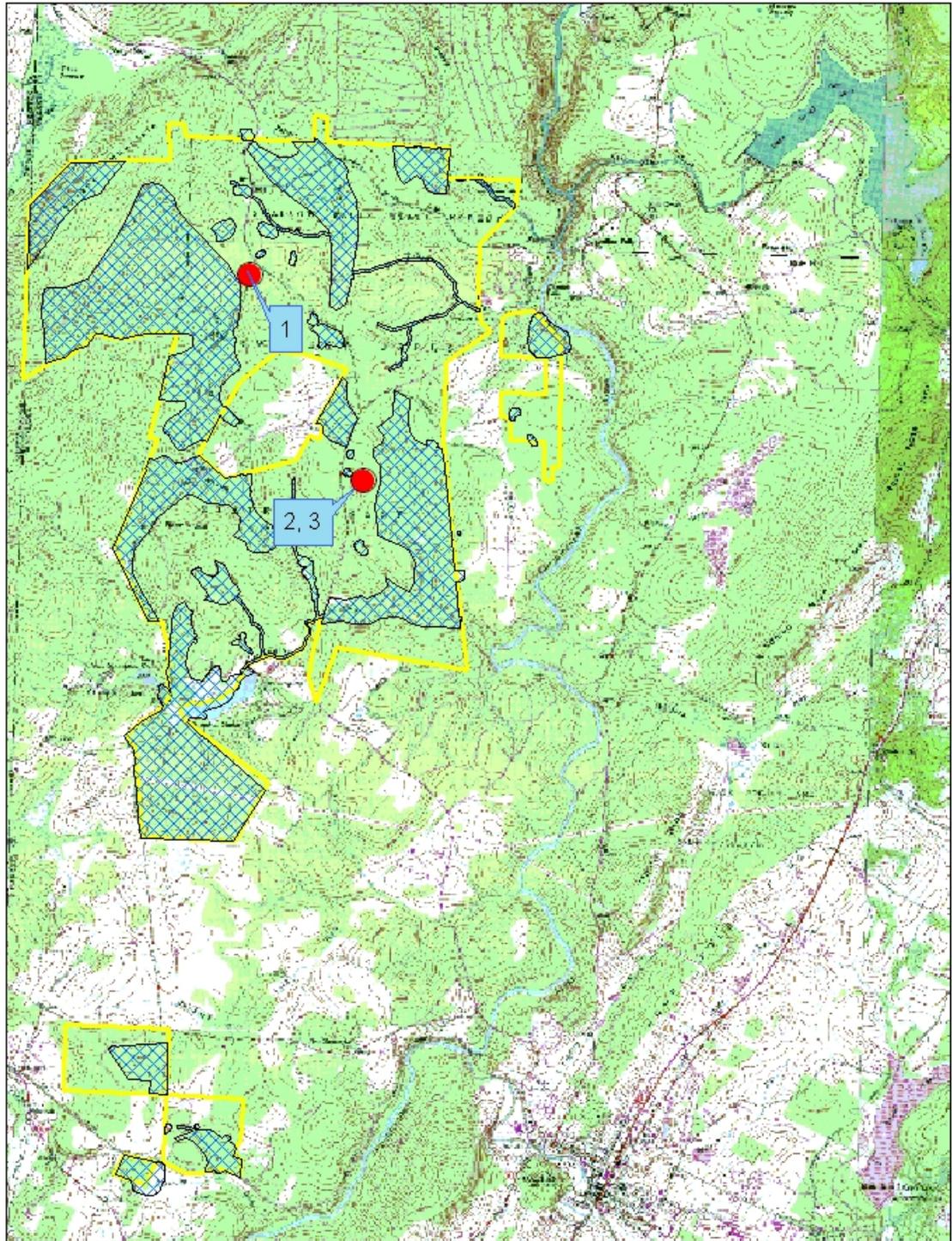


1:100,000

 High Conservation Value Forest (Total)



Garrett State Forest FY-13 General Location Map



1:60,000

 High Conservation Value Forest (Total)



IV. Special Projects - Forest Resource Management Planning

A. Certified Sustainable Forest Management Plan Development

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 winter of 2011. By spring of 2011 initial drafts of the forests 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 were 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 are expected to be made available for public comment later this fall.

Audit findings indicate some 20 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. State Forest staff time and field operations have been adjusted and redirected to assist in addressing all of these Corrective Action items in the course of the next year. A brief listing of the CARs is attached as (Appendix 1). The complete audit findings will be made available with the Sustainable Forest Management Plans later this year.

B. 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 2011, 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.

C. Forest Stand Delineation and Inventory

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 will involve collecting detailed inventory data on both overstory and understory conditions over the entire state forest. The data will be collected and analyzed using the SILVA Inventory System developed by the USFS. Full time forest management staff attended a week long training course on the use of this system in June of 2010.

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 workforce 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. Presently PGSF has hired three forest technicians to collect the second season of data. Our two full time technicians lead and manage this 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.

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 Throughout the State Forests

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 ongoing. A lack of sufficient road maintenance budget makes the upkeep of this road and trail system a considerable challenge. In order to attempt to meet this challenge, alternative sources are continuously sought to provide the necessary equipment, labor and materials required for the maintenance and improvements needed to sustain this aging and primitive transportation system.

In FY-13, maintenance staff will be concentrating road and trail improvements in the Lostland Run Area. In 2010, the Forest Manager developed and submitted a grant proposal for a \$30,000 National Recreation and Trails Grant to be utilized in making improvements to the Lostland Run Multi-use Trail System. Due to administrative issues, NRT grants have been set back a year. This proposal should be submitted for review in the fall of 2011 and, if funded, work will commence in FY-13.

Additional funding is being sought to address these much needed and costly repairs. In a collaborative effort with the Nature Conservancy's Allegheny Forests Project Office – Clean Streams Program, a total of \$500,000 in grant requests have been prepared and submitted to two non-profit organizations with slightly different program goals. Potomac-Garrett State Forest has prepared \$230,000 in project proposals as part of this effort. The grant submittals included projects in both Potomac-Garrett State Forest and Green Ridge State Forest. The programs goals are to reduce sediment loading from deteriorating access roads; protect sensitive and important aquatic habitats; improve water quality in Lostland Run (a native brook trout fishery), the Potomac River, and ultimately the Chesapeake Bay. Proposed work for PGSF involves improvements to the Lostland Run Multi-use Trail System (see details in section VI Recreation Proposals). If successful in securing funding, necessary permits would be sought in the spring of 2012, with work to begin in the summer of 2012.

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 will be developing a formalized transportation plan in which the entire transportation (road and trail) network will be 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.

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.

C. Campground Operation and Maintenance

PGSF offers year round, primitive camping in five separate areas of the State Forest; Lost Land 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. Between 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 are 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. The State Forest hosts a summer fun league, an annual tournament shoot, as well as a fall 'hunters special' shoot.

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

COMPARTMENTS 18-21 Lostland Road Retrofit and Rehabilitation (Extension of FY-12 Project)

FY-13

This project will involve maintenance and restoration of an existing multi-use trail network and will include sediment and erosion control abatement through restoration of proper drainage to the 3.5 mile section of Lostland Run Multiple Use Trail. This project will be “Phase II”, extending the work of Phase I as outlined in the FY-12 AWP. This project will involve replacement of 27 failing culvert pipes that carry perennial and intermittent stream flows beneath the Lostland Run Road, thereby requiring water quality permits for replacement. Along with pipe replacement, work will include restoration of stone headwall inlets/outlets, grading, reshaping, filling the trail bed, and hardening the surface with crushed stone.

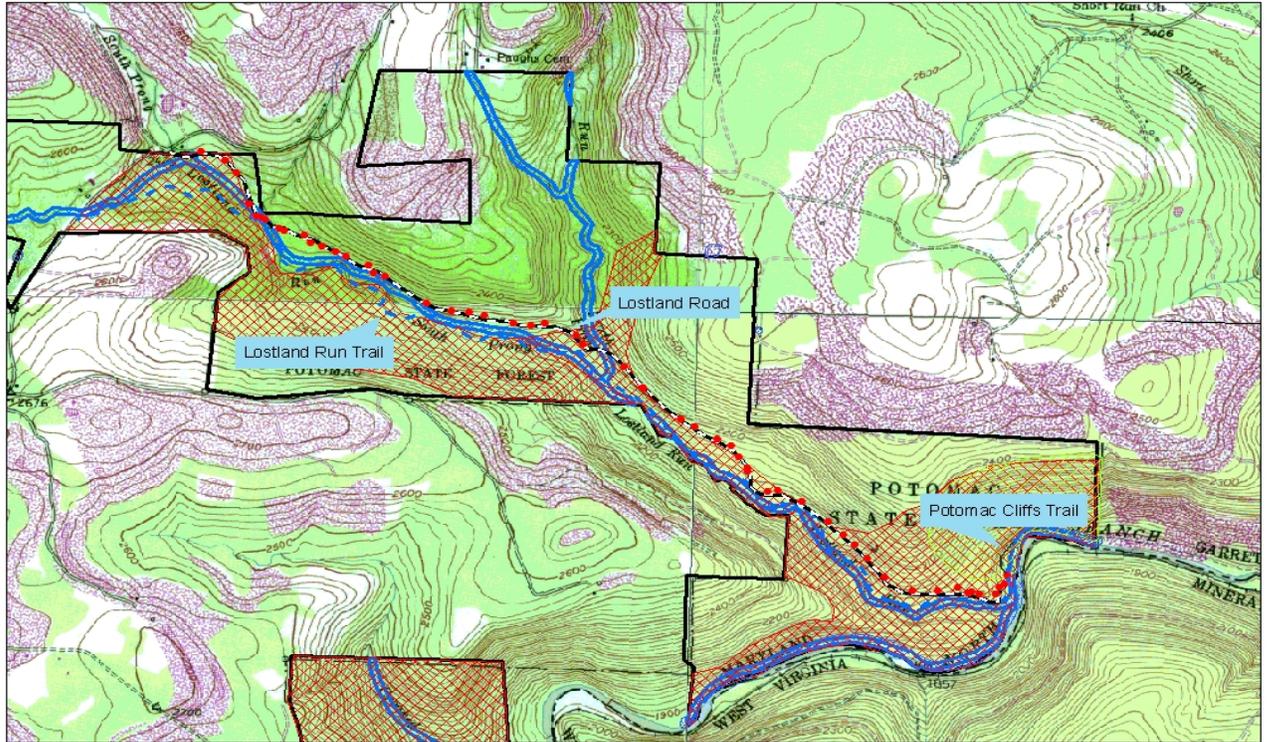
This project benefits the recreational users of the Potomac State Forest by first improving motorized access to a variety of recreational resources including: trout fishermen’s access to the Potomac River and the Lostland Run, hiking access to the Potomac Cliffs and Lostland Run Hiking Trails, as well as access to the primitive campsites located along this trail. More importantly, this project will improve the water quality of Lostland Run and the Potomac River by reducing sediment loading associated with this failing and unstable graveled trail bed . (Note: The work will only be done on the multi-use trail, not the hiking trails. The work on the multi-use motorized trail will improve access to the hiking trails as well as the river.)

Multi-use trails, especially those offering access to motorized vehicles, horses, and bicycles such as the Lostland Run Trail, require regular maintenance involving the use of heavy equipment. Heavy equipment is necessary to provide proper drainage, and to maintain the existing sediment and erosion control devices engineered into the trail system. As grading is completed on any stone trail surface, additional stone must be applied to reharden the newly disturbed road bed thereby preventing the otherwise inevitable soil erosion, and failure of the trail bed.

For planning purposes, a trail assessment has been completed with inventory of culvert condition, as well as stream classification status. The project area falls within a State Forest Designated “Ecologically Significant Area” (ESA). All planned work will be carried out within the existing footprint of the trail and its drainage system and will in fact improve environmental conditions within this ESA by improving the water quality that the ESA was set up to protect.

Funding for this project is being sought through a partnership with The Nature Conservancy – Allegheny Forest Project’s Clean Streams Program. Funding grant proposals have been submitted to two different sources to be reviewed later in 2011.

Lostland Road Retrofit and Rehabilitation Project Plan FY-13



Compartments 18-21
 Quad Deer Park & Gorman
 ● = Culverts to be replaced
 39 22' 54.69" N 79 16' 41.63" W

FCVF	
[Green Box]	PGSF_HCVF_OLD_GROWTH_MGT_UNIT
[Yellow Box]	PGSF_OLD_GROWTH_WITH_300_FT_BUFFER
[Blue Box]	WILDLANDS
[Red Box]	PGSF_WSSC_WITH_100_FT_BUFFER
[Purple Box]	PGSF_ESA
[Blue Box]	PGSF_BLUE_LINESTREAMS_WITH_SOFT_BUFFER

[Blue Box] PGSF WETLANDS WITH 50' BUFFER



Scale = 1: 24000

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Description

In recent years user-generated trails have occurred in the Garrett State Forest. For the most part, these trails began when mountain bikers used short sections of old abandoned trails, logging roads, and game trails to provide more options and connectors within the existing trail system and to avoid existing trails that were in poor condition. In the fall of 2010, local trail users met with Potomac-Garrett State Forest staff to discuss concerns over these trails. As a result, the local mountain biking community agreed to cease riding these unofficial trails and began to seek ways to work with DNR to expand the existing trail system.

A local recreation group called Oakland People Powered Sports (OPPS) has been formed to address these trail issues and aims to represent the interests of bikers, hikers and cross-country skiers. OPPS seeks to provide increased recreational opportunities in a manner that coincides with DNR's mission of preserving, protecting, restoring, and enhancing the State's natural resources. The group believes that a small expansion of trails would exponentially increase recreational opportunities in the area by providing greater options in regards to the length and setting of trails and by offering more opportunities for circuit or loop trails than the current, mostly linear, trail system provides. OPPS also hopes to provide assistance with maintaining existing trails, resulting in a more sustainable overall trail system.

The demand for the following proposed trails comes mainly from the fact that, now more than ever, there are many residents and visitors to the parks and forests enjoying outdoor recreation. Unfortunately, current trails in the area are in poor condition and do not meet this demand, leading to fewer recreational opportunities, less users and increasingly negative environmental impacts. This further supports the FSC/SFI Certification Audits findings that a transportation plan and thorough assessment of the State Forests road and trail network is needed.

The most popular multi-use trail in the Oakland area is the 5.5 Mile Trail, located in the Garrett State Forest and connecting Swallow Falls and Herrington Manor State Parks. This trail has allowed residents and visitors to participate in multiple recreational activities including mountain biking, hiking, running, cross-country skiing, snow shoeing, bird watching, and hunting for many years. However, the current poor condition of this trail has many outdoor enthusiasts seeking and demanding better trails. Unfortunately, some residents now travel over 40 miles to access other trails, while others may have simply stopped recreating altogether.

The local biking community has avoided entire trails and sections of other trails in the Garrett State Forest including the Herrington Manor Yellow, Red, Blue, and Green Trails and the Garrett Forest Snowmobile Trails for the same reasons they do not bike parts of the 5.5 Mile Trail. Sections of these multi-use trails are severely eroded, lay wet throughout the summer or are covered with thick, high grass that gets caught in chains and sprockets. That does not mean that these trails do not serve a purpose. In current condition, the Herrington Manor trails are excellent for cross-country skiing in the winter months, and the snowmobile trails serve the needs of snowmobile riders in the winter, when a wet or muddy areas are covered in snow and do not pose a problem to trail users. With some modification, the existing trail system should be able to continue to provide quality recreational opportunities for a wide range of users, through all seasons. To that end, OPPS has offered to assist the State Forest management staff in

assessing trail conditions, developing options to best utilize the existing trail network to meet the greatest range of multiple user demands, and to provide the support to get the existing trails back in top shape.

Management Recommendation

The plan will be to first complete a State Forest Road and Trail Assessment / Transportation Plan. This will be carried out in FY-12, and is prompted as a result of the Certification Audit. Upon completion of the assessment and plan, the Forest Manager will prioritize a maintenance plan, and consider the best way to address any shortcomings of the trail network. Some issues have already been identified, but without the necessary resources, have not been fully addressed.

The next step will be to correct any issues on existing trails identified as integral to the transportation plan, making certain that what we have is in fact a sustainable system. Corrections may include tread way surface treatments, correcting drainage, stream crossing repairs, trail marking, mapping, rerouting and accompanying reclamation/abandonment, and trail additions, as deemed appropriate within the projects constraints of budget and staffing.

In response to trail user complaints, OPPS was invited to offer suggestions as to how to improve upon the usefulness of the present multi-use trail system at the Snaggy Mt. Complex. A number of suggestions were offered including adding a number of short additions to the trail system that would offer more diverse trail opportunities. As this involves a 'change of use', any significant re-routes or additions are run through the AWP Review Process and are included for consideration below.

Recognizing the 5.5 Mile Trail as the backbone of the Snaggy Mt. Trail System, it has a relatively flat grade and is wide enough for beginner and youth riders, hikers, and skiers. OPPS has proposed several short trail developments that would compliment the existing trail network by creating a loop trail that offers multiple entry/exit points which gives the user more options on the amount of time and distance, as well as options for varied skill and endurance levels. Adding these proposed trails will provide visitors more options to recreate in our State Forests and Parks. Users of varied abilities and interests will be able to enjoy the beauty of the Garrett State Forest, increase their quality of life, and improve their fitness levels.

More specifically, the following trail additions are proposed:

A) This 0.5 mile addition begins along the existing Snaggy Mountain Snowmobile Trail and ends across from the parking lot at the north end of Snaggy Mountain Road. The trail first became used when bikers sought an optional route when logging occurred in the vicinity of the intersection of the Snaggy Mountain Snowmobile Trail and Snaggy Mountain Road. The trail follows existing logging paths and game trails for most of its route and keeps hikers and bikers off of the gravel surfaced, Snaggy Mt. Road.

B) This 0.4 mile unofficial trail is widely used by both hikers and bikers currently exists from the parking lot at the north end of Snaggy Mountain Road to a large rock formation informally called The Maze.

C) From the Maze, user-generated trails followed existing logging paths and game trails to link up with the western end of Maple Glade Road. A 1.6 mile re-route has been identified that would avoid any mapped HC VF, including the broad HC VF stream crossing impacted by the original user-generated trail.

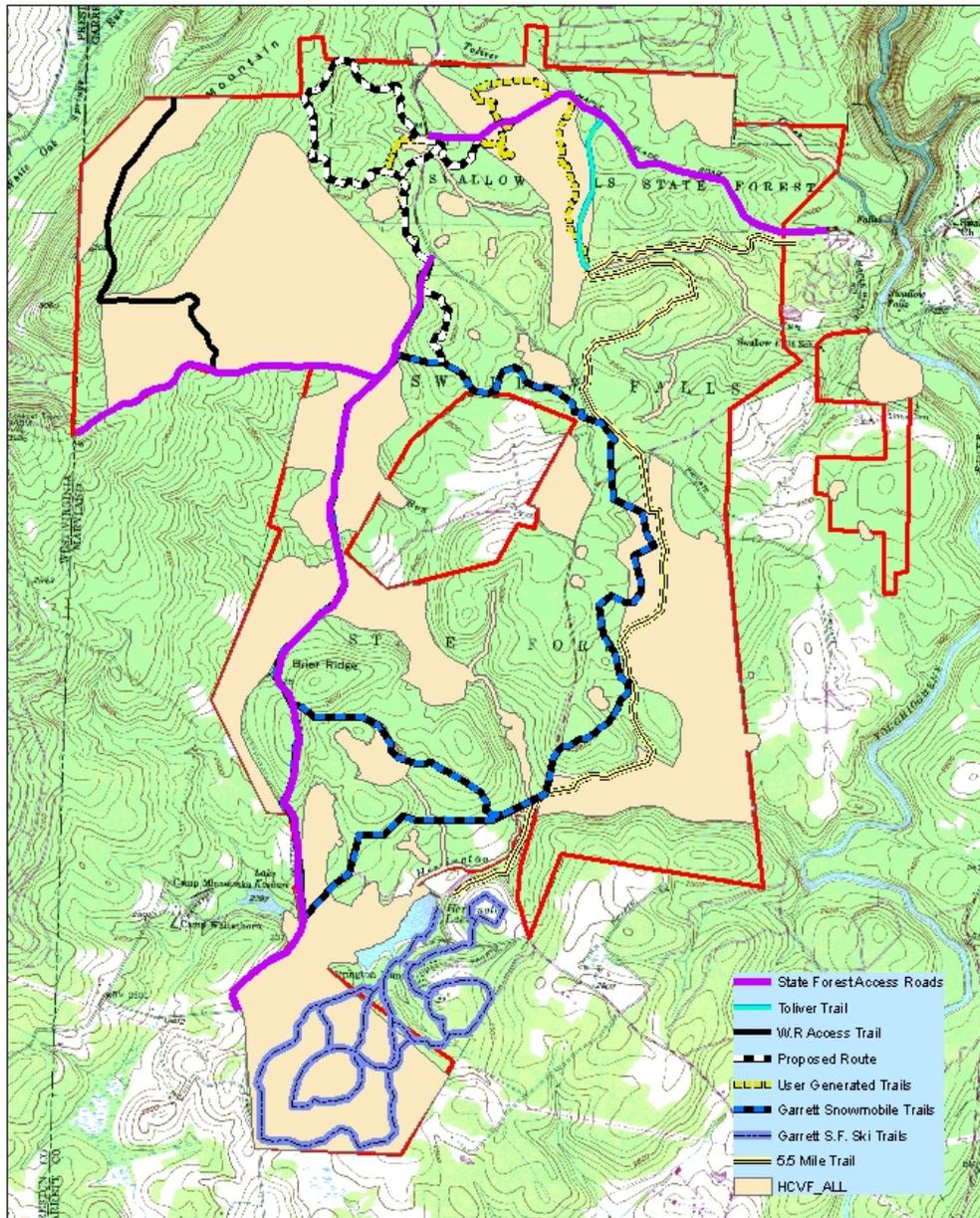
D) This 0.1 mile segment is an alternative route that more closely follows the Snaggy Mt. Road travel corridor and impacts less forest land. This section would end at the Cranesville Road. The proposed trail then continues across the road onto segment E.

E) This 0.4 mile segment extends from the north side of Cranesville Road, and would cross the stream drainage lower at a well channelized location, requiring a short bridge. The trail then winds through some mountain laurel and follows an abandoned logging road in a loop ending on Maple Glade Rd. A short portion of the old woods road lays wet with sphagnum moss present. This section would require a shift off the existing road upslope to avoid the small wet area.

All proposed trails would be constructed, repaired, and maintained using the International Mountain Biking Association (IMBA) Trail Building Standards, which improves trail sustainability and provides the least possible impact to the environment

Acknowledging budget shortcomings, OPPS has offered to provide the labor and tools for the construction of the proposed trails, and has agreed to assist the State Forest staff with long term maintenance of the trails including reclamation of user-generated /outlaw trails. OPPS recognizes that a quality trail network will provide a greater opportunity for residents and visitors to exercise and recreate, spend time in the outdoors with family members and friends, and achieve healthier lifestyles.

Snaggy Mt. Trails Proposal (1 of 2) FY-13



Quad.....Oakland

39 27' 50.83" N 79 26' 37.39" W

1 inch = 3,333 feet



Snaggy Mt. Trails Proposal (2 of 2) FY-13



39 29' 52.04" N 79 27' 52.19" W

1 inch = 1,000 feet



COMPARTMENT 11
Snowmobile Trail Re-Route

FY-13

Description

The portion of the Backbone Mountain Snowmobile Trail identified on the attached map, includes sections of severely eroded and incised road/ trail that have posed a considerable maintenance and mowing problem for many years. The trail bed contains several very rough rocky sections that often resulted in damage to mowing equipment. The trail crosses an unnamed tributary of Folly Run at a broad flat area at the bottom of the slope, turns north and then runs directly up a steep slope on grades of 10-20%. As the worst of this rough section is just off the CCC Camp Road, plans were being made to shift the trail up and off the rocks and incised trail bed.

This summer timber was being salvage harvested along the CCC Camp Road front and on either side of the trail. The rocky trail was incorporated into the skid trail system. The landing and main skid trail were located on the top of the hill, a short distance from the snowmobile trail, and later ran with the snowmobile trail. It was intended that upon completion of the harvest, the trail may be shifted over onto the skid trail, out of the presently incised and rocky trail bed. The skid trail was smoothed out, graded and water diversions were installed to accommodate future snowmobile use. However, during this spring's snowmelt and rains, the tributary stream overflowed its banks, and re-routed the stream channel into the snowmobile trail. This new channel has eroded well into the trail bed, effectively turning the trail into a rocky stream channel for 250 feet.

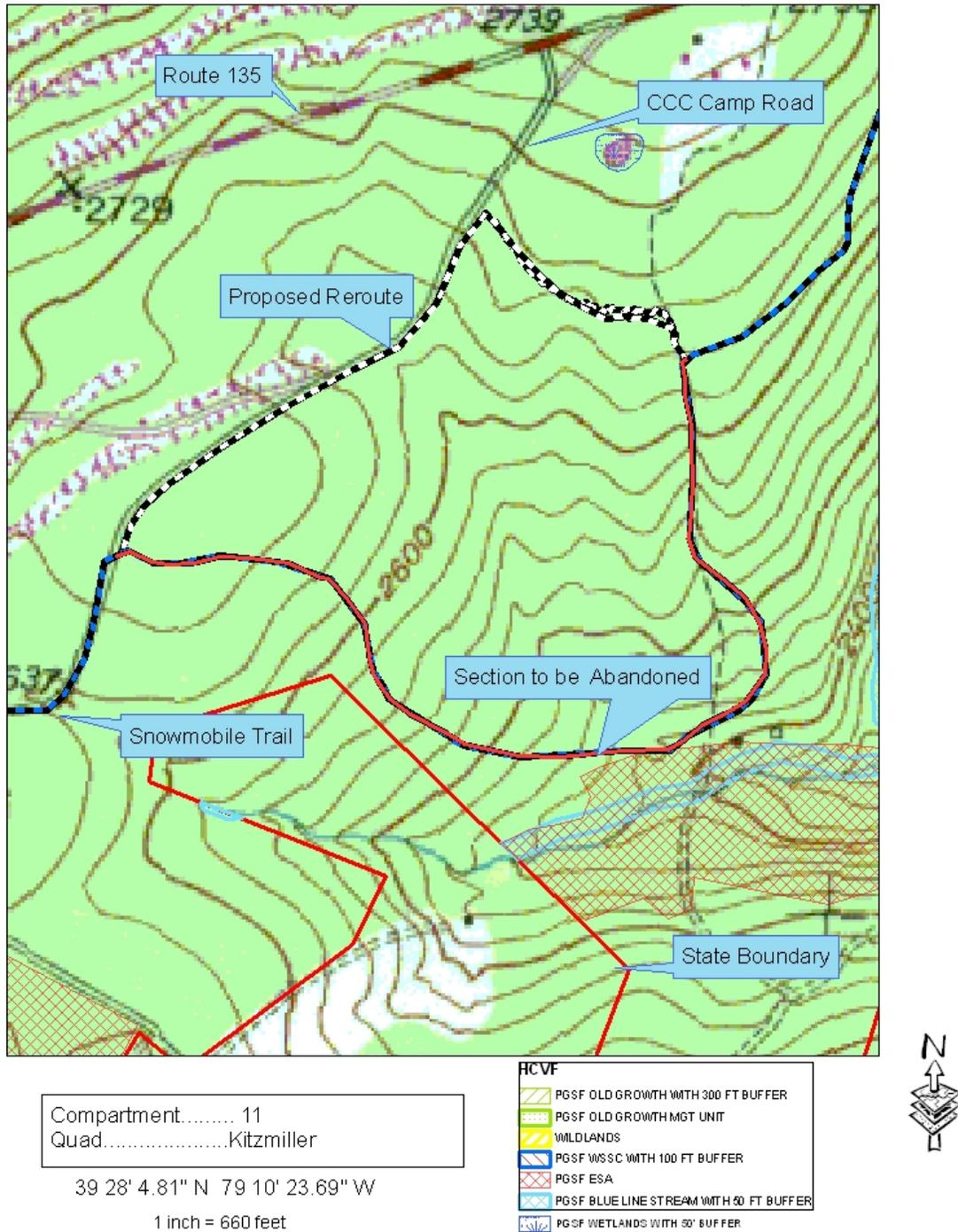
Underlying soils include: 'Dekalb and Gilpin very stony loams' and 'Very stony land'. The Dekalb soils are well drained and very acidic. Stones, generally acid sandstones, more than 10 inches in diameter are abundant. Degree of slope ranges from 0-25% throughout the site resulting in slight-moderate equipment limits. Erosion hazard is slight to moderate increasing with degree of slope. The 'Very stony land' is a rather small area found around the stream crossing where the trailbed had been flooded out.

Management Recommendation

Relocate a 5,700 ft. section of the Backbone Mt. Snowmobile Trail to run on the CCC Camp road to a log landing 0.5 mile beyond the presently gated trail (see proposal map). At this landing, the trail would leave the road on a series of existing skid trails and old woods roads to reconnect with the snowmobile trail at the top of the steep slope. As this new 4,000 ft. section will utilize existing road and skid trails, only minimal grading and trail bed work will be required. Currently the CCC Camp Road is closed to through traffic due to a failed culvert pipe. This pipe will be replaced as part of this project. Once the snowmobile trail is re-routed, the old section would be stabilized, slashed closed, and abandoned.

This relocation would make use of the wide, smooth, more easily maintained CCC Camp Road; eliminate the rocky, difficult to maintain section of the trail; eliminate the tributary crossing farther down the drainage, thereby avoiding trail flooding issues and will move the trail off the steep slope section that is prone to erosion. Overall the trail will become more sustainable and will better serve trail users in all seasons.

Compartment 11 Proposed Snowmobile Trail Reroute FY-13



VII. Wildlife Habitat Improvements

COMPARTMENTS 24 & 25

FY-13

Wallman Area Wildlife Habitat Improvements

Description

The Wallman area within compartments 24 & 25 of the Potomac State Forest contains a wide mix of habitat conditions ranging from early succession forest through mature forest and conifer cover. This area has been the scene of numerous timber harvests. Planned to hold forest disturbances to a minimum, many of these harvests were laid out to utilize the same landings, skid trails and haul roads. Upon completion of a harvest, landings and skid trails are cleared of slash and bark piles, seeded, limed, fertilized and mulched to stabilize the exposed soil. These areas are seeded to a grass and legume mix that not only stabilizes the site, but also provides additional wildlife habitat values in the form of desirable grassy openings, complimenting the limited 'permanently maintained grassy openings' that are regularly maintained within this expansive forested tract. With the right mix of grasses and legumes, these stabilized trails and landings provide a protein rich source of food for various wildlife species. The rich grasses attract a variety of bugs, crickets, grasshoppers, beetles, etc., that are a further source of protein to bugging turkey and grouse. Without further maintenance, these grassy areas eventually revert back to weedy areas with limited grass and legumes, lessening their wildlife food value.

Seven such areas have been identified in the Wallman Area as in need of improvement, accounting for 3.5 acres. Four of the areas have long been maintained as 'permanently maintained grassy openings'. Three had served as log landings along the Loop Road Handicapped Hunter Access Trail, that have been rehabilitated in 2009 through the cooperative efforts of the Backbone Mt. Chapter of the Ruffed Grouse Society, Safari Club International and MD DNR.

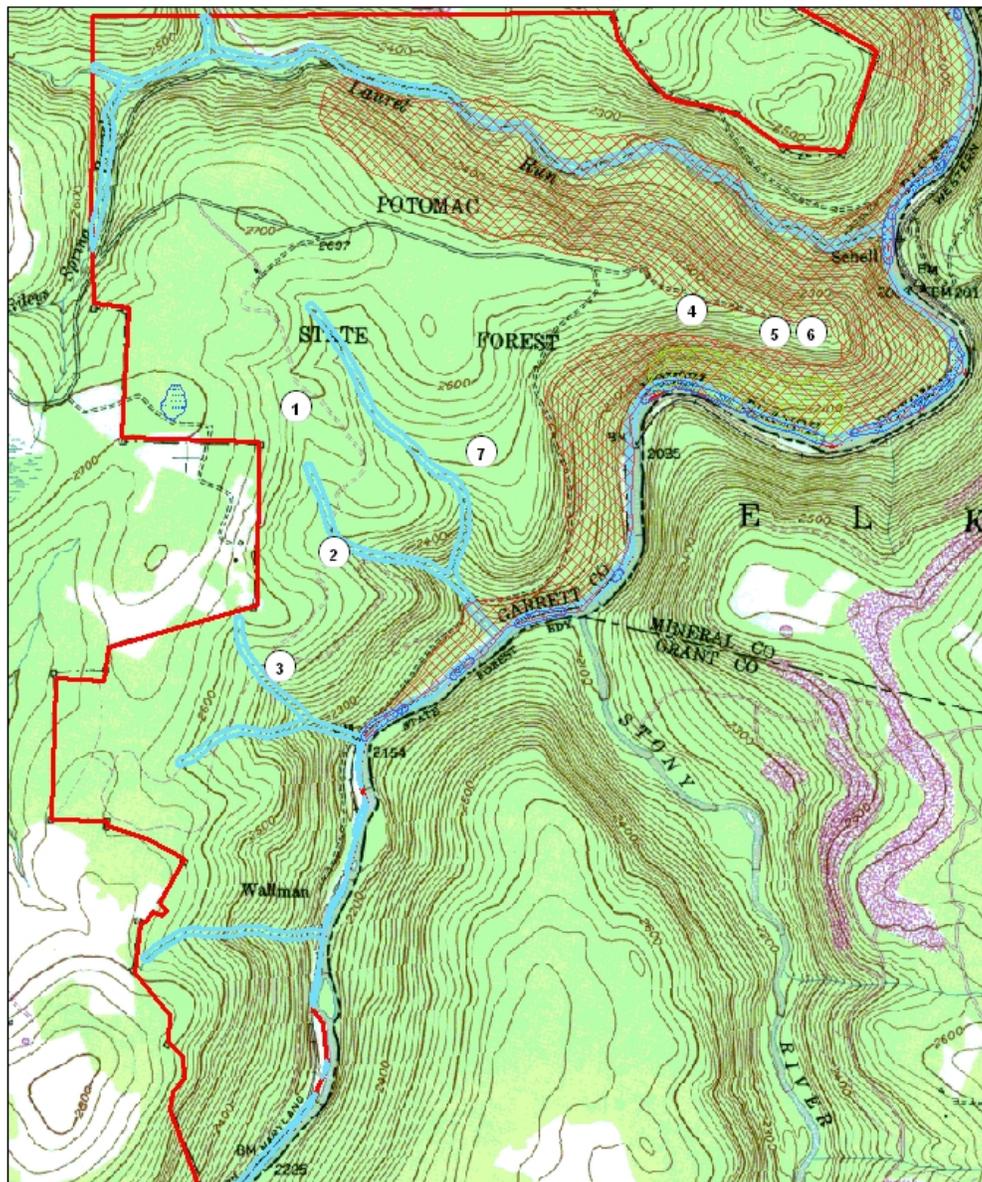
The landing sites generally have a south-eastern aspect and are within the Potomac River Watershed. The underlying soils include: "Dekalb and Gilpin very stony loams" on 5-15% slopes. These soils are moderately deep and well drained. They are not well suited to cultivation due to the abundance of larger sandstones 10 inches and greater. Though not well suited to cultivation, grasses and legumes may be planted using minimum tillage methods, eg. frost seeding and no till methods. Equipment limits and erosion potential are slight.

Management Recommendation

The proposed treatment for the four grassy openings is to lime, fertilize, and reseed them with a grass, forbs and legume mix that will serve as a quality food source that will be beneficial to a wide range of wildlife species. The three rehabilitated landings will receive lime and fertilizer as well as a light over seeding to improve the cover established in 09. Surface preparation of the grassy openings will include brush hogging and herbicide application in the fall, with follow up spring treatments prior to planting if necessary. The seed mix to be used is a mix offered by the National Ruffed Grouse Society; "RGS Grouse Trail Mix", which contains 'Star Fires Red Clover', 'Hunt Club Brand White Clover', 'Plot Enhancer Brand Chicory', 'Alsike Clover', 'Birds foot Trefoil', and 'Crimson Clover'. This mix has been formulated especially for the harsh growing conditions found on log landings and skid trails, and has proved to work well on these types of sites.

The Backbone Chapter of RGS has offered to purchase the seed, lime, and fertilizer and to assist in carrying out this project. The completed project will provide an important food source for a variety of wildlife species including grouse, turkey, deer and a variety of non-game species. This project will also improve hunting opportunities for the handicapped hunters using this area.

Wallman Wildlife Habitat Improvement FY-13



Compartment..... 23-26
 Area.....3.5
 Species Mix.....Open Field

39 20' 4.51" N 79 16' 37.13" W

- HCVF**
- PGSF OLD GROWTH WITH 300 FT BUFFER
 - PGSF OLD GROWTH MGT UNIT
 - WILDLANDS
 - PGSF WSSC WITH 100 FT BUFFER
 - PGSF BSA
 - PGSF BLUE LINESTREAM WITH 50 FT BUFFER
 - PGSF WETLANDS WITH 90' BUFFER



1 inch = 2,000 feet

VIII. Watershed Protection

COMPARTMENT 19

FY-13

Lostland Run HWA Mitigation / Red Spruce Planting

Description

In 2004, the significant forest pest, Hemlock Woolly 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 US 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.

While the Lostland HWA population seems to be minor and somewhat stable, 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.

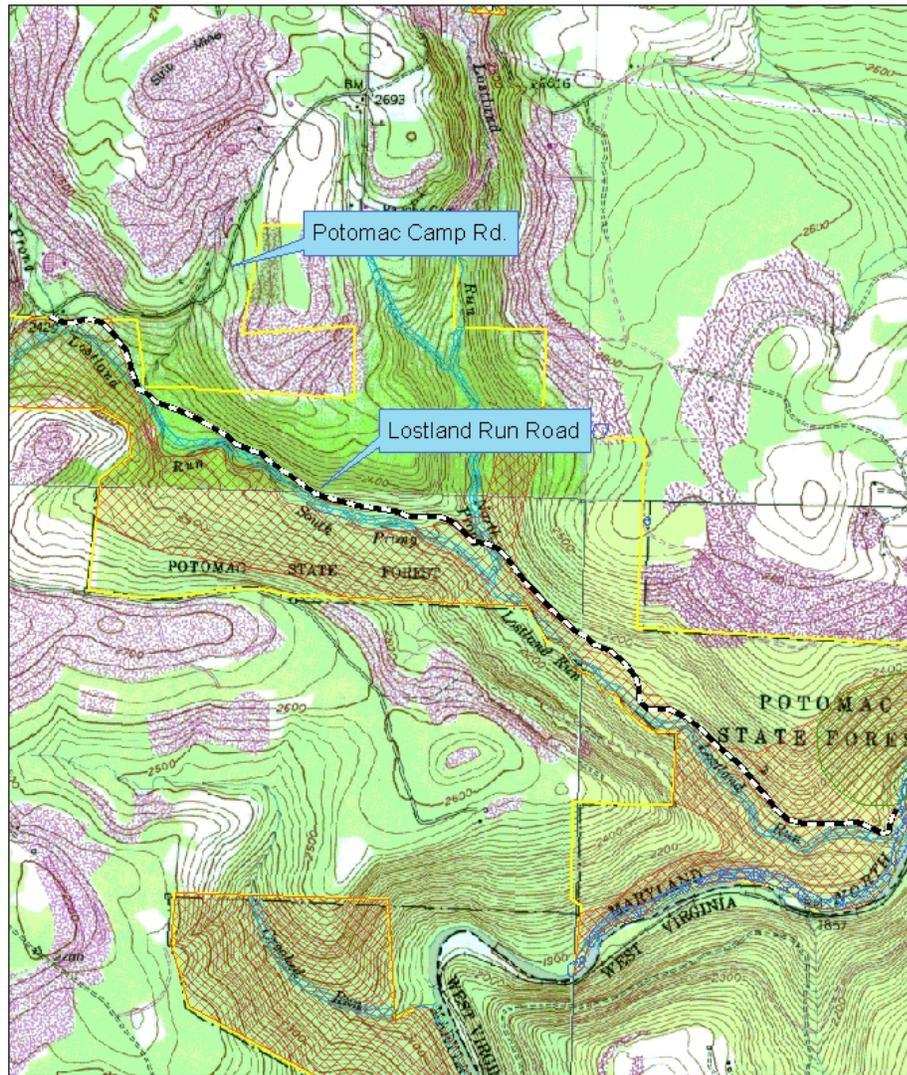
Further research and experimentation with control of the available light is necessary to determine if under planting with Red Spruce is a viable option that may offer a natural means of offsetting the negative impacts associated with the likely loss of the hemlock stands along this important brook trout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

Management Recommendation

The plan for this site in the fall of 2011 is to establish three 1-acre planting sites that will have varying levels of understory light controls carried out by thinning 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 is met. Each of the sites will be planted with 100 Red Spruce seedlings in the spring of 2012. The tops of all trees that are cut will be left on the forest floor to serve as a protection from deer browsing the seedlings. All hardwood stumps will be treated with appropriate herbicide to prevent resprouting. The plantations will be monitored for survival success. Successful treatments will be duplicated the following year 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.

Compartments 18,19,20,21 Lostland Run HWA Mitigation/ Red Spruce Underplanting FY-13



Compartments.....18,19,20,21
 Quad.....Deer Park, Goman
 Mt. Storm, Kitzmiller

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

1:24,000

HCVF	
	PGSF_HCVF_0_LD_GROWTH_300FT_BUFFER
	PGSF_HCVF_0_LD_GROWTH_MGT_UNIT
	WILDLANDS
	PGSF_HCVF_WSSC_100_FT_BUFFER
	PGSF_HCVF_ESA
	PGSF_HCVF_BLUE_LINE_SOFT_BUFFER
	PGSF WETLANDS WITH 50' BUFFER



IX. Ecosystem Restoration / Protection Projects

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. Various 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 appropriate control of 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.

Populations of two invasive exotic plant species have been identified as being in need of control on PGSE, 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.

COMPARTMENTS 5&7

FY-13

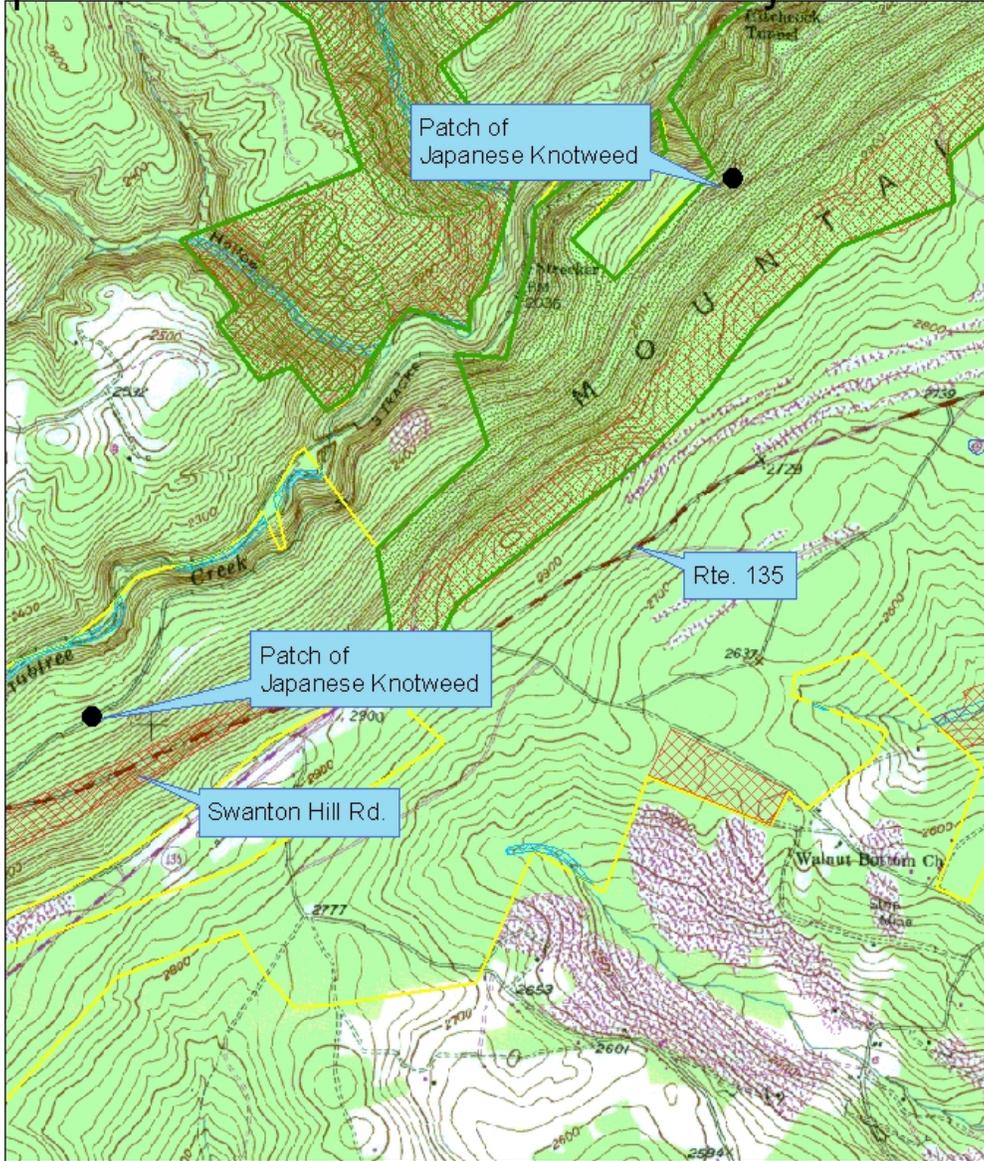
Japanese Knotweed Control Project Continued – Backbone Mt.

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 (*glyphosate*). In 2009, 2010, and 2011 only a few 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.

Compartment 5 Backbone Mtn. Japanese Knotweed Control Project FY-13



Compartment.....5
 Quad.....Kitzmilller
 39 27' 24.63" N 79 12' 59.11" W
 Scale 1 : 24000



Garlic Mustard Control Project Continued - Wallman/Laurel Run**Description**

Garlic Mustard is one of the most prevalent invasive plants found in Maryland. It can be found throughout the Potomac-Garrett State Forest, where it frequently occurs in moist, shaded soil of river floodplains, forests, road sides, edges of woods and trail edges and forest openings. Disturbed areas are most susceptible to rapid invasion and quick establishment of dominance. Though invasive under a wide range of light and soil conditions, garlic mustard is associated with calcareous soils and does not tolerate high acidity.

Garlic mustard poses a severe threat to native plants and animals in forest communities in much of the eastern and Midwestern United States. Many native wildflowers that complete their life cycles in the springtime occur in the same habitat as garlic mustard. Once introduced to an area, garlic mustard outcompetes native plants by aggressively monopolizing light, moisture, nutrients, soil and space. Wildlife species that depend on these early plants for their foliage, pollen, nectar, fruits, seeds and roots, are deprived of these essential food sources when garlic mustard replaces them. Humans are also deprived of the vibrant display of beautiful spring wildflowers.

Garlic mustard also poses a threat to one of our rare native insects, the West Virginia White butterfly (*Pieris virginiensis*). Several species of spring wildflowers known as "toothworts" (*Dentaria*), also in the mustard family, are the primary food source for the caterpillar stage of this butterfly. Invasions of garlic mustard are causing local extirpations of the toothwort, and chemicals in garlic mustard appear to be toxic to the eggs of the butterfly, as evidenced by their failure to hatch when laid on garlic mustard plants. Natural Heritage biologists have conducted inventories of West Virginia White butterflies in this area, and will monitor the population's response to the control efforts.

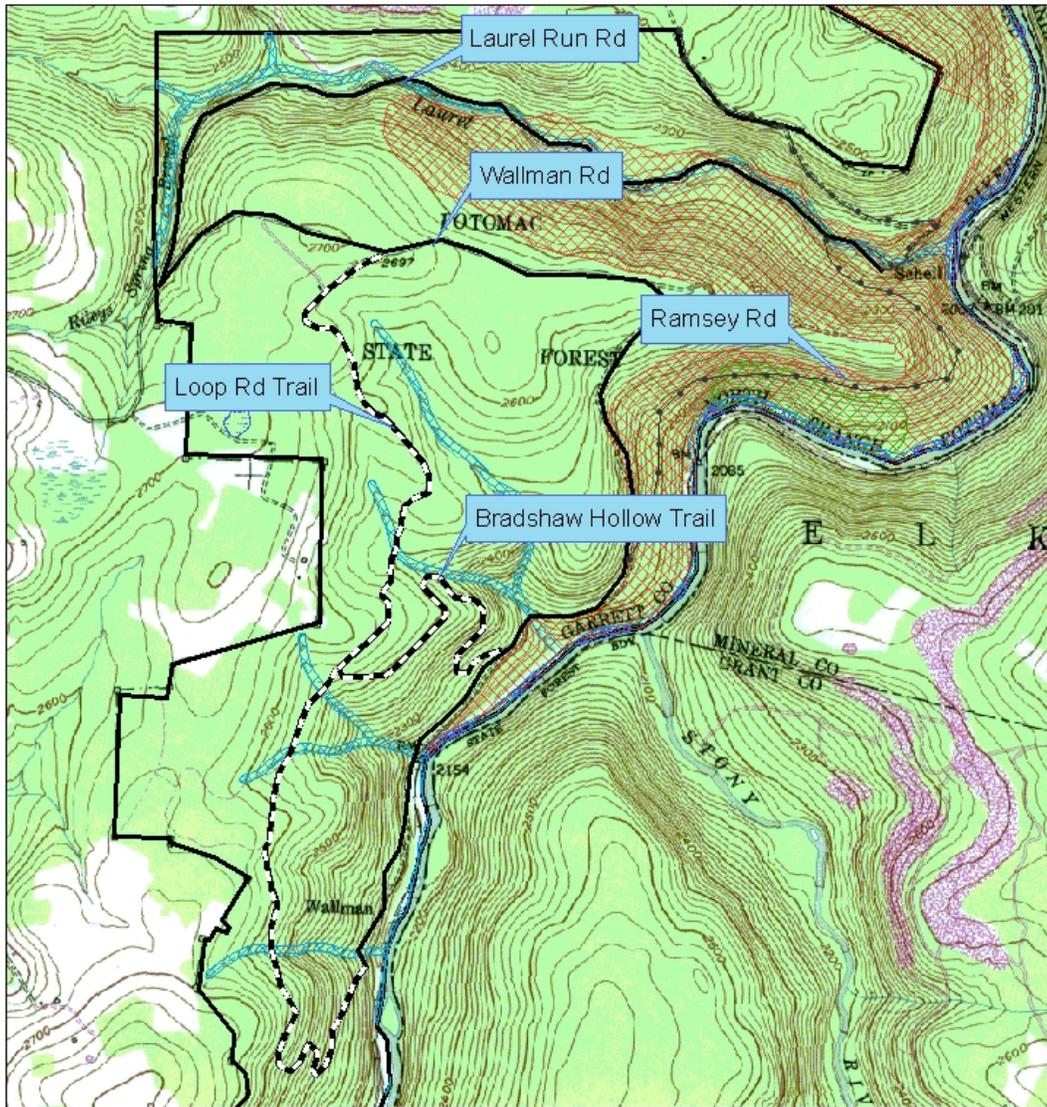
On an even larger scale, recent research indicates that garlic mustard may be allelopathic to important beneficial mycorrhizal fungi, and therefore may retard forest tree regeneration.

Management Recommendation

As with most invasive plants, complete elimination is often neither practical nor possible, especially at a forest-wide level. However, a management goal of protecting specific, ecologically significant areas (ESA) is often feasible using accepted control measures. A number of ESAs have been identified within the Wallman/Laurel Run area of the Potomac State Forest as being jeopardized by adjacent garlic mustard populations. These ESAs contain at least 9 known Maryland rare, threatened or endangered species that could be negatively impacted if garlic mustard overtakes these ESAs. Critical garlic mustard colonies have been mapped, and evaluated for control priority. Total acreage infested is approximately 1 acre, with this acre comprised of numerous small patches spread out along nearly 5 miles of road edge, and several pockets of infestation under closed canopy away from the roads.

Treatments have involved an initial two-year planned spray program in which glyphosate herbicide will be applied in three applications. The first application was carried out in October of 2009, followed by an early spring 2010 application to catch any survivors of the Oct. 09 treatment and early spring germinants. A return visit was made this spring (2011) in which any survivors or first-year plants newly recruited from the soil seedbank were treated. The area will be monitored for at least two more years to ensure exhaustion of the residual seed bank in the soil. Herbicide application will be done using a combination of backpack allowing target specific application.

Compartments 21, 22, 23, 24, 25, 26
 Wallman/Laurel Run Garlic Mustard Control Project FY -13



Compartments.....21, 22, 23, 24, 25, 26
 Quad.....Gorman

39 20' 24.65" N 79 16' 20.22" W

Scale: 1: 24000

HCVF	
	PGSF OLD GROWTH WITH 300FT BUFFER
	PGSF OLD GROWTH MGT UNIT
	WILDLANDS
	PGSF WSSC WITH 100FT BUFFER
	PGSF ESA
	PGSF BLUE LINE WITH 80FT BUFFER
	PGSF WETLANDS WITH 80' BUFFER



X. Silvicultural Proposals

COMPARTMENT 15 Stand C

FY-13

Description

This area is located on the north side of Upperman Road, approx. 0.3 mile east of the intersection of Upperman Road and Eagle Rock Road, within Compartment #15 Stand C of the Potomac State Forest. The stand lies west of a mapped HCVF (High Conservation Value Forest) which includes an Ecologically Significant Area known as the Upperman Bog. The area includes several wetlands of special State concern and provides protection to a number of threatened and endangered plants and invertebrates. This stand had been subjected to significant Gypsy Moth defoliations in the 1990's which resulted in a slight stand density reduction that opened up the forest and stimulated understory development. This ridge top site has an eastern aspect and falls within the Lostland Run watershed; part of the Potomac River drainage system.

This 30-acre site contains a nearly mature, 96 year old Red Maple/mixed oak stand. The overstory is made up primarily of Red Maple (43%), Red Oak (27%), Black Cherry (12%), and Chestnut Oak (9%). The stand is fully stocked at 91% relative density and contains 122 sq.ft. BA/acre. Overall, the understory is marginally developed. At current deer densities, there is insufficient regeneration to provide a fully stocked new stand. Only 46% of the site contains sufficient competitive regeneration and 28% of the site is stocked with established and competitive oak seedlings. However, in the absence of any deer pressure, the present understory conditions would provide for a fully stocked stand. Deer browse pressure in this area is estimated to be moderate and must be addressed when considering regeneration efforts on this site, and will likely prevent regeneration from developing into a new stand.

Interfering plant competition is significant with 33% of the site harboring some form of plant competition including: 13% of the area containing problematic fern and grass densities and 33% of the area containing low woody interference in the form of undesirable Witch hazel and Striped Maple. Multiflora rose, a non-native invasive species (NNIS) was observed on one inventory plot and should be monitored for possible spread throughout the stand.

Underlying soils include: 'Dekalb and Leetonia very stony sandy loams'. These soils are well drained and very acidic. Stones, generally acid sandstones, more than 10 inches in diameter are abundant. Degree of slope ranges from 0-25% throughout the site. Equipment limits are slight to moderate based on slope. The site has fair-good productivity for woodland management, with site index ranging from 60-70 for Red Oak.

Management and Silvicultural Recommendations

The proposed silvicultural treatment for this stand is to regenerate the stand using a clearcut with variable retention. This harvest will involve the cutting of the majority of the overstory trees. A variable retention approach will be used whereby, islands 'varying' from 8-12 healthy, dominant or co-dominant trees and the associated understory, shall be retained for each 2 acres of this harvested area. Particular emphasis shall be placed on retaining groups of dominant and co-dominant oaks as well as any live den trees. All other trees greater than 2 inches DBH shall be harvested as part of the clearcutting practice.

In order to allow for desired seedling development, the stand will be fenced to exclude deer from the developing seedlings until sufficient seedlings are established to withstand the deer browse pressure. Once the new stand is successfully established, fencing will be removed to allow deer and other large animals to take full advantage of the early successional habitat created by this management approach.

Delaying this harvest will likely result in the loss of the established and competitive oak seedlings, and the eventual loss of the mixed oak component of this stand.

Compartment 15 Stand C FY-13



Approx. Acres	30
Age	96
Forest Type	Mixed Oak/ Maple
Trees/Ac	581
Basal Area	122
AGS	102
Stocking	91%
Growth Rate	2.1%
Site Index	55 for NRO
Composition	Red Maple 46%
	Red Oak 27%
	Black Cherry 12%

39 23' 50.91" N 79 17' 28.75" W

	PGSF OLD GROWTH W/MT 300 FT BUFFER
	PGSF OLD GROWTH MGT UNIT
	W/MLD LANDS
	PGSF WSSC W/MT 100 FT BUFFER
	PGSF ESA
	PGSF BLUELINE STREAM W/MT 50 FT BUFFER
	PGSF WETLANDS WITH 50' BUFFER



1 inch = 660 feet

Description

This area is located directly behind the Potomac-Garrett State Forest Headquarters on Potomac Camp Rd., within Compartment #17 Stand D of the Potomac State Forest. The stand lies north of the posted safety zone surrounding the State Forest headquarters and shop compound. This stand was thinned in 1992. The area contains no mapped HCVF (High Conservation Value Forest), however, a first order headwater tributary to Lostland Run is located in the center of the stand and will be given a 50 ft. buffer recognized as HCVF. This ridgetop site has a south-eastern aspect and falls within the Lostland Run watershed; part of the Potomac River drainage system.

This 46-acre site contains a nearly mature, 110 year old Red Maple/mixed oak stand. Of the 46-acre stand, approximately 3 acres will fall within the stream buffer and will account for a portion of the planned tree retention. The overstory is made up primarily of Red Maple (47%), Red Oak (15%), Chestnut Oak (13%), and White Oak (7%). The stand is fully stocked at 90% relative density and contains 124 sq.ft. BA/acre.

The understory is well developed, with approximately 50% of the site containing sufficient competitive regeneration to provide for successful development of the next stand. However, as only 12% of the site is stocked with competitive oak seedlings, (the remaining 38% being made up of red maple), oak seedlings are insufficient to assure maintenance of the desired 30% mixed oak cohort in the next stand. In addition, interfering plant competition is significant with 58% of the site harboring some form of plant competition including: 27% of the area containing problematic fern and grass densities, and 38% of the area containing low woody interference in the form of undesirable Witch hazel and Striped Maple. Multiflora rose, a non-native invasive species (NNIS) was observed on one inventory plot and should be monitored for possible spread throughout the stand.

Deer impacts in this area are estimated to be high; must be addressed when considering regeneration efforts on this site; and will likely prevent regeneration from developing into a new stand.

Underlying soils include: 'Dekalb and Gilpin very stony loams' on the uplands, and 'Cookport and Ernest very stony silt loams' along the unnamed tributary stream running through the center of the stand. The Dekalb soils are moderately deep and well drained. Equipment limitations and erosion potential are slight to moderate varying with the slopes. The Cookport soils vary considerably along the stream drainage being moderately deep to deep, and moderately well drained to somewhat poorly drained. Equipment limits are moderate because the water table is very close to the surface in late winter and early spring. The site has good-very good productivity for woodland management, with a site index ranging from 65-75 for Red Oak.

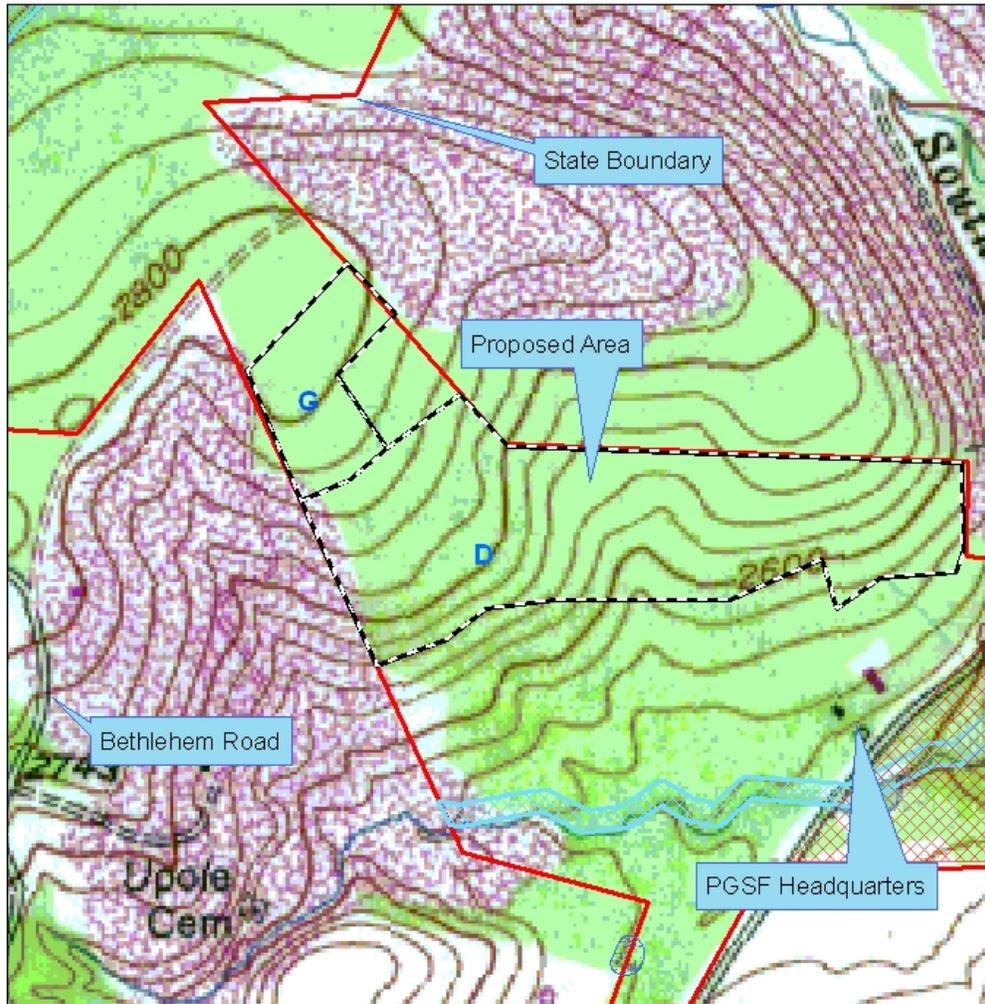
Management and Silvicultural Recommendations

The proposed silvicultural treatment for this stand is to regenerate the stand using a shelterwood system. The first steps in this regeneration process will involve a preparation cut to reduce the stocking of the stand providing maximum growth potential for the residual seed producing stand. Initially a light thinning will be carried out to reduce stand density to approximately 60% relative density, retaining a basal area of 90 sq. ft. BA/acre and yielding approximately 2000-3000 bd.ft. / acre. The thinning will be focused on retaining oaks for seed trees. At this initial stage, groups of 8-12 trees per 2 acres will be selected and marked for retention into the next rotation. Trees selected for long term retention will include cavity trees live or dead, as well as oaks and other mast producers. A 50 ft. no cut buffer will be maintained along the HCVF riparian stream corridor. Beyond the no-cut buffer, the stream will be buffered using the 50+4 rule. This area will be thinned but will be restricted as a no-equipment zone.

As such a thinning will not only stimulate the growth of the overstory trees but will also stimulate growth of the existing interfering understory, the competing woody understory plants will be controlled by means of herbicide applications and/or controlled/prescribed fire. An appropriate herbicide product will be applied by direct cut surface applications to the undesirable Witch Hazel, Striped Maple and Red Maple understory. The fern and grass spread will be monitored. If their spreading growth begins to interfere with seedling establishment, follow-up spraying will be carried out with appropriate herbicide. Alternatively, if weather conditions and staffing levels allow, prescribed fire may be used to control the competing vegetation.

In order to allow for desired seedling development, the stand will be fenced to exclude deer from the acorns and developing seedlings until sufficient seedlings are established to withstand the deer browse pressure. As seedling development progresses, additional harvests will be carried out to provide sufficient release of the developing seedlings. Once the new stand is successfully established, fencing will be removed to allow deer and other large animals to take full advantage of the early successional habitat created by this management approach.

Compartment 17 Stand D FY-13



Approx. Acres	46
Age	116
Forest Type	Mixed Oak/ Maple
Trees/Ac	429
Basal Area	124
AGS	119
Stocking	90%
Growth Rate	2.5%
Site Index	70 for NRO
Composition	Red Maple 47%
	Red Oak 15%
	Chestnut Oak 13%

39 23' 2.05" N 79 17' 28.87" W

- HCVF**
- PGSF OLD GROWTH WITH 300 FT BUFFER
 - PGSF OLD GROWTH MGT UNIT
 - WILDLANDS
 - PGSF WSSC WITH 100 FT BUFFER
 - PGSF ESA
 - PGSF BLUE LINE STREAM WITH 50 FT BUFFER
 - PGSF WETLANDS WITH 50' BUFFER



1 inch = 660 feet

Description

This area is located approx. 0.5 mile northwest of the Potomac-Garrett State Forest Headquarters on Potomac Camp Rd., within Compartment #17 Stand G of the Potomac State Forest. The stand lies between two pine plantations and is situated well beyond any HCVF (High Conservation Value Forest). This hill top site has a south-eastern aspect and falls within the Lostland Run watershed; part of the Potomac River drainage system.

This 9.2 acre site contains a nearly mature, 96 year old mixed oak stand. The stand's overstory is made up primarily of Chestnut Oak (39%), Red Oak (18%), and other mixed oak species comprise an additional (19%). The stand is fully stocked at 95% relative density and contains 114 sq.ft. BA/acre.

The understory is well developed, with approximately 85% of the site containing sufficient competitive regeneration to provide for successful development of the next stand; 60% of the site is stocked with competitive oak seedlings which should provide for successful natural regeneration of this mixed oak stand if the overstory is harvested. The next stand should also be dominated by oaks. Interfering plant competition is minimal with only 10% fern and grass cover and little to no woody interference. No non-native invasive species (NNIS) were observed in the inventory.

Deer browse impacts in this area are estimated to be moderate, and must be considered in any regeneration efforts on this site. The existing advanced regeneration is sufficient for natural regeneration under the existing conditions.

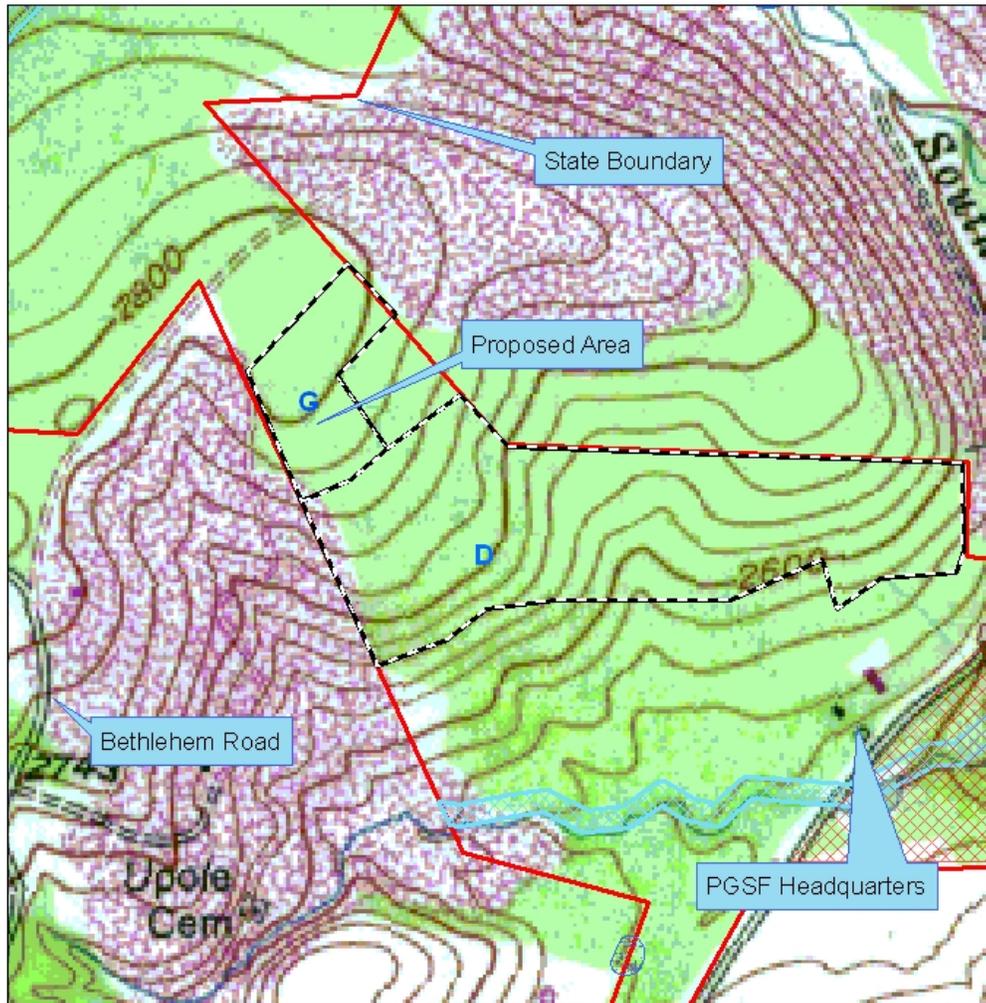
Underlying soils include: 'Dekalb and Gilpin very stony loams'. These soils are well drained and very acidic. Stones, generally acid sandstones, more than 10 inches in diameter are abundant. Degree of slope ranges from 0-15% throughout the site resulting in only slight equipment limits. The site has fair productivity for woodland management, with site index ranging from 60 for Red Oak.

Management and Silvicultural Recommendations

The proposed silvicultural treatment for this stand is to regenerate the stand using a clearcut with variable retention. This harvest will involve the cutting of the majority of the overstory trees. A variable retention approach will be used whereby, islands 'varying' from 8-12 healthy, dominant or co-dominant trees and the associated understory, shall be retained for each 2 acres of this harvested area. Particular emphasis shall be placed on retaining groups of dominant and co-dominant oaks as well as any live den trees. All other trees greater than 2 inches DBH, except oaks, shall be harvested as part of the clearcutting practice.

As the desired, competitive oak regeneration is highly sought deer browse, the harvest will be managed to retain high tops and lops from harvested trees to serve as a natural impediment to help protect the oak seedlings from browsing deer. Delaying this harvest will likely result in the loss of the established and competitive oak seedlings, and the eventual loss of the mixed oak component of this stand.

Compartment 17 Stand G FY-13



Approx. Acres.....	9
Age.....	96
Forest Type.....	Mixed Oak
Trees/Ac.....	534
Basal Area.....	114
AGS.....	100
Stocking.....	95%
Growth Rate.....	2%
Site Index.....	60 for NRO
Composition.....	Chestnut Oak 39%
	Red Oak 18%
	Red Maple 12%

39 23' 2.05" N 79 17' 28.87" W

HCVF	
[Pattern]	PGSF OLD GROWTH WITH 300 FT BUFFER
[Pattern]	PGSF OLD GROWTH MGT UNIT
[Pattern]	WILDLANDS
[Pattern]	PGSF W/S/C WITH 100 FT BUFFER
[Pattern]	PGSF ESA
[Pattern]	PGSF BLUE LINE STREAM WITH 50 FT BUFFER
[Pattern]	PGSF WETLANDS WITH 50' BUFFER



1 inch = 660 feet

Description

This area fronts on the Herrington Manor Road, approximately 0.5 mile south of the intersection of the Herrington Manor and Cranesville Roads, within Compartment #33 Stand I of the Garrett State Forest. The stand lies west of the mapped HCVF (High Conservation Value Forest) which includes an Ecologically Significant Area known as the Herrington Springs. The ESA provides protection to several wetlands of special state concern, and contains a number of threatened and endangered species, including the globally rare, Frantz's Cave Amphipod. Additional wetlands fall within the stand boundary and will be buffered according to State Forest protocols. A snowmobile trail runs along a portion of the western edge of the stand. This site has an eastern aspect and falls within the Herrington Creek watershed; part of the Youghiogheny River drainage system.

This 40 acre site contains a mature, mixed oak stand. The overstory is made up primarily of White Oak (43%), Red Maple (37%) and Black Cherry (8%). The stand is overstocked at 125% relative density and contains 160 sq.ft. BA/acre.

As expected in an undisturbed, mature forest, the understory is poorly developed with only approximately 30% of the site containing sufficient competitive regeneration to provide for successful development of the next stand. Only 8% of this predominantly oak stand has oak regeneration present. Interfering plant competition is not a significant factor in regeneration at this time, with 22% of the site harboring any form of interfering plant competition. No non-native invasive species (NNIS) were observed in the inventory. Deer browse impacts in this area are estimated to be high and must be addressed when considering regeneration efforts on this site.

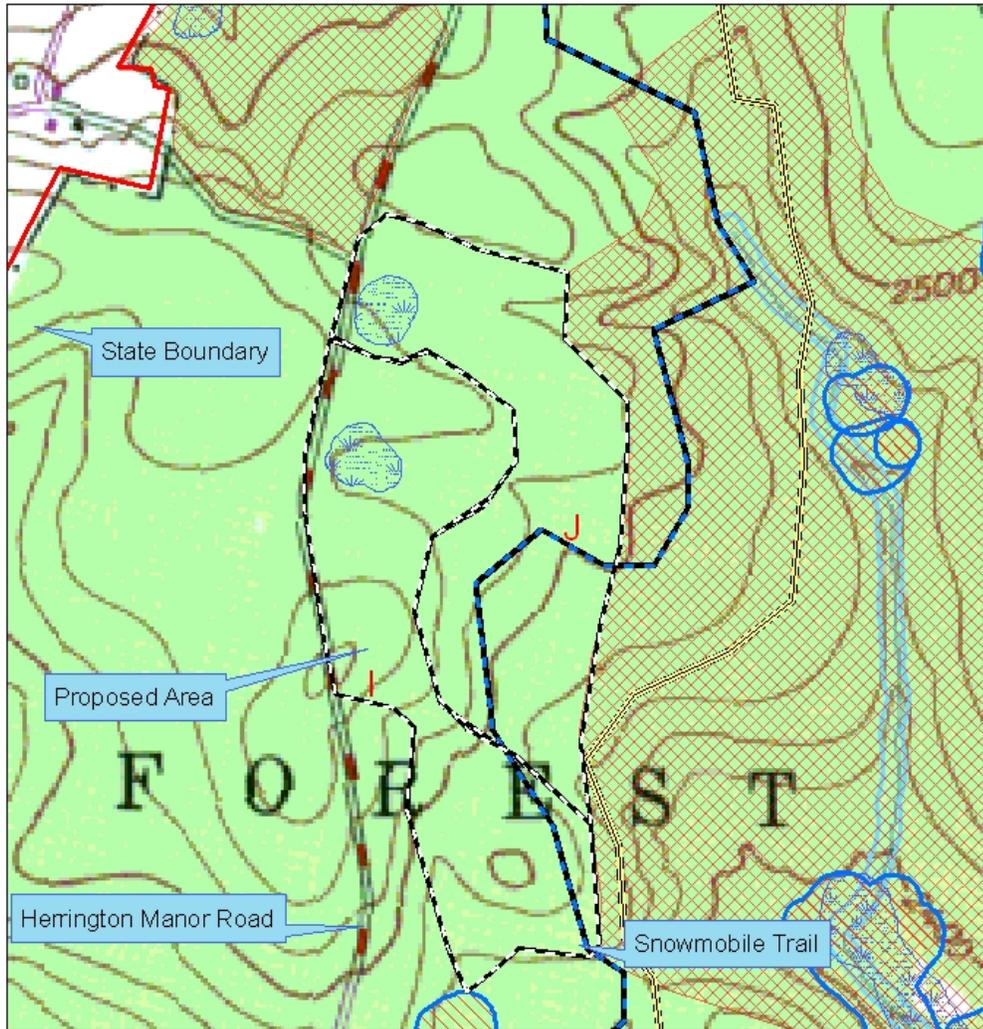
Underlying soils include: 'DeKalb and Gilpin very stony loams' and 'Stony land'. These soils are moderately deep and well drained and some poorly drained soils, with moderate equipment limits because water table is close to the soil surface in winter and early in spring. Degree of slope ranges from 0-25%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

Management and Silvicultural Recommendations

The proposed silvicultural treatment for this stand is to begin regeneration using a 3-stage shelterwood system. The first step in this regeneration system will involve a preparation cut in which the stand will be thinned to reduce the stocking, providing optimum growth potential for the residual seed producing stand. This thinning will reduce stand density to approx. 80% relative density, retaining 100 sq. ft. BA/acre and yielding approximately 4,000 bd.ft. / acre. The thinning will remove unacceptable growing stock and will focus at retaining oaks for seed trees. Removals will be concentrated in the small sawtimber and poletimber size classes, as well as those over mature trees. Trees to be retained will be those in the dominant and co-dominant canopy positions, with emphasis on retaining oaks for seed production. The harvest will be managed to leave high tops and lops to offer some seed and seedling protection. Management plans for the next 10-15 years include the second and third stages of this system involving a seed cut / thinning to provide conditions suitable for the development of seedlings, and later, a liberation cut to release the established seedlings from overhead competition

For public safety, the snowmobile trail will closed during contracted operations. Signs will be posted at all effected trail heads redirecting trail users to other available trails on the State Forest.

Compartment 33 Stand I FY-13



Approx. Acres.....	40
Age.....	101
Forest Type.....	Mixed Oak/ Maple
Trees/Ac.....	465
Basal Area.....	180
AGS.....	148
Stocking.....	125%
Growth Rate.....	1.9%
Site Index.....	65 for WO
Composition.....	White Oak 42%
	Red Maple 37%
	Black Cherry 8.2%

39 28' 30.89" N 79 26' 16.53" W

HCVF	
	PGSF OLD GROWTH WITH 300 FT BUFFER
	PGSF OLD GROWTH MGT UNIT
	WILDLANDS
	PGSF WSSC WITH 100 FT BUFFER
	PGSF ESA
	PGSF BLUE LINE STREAM WITH 50 FT BUFFER
	PGSF WETLANDS WITH BUFFER



1 inch = 660 feet

Description

This area lies west of the Herrington Manor Road, approx. 0.5 mile south of the intersection of the Herrington Manor and Cranesville Roads, within Compartment #33 Stand J of the Garrett State Forest. The stand bounds on mapped HCVF (High Conservation Value Forest) which includes an Ecologically Significant Area known as the Herrington Springs. The ESA provides protection to several wetlands of special State concern, and contains a number of threatened and endangered species, including the globally rare, Frantz's Cave Amphipod. Additional wetlands fall within the stand boundary and will be managed according to State Forest protocols. A snowmobile trail runs through this stand, and the '5 ½ mile Hiking Trail' lies immediately to the east. This site has an eastern aspect and falls within the Herrington Creek watershed; part of the Youghiogheny River drainage system.

This 40-acre site contains a mature, Alleghany Hardwoods stand. The overstory is made up primarily of Black Cherry (40%), Red Maple (33%) White Oak (18%), and Northern Red Oak (3%). The stand is overstocked at 94% relative density and contains 162 sq.ft. BA/acre.

As expected in an undisturbed, mature forest, the understory is poorly developed with only approximately 32% of the site containing sufficient competitive regeneration to provide for successful development of the next stand. Interfering plant competition poses a significant factor in regeneration as 42% of the stand has some form of interfering vegetation impeding seedling regeneration. Fern and grass cover impedes 36% of the stand, while woody interference adds an insignificant 6%. Non-native invasive species (NNIS) were observed in the inventory, with Japanese Barberry showing up on one sample plot. Deer browse impacts in this area are estimated to be high and must be addressed when considering regeneration efforts on this site.

Underlying soils include: 'DeKalb and Gilpin very stony loams' and 'Stony land'. These soils are moderately deep and well drained and 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 for White Oak.

Management and Silvicultural Recommendations

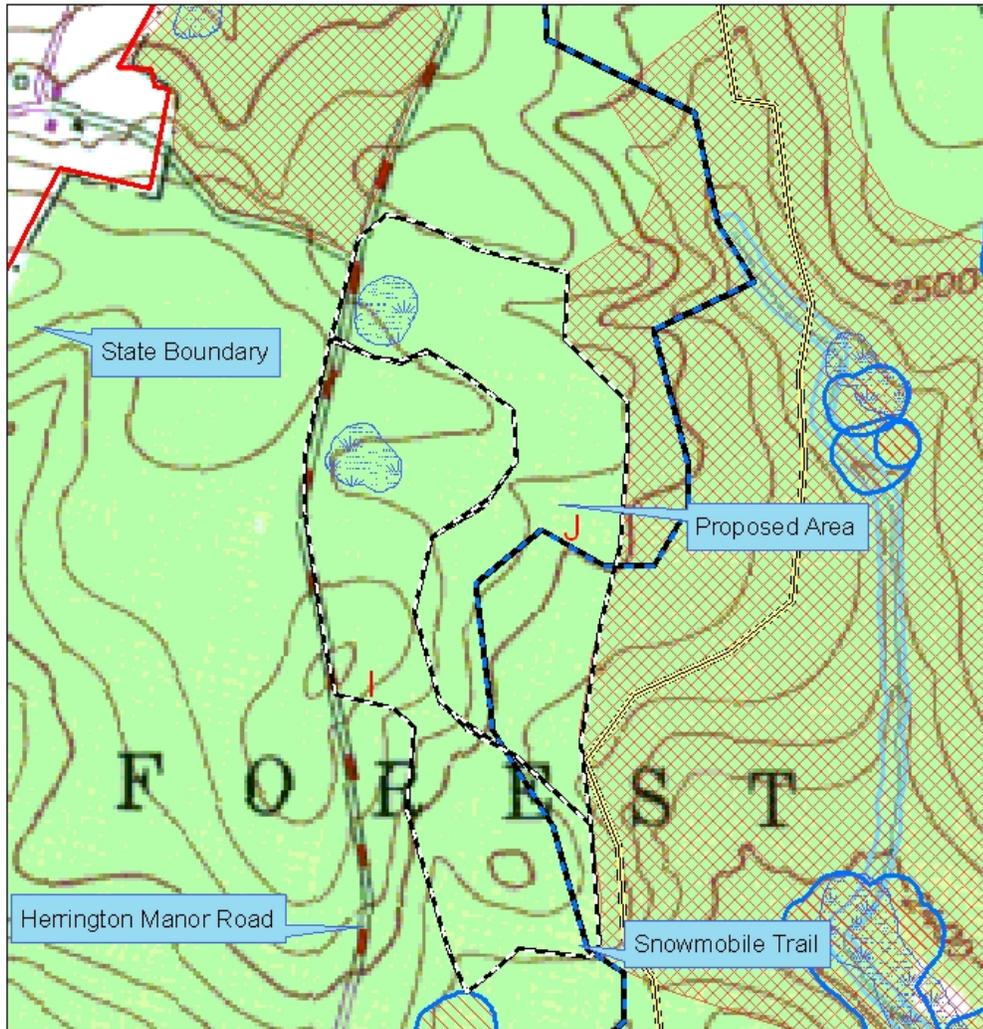
The proposed silvicultural treatment for this stand is to begin regeneration using a 2-stage shelterwood system. The first step in this regeneration process will involve a seed cut in order to increase advanced regeneration. The stand will be thinned to reduce the stocking, providing optimum growth potential for the residual seed producing stand. This thinning will reduce stand density to approximately 60% relative density, retaining a basal area of 100 sq. ft. BA/acre and yielding approximately 3,000-3,500 bd.ft. / acre. The thinning will remove unacceptable growing stock and will focus at retaining high quality stems in the dominant and co-dominant canopy positions for seed trees. Removals will be concentrated in the small sawtimber and poletimber size classes, as well as those over mature trees. The harvest will be managed to retain high tops and lops from cut trees to offer some deer browse protection to developing seedlings.

The harvest will occur on 32 acres of the 40-acre stand as approximately 8 acres of the stand includes scrub/shrub wetlands not included as HCWF, and inoperable land associated with the wetlands. A “50+4” no-equipment zone will be established around the wetlands, with this zone being thinned as part of the managed stand.

As interfering plant competition poses a significant factor in regeneration, prior to harvest, the fern and grass understory will be treated with an appropriate herbicide to remove this impediment to seedling establishment.

For public safety, the snowmobile trail will be closed during contracted operations. Signs will be posted at all effected trail heads advising of the management work being carried out, and redirecting trail users to other available trails on the State Forest.

Compartment 33 Stand J FY-13



Approx. Acres.....	40
Age.....	95
Forest Type.....	Allegheny Hardwood
Trees/Ac.....	308
Basal Area.....	162
AGS.....	144
Stocking.....	94%
Growth Rate.....	1.8%
Site Index.....	70 for BC
Composition.....	Black Cherry 40%
	Red Maple 33%
	White Oak 18%

39 28' 30.89" N 79 26' 16.53" W

HCVF	
	PGSF OLD GROWTH WITH 300 FT BUFFER
	PGSF OLD GROWTH MGT UNIT
	WILDLANDS
	PGSF WSSC WITH 100 FT BUFFER
	PGSF ESA
	PGSF BLUE LINE STREAM WITH 50 FT BUFFER
	PGSF WETLANDS WITH BUFFER



1 inch = 660 feet

XI. Operational Management and Budget Summary

1. 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-2012, as the FY-13 request has not been prepared at the time this document is being released for initial review.

2. PGSF FUNDING SOURCES: Estimated - \$569,347

- General Fund: \$273,436

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.

- Special Fund: \$1,463

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-13 is expected to be \$143,200.

- ORV Fund: \$17,000

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. Note this figure is likely to be less for FY-13, as permit sales are significantly lower this year due to trail closures at both the Green Ridge and Savage River State Forests.

- 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:

Forest Inventory Grants: \$21,500

Grant monies secured for the completion of the forest inventory project.

National Recreational Trail Grant: \$30,000

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.

Other Grants: \$230,000

TNC Partnership -In a collaborative effort with the Nature Conservancy's Allegheny Forests Project Office – Clean Streams Program, a total of \$500,000 in grant requests have been prepared and submitted to two non-profit organizations with slightly different program goals. Potomac–Garrett State Forest has prepared \$230,000 in project proposals as part of this effort. The grant submittals included projects in both Potomac-Garrett State Forest and Green Ridge State Forest. The program's goals are to reduce sediment loading from deteriorating access roads; protect sensitive and important aquatic habitats; improve water quality in Lostland Run (a native brook trout fishery), the Potomac River, and ultimately the Chesapeake Bay. Proposed work for PGSF involves improvements to the Lostland Run Multi-use Trail System (see details in section VI Recreation Proposals). If successful in securing funding, necessary permits would be sought in the spring of 2012, with work to begin in summer of 2012. These funds will be administered by TNC for the projects as detailed in specific grant requests.

RGS/ SCI Partnership – State Forest staff has regularly sought wildlife habitat improvement funds from various conservation organizations. For the past two years, the Ruffed Grouse Society together with Safari Club International have provided grants of \$1,000 each year for specific habitat work. An additional \$1,200 grant has been submitted for FY-13 (see detailed project proposal in section VII Wildlife Habitat Improvement Proposals.) These funds will be administered by RGS for the projects as detailed in specific grant requests.

3. OPERATIONAL COST: Estimated Annual Expenses - \$466,930

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-2012 budget proposal was prepared in July of 2011.

- Classified Salaries, Wages and Benefits: \$274,899

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.

- Contractual Staffing: \$82,088 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.

- Land Management and Operation Cost: \$86,023

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.

- County Payments: \$35,800

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-13 Work Plan calls for the harvest of approximately 548,659 Bd.ft. of hardwood saw timber; putting an estimated \$143,200 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 term sustainable management of these important forest resources.

- ORV Funds: \$17,000

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

- Recreational Trail Grants: \$30,000

These funds are designated for trail improvements to motorized trails.

4. 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.

Appendices

(Appendix 1) Summary of 2011 Certification Audit Findings

In April of 2011, MD State Forests management plans, programs and activities were audited by the Forest Stewardship Council and the Sustainable Forestry Initiative, as part of the Governors directive to seek “certification” of the State Forests Sustainable Forest Management plans and programs under both of these internationally recognized management standards. As a result of the audit, a number of ‘Corrective Action Reports’ (CARs) and or observations were 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 programs require that all of these items be addressed before the next annual audit, with some needing more immediate attention. State Forest staff time and field operations have been adjusted and redirected to assist in addressing all of these Corrective Action items in the course of the next year.

The following is a brief summary of the ‘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. The complete audit findings will be made available to the public along with the Sustainable Forest Management Plans later this year.

<u>Item #</u>	<u>Findings</u>
CAR 2011.1	Illegal ORV activity, inconsistent with state forest policy, must take additional action to curtail / correct.
CAR 2011.2	Clear grievance procedures / complaint policy lacking.
CAR 2011.3	Clear guidelines to minimize rutting and soil compaction lacking.
CAR 2011.4	Roads and trail assessment and maintenance plans incomplete.
CAR 2011.5	Non Timber Forest Products policy unclear / inconsistent.
CAR 2011.6	EAR/project review process regarding impact assessment to be clarified.
CAR 2011.7	Forest Management Plans do not (at time of audit) include public input.
CAR 2011.8	Habitat element retention policy unclear.
CAR 2011.9	Non Native Invasive Species (NNIS) plan lacking.
CAR 2011.10	Assessment of adequacy of ecosystem representation/protection lacking. (ie. status of protected systems within the scope of the greater landscape.)
CAR 2011.11	Items missing from Sustainable Forest Management Plans: <ol style="list-style-type: none">1) Description of natural disturbance regimes on the forest.2) Insect and disease management on the forest.3) Discussion of biological controls used on the forest.4) Transportation Network Plans. (roads & trails, assessment and maintenance and use plans).5) NNIS plan.

- CAR 2011.12 Clear process of monitoring management actions for effectiveness lacking.
- CAR 2011.13 Monitoring program assessing forest road and trail impacts lacking.
- CAR 2011.14 Public input into designation of HCVF not considered. (as plan had not been sent out for public review at time of audit.)
- CAR 2011.15 Chain of Custody to be developed to track “certified wood products”.
- OBS1 Need better documentation of social impacts of forest management.
- OBS2 Need to improve on public notification system for public input.
- OBS3 Need to better address staff and contractor hazardous spill prevention.
- OBS4 Additional staff training with respect to specific standards as expected of FSC and SFI protocols.
- OBS5 Lack of management plan for S-3 species.