POTOMAC-GARRETT STATE FOREST
ANNUAL WORK PLAN

FISCAL YEAR 2022

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BOARD OF FORESTERS

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Potomac-Garrett State Forest
FY-22
Annual Work Plan

Potomac-Garrett State Forest
FY-22 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 Forest lands contain excellent quality hardwoods.

Potomac-Garrett State Forest has been intensively managed over the past nine decades. Forest harvest and grooming operations are undertaken to thin overstocked stands, to effectively deal with public safety concerns, to harvest mature, diseased/dying trees, to improve habitat for certain wildlife species, to assist and provide for certain research needs, to address aesthetic concerns and to increase the proportion of age/height diversity of forested stands.

II. Annual Work Plan Summary

The FY-2022 Annual Work Plan for Potomac-Garrett State Forest was formulated in 2020. It contains projects to be undertaken in the areas of Special Projects, Maintenance and Operations, Recreation, Watershed Protection, Ecosystem Restoration / Protection, and Wildlife Management. In addition to the routine operations and management of the State Forest, the FY-22 Annual Work Plan for Potomac-Garrett State Forest details four land management projects that will be the focus of the State Forest management staff for FY-22. All projects and proposals within this Plan have been developed to meet one or more of the Land Management Guidelines and Objectives outlined in the Potomac-Garrett State Forest Sustainable Management Plan including:

Forest Economy*: management activities intended 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. Continued Development of the Certified, State Forest Sustainable Forest Management Plan - with special focus on addressing items identified as in need of improvement as a result of the 2020 FSC/SFI Certification Audits.

2. Forest Stand Delineation, Inventory and Monitoring - Completion of the project to re-inventory and redefine stands on the entire forest. This critical project will continue in FY-22. To date, 100% of the forest wide data collection has been completed. The project 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.

3. 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.

4. Ecologically Significant Area (ESA) Management Plan Development - Wildlife and Heritage staff continue to develop descriptions and management plans for the ESA areas to be included in the Potomac-Garrett State Forest Sustainable Forest Management Plan guidance document. These plans offer a look at the critical habitat elements that make up each of the designated Ecologically Sensitive Areas, and offer insights on management approaches that will assure continued protection of critical habitats, including some of the active management that has taken place to further assure protection of the rare, threatened and endangered species these areas are set up to protect.

B. Land Management Projects Include:

1. Continuation of the ecosystem restoration project involving control of invasive and exotic plants forest wide.

2. 1 Wildlife Habitat Enhancement Project that involves the planting of red spruce (*Picea rubens*) in a 6-acre degraded stand that resulted from improper forest management implemented prior to the acquisition of the property by the state forest.

3. 3 Silvicultural projects including:
3 Hardwood regeneration harvests on 97 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 since its inception, 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-22 Annual Work Plan outlines 4 silvicultural projects on 103 acres, producing a harvest of approximately 520,000 board feet of sawtimber and accounting for an estimated $125,000 worth of raw wood products entering local markets. Much of the silvicultural work laid out in this work plan is focused on initiating seedling development to better ensure 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 safeguard the long term sustainable management of these important forest resources. The cultural operations and management projects outlined within the FY-22 Annual Work Plan are selected to provide significant contributions to the sustainability of forest resources found within Potomac-Garrett State Forest and the ecosystems associated with it.

III. General Location Map for FY-22 Land Management Project Proposals

Approximately 103 Acres

Map Key

1. Compartment 33 Stand 10	*40-Acre Hardwood Regeneration*
2. Compartment 35 Stand 6	*22-Acre Hardwood Salvage/Regeneration*
3. Compartment 35 Stand 9	*35-Acre Hardwood Regeneration*
4. Compartment 45 Stand 24	*6-Acre Wildlife Habitat Enhancement Project*

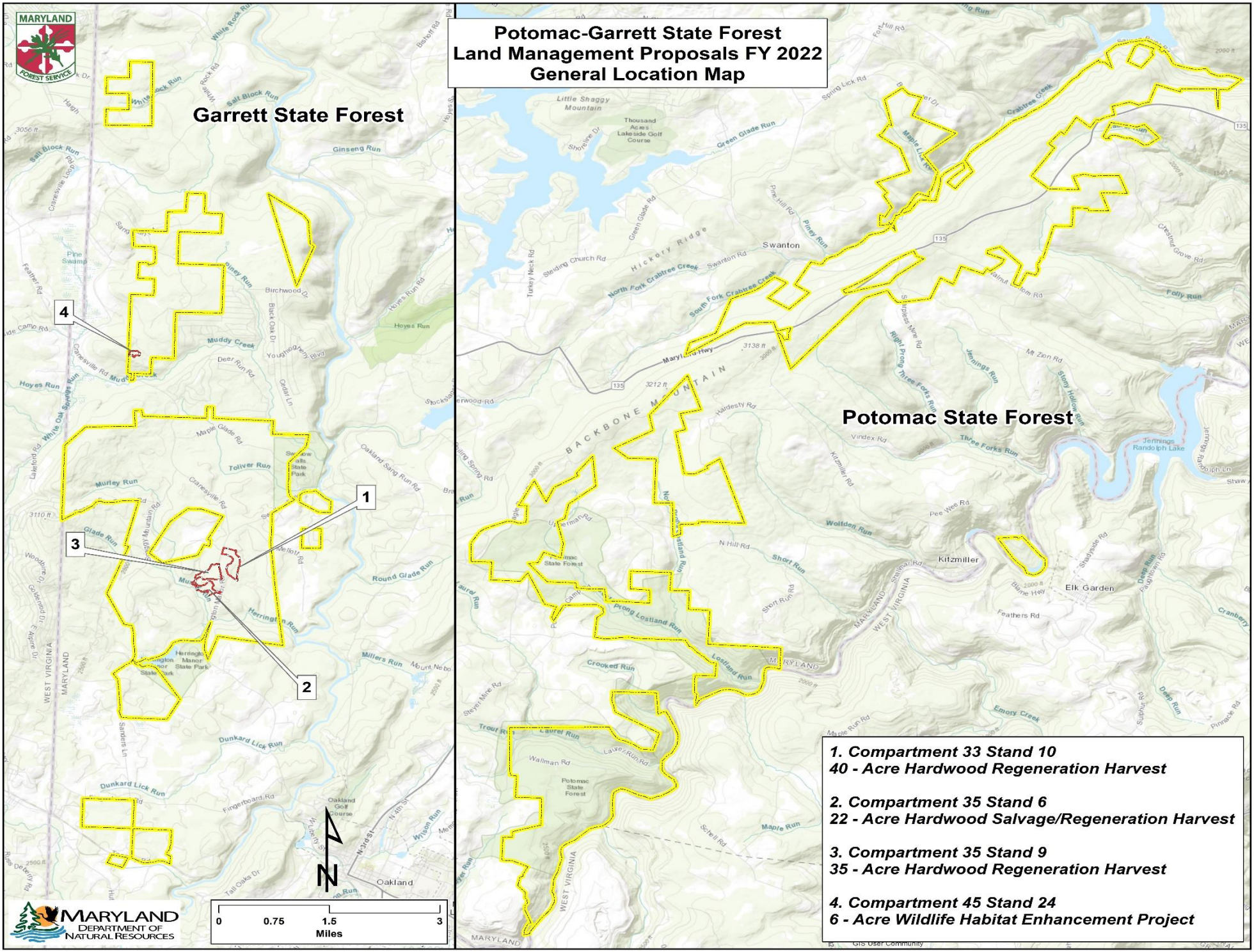


Figure 1. General location map for FY-22 land management proposals.

IV. Special Projects - Forest Resource Management and Planning

A. Continued Development of the Certified State Forest Sustainable Forest Management Plan.

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 next 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. 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 had 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. Revisions and updates to the Sustainable Management Plan were completed in April of 2019.

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 Corrective Action Reports (CARs) and/or observations identified as needing 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 these items be addressed before the next annual audit, with some needing more immediate attention. A minor CAR was issued by both SFI and FSC in regard to leaking equipment on a harvest site and the apparent absence of safety equipment. A corrective action plan was formulated that would add the items to the BMP checklist and confirmation of compliance would be done during each site visit by Forest Service Staff or agents. A second minor CAR was issued by FSC focused on pesticide reporting for utility right of way herbicide spraying. (See Appendix 4 and Appendix 5 for a summary of audit findings). State Forest staff time and field operations are adjusted and redirected to assist in addressing any Corrective Action items in the course of the next year.

B. 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. Initial stand data collection has been completed on the harvestable areas of the forest using the SILVAH Inventory System developed by the US Forest Service which incorporates intense surveys of both the overstory and understory to assist in the formulation of appropriate silvicultural prescriptions in specific forest types. The demand for this important data set is increasingly evident as special projects evolving out of demands placed by Forest Certification Standards utilize this data set for project planning including the Annual Work Plan and the Non-Native Invasive Species Inventory. With the close of the fifth inventory season in 2016, the initial forest wide data collection has been completed on this stage of the forest monitoring program and processing of this data has been completed.

What had historically been carried out on a 10-year interval offering a snap shot in time view of the forest, has evolved into an 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 more rapid and timely responses. 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 and prescribed fire; NNIS monitoring and control work; silvicultural results with respect to management objectives and outcomes and recreation/visitor impacts, etc.

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: Routine maintenance projects include building repair and maintenance, vehicle maintenance, mowing at the office facility, snow removal, repair and replacement of fire rings and tables at the camp sites, brush hogging trails and repair of road surfaces.

A. Maintenance and Management of Roads and Trails

There are approximately 79.2 miles of trail and hardened road surface on the forest and approximately 1/3 of the mileage is maintained each year. Maintenance in these areas includes brush hogging, mowing, and rehabilitation of road surfaces. Herbicide usage has been integrated into the road maintenance regime in order to control growth in areas where mechanical control methods are not feasible (i.e. steep slopes, narrow paths, rocky areas). The use of herbicide along forest roadways can also reduce operational costs for the maintenance staff by controlling unwanted vegetation along these travel corridors for several years, when applied properly.

In FY-21 maintenance staff will concentrate on carrying out planned trail maintenance as outlined in the National Recreation Trail Grant (NRT) detailed in the Recreation Section of this plan. This will be carried out in addition to 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, along with routine maintenance of the roads and trails as outlined in the road maintenance plan.

As a result of the State Forests Certification Audit, State Forest staff has developed a formalized transportation plan in which the entire transportation infrastructure has been inventoried and assessed for management, use and maintenance needs. From this assessment, the State Forest staff develops annual maintenance plans geared toward making the roads and trails 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. All 79.2 miles of roads and trails have been classified based on desired use and condition. A detailed breakdown of the road management classification is available upon request at the Potomac-Garrett State Forest Headquarters.

B. Boundary Line Maintenance

Potomac-Garrett State Forest currently 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, State Forest staff maintain approximately 30 miles of line each year. In addition to routine marking and 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. With the assistance of Land Planning and Acquisition staff, all previously unpainted and/or missing boundary lines are to be reestablished until the entire forest boundary is demarcated.

C. Campground Operation and Maintenance

Potomac-Garrett State Forest offers year round, primitive camping in five separate areas of the State Forest; Lostland Run, Laurel Run/Wallman, Snaggy Mountain and Piney Mountain. Within each area is a group site, a rustic trail shelter and several primitive campsites offering a picnic table, lantern post and fire ring. Vault toilets have been 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.

Major campsite maintenance coincides with major holidays, the end of winter and at the traditional end of the camping season in late summer/early fall. The campsites are also frequented during the white-tailed deer firearms seasons in the fall and winter, during spring turkey season in early spring and during the opening weekend of trout season in late winter/early spring. 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; and site impact monitoring.

D. 3-D Archery Range Maintenance and Management

Potomac-Garrett State Forest offers the only 3-D Archery Range in Maryland's Public Lands System. 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.

The archery range, located behind the state forest headquarters, is open daily from April through mid-September from dawn to dusk and offers a 30-target course, with four separate skill levels at each target. Rules and regulations are posted at the range. Cost per round is $7.00 for adults, $5.00 for ages 12-16 and free for children under 11. An unlimited season pass can also be purchased for $35.00 per 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 located off Fingerboard Road in Compartments 43 and 44. Primary audiences have included leaders in the fields of agricultural and natural resources, extension service personnel, forestry board members, 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 sustainably managing forests.

VI. Recreation

A. **Recreation Opportunities** (See Figures 2-4 p. 12-14)

1. Hiking and Biking Trails

Potomac-Garrett State Forest has over 80 miles of trails open to hikers, mountain bikers and horseback riders of any ability. Not all trails are open to all recreational pursuits and it is recommended that before engaging in any activities patrons should visit or contact the state forest headquarters to become aware of any trail restrictions. A backpacking permit must be obtained at the forest headquarters or at any of the self-registration areas for overnight hiking trips. Trail guides featuring a topographic map and trail descriptions can be purchased at the forest headquarters.

2. Off Road Vehicles

A variety of off road vehicle types are permitted on trail sections that are blazed green. These areas include Snaggy Mountain Road, Burkholder Road, Piney Mountain Road, Laurel Run Road and Wallman Road. Riders should consult ORV maps and regulations for each state forest. Riders are required to obtain an annual registration and current Department of Natural Resources ORV permit, available online at www.dnr.maryland.gov.

3. Hunting

Hunting is permitted throughout the forest except where posted with safety zone signs. The 19,000 acres of Potomac-Garrett State Forest includes two state park areas (Herrington Manor and Swallow Falls) where hunting is prohibited. The forest boundaries are marked with yellow paint on trees - a yellow bar as you enter the forest and a yellow dot as you exit the forest. Hunting on or crossing private land within or near the state forest requires the written permission of the landowner. Parking is permitted along roadways providing traffic is not blocked. Hunters must have a valid Maryland hunting license and should refer to the current Maryland Guide to Hunting & Trapping for season dates and specific regulations.

Several access roads are opened every fall to accommodate hunters. These gated roads are opened prior to squirrel season in September and remain open through January 31. Opened roads can be used by all hunters and allow for vehicular traffic. Due to the nature of these roads, the use of four-wheel drive is recommended. Disabled hunter access roads are also available. Brochures are available with more details concerning the disabled hunter accessible roads and their locations.

Hunter Safety Classes, required for the purchase of a license, are taught periodically through the Department of Natural Resources. These classes are usually offered in the county at one of the local State Parks.

4. Trapping

Trapping is permitted both on land and in the water. A permit can be issued for trapping on Potomac-Garrett State Forest at the Regional DNR Wildlife Office in Flintstone. Trappers are required to obtain a certificate of trapper education from the Department of Natural Resources. Trapper education courses are held statewide. Refer to the current Hunting & Trapping Guide for complete regulations. A valid hunting license is required when applying for a trapping permit.

5. Fishing

Anglers with a Freshwater Fishing License have the opportunity to catch multiple species of fish in the Potomac River including smallmouth bass, rock bass and several trout species. As part of the DNR trout management program, early spring through fall stocking provides excellent fishing. A variety of opportunities for wild brook trout and stocked brown and rainbow trout exist in other designated areas, including Lostland Run and Laurel Run. When fishing, be prepared to negotiate strong currents, large boulders and fallen trees in the water. Fishing is also available at the nearby Jennings Randolph Lake, which is downstream on the Potomac River. A boat ramp is located on the Maryland side accessible from Mt. Zion Road off MD Route 135. For regulations, creel limits and special management areas consult the Maryland Freshwater Sportfishing Guide or contact the Western Maryland Fisheries Office at (301) 334-8218.

6. Winter Recreation

Cross-country skiers and snowshoers of all abilities can enjoy a winter wonderland across Potomac-Garrett State Forest. The red and blue trails on the South Snaggy Complex are recommended for a backcountry snowshoe experience. Snowshoers must be careful to walk beside and not on cross-country tracks as it disrupts them.

7. Geocaching

Currently, 10 goecaches are located throughout Potomac-Garrett State Forest for those interested in testing their navigational and tracking skills. All geocaches must be reviewed and approved by the staff before being placed anywhere on the forest. Applications and general rules for geocache placement are available at the state forest headquarters.

8. Maps

Brochures and maps are available at the Potomac-Garrett State Forest Headquarters Office located at 1431 Potomac Camp Road, Oakland, Maryland 21550.

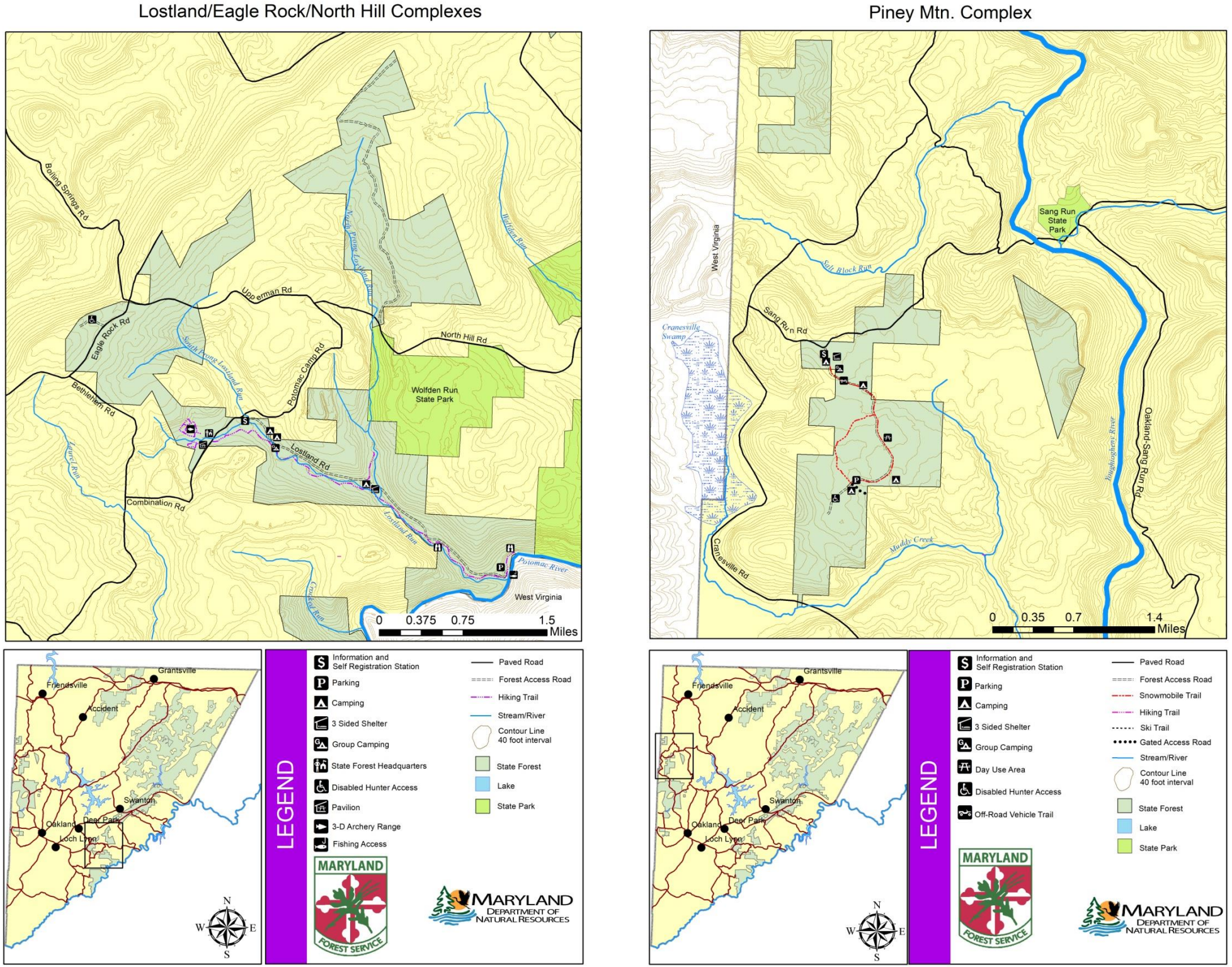


Figure 2. Recreational opportunities on Potomac-Garrett State Forest

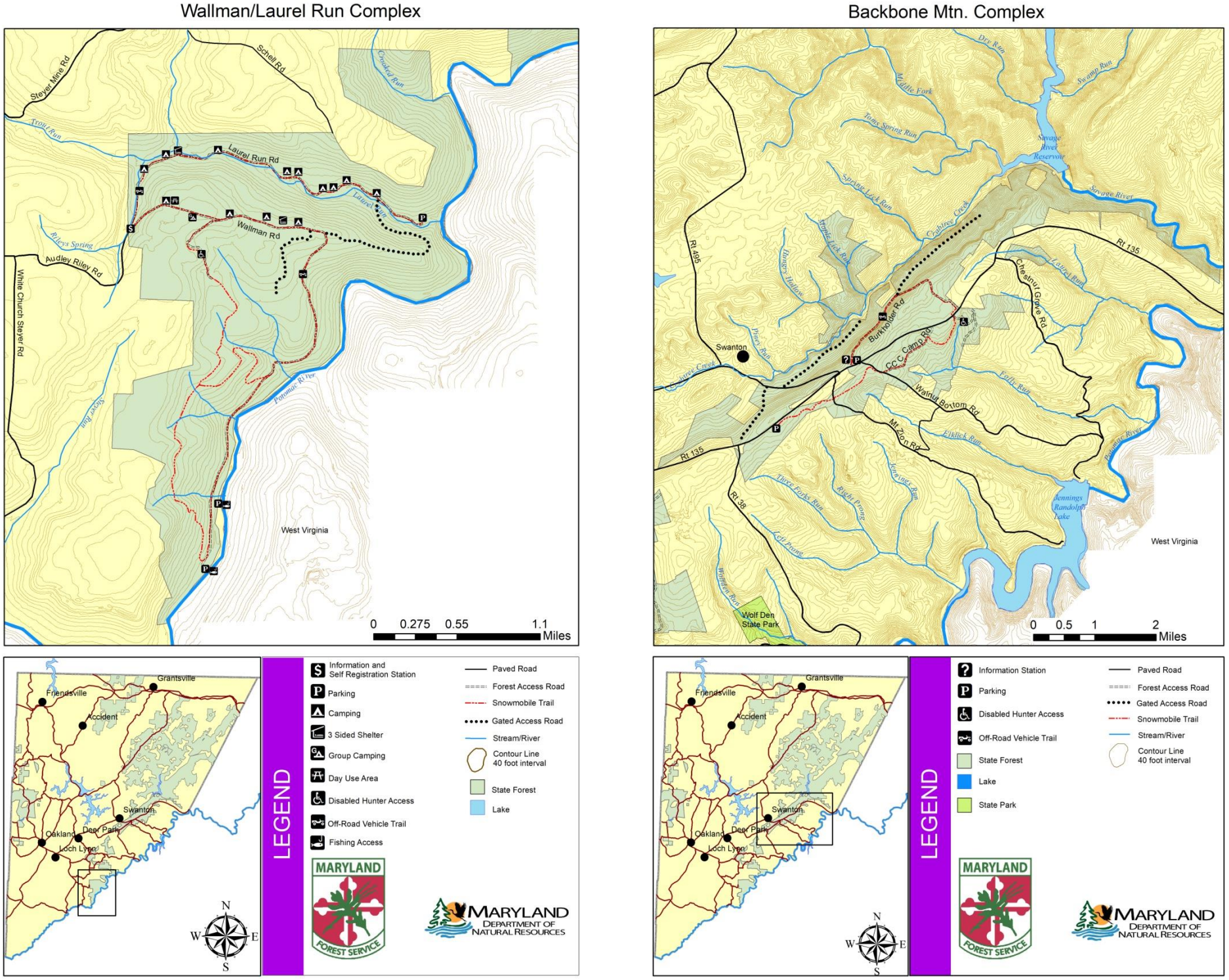


Figure 3. Recreational opportunities on Potomac-Garrett State Forest (continued)

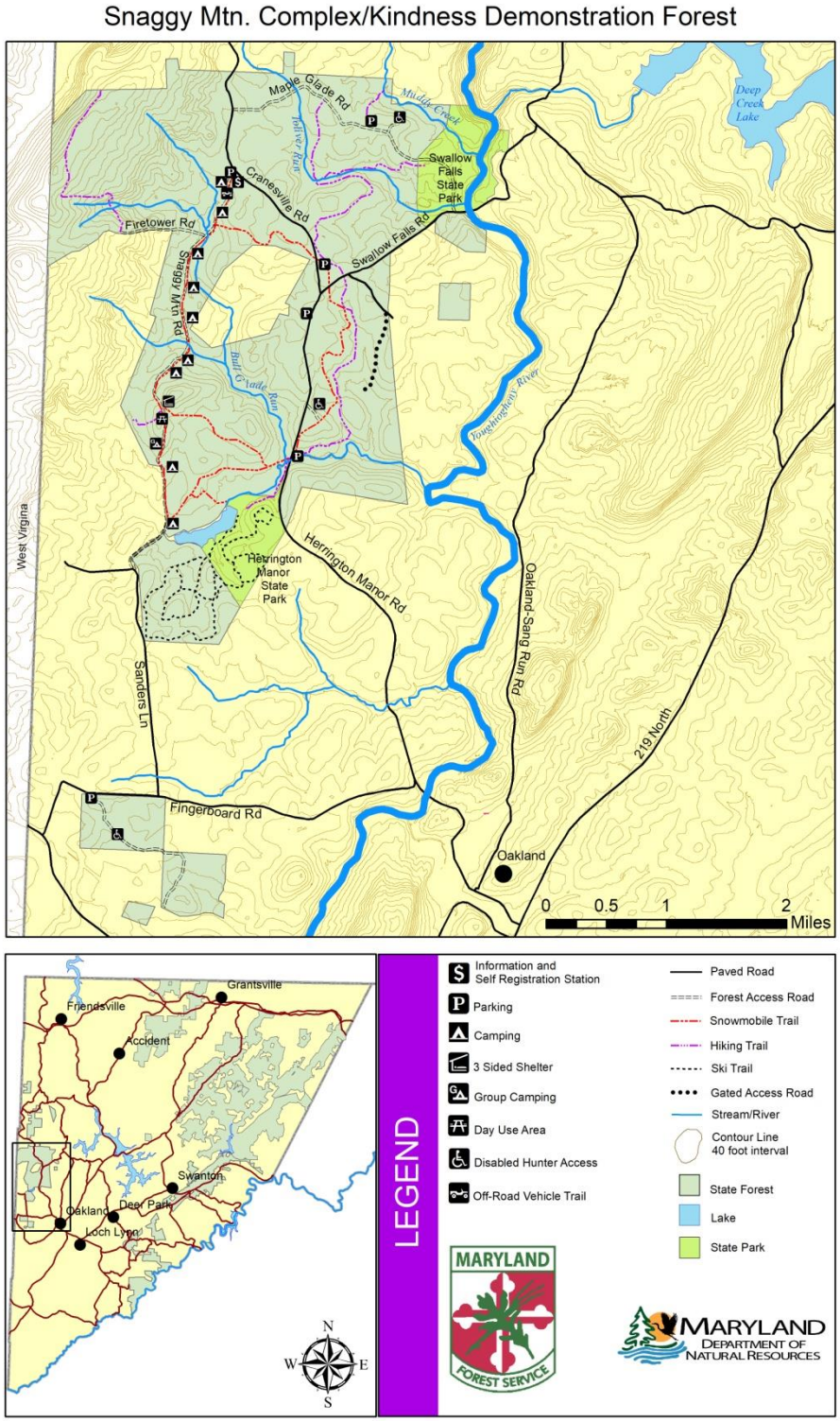


Figure 4. Recreational opportunities on Potomac-Garrett State Forest (continued)

B. Recreation Proposals

I. In the 2018 Legislative Session, SB 606 was passed, which established an Off-Highway Recreational Vehicle Fund that uses the excise titling tax on OHV purchases for the purpose of funding maintenance and construction of ORV trails on DNR owned lands. The Department receives monthly deposits that are split between the Forest Service and Park Service and the Comptroller is required to distribute 25% in FY-19 and 50% in FY-20 and each year thereafter. Potomac-Garrett State Forest has requested the following amount of funding provided by the OHV excise tax to be used for enhancements to various recreation trails on the forest:

1. Wallman/Loop Road, ORV Trail Maintenance – $163,270.00

This priority project will mitigate an ongoing erosion issue that occurred after a storm event led to the breach of existing water controls and considerably damaged a portion of the road surface. Also, the project will address two large failing culverts that will require significant engineering input due to the complex design of the current culvert system.

Operating the ORV trail will require regular maintenance and upkeep. The excise tax funding will fund five elements of trail upkeep including:

1) Maintenance of water control devices.
2) Resurfacing/top dressing roadway.
3) Clean up of litter and debris.
4) Providing protection to environmentally sensitive areas adjacent to the trail.
5) Maintaining closure of existing illegal trails and deterring new trails from being developed.

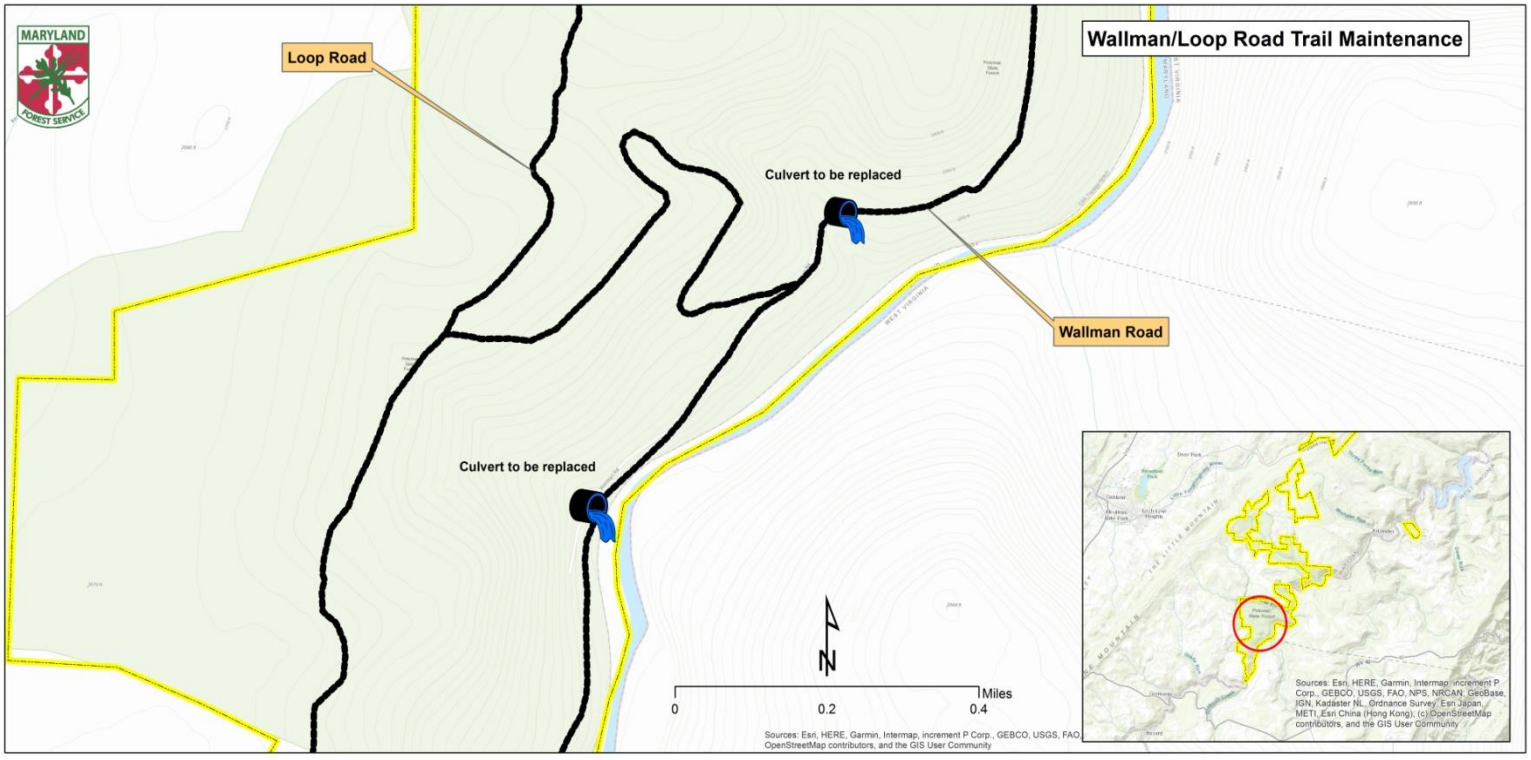


Figure 5. Wallman/Loop Road Maintenance

II. National Recreational Trail Grant Requests

Potomac-Garrett State Forest has submitted 3 National Recreation Trails Grant Request to fund enhancements to multiple use recreation trails on the forests.

1. Maintenance and Operation of State Forest Trail Network (Labor Grant)- $53,648.16 ($42,051.40 requested grant funds + $11,596.76 matching funds)

This project involves 80+ miles of the Potomac-Garrett State Forest Trail system that is designated for multiple recreational activities, including hiking, mountain biking, hunting, bird watching, etc. This work benefits the recreational trail user by keeping the existing public recreation resources of the forest functional, safe, sustainable, clean and beautiful. Maintenance will include pot hole patching, sign painting, gate painting, mowing, tree and brush cutting, stabilization, brush hog mowing, trash cleanup and trail blazing.

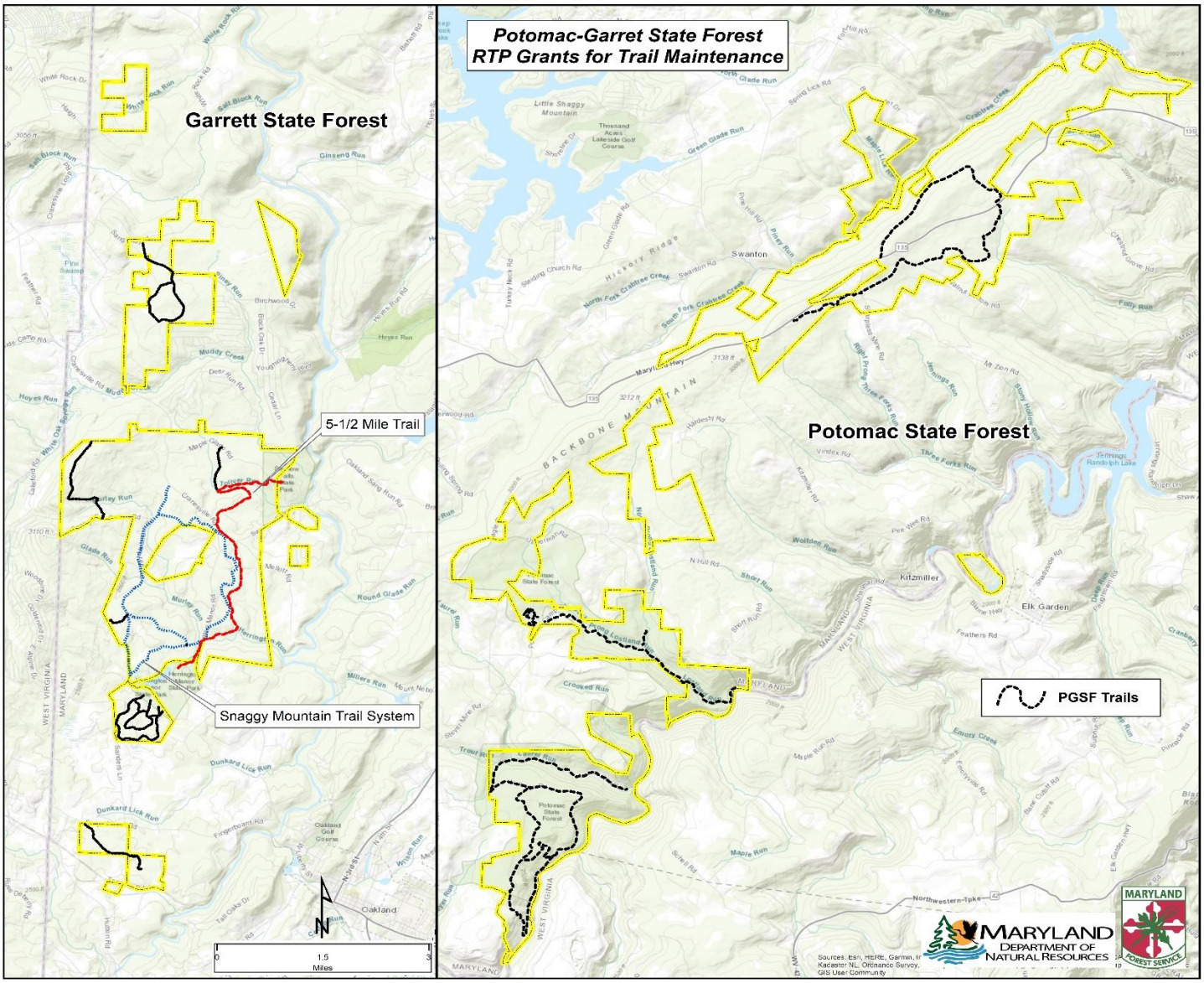


Figure 6. Potomac-Garrett State Forest Rec Trail Grant Maintenance

2. Snaggy Mountain Snowmobile Trail Rehabilitation - $118,750.00
($95,000 requested grant funds + $23,750.00 matching funds)

This project will rehabilitate approximately 6 miles of the Snaggy Mountain Snowmobile Trail. Work will include treadway improvements to manage storm runoff and the replacement of three bridges. The work will be confined to the existing corridor and no new trail is proposed.

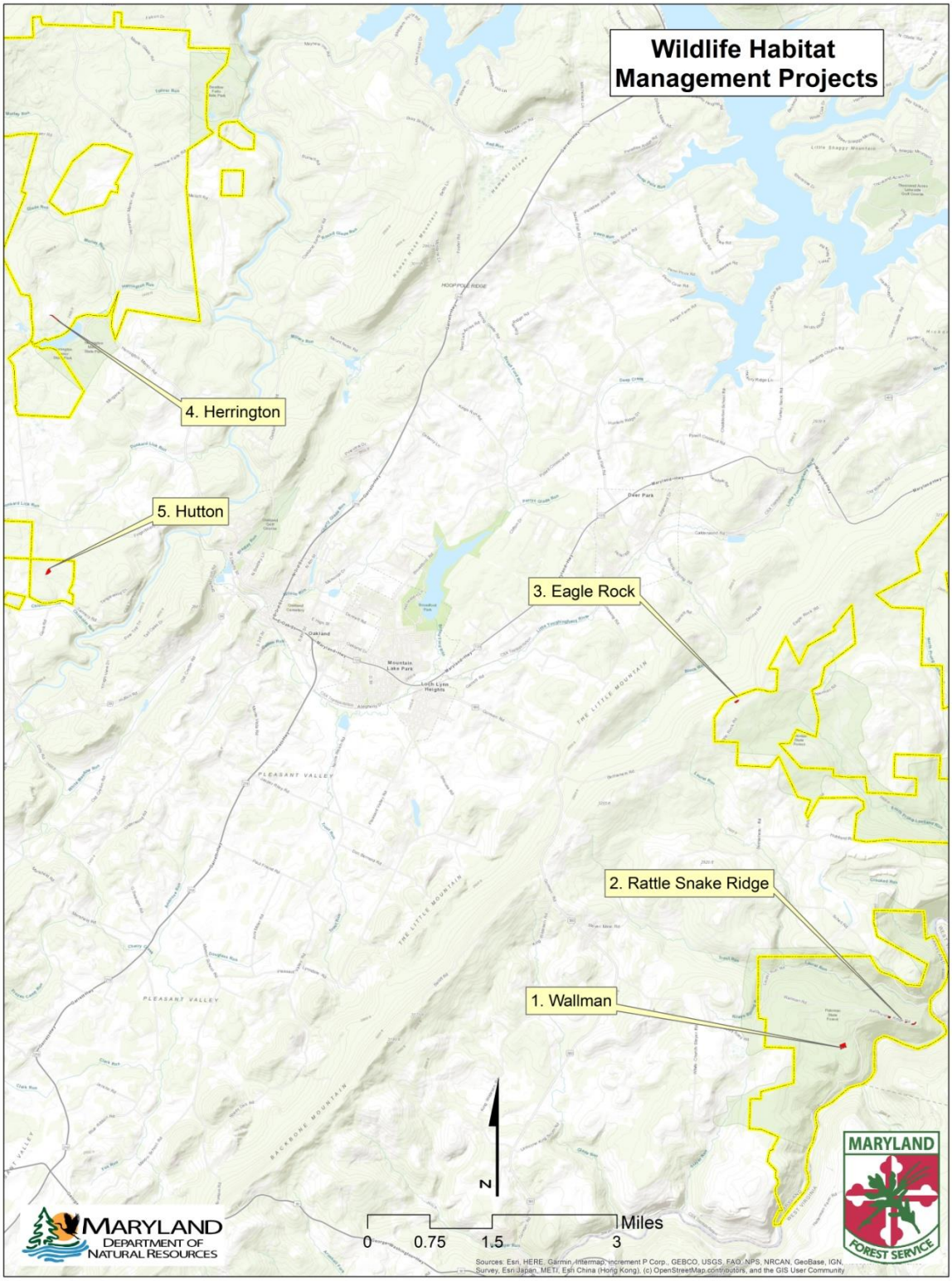
3. 5 ½ Mile Trail Rehabilitation - $175,000.00
($218,750.00 requested grant funds + 43,750.00 matching funds)

This project will rehabilitate the 5 ½ Mile Trail linking Herrington Manor State Park and Swallow Falls State Park through Garrett State Forest. Work will include treadway improvements to manage storm runoff and the replacement of seven bridges. Work will be confined to the existing corridor and no new trail is proposed.

VII. Wildlife Habitat Management Projects

A. General Wildlife Habitat Maintenance

Approximately 7.6 acres of wildlife specific projects have been implemented throughout the state forest. These projects are located in the Wallman, Rattle Snake Ridge, Eagle Rock, Herrington Manor and Hutton areas. General practices include liming and fertilizing as well as planting of cover and grain crops, where appropriate. Plantings focused on over seeding with clover (See Wildlife Habitat Management Projects map and summary, p. 18).



Area	*Species Planted*	*Acres*	*Fertilizer*
1. Wallman	*Clover mix*	*2.6*	*1200 lbs 10-20-20*
2. Rattle Snake Ridge	*Clover mix*	*1.1*	*500 lbs 10-20-20*
3. Eagle Rock	*Clover mix*	*.70*	*300 lbs 10-20-20*
4. Herrington	*Clover mix*	*1.4*	*4000 lbs lime*
5. Hutton	*Clover mix*	*1.8*	*500 lbs 10-20-20* *4000 lbs lime*

Figure 7. Potomac-Garrett State Forest Wildlife Habitat Management Projects

B. Compartment 45 - Stand 24: 6.0-Acre Wildlife Habitat Management Project
Red Spruce Planting

Description/Resource Impact Assessment

Location: This proposal is located approximately 0.5 miles north of Cranesville Road at the terminus of an existing access road in Compartment 45. The access road entrance is located approximately 3 miles north of the intersection of Cranesville Road and Herrington Manor Road.

Forest Community Type and Condition: This 6.0-acre site consists of a degraded small sawtimber hardwood stand that resulted from improper forest management implemented prior to the acquisition of the property by the state forest. Average basal area is 64 ft^2/acre, 60% of which is unacceptable growing stock. Remnant tree species found in the stand include northern red oak, black cherry, red maple, cucumber magnolia, black birch and eastern hemlock. Herbaceous plants include hay scented fern and deer tongue grass. Woody stemmed forbs and shrubs are represented by bristly dewberry and shrubby St. John's Wort, with dewberry forming a dense carpet over much of the stand. Due to the combination of preferential harvesting practices conducted on the site and moderate deer impact, regeneration on the site is insignificant.

Historic Conditions: This stand was part of a 101.8-acre state forest acquisition conveyed in 2017. No evidence of fire was observed during the inventory of the stand and there are no indications of significant forest pests at this time.

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

Habitats and Species of Management Concern: Red spruce (*Picea rubens*) is a medium-sized, native, evergreen conifer that attains an average height of 60-75 feet and can live for over 300 years. Once common in the highlands of Garrett County, red spruce represented a significant timber species at the turn of the century. Over time, red spruce has been displaced from its historical range in western Maryland through overharvesting and shifts in climate, particularly temperature increases, pollution and limited snowfall (USDA, 2002). Isolated pockets of red spruce are found throughout the county in both natural stands and plantations. Significant efforts have been made to assure the continued existence of this once abundant tree species. The Nature Conservancy has initiated significant Red Spruce restoration efforts in the Cranesville Swamp preserve immediately to the west of this proposal. In 2005 and 2006, 1,600 red spruce seedlings were planted within the Cranesville Swamp drainage to expand an existing stand of red spruce located in the state forest. The focus of this project is to keep this habitat type as a part of the forest mosaic. If proven successful, similar management strategies will be implemented across key areas of the forest to expand the extent of this dwindling habitat.

Water Resources: Stand 24 drains east into an unnamed tributary of Muddy Creek within the Youghiogheny River Watershed. The proposed silvicultural treatments and land management efforts will be outside of all HCVF and 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 Sustainable Forest Management Plan.

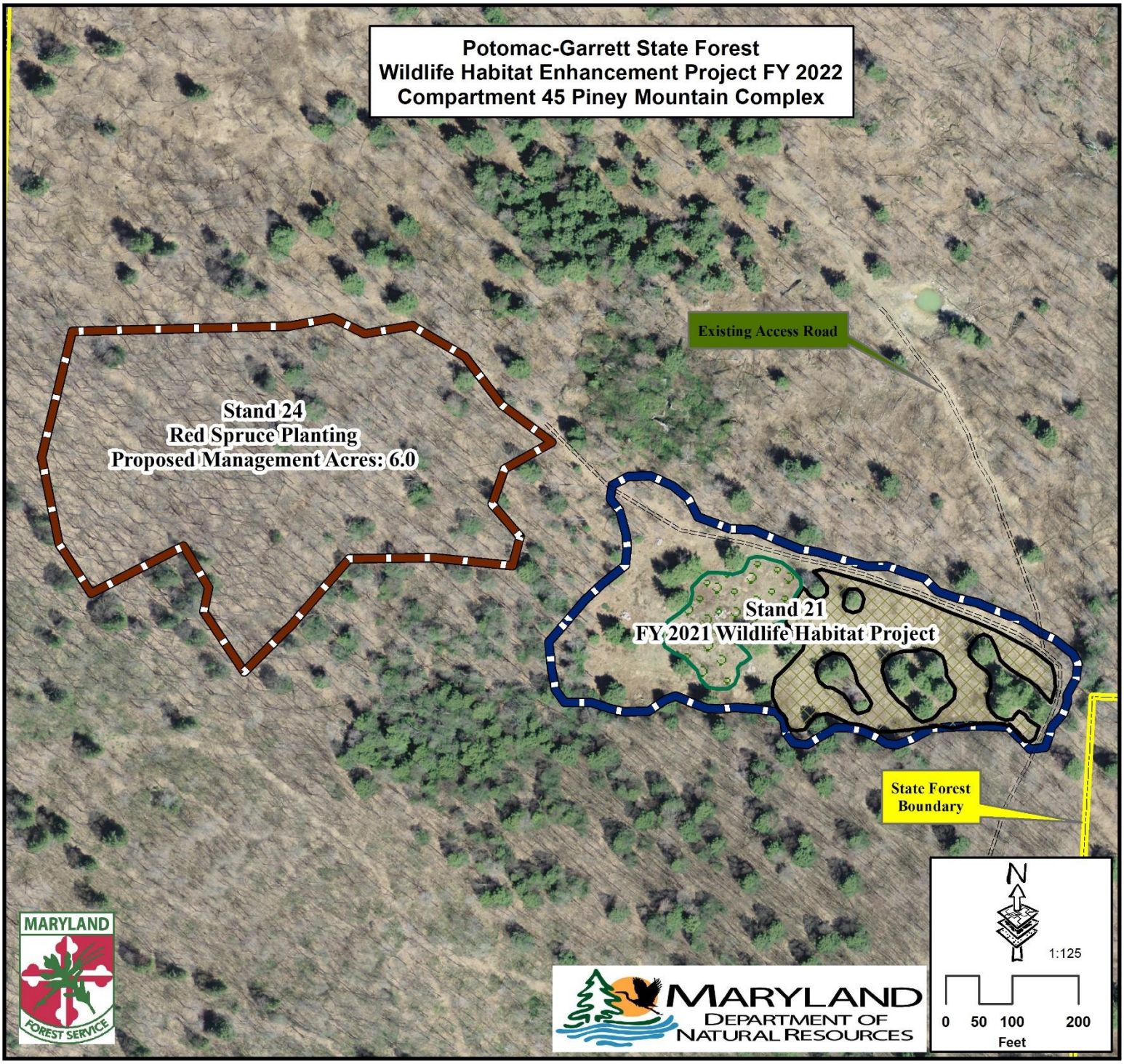
Soil Resources: The dominant underlying soil type is Dekalb and Leetonia very stony sandy loams, 15-25 percent slopes (DlD). This soil type is generally well drained and very acid. Equipment limits are moderate for slopes over 15 percent. The site has fair productivity for woodland management, with a site index of 55-65 for upland oaks and is suited for the establishment and growth of wild herbaceous upland plants and coniferous woody plants.

Recreation Resources: No developed recreational resources are located within the stand. This area of the forest is primarily utilized for hunting access. Recreational opportunities in the area may be limited or disrupted for the duration of the project.

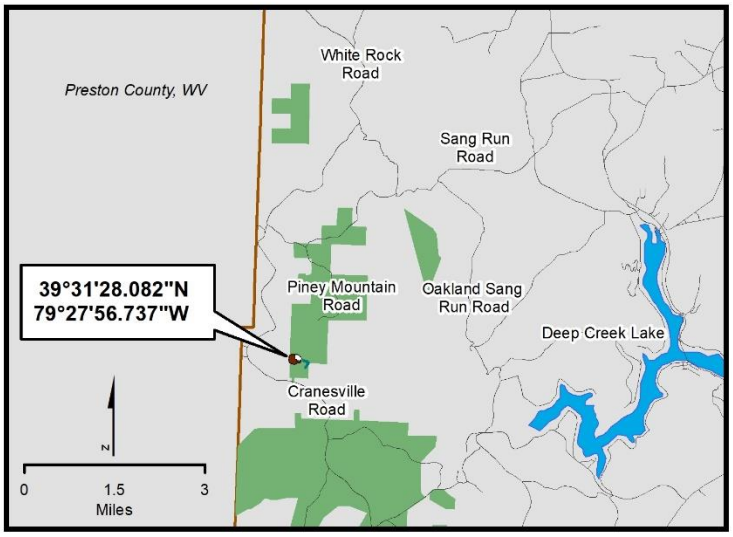
Management and Silvicultural Recommendations

This project will focus on integrating red spruce into the forest landscape as well as creating, maintaining and improving wildlife habitat by planting approximately 400-500 trees throughout the site. Efforts to maintain the red spruce will include applying herbicides and pesticides to eliminate ground level vegetative competition and insect pests, where appropriate, and periodically removing tall woody interference. Red spruce is considered unpalatable to white-tailed deer and fencing individual trees should not be necessary. If herbivory does occur, then appropriate measures will be implemented to prevent further damage. Any non-native and invasive plant species will be controlled during the implementation of the project. All described land management activities will be carried out by state forest personnel. Periodic monitoring of the site will be conducted to determine survivorship and to formulate appropriate management strategies for preserving the habitat regime.

Figures 8 and 9. Compartment 45 – Stand 24 Detail of understory and overstory



- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland of State Concern
- Streams and 50' Buffers



VIII. Ecosystem Restoration / Protection Projects

A. Non-Native Invasive Species (NNIS) Control

Across the State, a biological invasion of non-native and invasive plants is spreading into fields, forests, wetlands and waterways. Referred to in a variety of ways including 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 native flora and fauna. Control efforts often require considerable resources including 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 a number of NNIS populations. A species-specific management plan has been developed for Japanese knotweed (See Appendix 2).

The State Forest staff has treated and/or is monitoring 35 plant colonies or sites including: 18 tree-of-heaven sites, 12 Japanese knotweed sites, 1 mile-a-minute weed site, 2 Japanese barberry sites, 1 Oriental bittersweet site and 1 Japanese spirea site (See corresponding map for locations). Three species of most concern are:

1. Tree-of-Heaven (*Ailanthus altissima*) Individual stems of the exotic invasive tree-of-heaven have been identified across large areas of the forest. Control measures including both mechanical and chemical have been implemented to remove this species from the limited areas in which it is present. These plant 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.

2. Japanese knotweed (*Fallopia japonica*). Several areas of Potomac-Garrett State Forest have become infested with the invasive plant Japanese knotweed. Twelve treatment areas have been delineated and will be treated and monitored to determine the most effective course of action for suppressing and ultimately eradicating the plant from these areas of the forest. As more effective treatment methods become available for large areas, this area will be reevaluated in regard to implementing a control plan.

Treatments in all areas of the forest involve a two-step process that includes both mechanical and chemical means of control. First, the knotweed is cut and allowed to grow back for 8 weeks, reaching only 2 to 4 feet in height. Second, the new growth is treated with a 2% solution of glyphosate as the active ingredient. Treatment of these areas has been repeated on a yearly basis and will continue until the plant has been eradicated from the target areas.

3. Mile-a-Minute Weed (*Persicaria perfoliata*). A small patch of mile-a-minute weed, another aggressive non-native invasive, was discovered in Compartment 35. Monitoring of the area will continue and the site will be treated as necessary in order to eradicate this plant from the site and prevent it from spreading into the adjacent forest.

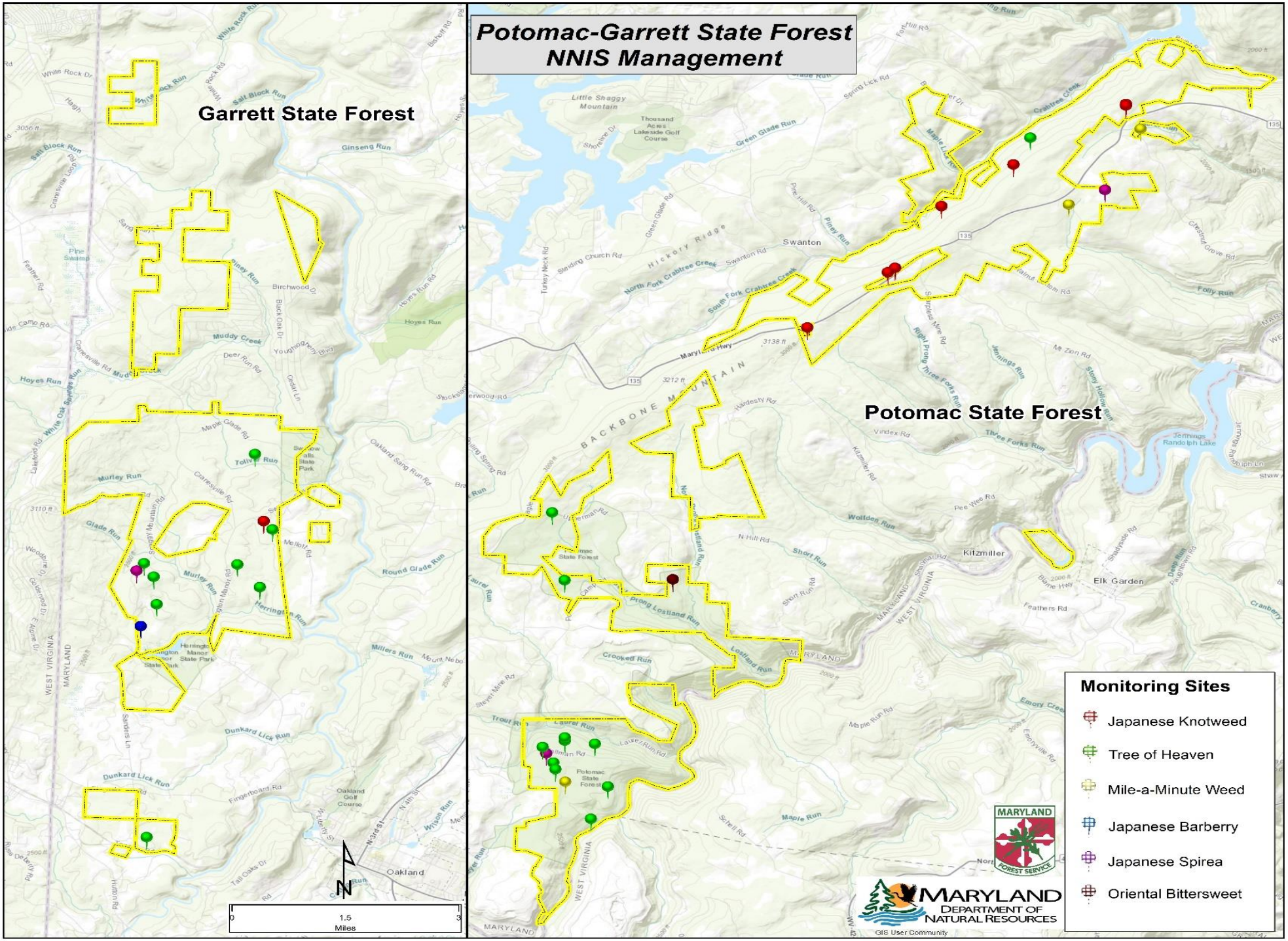


Figure 10. Map of NNIS management areas on Potomac-Garrett State Forest

IX. Monitoring and Research Projects

A. Monitoring

1. Silvicultural Activities

All silvicultural operations taking place on Potomac-Garrett State Forest will be monitored on a weekly basis and more frequently when adverse weather conditions arise to ensure that all Best Management Practices are being followed. Regeneration harvests will be monitored five and ten years after harvest. Non-native invasive species will be monitored yearly and herbicide treatment regimens will be implemented as necessary to eradicate these species from the forest ecosystem. Management documents outlining specific treatments and monitoring schedules have been drafted for the individual species.

B. Research Projects *(Full write-ups of each project are available at the State Forest Office)*

1. Eastern Hemlock: Target-tree Release to Improve the Sustainability of Eastern Hemlock (Tsuga canadensis) in the Southern Appalachian Mountains. US Forest Service Southern Research Station and North Carolina State University.

This ongoing project will develop and validate a silvicultural tool that improves the health and sustainability of eastern hemlock, an ecologically keystone species in the southern Appalachians threatened by HWA. Individual or small clusters of "target" trees (i.e., suppressed or intermediate eastern hemlocks with moderate to good crown health) will be released by removing or girdling other stems competing for sunlight directly above and adjacent to the target trees. Increased sunlight is expected to improve hemlock crown health via improved carbon balance, enhanced foliage production, and reduced HWA settlement rates relative to unreleased trees. Treatments will be replicated at a number of southern Appalachian sites and will evaluate release by girdling versus felling and variations on the size of the resulting canopy gap. Operationally, the tool is expected to prolong hemlock health and survival and increase the efficacy of existing HWA management tools (e.g. biological and chemical control) when integrated with them (Jetton, Robert M., Mayfield, Albert E., Keyser, Tara, and Rhea, James 2017). The project will involve fifteen treatment sites; 10 located in the Laurel Run drainage in Compartment 23 and five located along Lostland Run Road in Compartment 19. Post treatment data collection was completed on all sites in March 2018 and again in July 2018 involving hemlock health at one year, adelgid density, vegetation measurements and data analysis. Follow up data collection and analysis will continue through the Fall of 2020.

2. Orchid Collection. Smithsonian Environmental Research Center

The Smithsonian Environmental Research Center's North American Orchid Conservation Center (NAOCC) has initiated a large-scale (U.S. and Canada) effort to conserve native orchids. We request to collect orchid samples from the DNR properties for our ongoing national orchid conservation program. NAOCC's approach to conservation is ecological, involving the collection of materials from native orchids (seeds, leaves, roots) for research purposes. The seeds are placed into seed banks to conserve the genetic diversity of native orchids and for conducting

germination and propagation experiments both for research and restoration. Leaves are used to isolate DNA in order to determine the level and patterns of genetic diversity of species across the US and Canada. Roots are sampled to isolate, culture and identify the orchid mycorrhizal fungi required by all native orchids to complete their life cycles in nature. The fungi are a source of carbon and other resources for the orchids. All native orchids have a non-photosynthetic stage (protocorm) that can only survive and grow by digesting fungi. The fungi that we are able to culture are identified using molecular techniques (thus far almost all that we have worked with are new to science). Fungi are stored in a fungal-bank and used in germination and propagation studies. Seeds from Maryland native orchids will be stored at SERC and the Mid-Atlantic Seed Bank (MARSB) in New York. Fungi and leaves will be stored at SERC. There are no special considerations related to this project. Fruits and roots will only be collected when the populations are sufficiently large and robust enough to support such collections without damage to the sustainability of the population (Wigham, 2019).

Three sites have been identified on the Garrett State Forest within the Snaggy Mountain Complex that contain Roundleaved orchid (*Platanthera orbiculata*) and Pink Lady's Slipper (*Cypripedium acaule*). Both species are considered demonstrably widespread, abundant and secure in terms of global rank indicators. Collection efforts will continue through 2020.

X. Silvicultural Proposals

COMPARTMENT 33 - Stand 10 **FY-22**

Description/Resource Impact Assessment

Location: This 40-acre proposal is located on the east side of Herrington Manor Road/Swallow Falls Road approximately 0.25 miles south of the intersection with Cranesville Road.

Forest Community Type and Condition: This site contains a large sawtimber mixed oak stand that is approximately 108 years old, with an average merchantable diameter of 18.0 inches and an estimated net live growing stock of 8,837 board feet/acre and 16.5 cords per acre. The overstory consists of black cherry (41%), red maple (33%) and white oak (21%). The stand stocking is optimum for tree growth with a relative density of 59% and an average basal area of 109 ft^2/acre. Of the total basal area, 92 ft^2/acre (84%) is considered unacceptable growing stock.

Interfering Elements: Interfering understory plant competition is negligible as a result of herbicide treatment that was administered in 2013. Native vegetation including bristly dewberry, various grass species as well as desirable regeneration have occupied the site. Several specimens of the non-native invasive species (NNIS) tree of heaven (*Ailanthus altissima*) have been found in the stand. Integrated management techniques have been employed, including mechanical removal of stems and application of appropriate herbicide, to prevent the potential spread of this deleterious species within the stand and into the adjacent forestland.

This stand is near agricultural lands, which attract significant numbers of white-tailed deer to area leading to browsing of desirable regeneration. Such overbrowsing can facilitate failure of desirable seedling establishment and in extreme cases a shift in species composition dominated by undesirable tree species. Field evaluation of the site estimated deer browse impact to be moderate. Monitoring of deer browse impacts will coincide with regeneration surveys to determine if additional measures need to be implemented to reduce deer herbivory and maintain the established regeneration on the site.

Historic Conditions: A commercial thinning and herbicide application were conducted in this stand in 2013. The hardwood stand adjacent to the western side of the proposal was thinned in conjunction with stand 10 in 2013. The last treatment for gypsy moth occurred in 1991. No evidence of fire was observed, and no signs of significant insect infestations or diseases were recorded at the time of data collection.

Rare, Threatened and Endangered Species: No rare, threatened or endangered species were discovered within the management unit that would be impacted by the silvicultural proposal.

Habitats and Species of Management Concern: Stand 10 is abutted by the Herrington Springs ESA to the east. Globally rare amphipods as well as rare, threatened and endangered plants are found within the Herrington Springs ESA. Heritage staff will be consulted on the layout of the project to ensure that appropriate measures are implemented to protect the unique qualities of

these sites. All management activities will occur beyond the designated ESA boundaries and will not affect the integrity of the areas.

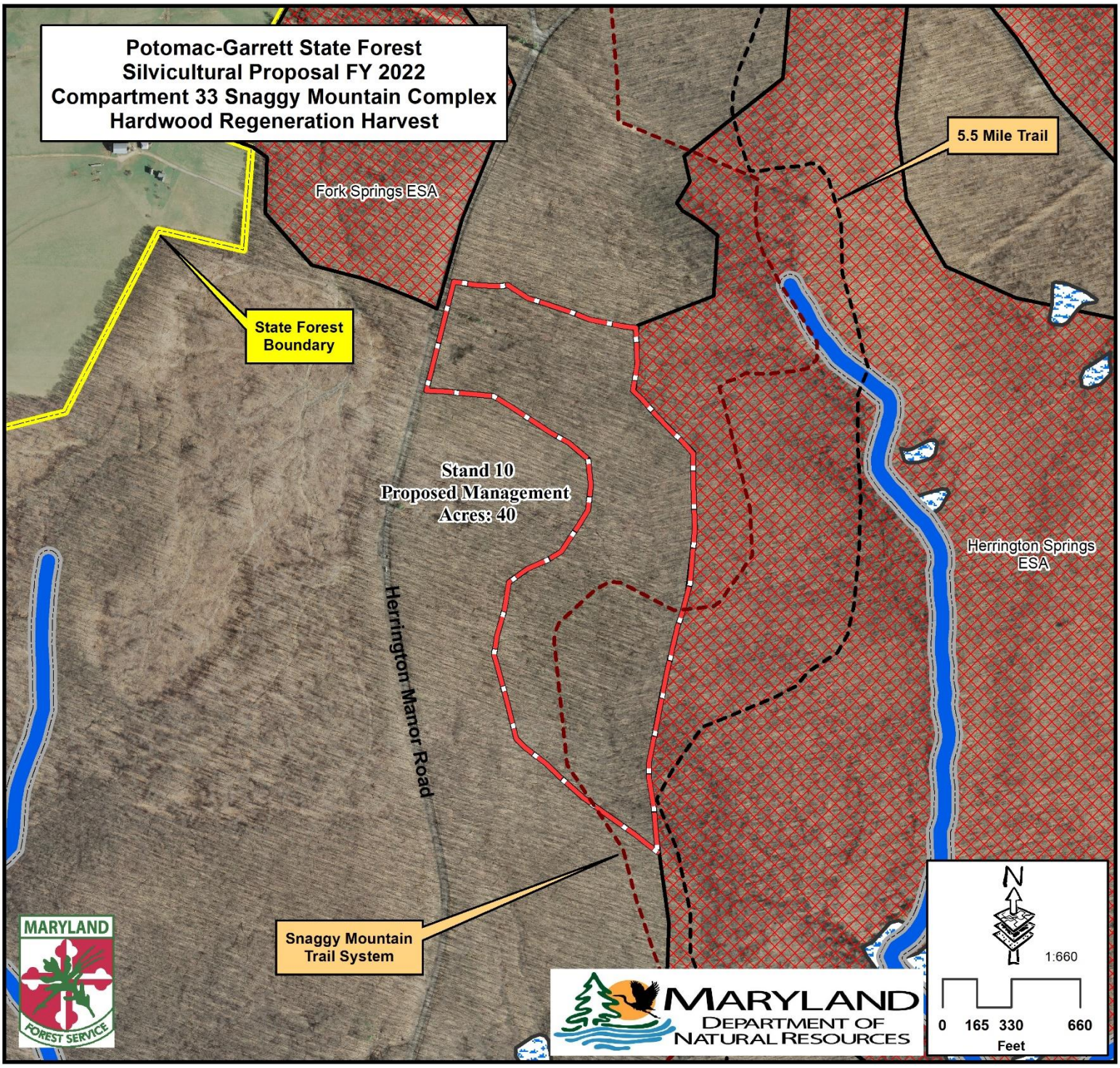
Water Resources: This stand drains southeast into Herrington Creek within the Youghiogheny River Watershed. The proposed silvicultural treatments will be outside of all HCVF and stream buffer areas. No heavy equipment will be permitted within the protective riparian buffers of any streams or associated wetlands per the requirements set forth in the State Forests Sustainable Forest Management Plan.

Soil Resources: The dominant soil types of the management unit are categorized as Dekalb and Gilpin very stony silt loams, 0 to 25 percent slopes (DgC and DgD). These soils are moderately deep and well drained. Equipment limitations are slight to moderate where slopes are more than 15%. The site has good productivity for woodland management, with a site index of 65-75 for upland oaks. The productivity of the site will be protected by minimizing the haul roads and skid trails as per the Department's Best Management Practices and rutting guidelines.

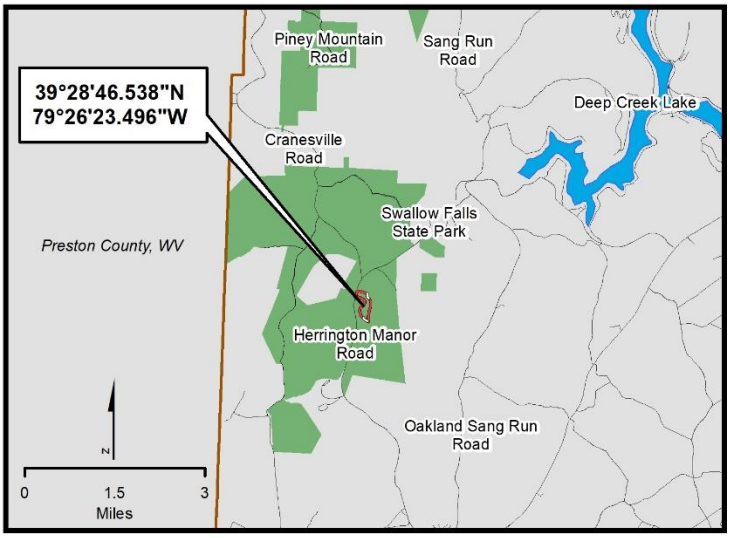
Recreational Resources: A 1,500'section of the Snaggy Mountain Trail System crosses through the proposal area. Access to the trail may be limited and/or suspended and any recreational opportunities within the stand may be disrupted for the duration of the project.

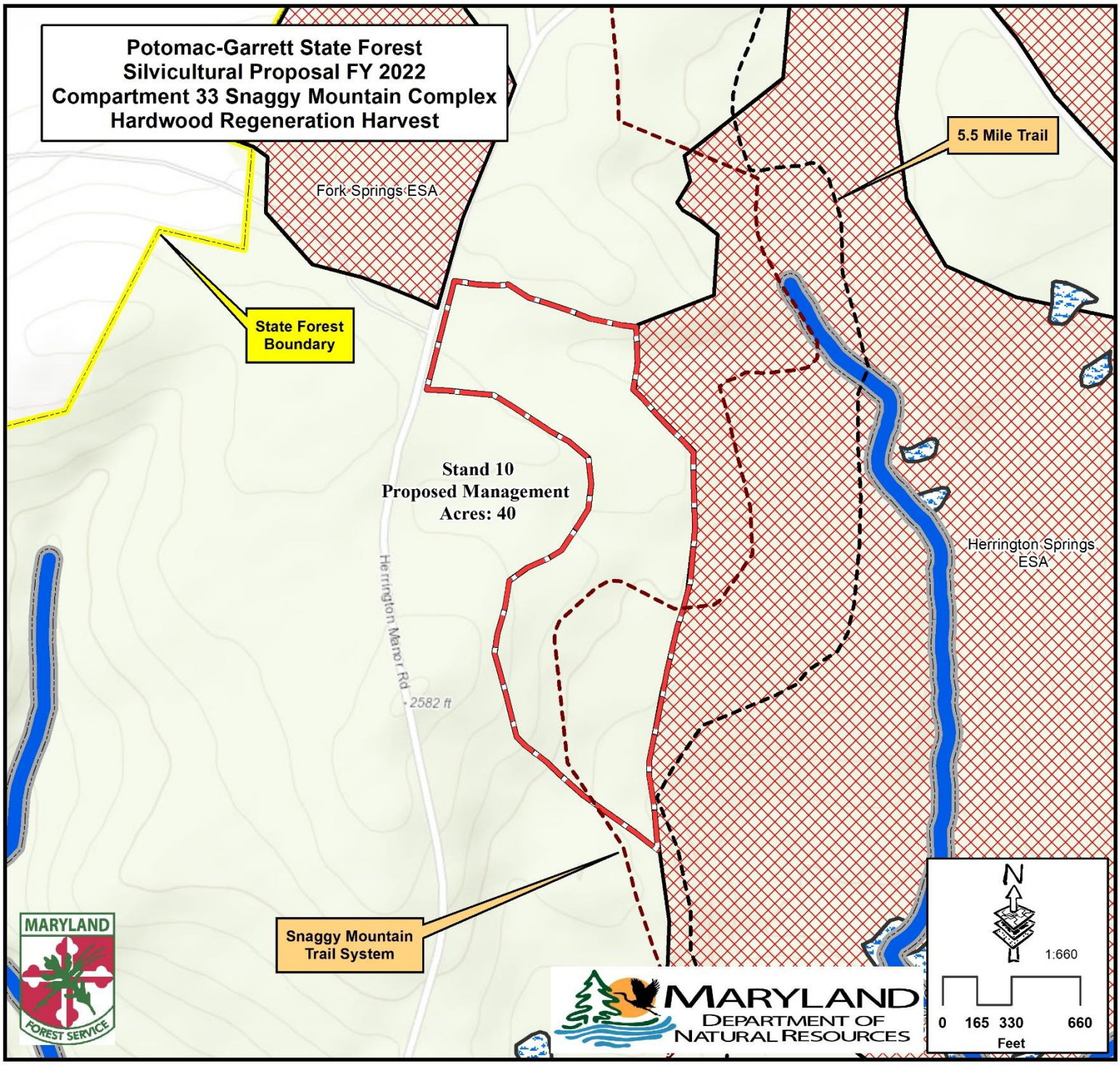
Management and Silvicultural Recommendations

The planned silvicultural treatment for this site is a regeneration harvest. The stand was thinned in 2013, leaving optimum stocking levels for tree growth, but the residual stand consists primarily of unacceptable growing stock. Given the lack of adequate acceptable growing stock, further management of the stand is not warranted, and the stand will be regenerated via the clearcut method with variable retention to release the competitive regeneration and allow it to fully occupy the future stand. All trees greater than two inches DBH will be harvested in order to contribute desirable stump sprout regeneration toward the overall stocking of the new stand. Retention will focus on four to eight dominant or co-dominant trees per acre selected for mast production/seed sources or wildlife habitat elements including cavities, den trees and nesting sites. Harvest volumes will total approximately 7,500 board feet/acre. Contract specifications will require high slash to remain on the harvest site in order to deter deer browsing on developing seedlings and stump sprouts.



- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland of State Concern
- Streams and 50' Buffers





- Wildlands
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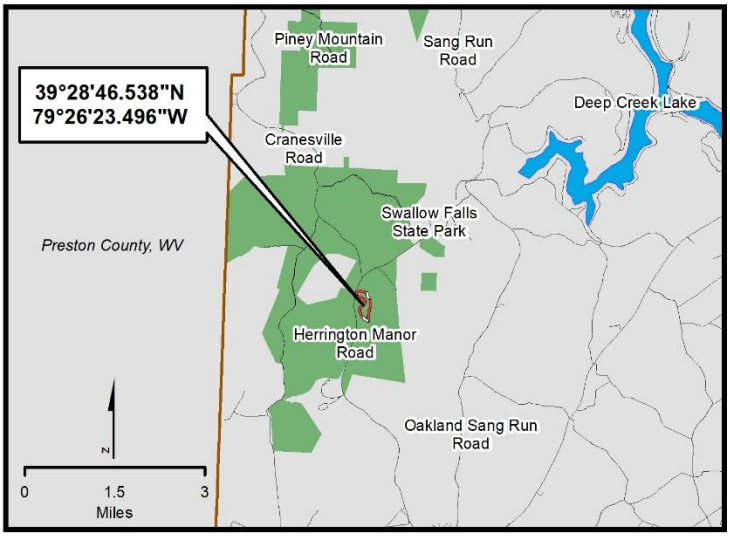


COMPARTMENT 35 – Stand 6 **FY-22**

Description/Resource Impact Assessment

Location: This site is located on the west side of Herrington Manor Road, approximately 1 mile south of the intersection with Cranesville Road.

Forest Community Type and Condition: This 22-acre site contains a mature large sawtimber Allegheny hardwood stand composed of black cherry (46%), white oak (34%) and red maple (18%) with an average merchantable diameter of 17.5 inches. The stand is approximately 100 years old with a relative density of 70% of the average maximum stocking and basal area of 125 ft^2/acre. Over 80% of the total basal area is considered unacceptable growing stock. Live growing stock volumes are estimated at 7,700 board feet/acre and 17 cords/acre. Desirable competitive regeneration, represented by saplings, is found on 12% of the proposal area. This lack of desirable regeneration within this stand is in part due to the presence of the interfering elements explained in the following section.

Interfering Elements: Overall interfering understory competition was found across the entire stand. Tall woody interference occupies approximately 12% of the site and the majority is comprised of black birch. Low woody interference, in the form of bristly dewberry, covers 92% of the site. Grasses and problematic ferns are found on 35% of the stand and do not pose a major impediment to regeneration.

In addition to interfering vegetation, the presence of white-tailed deer can have a negative influence on the regeneration success of the stand. Overbrowsing can facilitate failure of desirable seedling establishment and in extreme cases a shift in species composition dominated by undesirable tree species. Field evaluation of the management unit estimated deer browse impact to be moderate. Monitoring of deer browse impacts will coincide with regeneration surveys to determine if additional measures need to be implemented to reduce deer herbivory and increase the likelihood of regeneration establishment on the site.

Historic Conditions: A portion of this stand was thinned in 2000 and the adjacent stand to the north was thinned in 2013. The entire area was sprayed in 1991 to facilitate gypsy moth control. No evidence of fire or forest disease was observed during the inventory process.

Rare, Threatened and Endangered Species: No rare, threatened or endangered species have been identified on the site that would be impacted by the silvicultural prescription.

Habitats and Species of Management Concern: No habitats or species of management concern will be affected by the silvicultural prescription recommended for this stand**.**

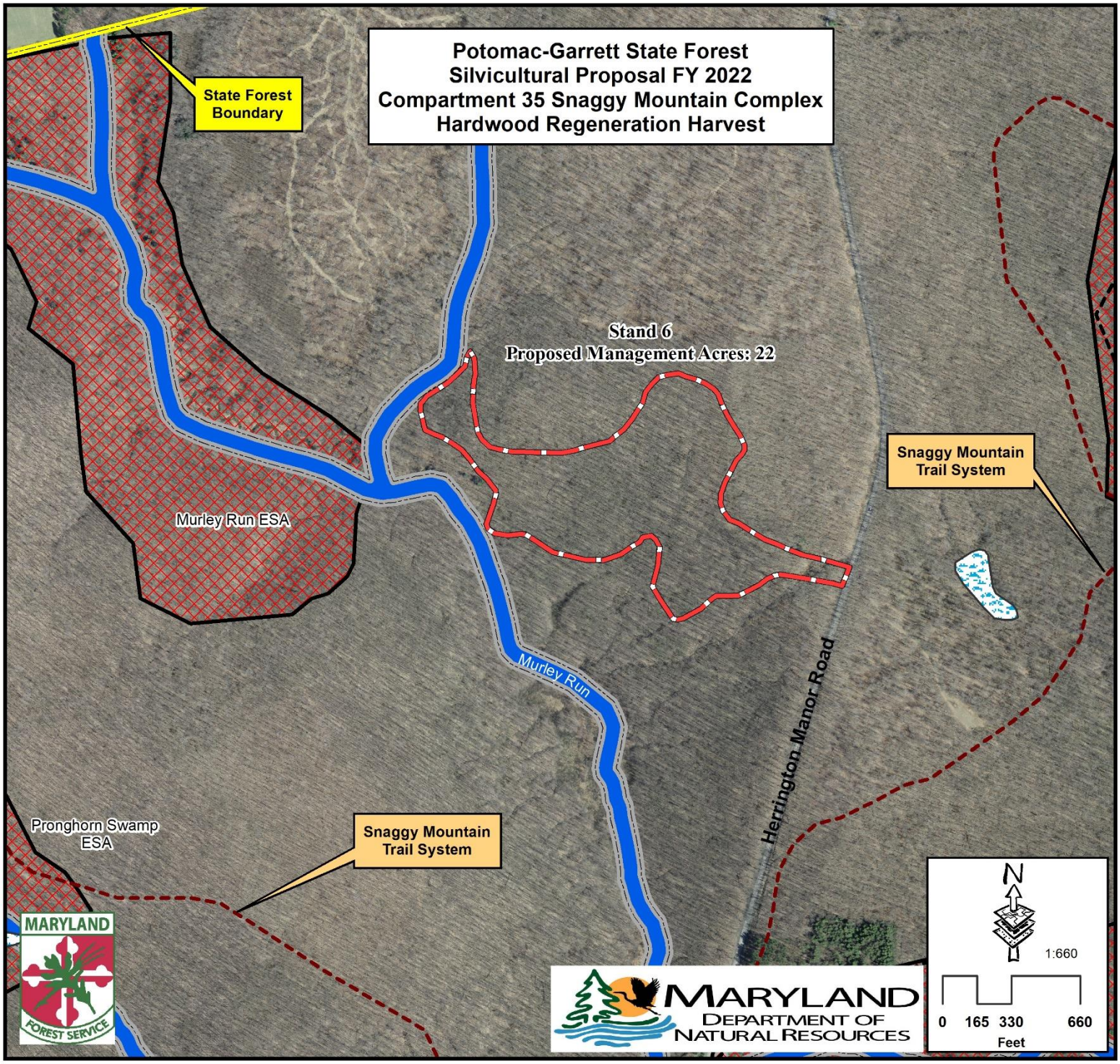
Water Resources: This stand drains south into Murley Run, within the Youghiogheny River Watershed. The proposed silvicultural treatments will be outside of all HCVF and stream buffer areas. No heavy equipment will be permitted within the protective riparian buffers of any streams or associated wetlands per the requirements set forth in the State Forest Sustainable Forest Management Plan.

Soil Resources: The dominant soil type of the management unit is categorized as Dekalb and Gilpin very stony silt loams, 15 to 25 percent slopes (DgD). This soil is moderately deep and well drained. Equipment limitations are slight to moderate where slopes are more than 15%. The site has good productivity for woodland management, with a site index of 75+ for black cherry. The productivity of the site will be protected by minimizing the haul roads and skid trails as per the Department's Best Management Practices and rutting guidelines.

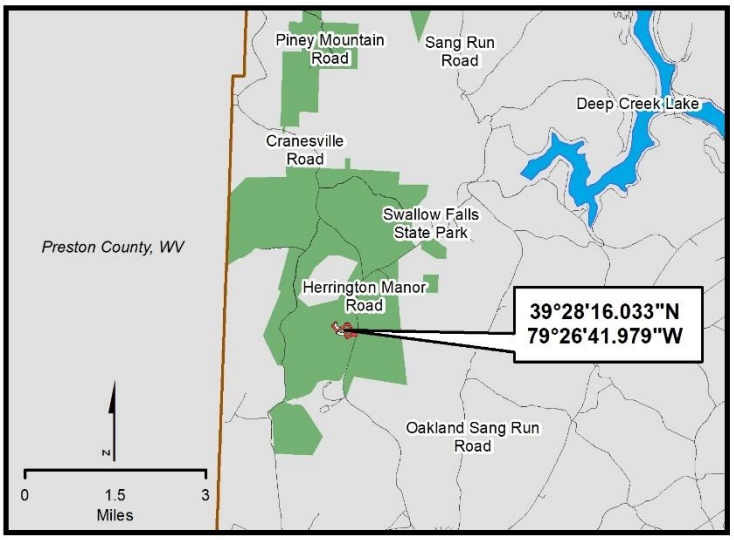
Recreation Resources: No developed recreational resources are located within this stand. Hunting is the primary recreational pursuit occurring in this area. Recreational opportunities may be disrupted for the duration of the harvest activities and access to the site may be limited depending on the timing of the operations.

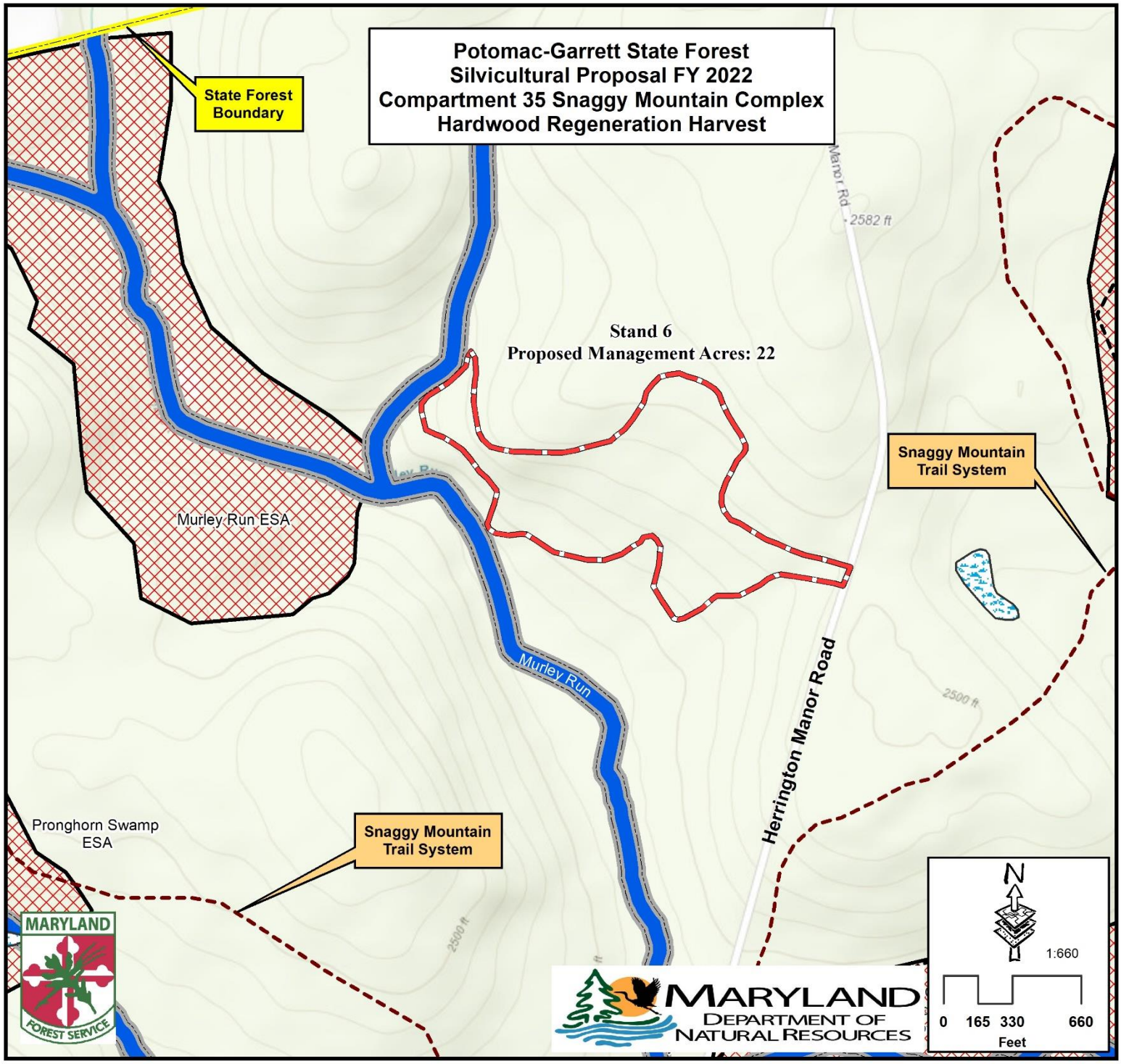
Management and Silvicultural Recommendations

The most recent timber assessment has shown an ongoing precipitous decline in the overall health/quality of the stand. Acceptable growing stock in 2008 occupied 94% of the stand (135 ft^2/acre of 143 ft^2/acre total), by 2018 the ratio had dropped to 53% (74 ft^2/acre of 140 ft^2/acre total) and in 2020 that number has reached a nadir of 19% (24 ft^2/acre of 125 ft^2/acre total). The percentage of acceptable growing stock in the stand is not adequate to provide a future stand of desirable quality. Due to the poor form of the stand and the percentage of black cherry in the dominant position of the overstory, thinning treatments would not be effective and would most likely result in large scale windthrow. Therefore, in order to maximize the value of the remaining trees, the entire stand will be clearcut, with all trees greater than two inches DBH to be harvested in order to contribute desirable stump sprout regeneration toward the overall stocking of the new stand. Retention will focus on four to eight dominant or co-dominant trees per acre selected for mast production/seed sources or wildlife habitat elements including cavities, den trees and nesting sites. Contract specifications will require high slash to remain on the harvest sites in order to deter deer browsing on developing seedlings and stump sprouts.
Harvest yields will be approximately 7,000 board feet/acre.



- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland of State Concern
- Streams and 50' Buffers





- Wildlands
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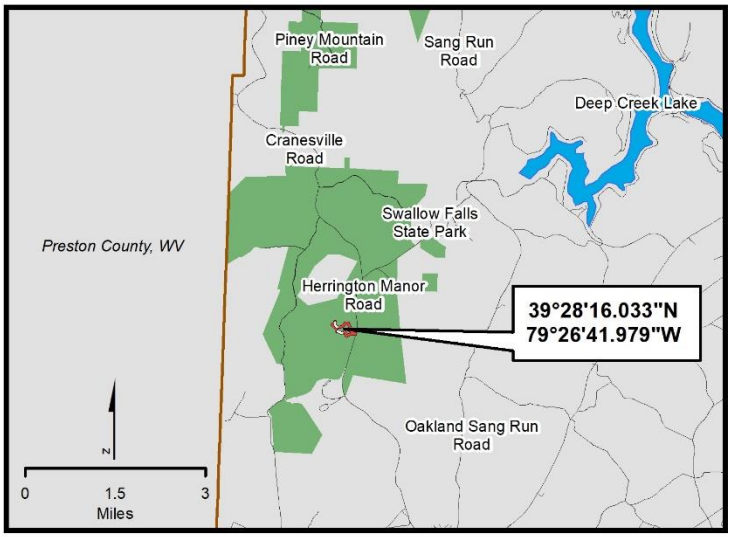


COMPARTMENT 35 – Stand 9 **FY-22**

Description/Resource Impact Assessment

Location: This 35-acre harvest proposal is in the Snaggy Mountain Complex located approximately 0.5 miles south of the intersection of Herrington Manor Road and Cranesville Road on the western side of Herrington Manor Road.

Forest Community Type and Condition: This management unit is composed of a 113-year old medium sawtimber mixed upland hardwood stand composed of white oak (41%), red maple (36%) and black cherry (15%). The stand has an average basal area of 94 ft^2 /acre and an average merchantable diameter of 16.0 inches, with 53% of the total basal area (50 ft^2 /acre) being unacceptable growing stock. Desirable oak regeneration occupies 18% of the site, with 3% considered established and 15% classified as competitive. Desirable saplings are found on 21% of the proposed harvest area.

Interfering Elements: Overall interfering understory competition was found on 97% of the stand. Tall woody interference occupies approximately 70% of the site comprised of black birch, serviceberry and witch hazel. Low woody interference, in the form of bristly dewberry, covers 52% of the site. Grasses and problematic ferns are found on 27% of the stand and do not pose a major impediment to regeneration. Japanese stiltgrass (*Microstegium vimineum*) was the only non-native invasive species (NNIS) identified during the stand inventory, and control efforts will be implemented where feasible to prevent the potential spread of this deleterious species within the stand and into the adjacent forestland.

In addition to interfering vegetation, the presence of white-tailed deer can have a negative influence on the regeneration success of the stand. Overbrowsing can facilitate failure of desirable seedling establishment and in extreme cases a shift in species composition dominated by undesirable tree species. Field evaluation of the management unit estimated deer browse impact to be moderate. Monitoring of deer browse impacts will coincide with regeneration surveys to determine if additional measures need to be implemented to reduce deer herbivory in order to conserve the established regeneration on the site and increase the likelihood of additional regeneration establishment on the site.

Historic Conditions: This stand was thinned in 2000. The adjacent stand to north was regenerated in 2008 and the stand to the south was thinned in 2013. Neither evidence of fire nor any signs of significant insect infestations were observed during the inventory of the stand.

Rare, Threatened and Endangered Species: No rare, threatened or endangered species have been identified on the site that would be impacted by the silvicultural prescription.

Habitats and Species of Management Concern: No habitats or species of management concern will be affected by the silvicultural prescription recommended for this stand**.**

Water Resources: This stand drains southwest into Murley Run, within the Youghiogheny River Watershed. The proposed silvicultural treatments will be outside of all HCVF and stream

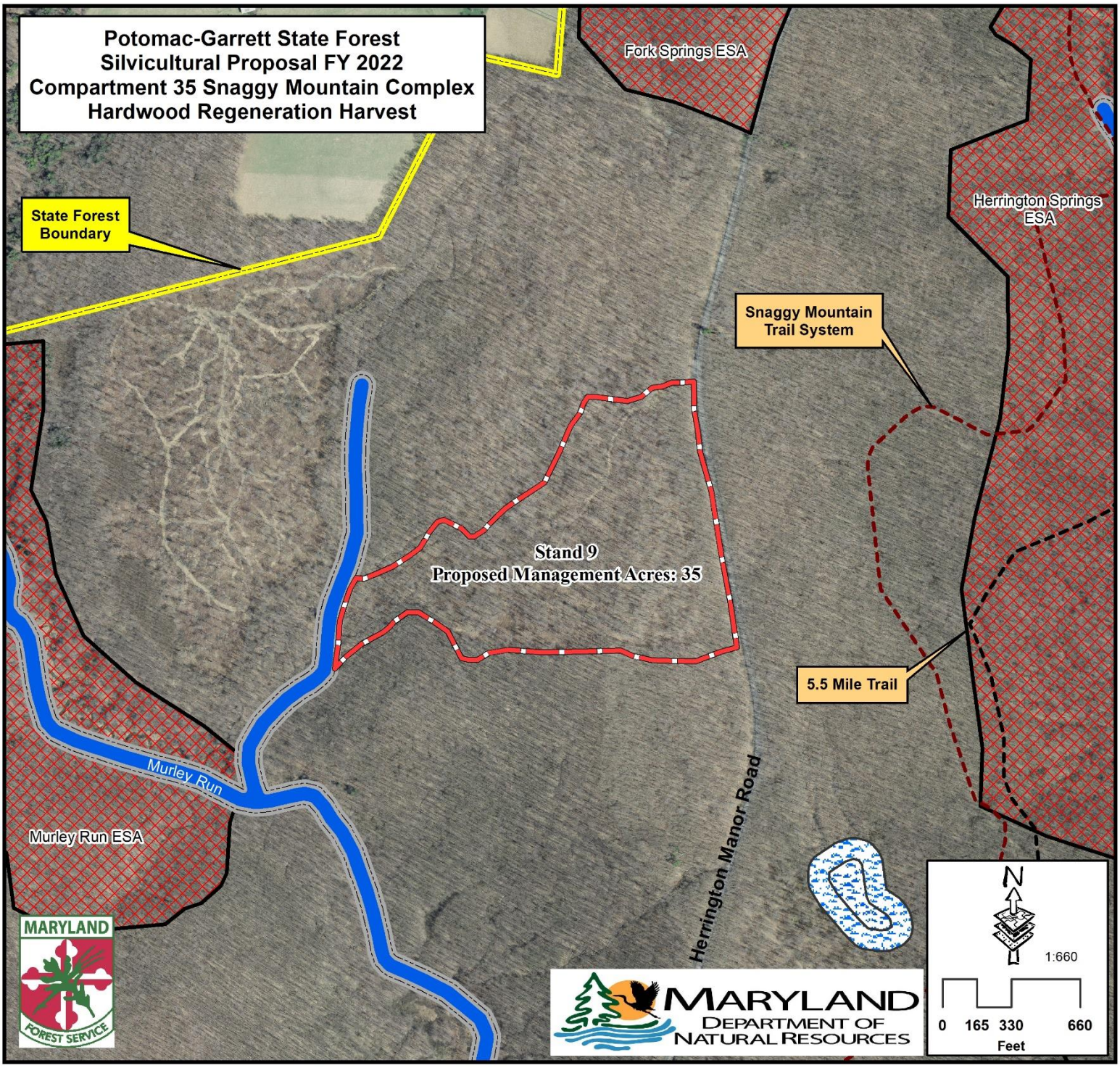
buffer areas. No heavy equipment will be permitted within the protective riparian buffers of any streams or associated wetlands per the requirements set forth in the State Forest Sustainable Forest Management Plan.

Soil Resources: Underlying soil type is mapped as Dekalb and Gilpin very stony loams, 0 to 15% slopes (DgC). These soils are moderately deep and well drained. Equipment limitations are slight to moderate where slopes are more than 15%. The site has good productivity for woodland management, with a site index of 65-75 for upland oaks. The productivity of the site will be protected by minimizing the haul roads and skid trails as per the Department's Best Management Practices and rutting guidelines.

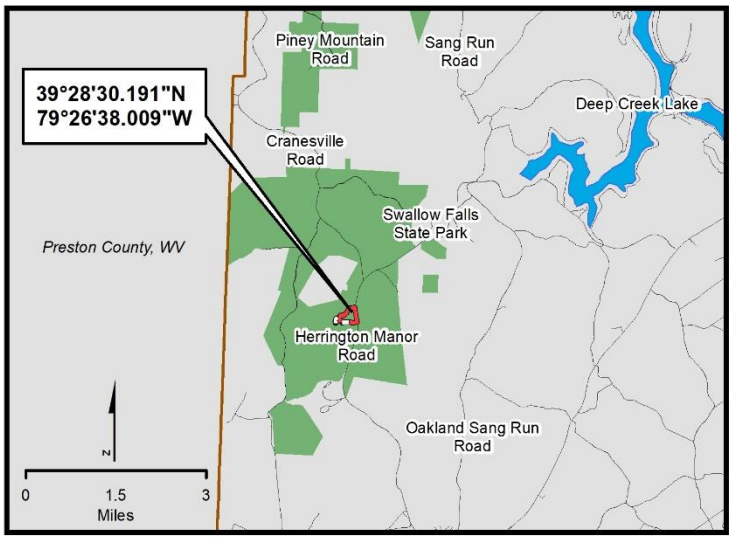
Recreational Resources: No developed recreational resources are located within this stand. Hunting is the primary recreational pursuit occurring in this area. Recreational opportunities may be disrupted for the duration of the harvest activities and access to the site may be limited depending on the timing of the operations.

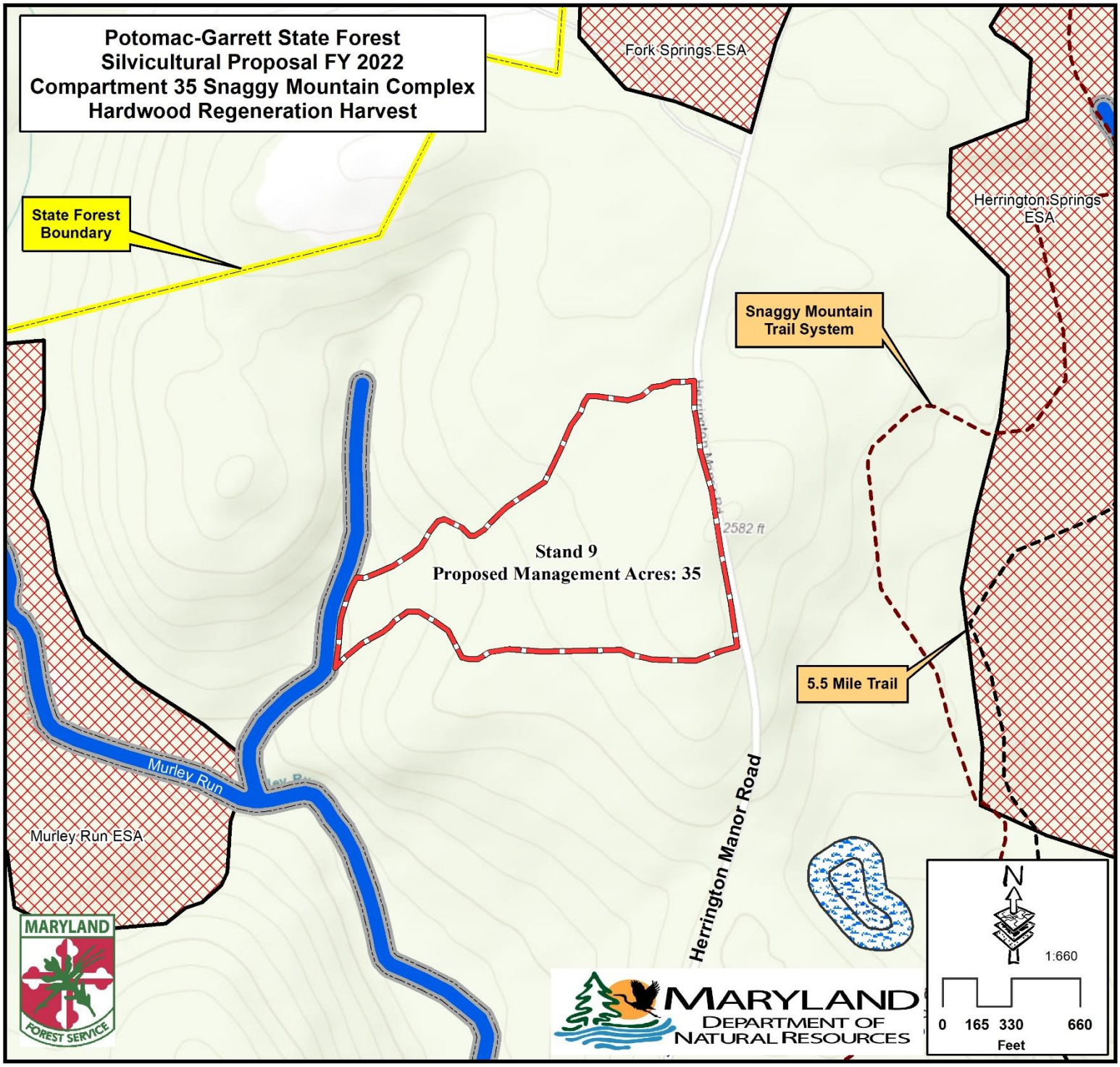
Management and Silvicultural Recommendations

The percentage of acceptable growing stock in the stand is not adequate to provide a future stand of desirable quality and continued management in its present condition is not warranted. This stand will be regenerated using the clear-cut method with variable retention. All trees greater than two inches DBH will be harvested in order to contribute desirable stump sprout regeneration toward the overall stocking of the new stand. Retention will focus on four to eight dominant or co-dominant trees per acre selected for mast production/seed sources or wildlife habitat elements including cavities, den trees and nesting sites. Harvest yields will be approximately 6,500 – 7,000 board feet/acre. Contract specifications will require high slash to remain on the harvest sites in order to deter deer browsing on developing seedlings and stump sprouts.



- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland of State Concern
- Streams and 50' Buffers





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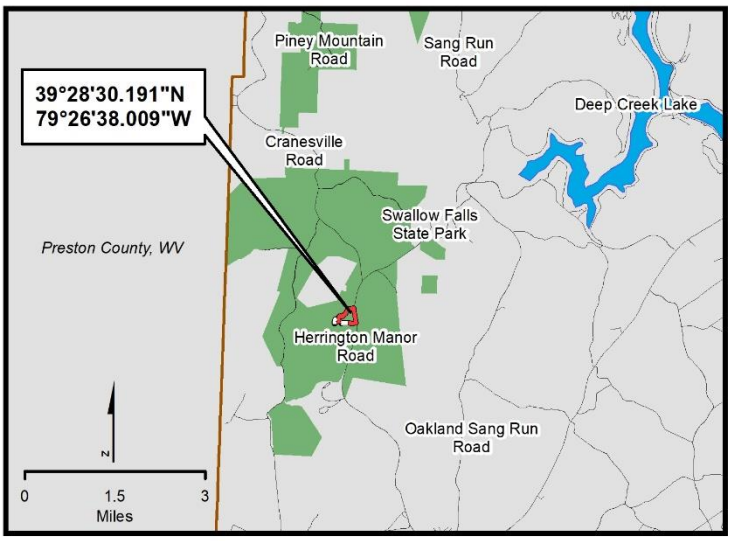

XI. Operational Management and Budget Summary

A. Introduction
B. Funding Sources
C. Operational Cost

Operational Management

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. It is the Department's intent that all revenues generated from the forest will be used to pay for the management and operation of the forest. Successful marketing in selling a mix of species and grades of wood products that the market most demands has contributed to substantial revenue generation over the years. 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 Revenues and Operational costs associated with Potomac-Garrett State Forest. 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 and the numbers below are based on the budget request submitted for FY-2021. Currently, budget trends are flat, meaning that the appropriation that was available in FY-2021 will be same for FY-2022.

B. PGSF Funding Sources

State Forests in Maryland are funded from several sources. The first source is the revenue generated by the forests. These funds are deposited in the Department of Natural Resources Forest or Park Reserve Fund and must be appropriated by the General Assembly through the annual budgeting process before being spent. 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 July 1st, the first day of the fiscal year. Revenue generated by the state forest is designated special fund revenue. There may be special funds provided from the Department of Natural Resources Forest or Park Reserve Fund that are not generated by this forest or there may be a lesser amount of special funds shown in the budget than was generated on this specific forest.

Another source of funding for the state forest is Recreational Trail Grants. These grants are competitive and are generally limited to $80,000 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 as reimbursable funds and are applied to various trail related projects as detailed in specific grant requests. Potomac-Garrett State Forest has secured three Recreational Trail Grant funds in the amount of

$312,051.40 for maintenance of the state forest trail network and the replacement of all bridges on both the 5 ½ Mile Trail and the Snaggy Mountain Snowmobile Trail.

With the passage of SB 606 in the 2018 Legislative Session, which established an Excise Titling Tax on OHV purchases for the purpose of funding maintenance and construction of ORV Trails on DNR lands, the Department has been receiving monthly deposits of approximately $40K in funding which must be used for this specific purpose. These funds will be split evenly between the Forest Service and Park Service, amounting to approximately $20K per month, or $240K (*projected*) for the current fiscal year. Potomac-Garrett State Forest has requested $163,270.00 from the fund for Wallman/Loop Road in order to mitigate ongoing erosion issues that resulted from a storm event that breached the existing water control devices and to resurface the roadway.

C. Operational Cost: Estimated Annual Expenses - *$543,112.00*

Operational expenses are those costs paid directly out of the Potomac-Garrett State Forest operational budget. 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-2021 budget proposal was prepared in August of 2019.

▪ *Classified Salaries, Wages and Benefits: $340,625.00*

This cost is associated with Special Funds which are state tax revenues provided annually. These funds are used to pay the salaries of the Maryland classified employees responsible for the management, operation and maintenance of the State Forest.

▪ *Contractual Staffing: $63,203.00*
This cost is associated with contractual staffing associated with operations of the state forest. Contractual personnel are responsible for 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, overlooks, wildlife habitat areas and implementing all maintenance, recreational, silvicultural and ecosystem restoration projects.

▪ *Land Operation Costs: $90,248.00*
This includes expenses for office and field equipment, vehicles, gates, 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.

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 the Annual Work Plan and as operating budgets are approved.

XII. Appendices

Appendix 1: Potomac-Garrett State Forest 10-Year Timber Harvest Summary Table

Fiscal Year	*Planned Harvest*	*Bd. Ft. Vol. Harvested*	*Gross value*
2011	**550,000 BD FT**	**465,653**	**$411,485.00**
2012	**550,000 BD FT**	**534,679**	**$241,781.00**
2013	**550,000 BD FT**	**331,052**	**$176,000.00**
2014	**300,000 BD FT**	**298,221**	**$26,834.50**
2015	**552,000 BD FT**	**492,401**	**$161,910.00**
2016	**634,000 BD FT**	**542,534**	**$72,689.77**
2017	**533,000 BD FT**	**520,937**	**$275,126.44**
2018	**544,000 BD FT**	**456,517**	**$225,796.59**
2019	**488,000 BD FT**	**458,052**	**$248,487.50**
2020	**400,000 BD FT**	**539,126***	**$179,842.36***

**Harvest volumes include two (2) addendums that were pulled forward from the FY21 Annual Work Plan that totaled 113,653 board feet with a value of $27,684.00.*

Appendix 2: 2020 FSC Audit Action Plan

Maryland Department of Natural Resources Forest Service

Forest Stewardship Council Audit Summary 2020

July 21-23, 2020 - Chesapeake Forest Lands and Pocomoke State Forest

Previous Observations
2019.01 - FSC Indicator: 7.2.a - Closed
2019.02 - FSC FM US 4.4.b - Closed
2019.03 - FSC Indicator: FSC FM US 6.3.e – Carried over to Observation 2020.1
Non-Conformity (or Background/ Justification in the case of Observations):
The current seed mix used for landings and roads has been previously chosen for its ability to quickly germinate and establish, however the mix used has been previously approved by State Wildlife staff for food plots and elsewhere at the State level for the Erosion and Sediment Control plan process.

Previous Minor Corrective Action Requests
2019.4 – FSC FM US 6.6.e **- Closed**
2019.5 – FSC Indicator: 6.7.c **– Closed**

New Observations
2020.1 – FSC Indicator: FSC FM US 6.3.e

Corrective Action Request (or Observation):
The current seed mix used for landings and roads has been previously chosen for its ability to quickly germinate and establish and the mix used has been previously approved by State Wildlife staff for food plots and elsewhere at the State level for the Erosion and Sediment Control plan process. However, the Forestry staff should demonstrate consideration of native seed sources which may meet these objectives or meet additional objectives.

Appendix 3: 2020 SFI Audit Action Plan

Maryland Department of Natural Resources Forest Service

Sustainable Forestry Initiative Audit Summary 2020

July 21-23, 2020 - Chesapeake Forest Lands and Pocomoke State Forest

Previous Opportunity for Improvements
SFI 2.1.1: Issue: Regeneration Criteria **- Closed**
SFI 2.2.5: Issue: Pesticide use reporting **– Closed**
SFI 3.1.3: Issue: BMP checklist criteria **- Closed**
SFI 8.2.1 Issue: Indigenous people outreach **- Closed**
SFI 11.1.2 Issue: Contract coordination **- Closed**
SFI 11.1.3 Issue: Site seed mix **– Remained Open**
SFI 15.1.2: Issue: Internal Silvicultural Audit integration **- Closed**

New Minor Nonconformances

Performance Measure 14.1.1 - A Program Participant shall provide a summary audit report, prepared by the certification body, to SFI Inc. after the successful completion of a certification, recertification, or surveillance audit to the SFI 2015-2019 Forest Management Standard. The April 2019 Recertification Audit is not present on the SFI website, no confirmation was provided to show that it has been submitted. Progress in implementing this corrective action plan will be reviewed in subsequent surveillance audits.

Appendix 4: Interdisciplinary Team Review and Comments

Maryland Department of Natural Resources - State Forests

Potomac-Garrett State Forest
FY-22 Annual Work Plan
ID Team Review
Scheduled for Wednesday, September 25, 2020.

ID Team Members: Kenny Wampler (Fisheries), Scott Campbell (PGSF), Noah Rawe (PGSF), Jason Savage (PGSF), Rick Latshaw (Wildlife), Donnie Oates (MPS), George Eberling (MFS), Mike Friend (NRP), Walt May (NRP), Jack Perdue (MFS), Leonard Cage (MDE) and Dan Feller (Wildlife/Heritage).

Overview / Discussion of FY 2022 Work Plan:
No formal ID Team review meeting was held. Members were provided electronic copies of the FY 2022 Annual Work Plan and following comments were submitted via email.

Wildlife and Heritage Service:
Thanks for the opportunity to review the FY2022 Annual Work Plan for Potomac-Garrett State Forests. The plan is well written, thought out, and incorporates many progressive forest management practices.

The following are a few comments and recommendations regarding the FY2022 Work Plan:

1) The continuation of Red Spruce restoration as proposed in the Stand 24 Red Spruce Habitat Project is great to see. This augments restoration work previously in PGSF and in the adjacent TNC Cranesville Swamp Preserve which is even more extensive than noted (see attached table). In fact it is contributing to landscape scale red spruce restoration efforts involving many other public agencies and private organizations (https://www.fs.usda.gov/detail/mnf/workingtogether/partnerships/?cid=FSEPRD592734).

2) Control of invasive non-native invasive plants is an arduous task and the targeted approach proposed in the work plan is sensible and necessary.

3) Both research projects are valid scientific projects and representative of the type of research the state forest is ideally suited for.

4) Two proposed regeneration harvests in Compartment 35, Stand 6 and Stand 9 border streams documented to support the state endangered Southern water shrew (*Sorex palustris punctulatus*). Though the capture sites were not at those exact locations, they are nearby and within a network of streams (Murley Run and tributaries) that connect several high elevation wetlands which together support the population. It is recommended that a 100' no cut buffer be provided along Murley Run and its tributaries. As only short stream reach segments abut the proposed harvests, this modification would have a minimal reduction on the total proposed harvest area. Providing a 100' wide buffer would protect the water shrew's habitat directly

through retention of lower water temperatures and reduced sedimentation, providing requisite cool clear water and future coarse woody debris cover. Indirect benefits include the production of leaf litter and source of woody debris which are the primary energy source for the water shrew's prey: aquatic and riparian invertebrates, and the small fish that feed on them.

5) As suggested in the work plan for the regeneration harvest in Compartment 33, Stand 10, we can plan a field visit to the site with the intention to buffer any springs or seeps within the proposed harvest that might support the two state listed groundwater species that have been documented in the adjacent ESA. This site would be best reviewed during high groundwater flows which typically occur in late winter or early spring.

Fisheries Service:
Thanks for the opportunity to review the FY22 Work Plan. Based on all silvicultural projects, no work associated with the timber harvests will be conducted within the HVCF and fifty-foot stream buffers, so the Freshwater Fisheries Program has no modification requests. However, we would support the Heritage Service request for the 100-foot buffer along Murley Run to enhance aquatic habitat, even for the non-fish species. Also, thumbs up on your efforts to control invasive plant species and the six-acre red spruce planting.

Natural Resources Police:
Thank you for the opportunity to review this Work Plan. I have no objections to any proposals.

Appendix 5: Citizens Advisory Committee Review and Comments

Potomac-Garrett State Forest
Citizens Advisory Committee AWP FY-22 Review
In person meeting cancelled due to Covid-19 restrictions.

Members:
Scott Campbell, Noah Rawe, Jason Savage, George Eberling, Carl Lee, Sull McCartney, Michael Kozier, Michael Logsdon, Cheryl DeBerry.

The Citizens Advisory Committee members were provided with online access to the Draft FY-22 Annual Work Plan for review and comment.

Appendix 6: Public Comments

Maryland Department of Natural Resources - Forest Service
State Forests Annual Work Plan FY 2022

Public Comments for Potomac-Garrett State Forest
(Names, addresses, and email addresses have been removed to maintain personal privacy. Superfluous text such as greetings and closures have been redacted. Dashes separate individual comments.)

I am sending comments because my family and I recreate in all four of these forests. Camping, hiking, biking, hunting, and fishing are ways that we enjoy spending time in our beautiful Maryland State Forests. I understand that keeping a forest healthy involves management and I am all for management aimed at growing our forests to improve and preserve them for future generations. The thinning, regeneration, and enhancement projects that you are proposing for the most part sound like they are positive actions, although I do hope that you will keep diversification in mind as a mixed forest is a strong forest.

I would also like to see the edges and roadsides affected by the timber harvest seeded in a mix that contains native seeds as suggested by the Forest Certification Service report. Ernst Seeds, located in Pennsylvania would be a dependable source for seeds.

Lastly, reading the proposed work plans for the four State Forests, I was struck by the differences in the ways the plans were written. I believe we all would benefit by using a consistent format. Perhaps the Maryland Forest Service could provide a template to the Forest Managers. I understand that Chesapeake Forest Lands may require some additional information but using a consistent format statewide would be an improvement.

Pylesville, MD

—

I am writing to convey my thoughts on the FY22 MD State Forest Annual Work Plans. I was raised on the Eastern shore of Maryland, and now help to run the family-owned business Paul M. Jones Lumber Co., which is in Snow Hill, Maryland. Our business relies on the loblolly pine resource we have here on the eastern shore to make quality lumber and pilings for our customers. In my opinion the state should be doing more final harvest on mature timber.

After having reviewed all the FY22 MD State Forest Annual Work Plans, it is clear to me that they are well thought out, taking a balanced approach of silvicultural practices designed to improve forest health and provide economic benefits to the state, enhancing wildlife habitat through the creation of multiple age classes and habitats on the Forests, as well as improve recreational opportunities. I fully support implementation of all the management practices contained in the FY22 MD State Forest Annual Work Plans, and recommend they be approved as written. Thank you for the opportunity to provide these comments.

Frostburg, MD

—

I am a member of Maryland Forests Association and an owner of a small forested area under a management plan.

I was interested in the plans for the four areas listed and just want to say I am in favor of the plans for all four. The plans were, I thought, well thought out and were very well written, individual considerations for each.

—

I browsed the four forest reports that are listed in the latest DNR newsletter.
Fascinating. I noticed in the Green Ridge report the term non-native invasives seemed to imply that natives are not invasive. Of course, that is not true, but maybe the emphasis is non-native invasive plants over native invasive.

In the Savage report on page 13 - I liked the idea of deterring new tracts from being developed - I see that idea was also highlighted in other reports.

Thank you for these reports and the opportunity to read them.

The history of fire and the loblolly pine was fascinating in the Chesapeake report.
Chestertown, MD

—

I am a member and past president of the Maryland Native Plant Society and a field trip leader. Our State Forests are gems that need protection, especially since we have no National Forest in Maryland. Please sharply curtail forest harvesting in State Forests. In these work plans some of the oldest, most biodiverse forests are slated for harvesting. Forests are the most effective carbon sinks and most carbon is released during timber harvesting. Maryland is trying very hard to reduce our carbon emissions!

When you do your final review and finalize your plan, please avoid older mixed forests and unfragmented forests. Heavy equipment, which will be used in some circumstances, damage the ecosystem and introduce invasive species. Please keep our State Forests intact and healthy! And please no clear cutting.

Bethesda, MD

—

What are you thinking? When we need them the most for our climate. Yes, planting more is great. But.... it takes time for them to grow. Please save the trees that are saving us.

Timonium, Md

—

The majority of public comments received for Potomac-Garrett State Forest Annual Work Plan focused on the expansion of OHV riding opportunities on state owned lands. The following form letter was submitted by 26 OHV enthusiasts:

Please utilize the funding from SB606 to increase the trail mileage at Saint John's Rock within the Savage River State Forest by utilizing other parcels as modeled by Wolf Den Run State Park. An increase in mileage will increase users and decrease rogue trail creation by keeping riders on designated, legal, and sustainable trails while staying entertained for their entire trip.

Please also utilize these funds in Potomac-Garrett to interconnect Wolf Den Run State Park to Wallman Run/ Laurel Run. Please also utilize these funds to modify the Wallman Run and Burkholder Snowmobile trails to accept OHV vehicles when snowmobile use is not feasible. The SB 606 funding was created to increase OHV access in MD and should be used accordingly. Especially with it now legal to cross county roads with OHV vehicles and funds available to maintain and reroute these snowmobile trails.

—

We are looking forward to expanded OHV access on Maryland public lands.

Mount Airy, Maryland

—

Also, as evidenced by other areas in Pennsylvania and West Virginia, we not only bring our dirt bikes and other machines but money for food, other local attractions, and places to stay. It will really be a boon for the local economy to attract the off-road community to the area. Love to see that Maryland is focusing some efforts to take advantage of the economic power the off-road industry has behind it. Thank you!

Monrovia, MD

—

I am part of a vibrant and growing community of OHV enthusiasts that are looking for ways to enjoy our activities in Maryland. Every year, myself and many of my friends travel 2 to 5 hours away into Pennsylvania where we stay in hotels and eat at local restaurants, buy fuel, and pay usages fees for off-road riding areas. We're also taking many trips in to Virginia for the same activities. The Maryland economy in rural areas is losing out on this activity because of the scarce opportunities in-state.

The recent energy spent on providing access to Wolf Den Run State Park has been and should continue to be a model for how the Maryland DNR embraces this community.

I applaud the efforts that have been made to increase the opportunities for OHV users in Maryland. With your continued support the residents of Maryland can both protect and enjoy our precious natural resources.

Annapolis MD

—

I understand budgeting for 2022 is going on now. We have enjoyed riding the OHV trails in southern WV and were very excited when some opened up in Maryland. I've heard there might be funding to expand those trails. Please, consider utilizing the funds to expand some trails in the areas listed. I know firsthand that we contribute to the overall economy in areas we go to ride. Everything from hotels, restaurants, gear, fuel, and souvenirs.

—

Regarding the proposed 2022 fiscal year work plan, it would be great to see additional efforts to increase OHV access.

—

I look forward to expanded OHV access on Maryland public lands.

Keedysville, MD

XIII. Literature Cited

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