POTOMAC-GARRETT STATE FOREST
ANNUAL WORK PLAN

FISCAL YEAR 2024

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Potomac-Garrett State Forest
FY-24
Annual Work Plan

Potomac-Garrett State Forest
FY-24 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-24 Annual Work Plan for Potomac-Garrett State Forest was formulated in 2022. 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-24 Annual Work Plan for Potomac-Garrett State Forest details eight land management projects that will be the focus of the State Forest management staff for FY-24. 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 resulting from the 2022 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-24. 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. Follow-up monitoring and retreatment, where necessary, will continue for the 31-acre NNIS control project in Compartments 30 and 32 completed in FY-23 that focused on herbicide treatments on Japanese barberry (*Berberis thunbergii*) and multi-flora rose (*Rosa multiflora*). Treatment efforts will be expanded into the adjacent stands in an effort to further control these unwanted species.

2. Eight Silvicultural projects including:
A 6-acre hardwood crop tree release, 3 hardwood regeneration harvests totaling 103 acres, 2 conifer regeneration harvests totaling 14 acres, a 16-acre hardwood shelterwood and a 35-acre understory mowing of interfering understory vegetation.

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 insect-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-24 Annual Work Plan outlines 8 silvicultural projects on 174 acres and one disabled hunter hunting opportunity enhancement project. The silvicultural work laid out in this work plan is focused on non-native invasive species control, initiating seedling development, retaining established regeneration, particularly mixed oak species. This cultural work will safeguard the long-term sustainable management of these important forest resources. The cultural operations and management projects outlined within the FY-24 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. Approved harvest proposals from the FY-24 Annual Work Plan will produce a harvest of approximately 630,000 board feet of sawtimber accounting for an estimated $175,000 worth of raw wood products entering local markets.

III. General Location Map for FY-24 Land Management Project Proposals

Approximately 174 Acres

Map Key

1. Compartment 10 Stand 11	*6-Acre Crop Tree Release*
2. Compartment 24 Stands 1 and 3	*48-Acre Hardwood Regeneration and 1-Acre Conifer Regeneration*
3. Compartment 25 Stand 2 HCVF	*13-Acre Conifer Regeneration*
4. Compartment 25 Stand 2	*32-Acre Hardwood Regeneration*
5. Compartment 25 Stand 3 Residual Blocks	*16-Acre Hardwood Shelterwood*
6. Compartment 39 Stand 21	*35-Acre Understory Mowing*
7. Compartment 41 Stands 3 and 4	*23-Acre White Oak Regeneration*
8. Compartment 44	*Disabled Hunter Hunting Opportunity Enhancement Project*

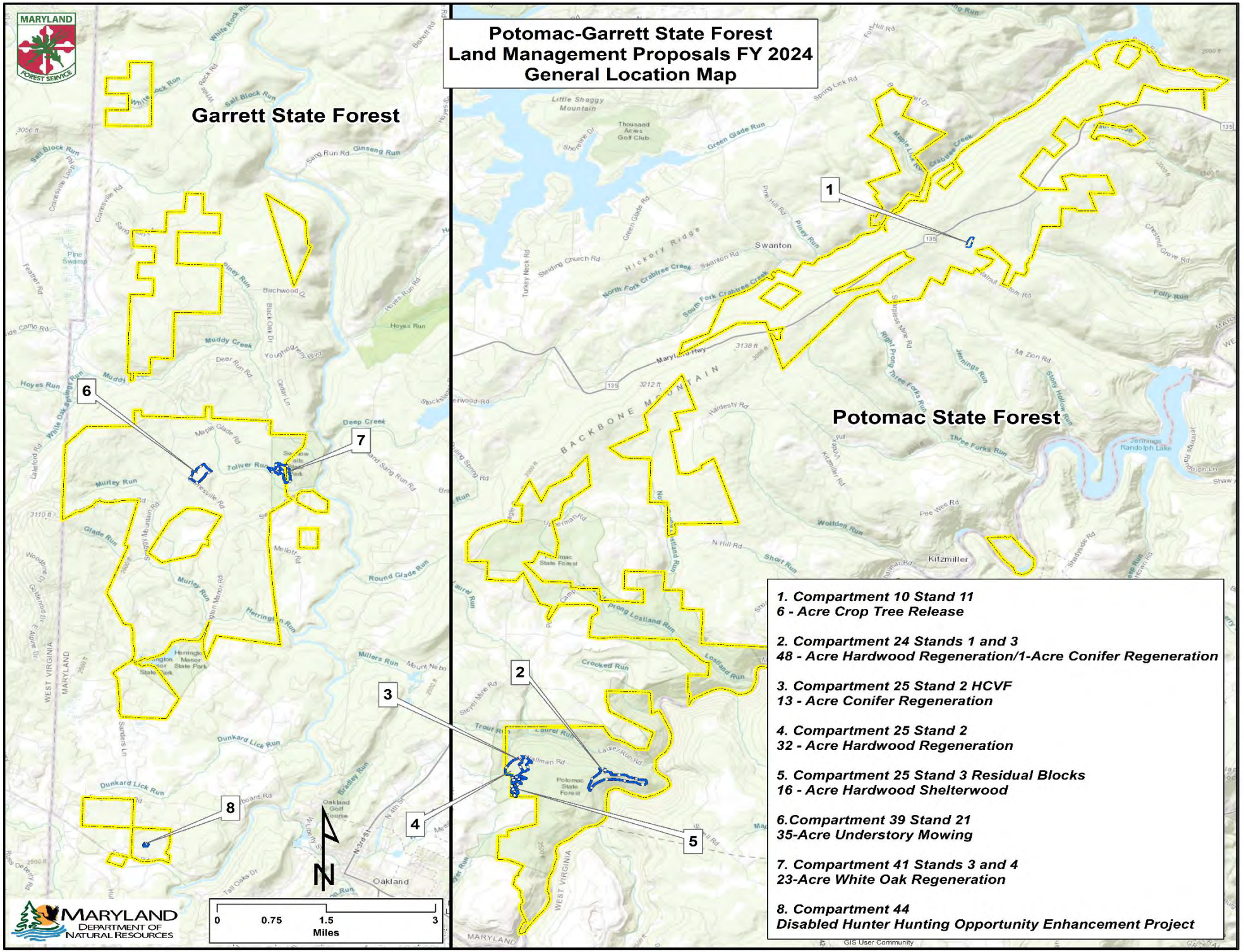


Figure 1. General location map for FY-24 land management proposals.

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 (See Appendix 2 and Appendix 3 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.

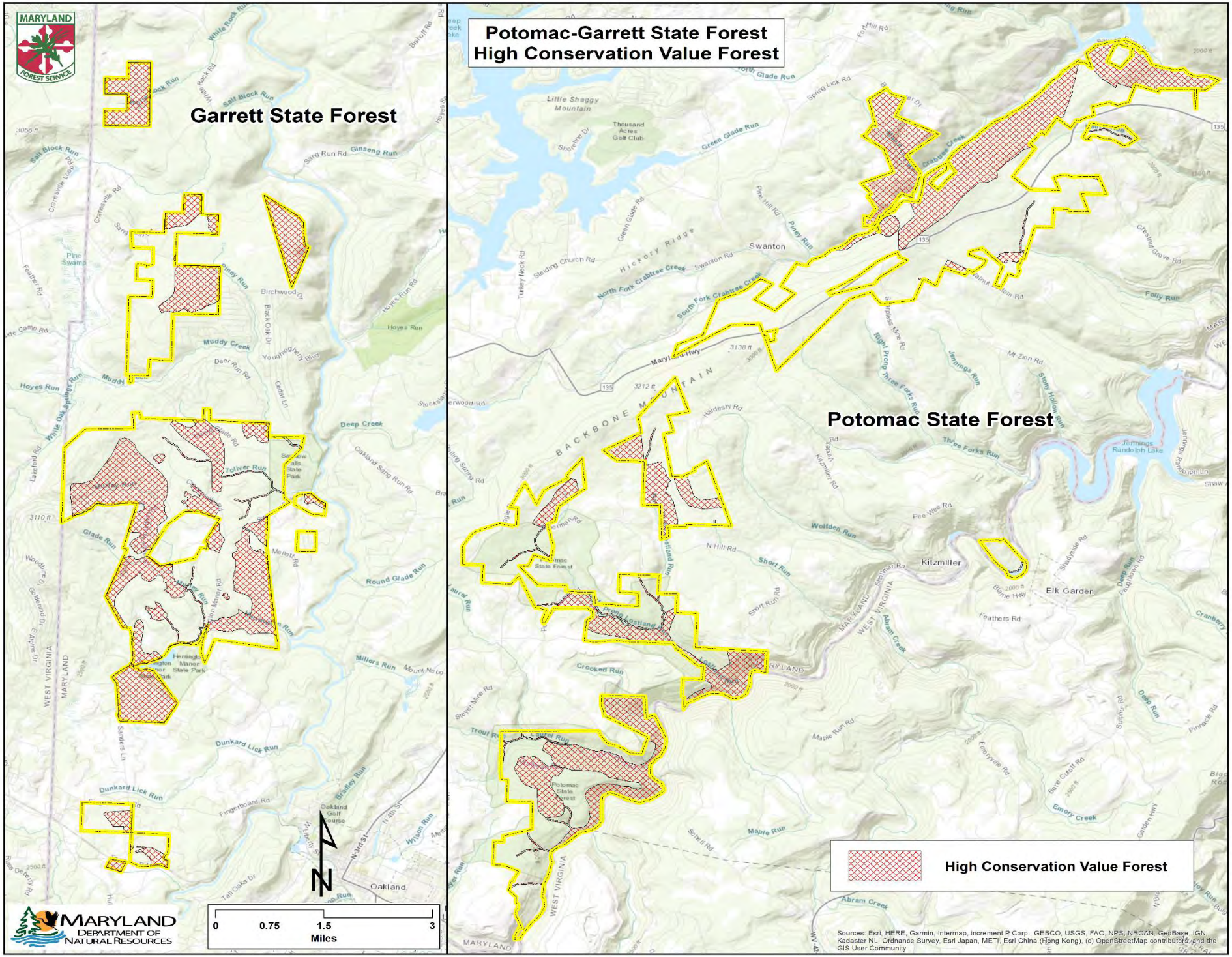


Figure 2. Designated High Conservation Value Forest

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-24 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 landowners 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 3-5 pp. 13-15)

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. *Laurel Run Road remains closed due to unsafe conditions following the collapse of the roadbed.

3. Hunting

Hunting is permitted throughout the forest except where posted with safety zone signs. The nearly 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. Bird Watching

Birders can see a wide variety of avian species, with six eBird hotspots found throughout the Forest as noted by the Maryland Ornithological Society (http://ebird.org/hotspots). Ruffed grouse, Blackburian warblers, Canada warblers, cerulean warblers and rose-breasted grosbeak are examples of choice birds that can be seen which only breed in the far western part of the state (Schwarz, 2022).

7. 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.

8. Geocaching

Currently, 14 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 in the forest. Applications and general rules for geocache placement are available at the state forest headquarters. The list of geocaches can be found online at: www.geocaching.com by searching "Find Caches Near Me" and entering zip code 21550.

9. Maps

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

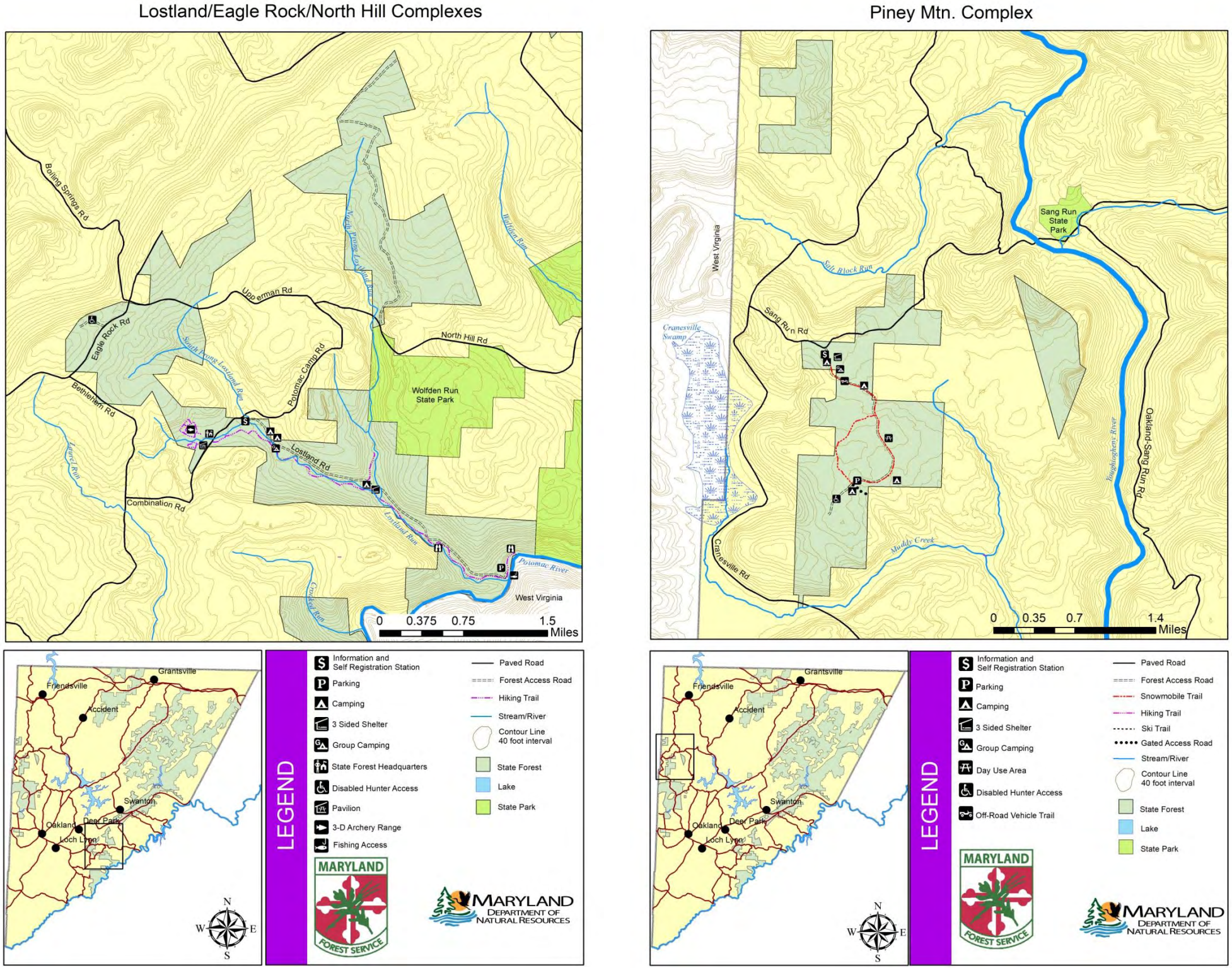


Figure 3. Recreational opportunities on Potomac-Garrett State Forest

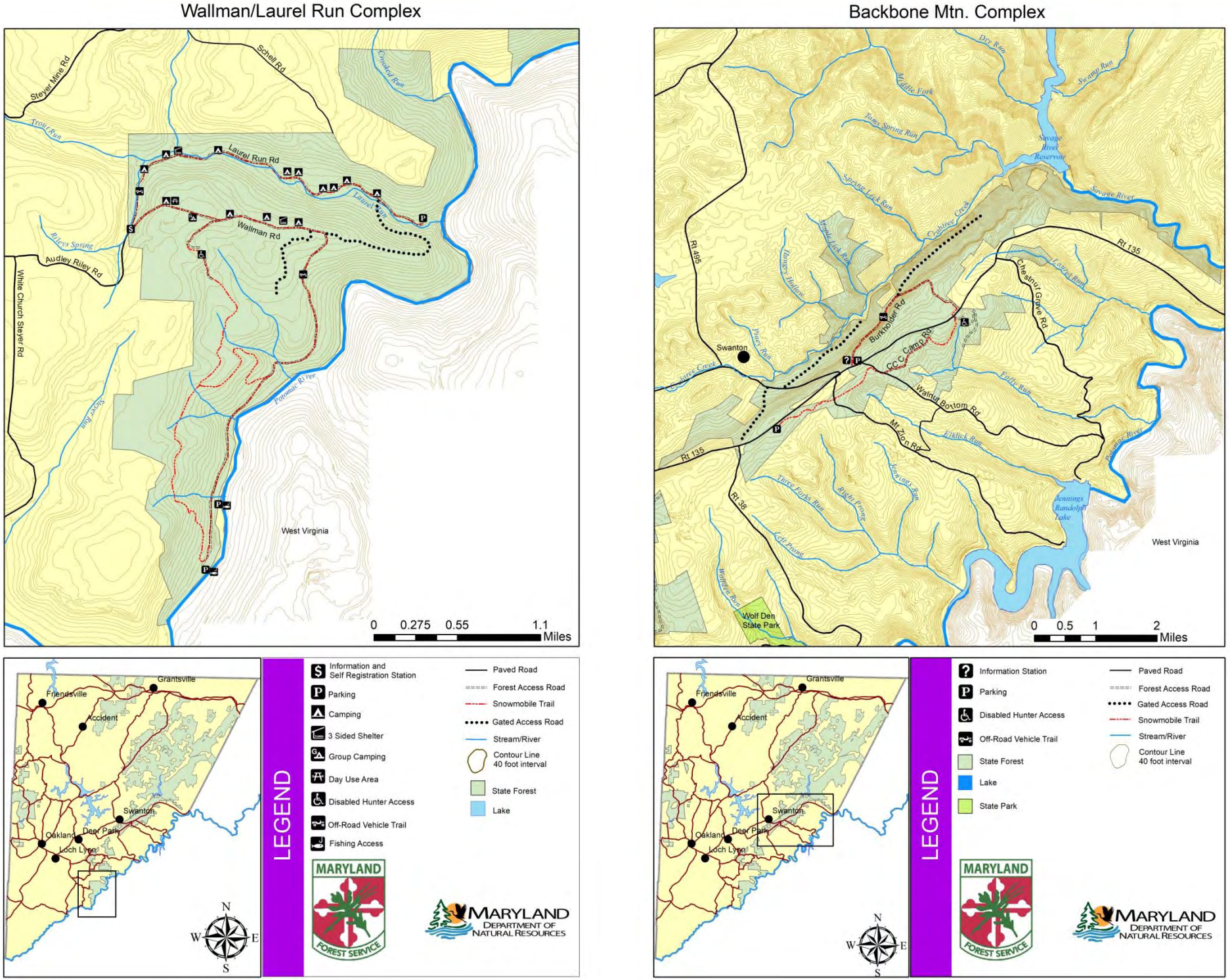


Figure 4. Recreational opportunities on Potomac-Garrett State Forest (cont)

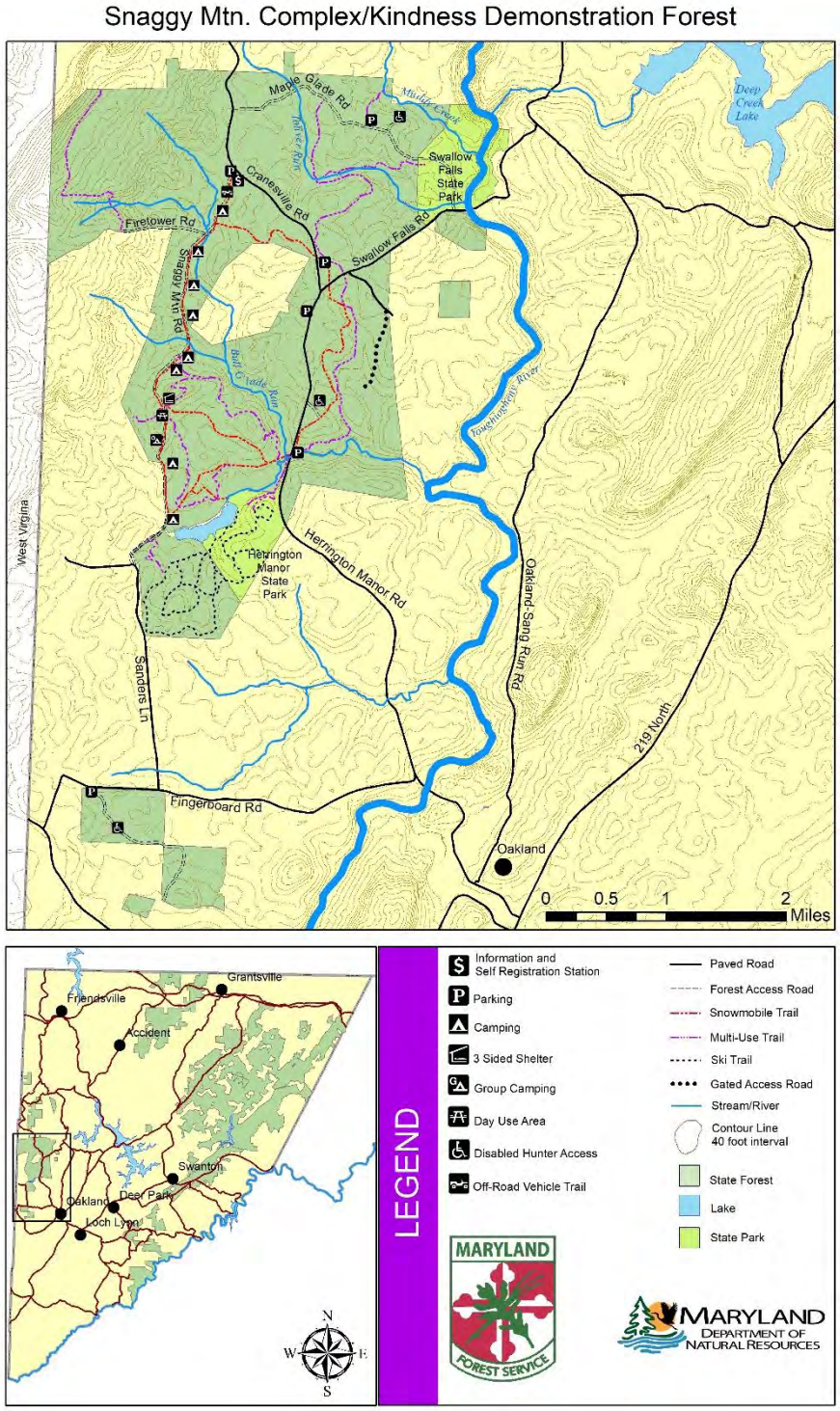


Figure 5. Recreational opportunities on Potomac-Garrett State Forest (continued)

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 50% each year thereafter. The newly appointed position of the Western Region Trails Planner from the office of Forest Resource Planning now handles all appropriation of funds provided by the OHV excise tax fund, excluding requests for equipment, which is handled by each state forest as needs arise.

Funding requests for projects to be implemented on Potomac-Garrett State Forest include:

- $14,212 for a geotech analysis for the Snaggy Mountain Snowmobile Trail with Triad Engineering. The geotech analysis has been completed and delivered.
- $300,000 Purchase Order/Memorandum of Understanding with Western Maryland Resource Conservation &Development (WMDRC&D) for significant upgrades and sustainability improvements to the Snaggy Mountain Snowmobile Trail. This project will replace four trail bridges on the Trail and address drainage issues on the trail. The geotech analysis mentioned above is part of the project, but was handled separately. Under this PO/MOU with WMRC&D the bridge work will be bid out. The trail drainage work may be bid out or done in conjunction with FS staff using the equipment that is being purchased. The MOU/PO has been completed, and the next step is to write the bid solicitation for WMDRC&D.
- $14,050 encumbrance for the Piney Mountain ORV / Snowmobile Project design plus $40,000 (budgeted) for construction. The $14,000 funding is for the design work and has been awarded to The Thrasher Engineering Group. These funds will be used to leverage (match) previously obtained $120,000 in Recreational Trail Program Grant funds. We will also be providing RTP match funds via Forest Service staff time. It is anticipated that Thrasher Engineering will deliver the design and construction plans mid-December. The construction portion of the project will then be bid through DGS with construction in calendar year 2023. The $120,000 in RTP funds will cover the bulk of the trail construction expense, and ORV Excise funds will be used to cover the rest - currently $40,000 budgeted but could be more depending on the bids. Some of the work will be done in-house by MFS staff using equipment purchased by OHV Fund. This project will harden (stone) the snowmobile section of the trail to improve chronic wet areas, install 2 gates/blockades to mitigate illegal ATV access from adjacent properties, build 2 picnic table shelters in the group campsite, harden campsite parking areas, danger tree mitigation, and ditch maintenance on the ORV only section.

II. National Recreational Trail Grant Requests

Potomac-Garrett State Forest has submitted 2 National Recreation Trails Grant Request to fund enhancements to recreation trails on the forests.

1. Piney Mountain Snowmobile/ORV Trail Rehabilitation Project - $160,000.00
($120,000 requested grant funds + $40,000.00 matching funds)

This project is an amendment to the RT20-06 grant (Snaggy Mountain Snowmobile Rehabilitation Project) and will include maintenance on 1.75 miles of ORV/snowmobile trail, restoration and improvements to the trail bed surface and all associated drainage features to include grading and reshaping crown of the trail bed, opening/creating ditches and water diversions on 0.86 miles of snowmobile only trail, installing two (2) gates to curb illegal ORV activity and improvements to trailside amenities for six (6) primitive camp sites and one group site.

2. Western Region Non-motorized Trail Maintenance Grant - $192,704.99 (RT 23-16)
($140,000 requested grant funds + $38,704.99 matching funds + $14,000 management cost)

A trail maintenance specific grant has been awarded to the Maryland Forest Service through the Recreation Trail Program. These funds, administered by the Maryland Department of Transportation State Highways Administration, will be used to deploy a programmatic approach to non-motorized trail maintenance in the Western Region State Forests (Green Ridge, Savage River, Potomac Garrett).

The trail maintenance tasks will be accomplished by a 6-8 person AmeriCorps certified saw crew and/or a trail crew. We anticipate logging 1,280 – 1,600 labor hours in each State Forest and a total of 4,480 labor hours within the Western Region over the one-year term of this grant. No new trails will be constructed as part of this project. All of the work will be conducted on existing trails and on land owned and managed by the Maryland Department of Natural Resources.

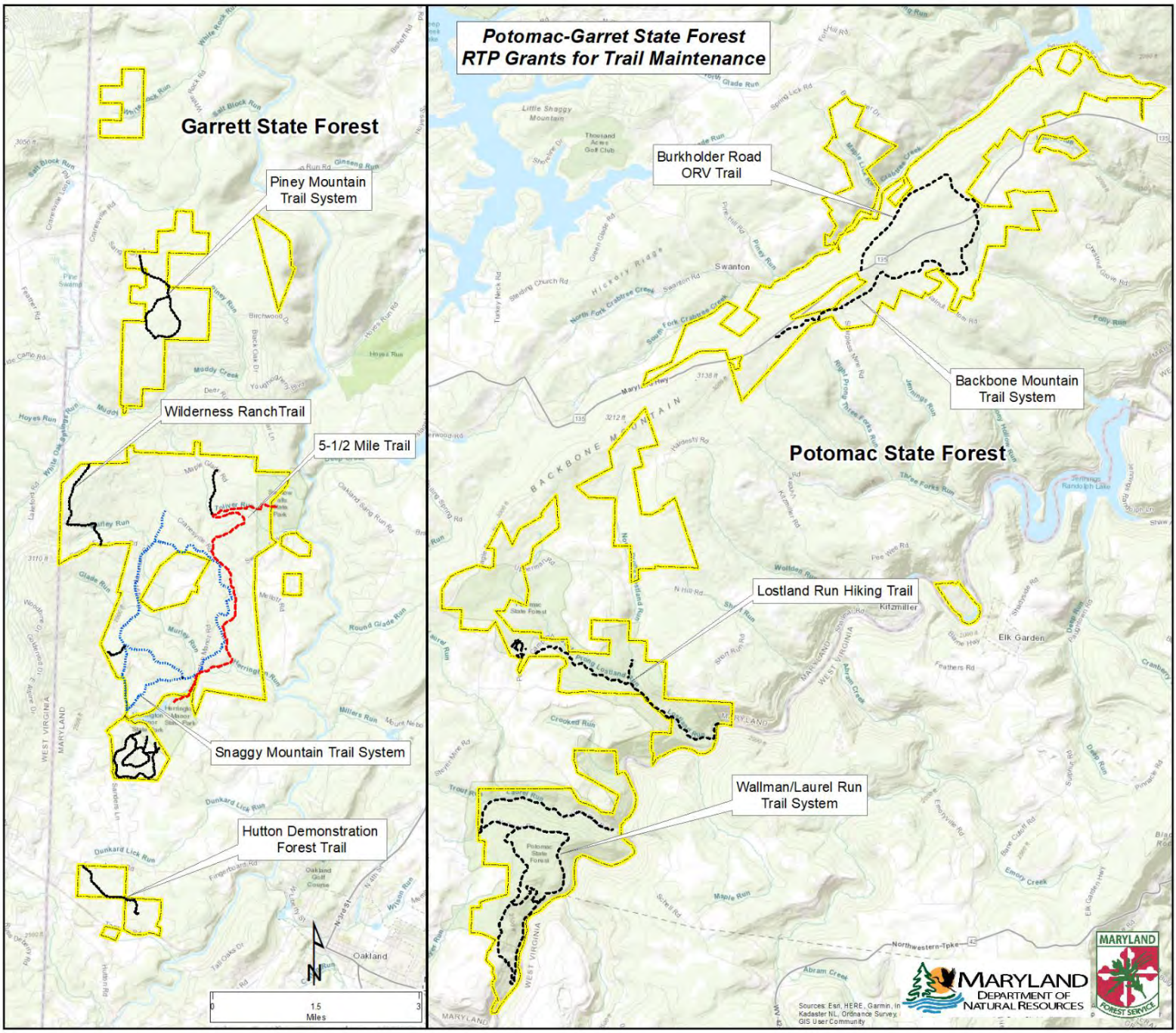


Figure 6. Potomac-Garrett State Forest Rec Trail Grant Maintenance

III. Disabled Hunter Hunting Opportunity Enhancement Project

This project involves building an elevated shooting platform and access ramp on the southern end of the maintained clover field in the Hutton Demonstration Forest providing disabled hunters greater opportunities to successfully harvest game animals on the state forest. Cost estimates have not been calculated to this point as state forest personnel continue researching funding sources for the project, with Project Open Space representing the most likely source.

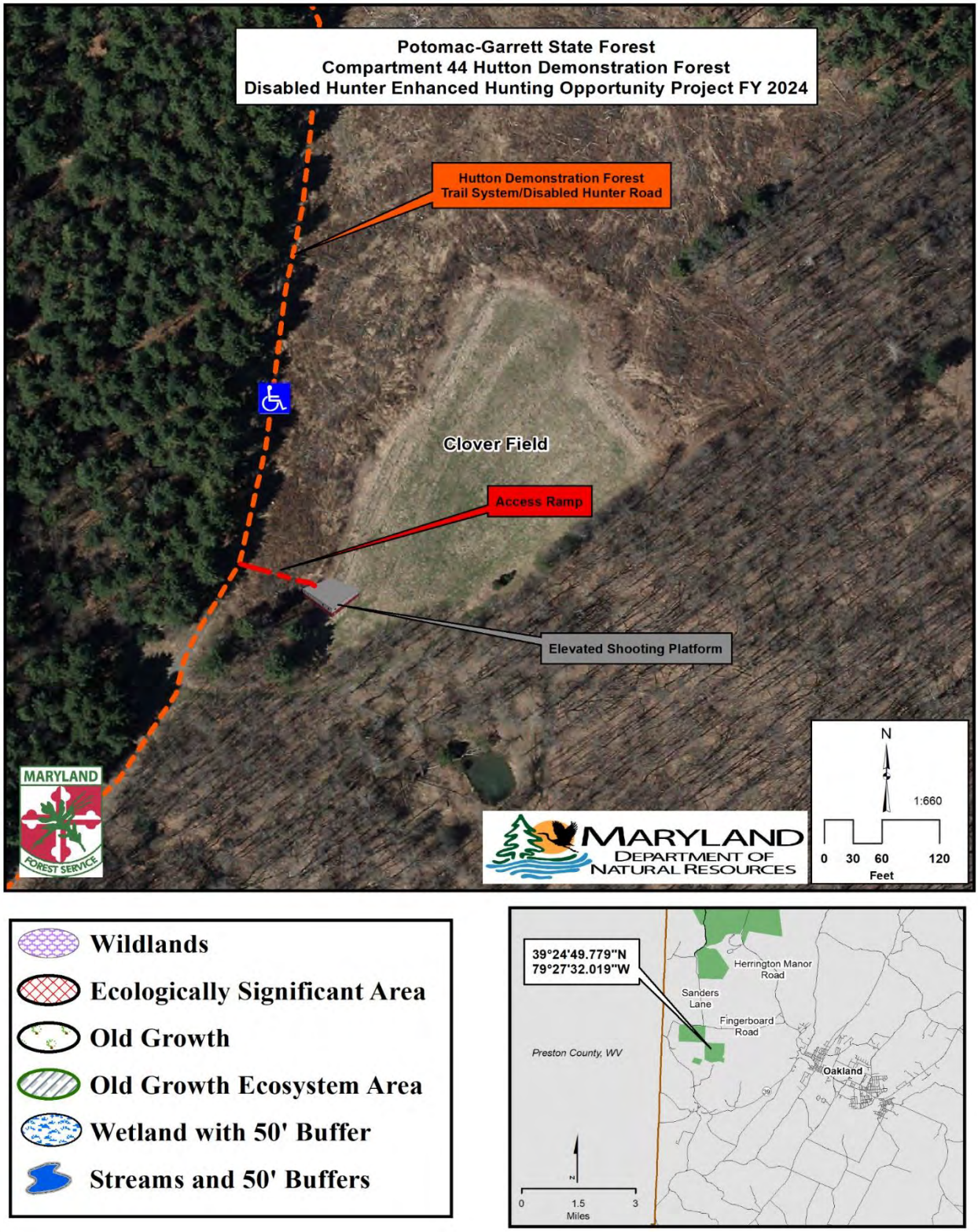


Figure 7. Hutton/Kindness Demonstration Forest Disabled Hunter Enhanced Hunting Opportunity Project.

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 overseeding with clover (See Wildlife Habitat Management Projects map and summary, p. 23).

With the recent designation of the monarch butterfly (*Danaus plexippus*) as an endangered species due to declining populations, efforts will be made to promote and preserve areas of various milkweeds (*Asclepias spp.*), which serves as the main food source for monarch caterpillars.

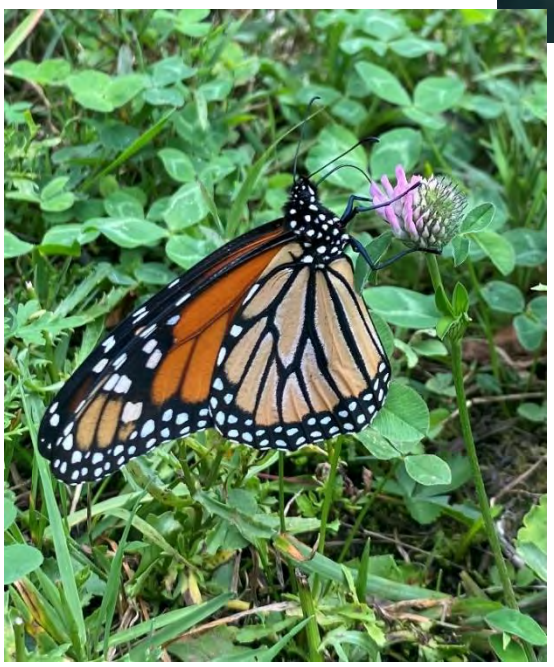
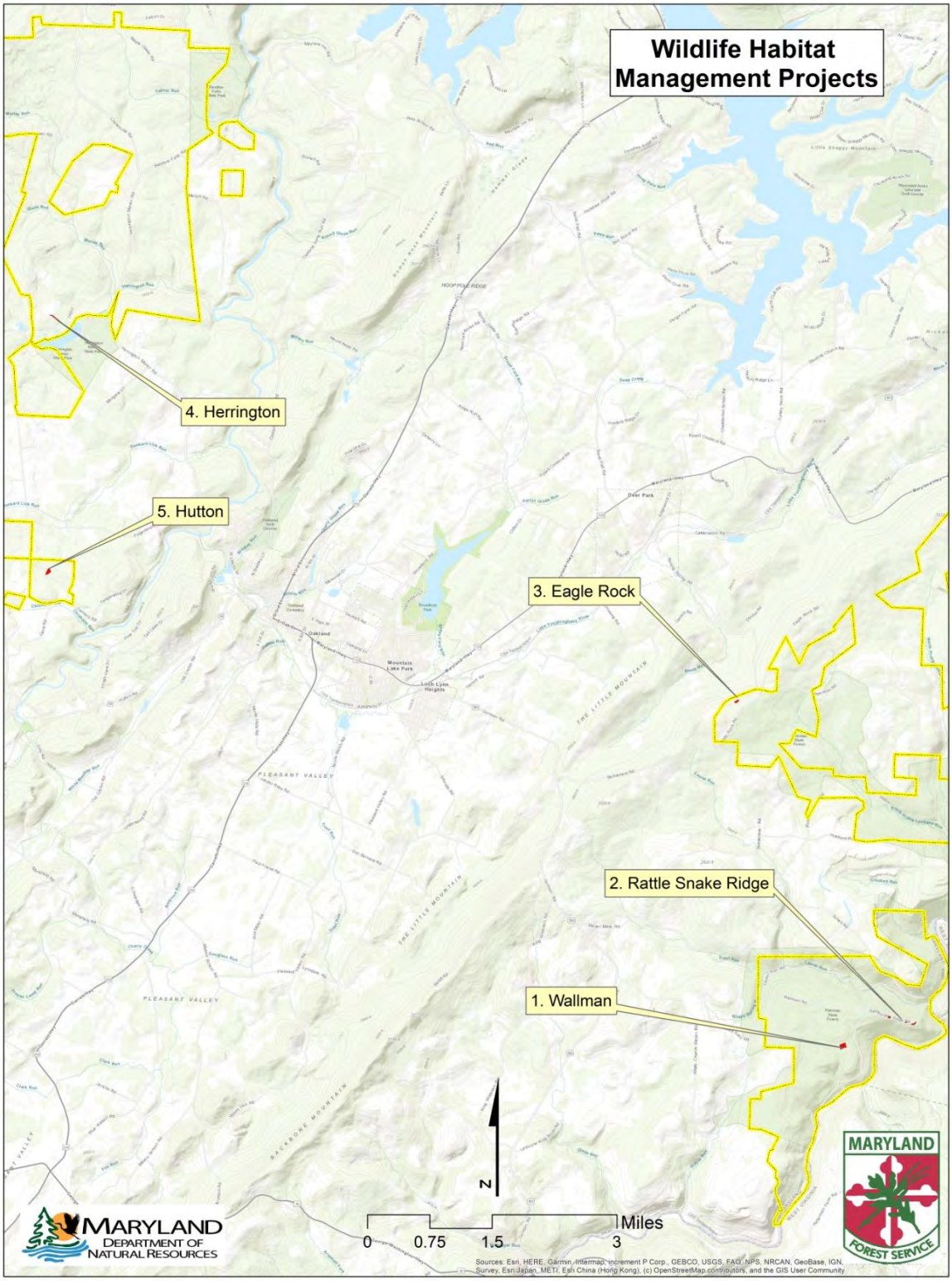


Figure 8. Potomac-Garrett State Forest Wildlife Habitat Projects. Clockwise: Clover field on south Snaggy, monarch caterpillar on milkweed on periphery of the clover field, adult monarch on clover flower.



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*	*1.2*	*500 lbs 10-20-20* *4000 lbs lime*

Figure 9. Potomac-Garrett State Forest Wildlife Habitat Management Projects

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.

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*). Several patches of mile-a-minute weed, another aggressive non-native invasive, have been discovered throughout the forest. Monitoring of the areas will continue, and the sites will be treated as necessary and where feasible to eradicate this plant from the site and prevent it from spreading into the adjacent forest.

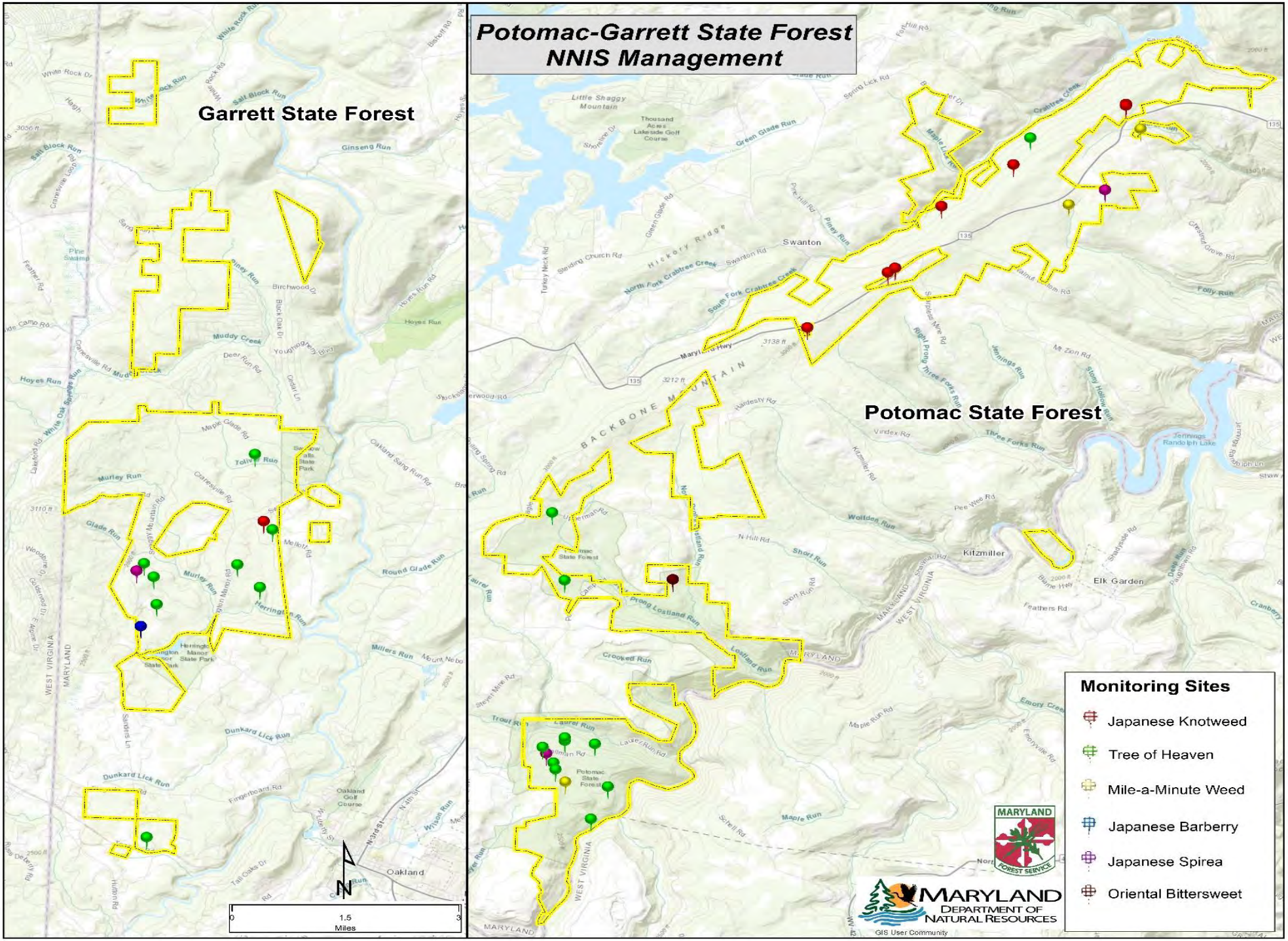


Figure 10. Potomac-Garrett State Forest NNIS Monitoring Sites.

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 (Jetton, Mayfield et al, 2021).

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. 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. Initial 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 2023.

2. ***Emerald Ash Borer Biological Control Monitoring. University of Maryland, College Park (Gruner, 2021). Project to extend through April 2024.***

Project Description: The purpose of this document is to seek permissions for research efforts to reduce emerald ash borer densities in state owned lands and urban forests using sustainable methods. Emerald ash borer (*Coleoptera: Buprestidae: Agrilus planipennis* Fairmare) has killed millions of ash trees in urban and natural forests resulting in over $25 billion in loss, in addition to the ecological and environmental impacts resulting from EAB. Our project will assess the

efficacy of biological control agents on populations of emerald ash borer in several state and federally managed parks in Maryland.
This project will help identify the impacts of EAB on ash health and survival at several stages of infestation as well as assess the efficacy of introduced parasitic wasps (four species of parasitic *Hymenoptera*).

This request would extend the project through April of 2024. It would include several sampling periods throughout the year depending on the specific objective. A portion of sites were used as a release site for biological control in the years between 2009 and 2013. Parasitoid releases were conducted by a former UMD PhD student, Dave Jennings, who maintained detailed records of the numbers and specific localities for release. Other sites have been monitored for establishment of biological control from 2016-present. Biological control will also be released at new sites by Heather Disque and Craig Kuhn (MDA) to phase out older, less productive sites currently being monitored.

To assess efficacy of the biological control agents, we will 1) assess ash health and survival, 2) assess the establishment of parasitoids and their impact on EAB population and ash survival, 3) monitor for adult EAB densities, 4) begin periodic releases of biological control agents at newly created sites.

To achieve this, we propose to 1) perform ash health surveys (crown condition, dbh, signs of infestation) and transect surveys, 2) debark four (4) infested ash trees (~10cm DBH) and ten (10) ash saplings (<5cm DBH), deploy yellow sticky cards to monitor for adult parasitoid activity, and deploy "sentinel logs" or bolts of ash wood with EAB larvae inserted within to detect parasitism events at set locations, and finally deploying "sentinel eggs" or EAB eggs inside mesh netting to detect active egg parasitoids, 3) install Lindgren funnel traps, and 4) release biological control agents at each site.

Ash health surveys and transect surveys will occur during summer months while vegetation is visible. Transect surveys will be randomly assigned in lengths of over 100m branching out from the initial release site. Assessment of the establishment, density, and impact of hymenopteran parasitoids on EAB requires felling of ash trees during the winter or early spring. The bark of ash trees is then stripped with draw knives to reveal larvae, prepupae, and their larval parasitoids. The fate of each EAB larvae is then determined (i.e. parasitized, diseased, alive). Sentinel eggs and logs will be deployed to measure parasitoid dispersal at several locations at each site; these sentinel logs and eggs do not allow EAB to escape and infest trees at the site. In addition, yellow sticky cards will be hung from infested ash trees and collected on a weekly basis to detect adult parasitoids in the environment. To monitor for adult EAB populations, several Lindgren funnel traps will be installed in tree canopies and checked periodically during summer months. Parasitoid releases will be coordinated via Heather Disque (MDA) and tracked via the national EAB biological control database, MapBiocontrol.

General Site Conditions:
Site conditions will vary site by site, for each tree, and throughout the study period. Sites in southern Maryland generally consist of swampland close to highways or residential areas. Sites in western Maryland consist of mountainous terrain accessed via local roads. During these

sampling periods the sites will be accessed from the nearest paved area on foot. Most trees are reached by vehicles to the closest paved area, followed by access by foot on trails. Visitation and any destructive sampling (i.e., debarking) are coordinated in consultation with park management.

Project Considerations:
This project is in coordination with MDA (Heather Disque/Craig Kuhn), USDA: ARS (Dr. Jian Duan), and the University of Maryland (Dr. Gruner). Most surveys are time sensitive because of insect phenology and life cycle. This project will require destructive sampling of four (4) ash trees and ten (10) ash saplings, in consultation with the managers of each State Forest and State Park.

3. *Native North American Rhododendrons Research. University of Maryland, College Park (Basnett, 2022).*

Project Description:
The purpose of this document is to seek permissions for research efforts:
1. To characterize the floral visitors of five native North American Rhododendron species.
2. To understand the relationship between the floral characters and its floral visitors.
The entire fieldwork is based on the flowering season and is therefore time constrained. Only those insects which are unidentified in the field will be sampled for further identifications.

Study Species:
Using this permit, we will collect information on floral traits and North America Rhododendron's floral visitors, which will improve our understanding of the ecology and evolution of Rhododendron in North America and globally.
The highest concentration of Rhododendron species is in Eastern North America. Along with other States, Maryland is one of our potential sites. Maryland has eight Rhododendron species, and the region also displays a good overlap in their ranges and flowering times. We will be focusing on the following five Rhododendron species of Maryland (Table 1).

Table 1: List of the focal species and their flowering months

Species of Interest Flowering time
R. canescens April 15 - May 15
R. atlanticum April 15 - May 15
R. viscosum June - July
R. arborescens June 15 - Juyl 15
R. maximum June 15 - July 15

Methodology:
The floral visitation study and floral traits measurement of five Rhododendron species will be carried out for two flowering seasons: 2022 and 2023.
Dr. Shweta Basnett and some interns will conduct the fieldwork during these flowering seasons. The interns assisting us in this work may vary across different flowering seasons.

Floral Visitations Study:
Our visitation study will be carried out for five species. In each locality, five individuals of a Rhododendron species will be randomly selected to conduct floral visitation recordings. A flowering branch of each plant will be tagged, and the number of fresh florets will be counted. Each tagged branch will be observed for 10 min. A minimum of 10–15 m distance will be maintained between marked plants. Animal visitors will be observed on flowers from a distance of 2–5 m to avoid disturbing them. Binoculars and photos (SLR Nikon D80, Nikon) will be used to confirm the pollen load on their bodies. Observations will be carried out from 8:00 am to 4:00 pm by observers. All unidentified insects that visit the flower will be collected and stored in 70 % alcohol or pinned to an insect board and later identified with identification keys and in consultation with experts. All collected samples will be identified to the lowest possible taxonomic level.

Floral Traits Measurement:
Corolla length, corolla upper width (widest part of the corolla), corolla lower width (the narrowest part of the corolla), and nectar volume and concentration will be measured in 10–12 flowers from randomly-selected individual plants, per species, using a calibrated digital caliper to an accuracy of 0.01 mm. To measure nectar volume and concentration, flower buds that are likely to open the next day will be enclosed in mesh bags which allow air circulation but prevent contact by visitors. The following day, between 8:00 am and 10:00 am, the nectar volume and sugar concentration will be measured using a micropipette (50 μl) and a pocket refractometer.

General Site Conditions:
Sites are selected based on the secondary databases (iNaturalists and GBIF). These sites are the natural habitats of the species. We have provided a map that displays the sampling locations of all five species. Since we rely on the secondary occurrence points for the site selections, we assume that apart from the exact occurrence points, these species can be found in areas adjacent to these points. Therefore, we have used a circle to highlight the places we would be interested in sampling. Rhododendron species have diverse habitat preferences; thus, we will be sampling across different habitats; however, all sites are inside the forests area and not near the residential areas. Site conditions will vary; we will sample hilly, flat, and mountainous places. And some of the locations are close to the lakes. Vehicles can reach a few sites via local roads, and others will be accessed from the nearest paved area on foot.

Project Considerations:
Based on theoretical expectations and previous studies carried out by Dr. Shweta Basnett on the ranges and floral visitors in the center of diversity or the genus Rhododendron (Himalayas), we hypothesize that i) the floral visitor groups will vary across North American Rhododendron species and that plant species occupying restricted environmental niches will be associated with a specialized array of floral visitors; ii) in contrast to bird pollinated species, insect-pollinated species will have more concentrated nectar and smaller flower size; iii) species with a narrow range and specialized floral visitors will be more vulnerable to future climate changes.

In the United States, the genus Rhododendron is of high interest to breeders, nursery owners, and home gardeners. However, little is known about the pollination ecology of native Rhododendron despite its utmost importance to maintaining wild Rhododendron diversity. The genus

Rhododendron is dependent on pollinators for reproduction, and indeed, its attractive flowers are recognized as supporting birds and insects who serve as pollinators and thus maintain the wild plants' genetic diversity. By characterizing its floral visitors and the traits associated with them, we can identify the pollinator groups (e.g., birds, bees, flies etc) visiting each Rhododendron species studied here, and then make prediction for those not covered in this study. Besides providing key information on the reproductive biology of the species, this information would also allow home gardeners, nursery owners, and the general public to grow and commercialize the different species to, in turn, support pollinators and their services in their green spaces.

This project is relevant to the conservation of the group. In fact, Rhododendron is recognized as a plant genus likely to become critically imperiled in climate change scenarios. Both its phenology and range are expected to be highly sensitive to climate warming, given its ecology associated with mountainous and temperate environments. Natural populations of Rhododendron in North America is widely distributed along the Appalachians, where there is already an increased risk of losing biodiversity through loss of suitable habitats in response to climate change. In addition, Rhododendron species in North America display large variation in range size and niche climatic niche preference. By combining the characterization of Rhododendron pollinators and the improved understanding of the plants' current and future ranges and elevational shifts, we can better predict the future pollinator-flower (mis) match in native North American Rhododendron. This output will be central to the generation of specific plans to improve conservation responses to maintain the genus' genetic diversity in North America.

There are thirty native Rhododendron species in North America, and many of these and other cultivars are recognized for their horticultural value. Indeed, besides supporting biodiversity, the native Rhododendron in eastern North America provides intangible services to the public (e.g., events such as Rhododendron festivals celebrated across different states such as Tennessee and North Carolina attract all age groups and serve as an important outdoor recreation place and connection with nature). Today, there is extremely little information on pollinators of native North American Rhododendron, although these plants are an essential component of the Mid-Atlantic and Southern USA mountain ecosystem. This is concerning, because, as mentioned above and based on previous research in the group, Rhododendron conservation in the face of climate change requires understanding their reproductive ecology as well as their climatic and elevational preferences.

X. Silvicultural Proposals

COMPARTMENT 10 – Stand 11 **FY-24**
(PG-24-S-1)

Description/Resource Impact Assessment

Location: This silvicultural proposal is located off the north side of the CCC Camp Road approximately ½ mile east of the intersection with Walnut Bottom Road.

Forest Community Type and Condition: This site contains a mixed hardwood pole stand that is approximately 37 years old, with an average diameter of 8.3 inches. The overstory consists of black cherry (88%), red maple (7%) and scarlet oak (5%). The stand is overstocked with a relative density of 125% and an average basal area of 110 ft^2/acre.

Interfering Elements: Given the overstocked conditions typical in a young pole stand, the understory is relatively open, with little herbaceous interference present. Competition amongst the poles is the main growth limiting factor within the stand.

Historic Conditions: This six-acre stand is a portion of a larger 54-acre regeneration harvest that was first conducted in 1979 with alternating strips being clear cut in 1985.

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: These stands drain southwest into an unnamed tributary of Folly Run and is within the Potomac River drainage system. The proposed silvicultural treatments will be outside of all 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.

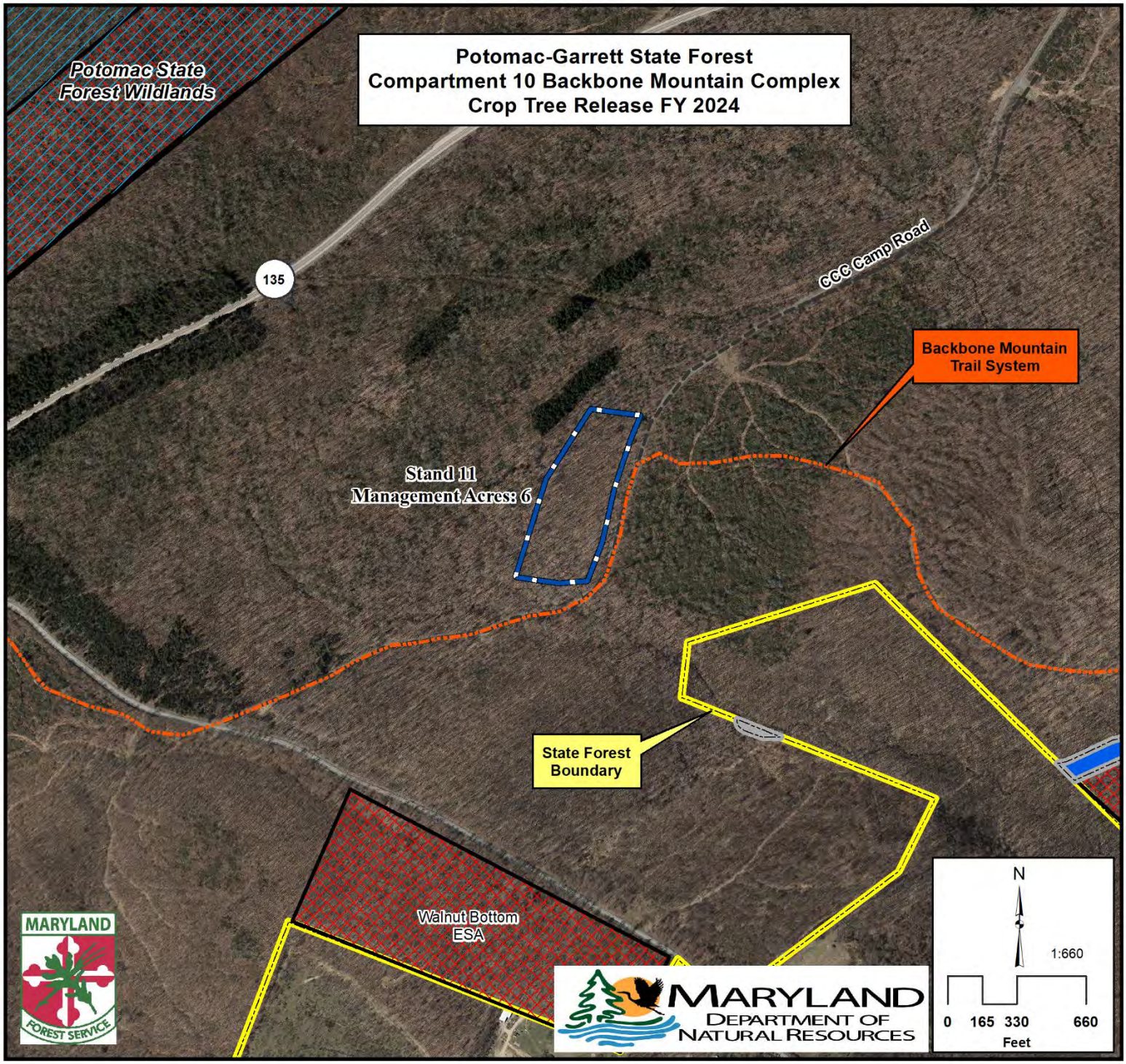
Soil Resources: The dominant soil types of the management unit are categorized as Cookport and Ernest very stony silt loams, 0 to 8 percent slopes (CuB). These soils are moderately deep and moderately well drained to somewhat poorly drained. Equipment limitations are moderate due to a seasonally perched water table. The site has very productivity for woodland management, with a site index of 75-85 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: The management unit is adjacent to the CCC Camp Road, which serves as recreational access, predominantly for hunting. A section of the roadway also serves as part of the Backbone Mountain Snowmobile Trail System. All silvicultural work in this stand will be conducted by state forest personnel and no felled material will be removed from the site, minimizing any disruptions on the roadway. Timing of management activities will fall outside of

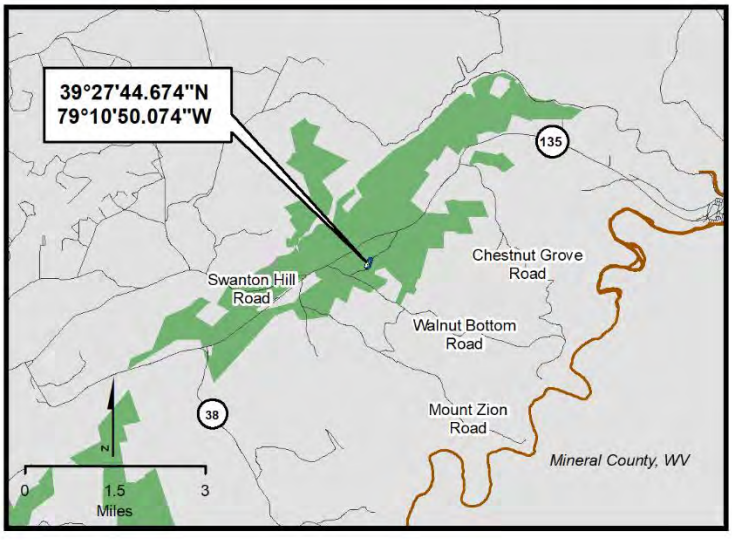
established hunting seasons and all efforts will be made to reduce any disruptions to recreational activities.

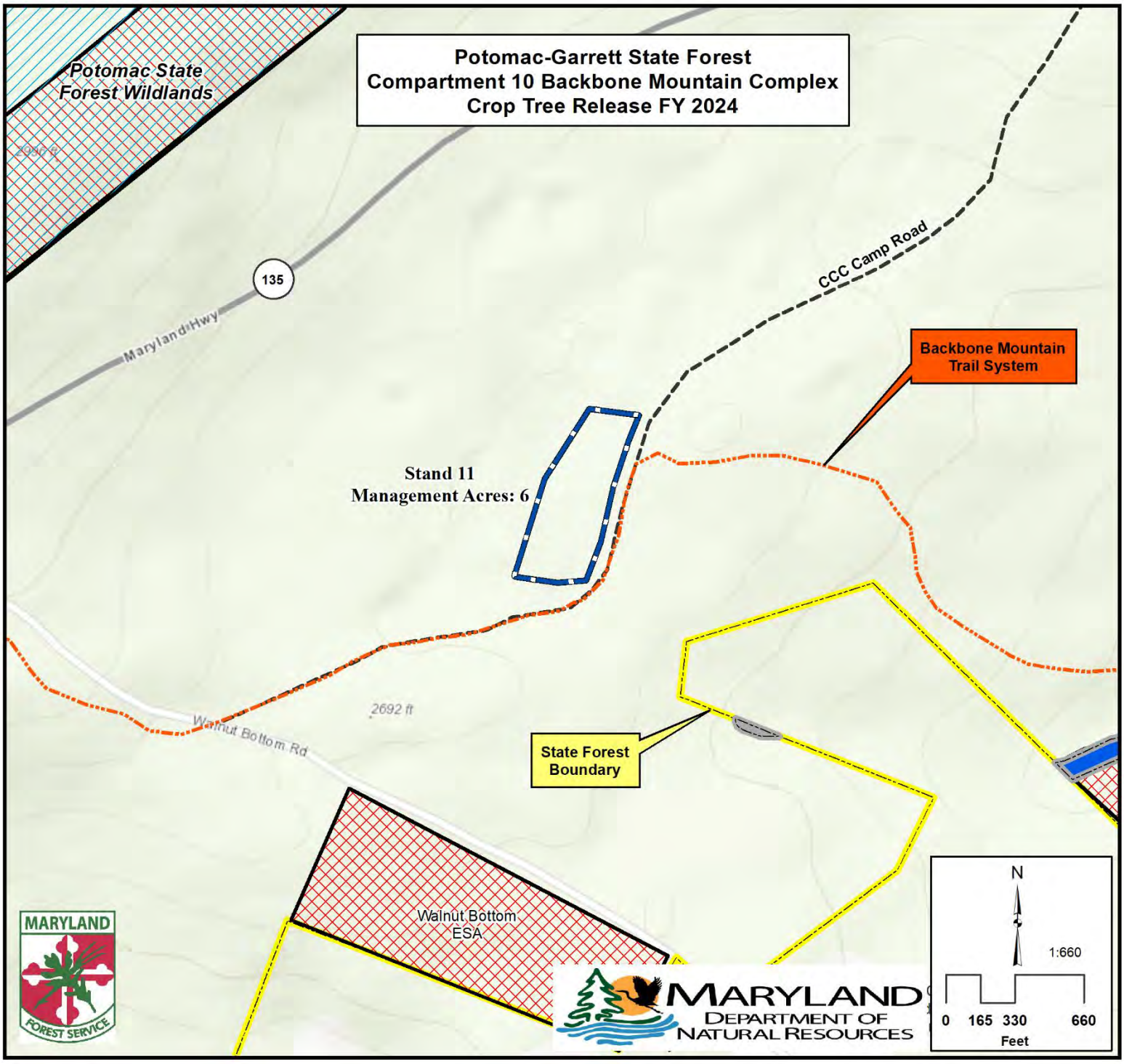
Management and Silvicultural Recommendations

The proposed treatment of this stand is to conduct a non-commercial timber stand improvement practice in the form of a crop tree release. Approximately 15 dominant and/or codominant trees/acre will be selected as future crop trees, and crown competition will be removed from all sides. Emphasis will be given to oak species and other mast producers found in the stand. With the composition of the stand, most of the crop trees will be black cherry. All cut trees will remain on site to decay back into soil and tops will be used to construct brush piles to provide wildlife habitat throughout the stand. This practice will expedite the development of the crop trees by stimulating growth and vigor. Given the relatively small size of this project, all work will be completed by state forest personnel.

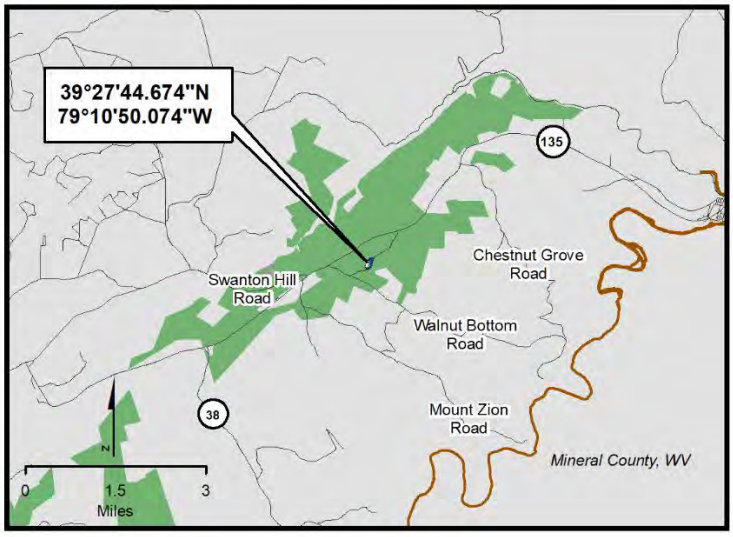


- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland with 50' Buffer
- Streams and 50' Buffers





- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland with 50' Buffer
- Streams and 50' Buffers



COMPARTMENT 24 – Stands 1 and 3 **FY-24**
(PG-24-S-2)

Description/Resource Impact Assessment

Location: This proposal is located on the southern face of Rattlesnake Ridge off Wallman Road.

Forest Community Type and Condition: This proposal involves two stands within a single 49-acre management unit that will be harvested collectively. Stand 1 is a medium sawtimber hardwood stand that covers 48 acres and is composed of red maple (26%), northern red oak (16%), sugar maple (15%), hickory species (13%) and white oak (9%) with an average merchantable diameter of 14.5 inches. The stand is approximately 94 years old with a relative density of 72% of the average maximum stocking and basal area of 107 ft^2/acre. Approximately 60% of the stand is considered unacceptable growing stock as a result of harvesting damage that occurred during the first thinning. Live growing stock volumes are estimated at 5,600 board feet/acre and 15.4 cords/acre. Desirable established regeneration as well as competitive desirable regeneration is negligible throughout the proposal area.

Stand 3 is a one-acre small sawtimber red pine monoculture that is approximately 72 years old. The stand is overstocked with a relative density of 149% and an average basal area of 230 ft^2/acre. Of the total basal area, 57% is considered unacceptable growing stock (130 ft^2/acre). Live growing stock volumes are estimated at 8,480 board feet/acre and 49 cords/acre. Unlike most unmanaged overstocked plantations, understory surveys indicate that competitive oak regeneration is found across 30% of the stand and desirable saplings are found on 60% of the site. This is likely due to the deterioration of the stand structure allowing the formation of light gaps within the canopy.

Interfering Elements: Interfering understory plant competition is found throughout Stand 1, dominated by tall woody interference on 62% of the stand with the majority being witch hazel. Fern interference occurs on 16% of the site and is not considered a contributing factor to the lack of regeneration success. Low woody interference is not sufficient to cause significant problems in this stand. Stand 3 has tall woody interference present on 70% of the site, consisting of striped maple and witch hazel. The presence of these species has not hindered the establishment of competitive desirable regeneration, specifically oak regeneration.

Four non-native invasive plants were found within the stands including multiflora rose, garlic mustard, honeysuckle and Japanese barberry. Herbicide applications will be administered, where practical, to prevent the spread of these deleterious species into the adjacent forestland. Field evaluation of the management unit estimated deer browse impact to be moderate. Overbrowsing can facilitate failure of desirable seedling establishment and in extreme cases a shift in species composition dominated by undesirable tree species. 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: No silvicultural activity has been conducted in Stand 1**.** The eastern portion of Stand 3 was thinned in 1988 and the western portion was thinned in 1990. 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 habitats or species of management concern will be affected by the silvicultural prescription recommended for this stand.

Habitats and Species of Management Concern: There are no known habitats or species of management concern within Stand 1 or 3. However, Stand 3 is bordered to the north and south by the Laurel Run/Crooked Run ESA. This ESA has a variety of habitats which support a number of rare and uncommon flora and fauna. There is also a stand of old growth forest, rugged rock outcrops, and splendid scenery along the Potomac River. Eight species of uncommon or rare plants have been documented within the site.

The rare animals within the site include three species of butterfly, one reptile, one breeding bird, and three mammals. One butterfly is State listed as Endangered, another is listed as Threatened, and the other is proposed to be listed as Threatened. The bird is a rare breeder in Maryland. The reptile is a sensitive species which has unique threats to its continued existence. The three mammals documented from this ESA are all State listed. One is listed as Endangered, one is Threatened, and one is listed as In Need of conservation. As with some of the rare plants in this ESA, the sites for at least four of the rare animals represent some of the most important sites for that particular species in the State. Also, the habitat for the sensitive reptile is unique in Maryland.

Water Resources: This stand drains south directly into the Potomac River. The proposed silvicultural treatments will be outside of all 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.

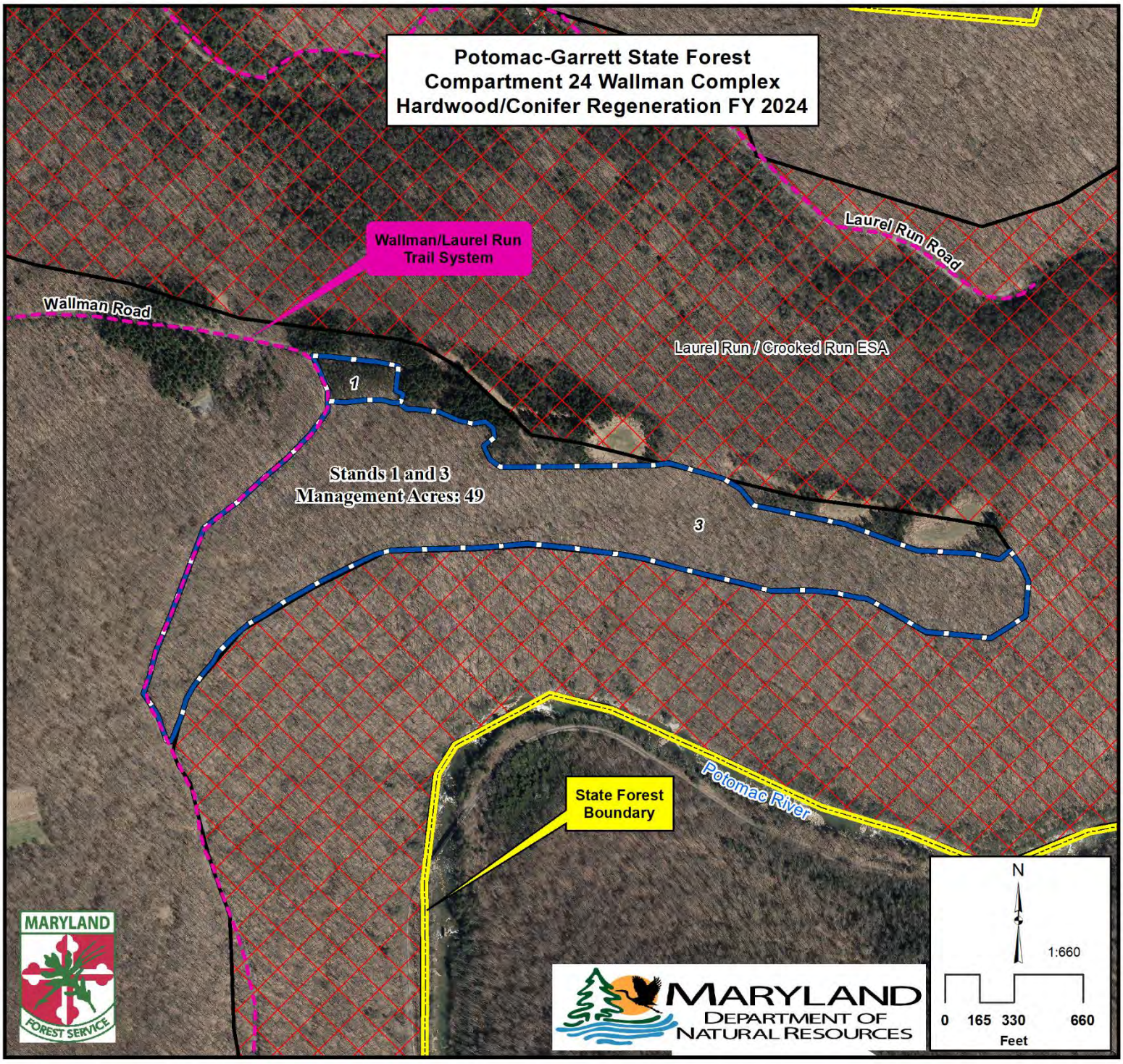
Soil Resources: The dominant soil type of the management unit is categorized as Stony land, steep (SrF). This soil is moderately deep and well drained. Equipment limitations are moderate to severe due to steep slopes. The site has good productivity for woodland management, with a site index of 65 - 75 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.

Recreation Resources: No developed recreational resources are located in the stand. The western side of the management unit abuts the Wallman/Laurel Run Trail System. This trail system is utilized by hunters, hikers and ORV/ATV enthusiasts as well as fisherman to access angling opportunities on the Potomac River. 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.

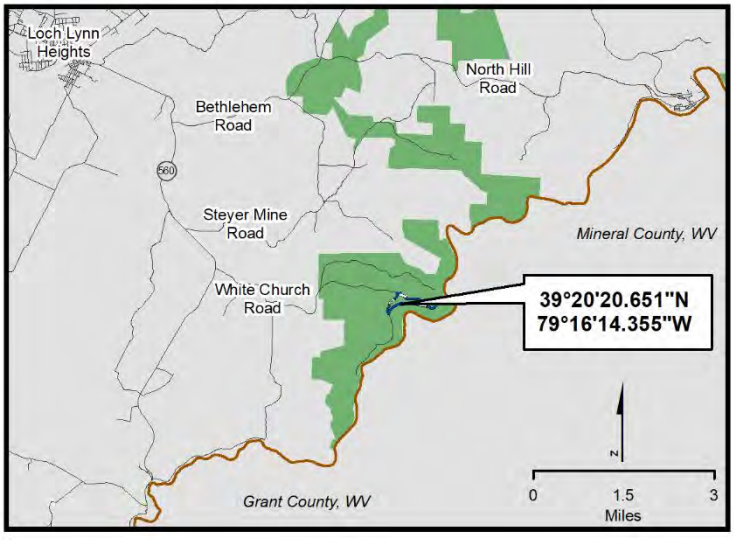
Management and Silvicultural Recommendations

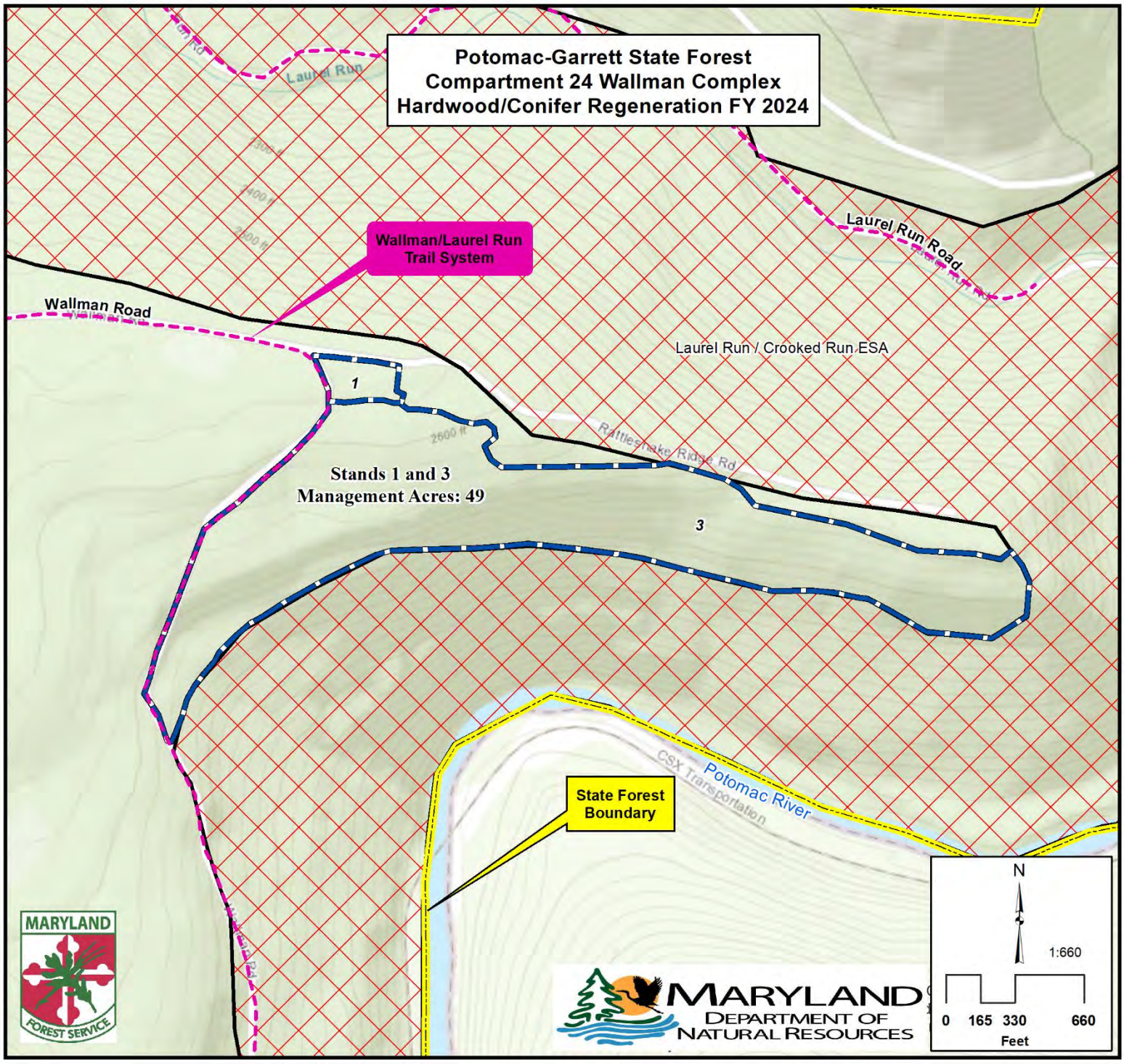
The planned silvicultural treatment for both stands is a regeneration harvest. Stand 1 is composed entirely of small sawtimber red pine. This previously unmanaged stand is severely overstocked, and the overall structure of the stand is degrading with stems beginning to succumb to the crowded environment. Interestingly, the majority of the understory contains desirable hardwood saplings and competitive oak regeneration. Removing the conifer overstory will release this established and competitive regeneration and allow it to occupy the future stand. Harvest volumes will total approximately 7,000 board feet.

Stand 3 was thinned in 1988 and 1990 leaving optimum stocking levels for tree growth, but most trees in the residual stand are classified as unacceptable growing stock with an inordinate number of stems showing signs of damage from the initial harvest. Given the lack of adequate acceptable growing stock, further management of the stand is not warranted, and the stand will be regenerated via a variable retention harvest. All trees greater than two inches DBH will be harvested in to contribute desirable coppice toward the overall stocking of the future stand. Retention will focus on four to eight dominant or codominant trees per acre selected for mast/seed production sources or wildlife habitat elements including cavities, den trees and nesting sites. Harvest volumes will total approximately 5,600 board feet/acre. Contract specifications will require high slash to remain on the harvest site to deter deer browsing on developing seedlings and stump sprouts.

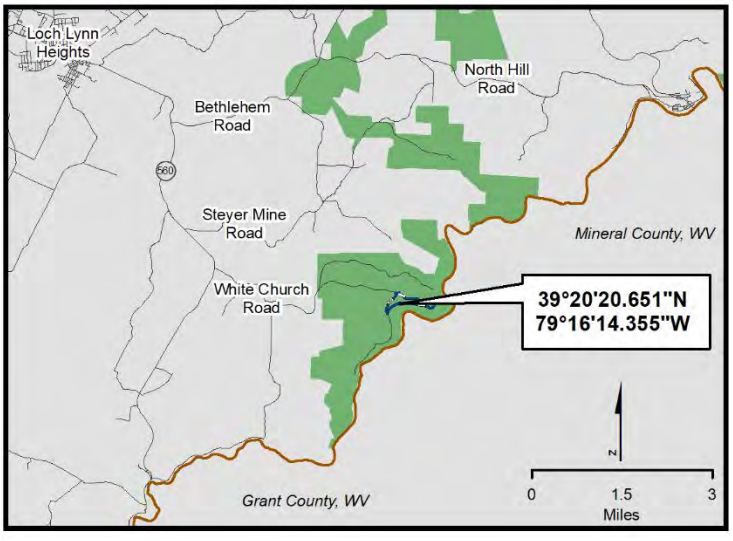


- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland of State Concern
- Streams and 50' Buffers





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



COMPARTMENT 25 – Stand 2 HCVF **FY-24**
(PG-24-S-3)

Description/Resource Impact Assessment

Location: This 13-acre harvest proposal is in the Wallman Complex located on the south side of Wallman Road approximately 0.4 miles northeast of the intersection of Wallman Road and Laurel Run Road.

Forest Community Type and Condition: This management unit is composed of a medium sawtimber mixed conifer stand. The canopy consists of white pine (57%), red pine (38%) and black cherry (5%). The stand has a relative density of 101% with an average basal area of 185 ft^2 /acre. Approximately 74% of the stand (137 ft^2/acre) is considered unacceptable growing stock. The 75-year-old stand has an average merchantable diameter of 16 inches. Live growing stock volumes are estimated at 17,300 board feet/acre and 15 cords/acre.

Interfering Elements: Overall interfering understory competition was found on 60% of the stand. Tall woody interference occupies approximately 10% of the site, dominated by black birch red maple and striped maple. Ferns occupy approximately 50% of the site. No Non-Native Invasive Species were recorded within the management unit.

Historic Conditions: No silvicultural activities have taken place within the stand since the initial conifer planting. Neither evidence of fire nor any signs of significant insect infestations were observed during the inventory of the stand.

Rare, Threatened and Endangered Species: This area has a history of containing critical habitat for a State Endangered avian species that was first discovered in 2001 and last recorded as using the area in 2006. In cooperation with Wildlife and Heritage personnel, preferred tree species and canopy structures were identified in the adjacent hardwood and conifer stands and subsequent thinnings were conducted in accordance with the accepted best management practices for the raptor.

Habitats and Species of Management Concern: This harvest proposal is located within the North Wallman Woods ESA. The 228-acre ESA is home to a state endangered bird and state threatened plant species. 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.

The conifer plantation component of the forest landscape was implemented in an effort to rehabilitate overused and misused tracts of agricultural and mine land by serving as a nurse crop that would foster the reestablishment of native species and would subsequently be harvested in its entirety. Forest management priorities have not adhered to this strategy allowing the conifer stands to reach maturity and, in the process, creating a unique habitat niche for a suite of species. However, in the absence of any silvicultural work being implemented, the planted conifer stands persist in a severely overstocked condition, some to the point of stagnation and decline. In an ongoing effort to maintain the conifer component of the forest, commercial thinnings will be implemented in order to reduce high stocking densities leading to increased health, vigor and growth in residual stands. Where appropriate, final harvests will be applied to stands in

accelerated states of decline followed by occupation of the site by native hardwoods or artificial regeneration with suitable species.

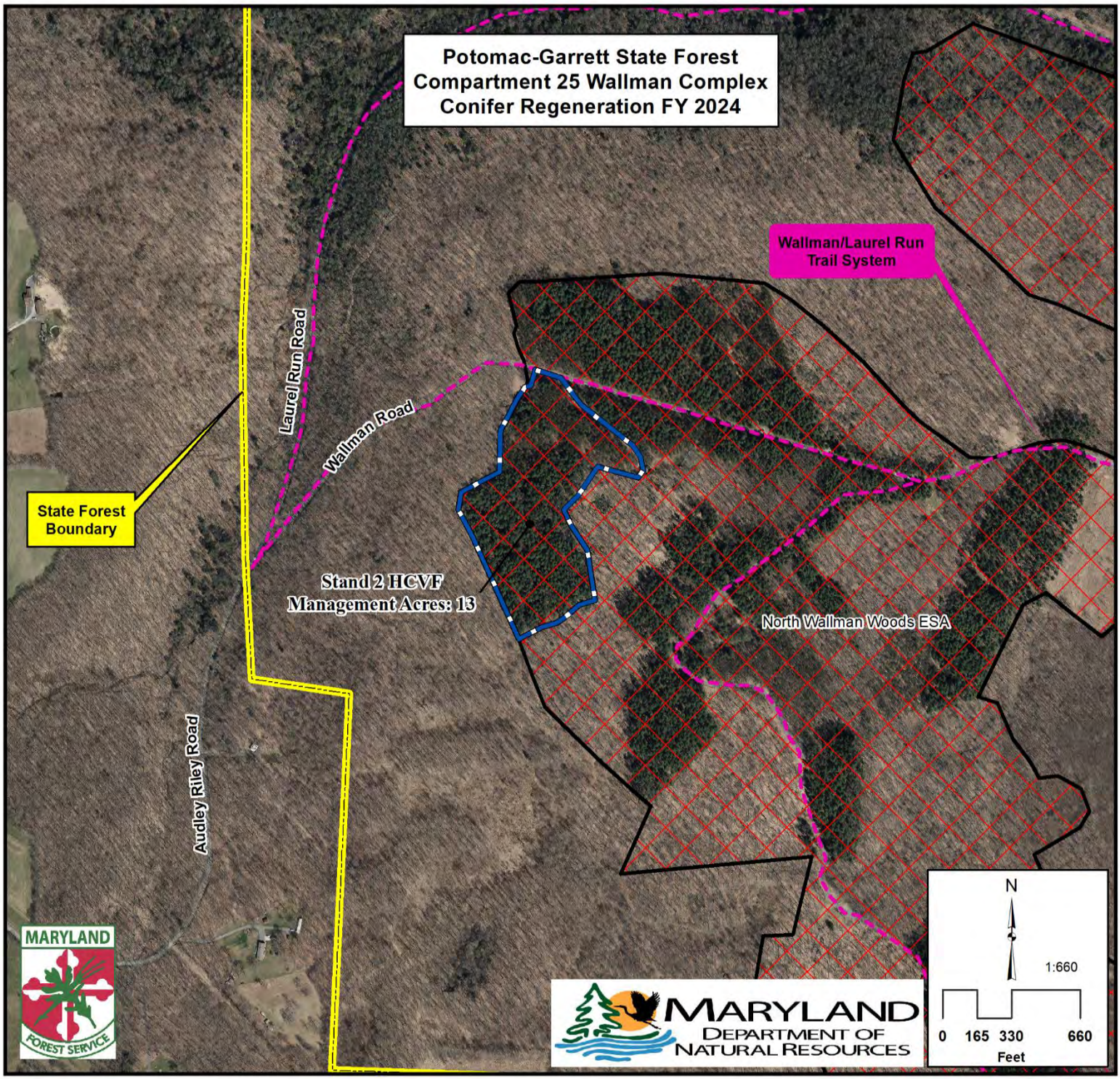
Water Resources: This stand drains northwest into the Riley's Spring Branch of Laurel Run, within the Potomac River Watershed. The proposed silvicultural treatments will be outside of all HCVF and stream buffer areas. No heavy equipment will be permitted within the protective riparian buffers of any 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 Gilpin channery silt loam, 0 to 10 percent slopes (GnB2). These soils are moderately deep and well drained. Equipment limitations range from slight to moderate with increasing slopes. The site has excellent productivity for woodland management, with a site index of 75-85 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.

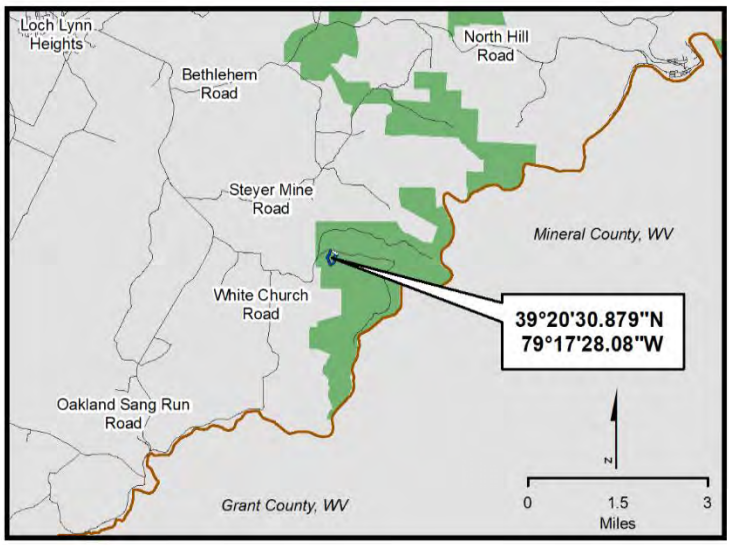
Recreational Resources: No developed recreational resources are located within this stand; however, the stand abuts the Wallman Road ORV Trail and recreational opportunities may be disrupted for the duration of the harvest activities and access to the site may be limited depending on the timing of the operations. Hunting is the primary recreational pursuit occurring within the proposed harvest area.

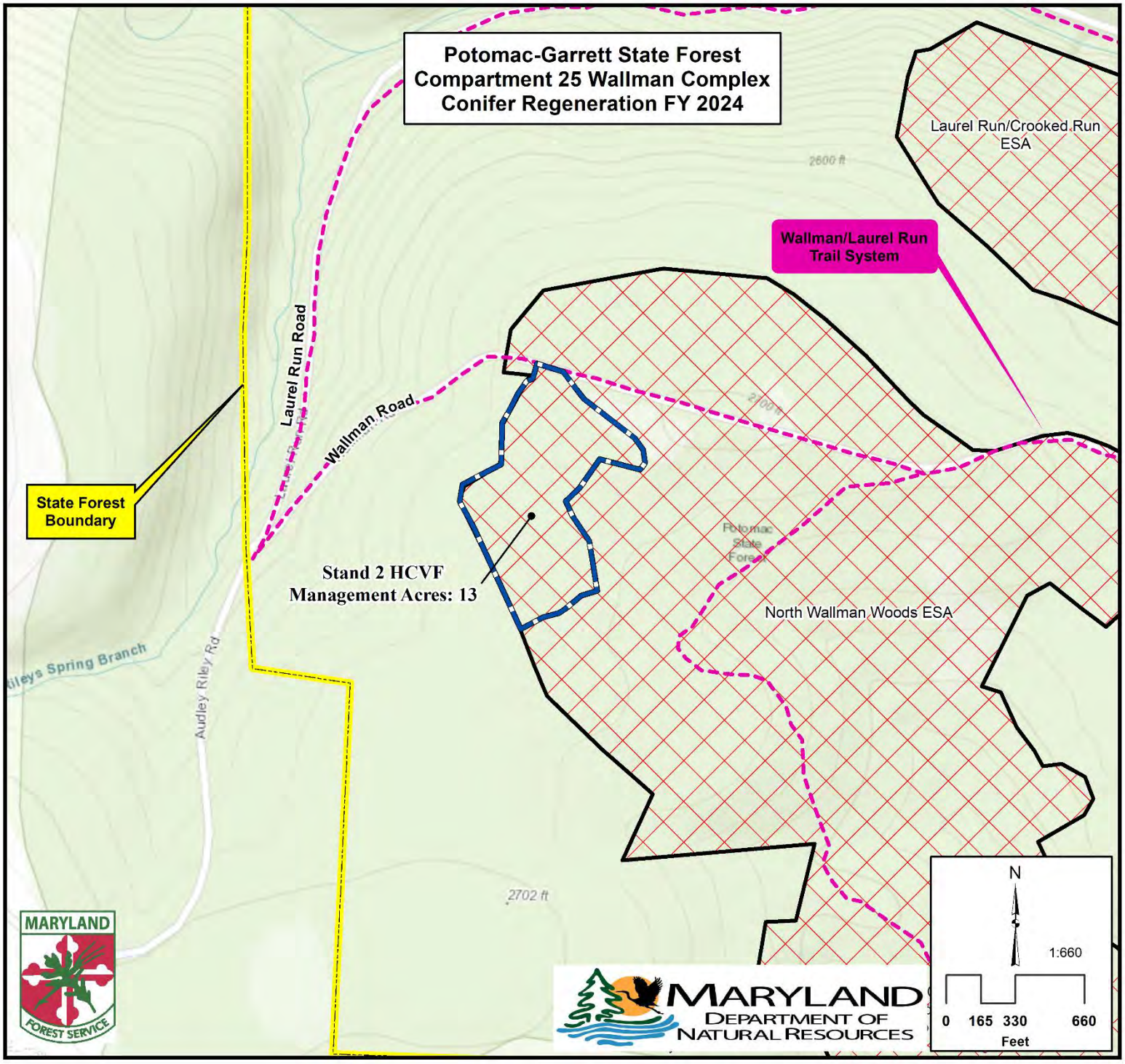
Management and Silvicultural Recommendations

The stand is located within the North Wallman Woods ESA, which has been designated as such as a result of historic nesting records for the northern goshawk, a state listed RTE. Nesting records have not been recorded for this particular stand as the structure and density do not provide for optimum nesting sites or hunting grounds as outlined in the accepted northern goshawk BMPs for timber harvesting. Due to the poor form of the stand, thinning treatments would not be effective and would most likely result in large scale windthrow. Therefore, in order to maximize the value of the trees, the entire conifer stand will be harvested. Harvest volumes will be an estimated 17,300 board feet/acre and 15 cords/acre. In an effort to maintain the conifer component of the area, white pine seedlings will be planted following the completion of the harvest.

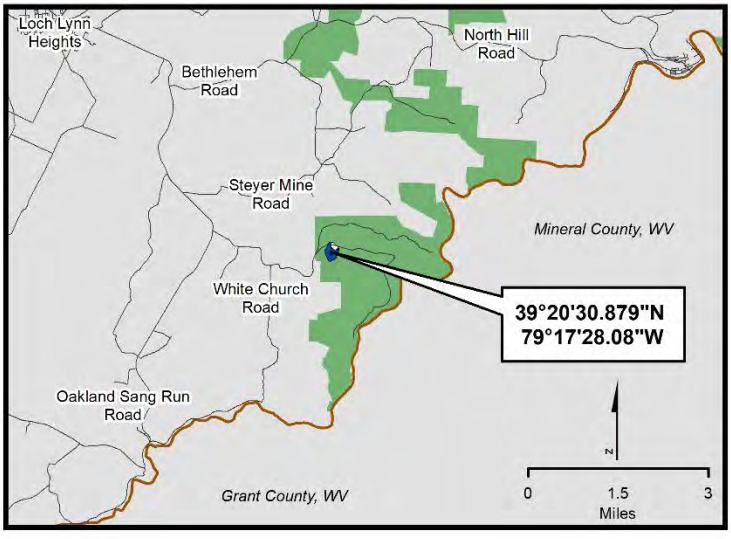


- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland of State Concern
- Streams and 50' Buffers





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



COMPARTMENT 25 – Stand 2 **FY-24**
(PG-24-S-4)

Description/Resource Impact Assessment

Location: This 32-acre harvest proposal is in the Wallman Complex located on the south side of Wallman Road approximately 0.2 miles northeast of the intersection of Wallman Road and Laurel Run Road.

Forest Community Type and Condition: This management unit is composed of a small sawtimber northern hardwood stand with an average merchantable diameter of 13.3". The stand consists of red maple (61%), northern red oak (13%), white oak (12%) and American beech (7%). The stand has a relative density of 81% with an average basal area of 116 ft^2 /acre. Approximately 56% of the stand (65 ft^2/acre) is considered unacceptable growing stock. Live growing stock volumes are estimated at 4,334 board feet/acre and 17.5 cords/acre. Deer impact on the stand is estimated to be moderate.

Interfering Elements: Overall interfering understory competition was found on 70% of the stand. Tall woody interference occupies approximately 70% of the site, dominated by black birch, striped maple and American beech. Non-native invasive species were recorded within the management unit, including Japanese stilt grass and autumn olive. Where feasible, efforts will be made to control/eliminate the unwanted species and prevent them from spreading into the surrounding forest.

In addition to interfering vegetation, the presence of white-tailed deer can have a negative influence on regeneration success. Over browsing 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 sites 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: The stand was thinned in 1997. No evidence of fire was observed within the stand. No signs of significant insect infestations or disease were observed during the assessment 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: The silvicultural proposal abuts the Wallman North Woods ESA, which is home to a state threatened plant species and has historical records for a nesting state endangered raptor. All management activities will occur beyond the designated ESA boundaries and will not affect the integrity of the area.

Water Resources: This stand drains northwest into the Riley's Spring Branch of Laurel Run, within the Potomac 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

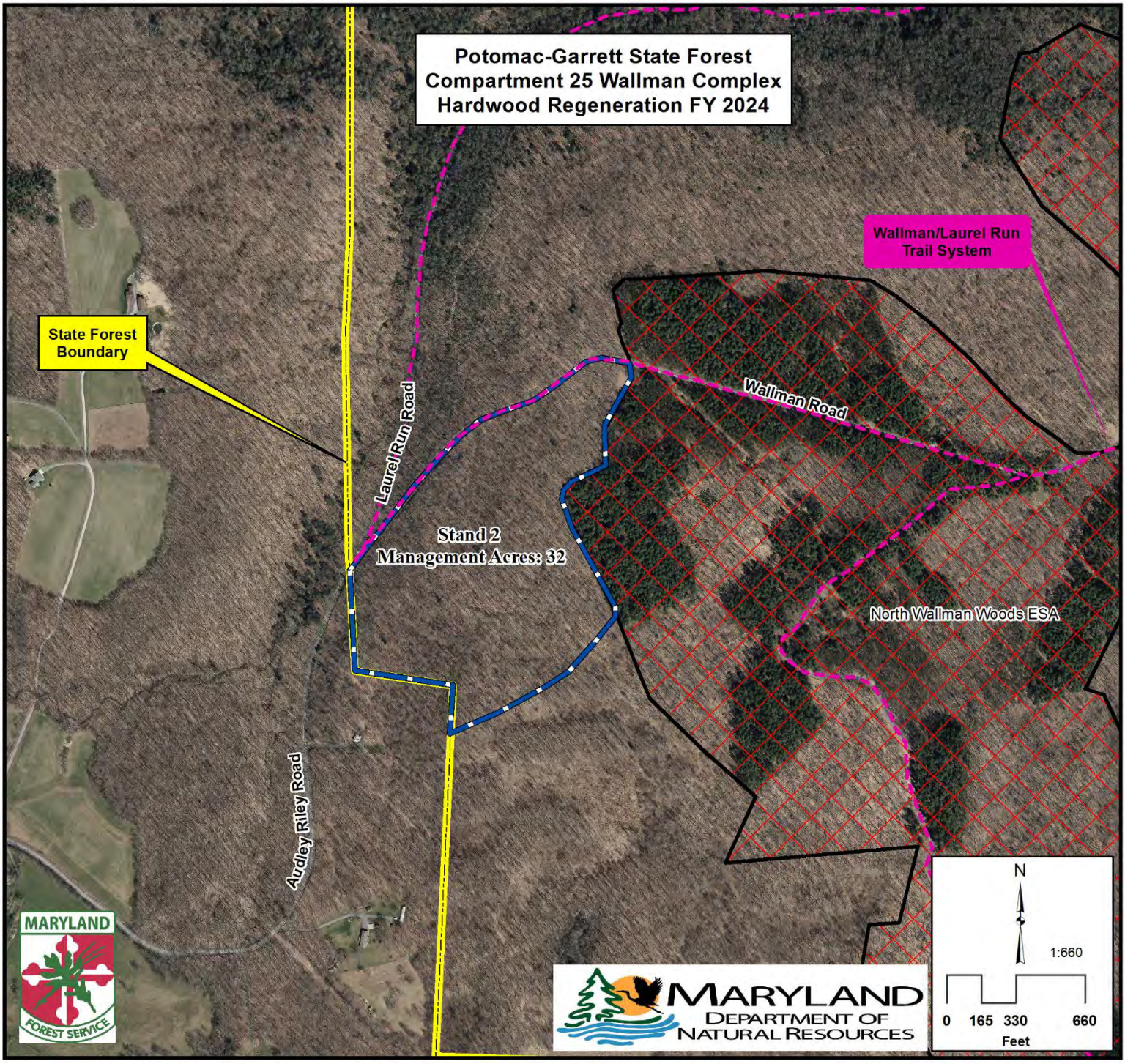
riparian buffers of any streams or associated wetlands per the requirements set forth in the State Forest Sustainable Forest Management Plan.

Soil Resources: The harvest site is underlain with soils designated as Dekalb and Gilpin very stony loams, 15 to 25 percent slopes (DgD). This soil is moderately deep and well drained. Equipment limitations are slight to moderate and erosion hazard is moderate on steeper slopes. 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.

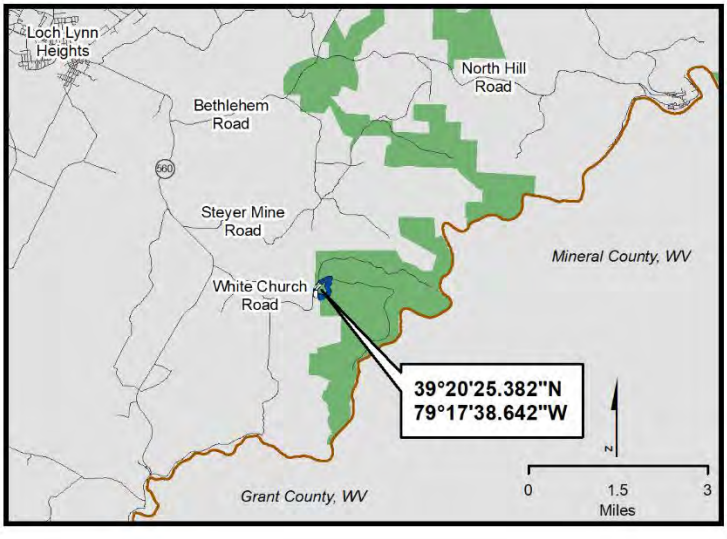
Recreational Resources: No developed recreational resources are located within this stand. Hunting is the primary recreational pursuit occurring in this area. The stand is adjacent to the Wallman Road ORV Trail and recreational opportunities may be disrupted for the duration of the harvest activities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

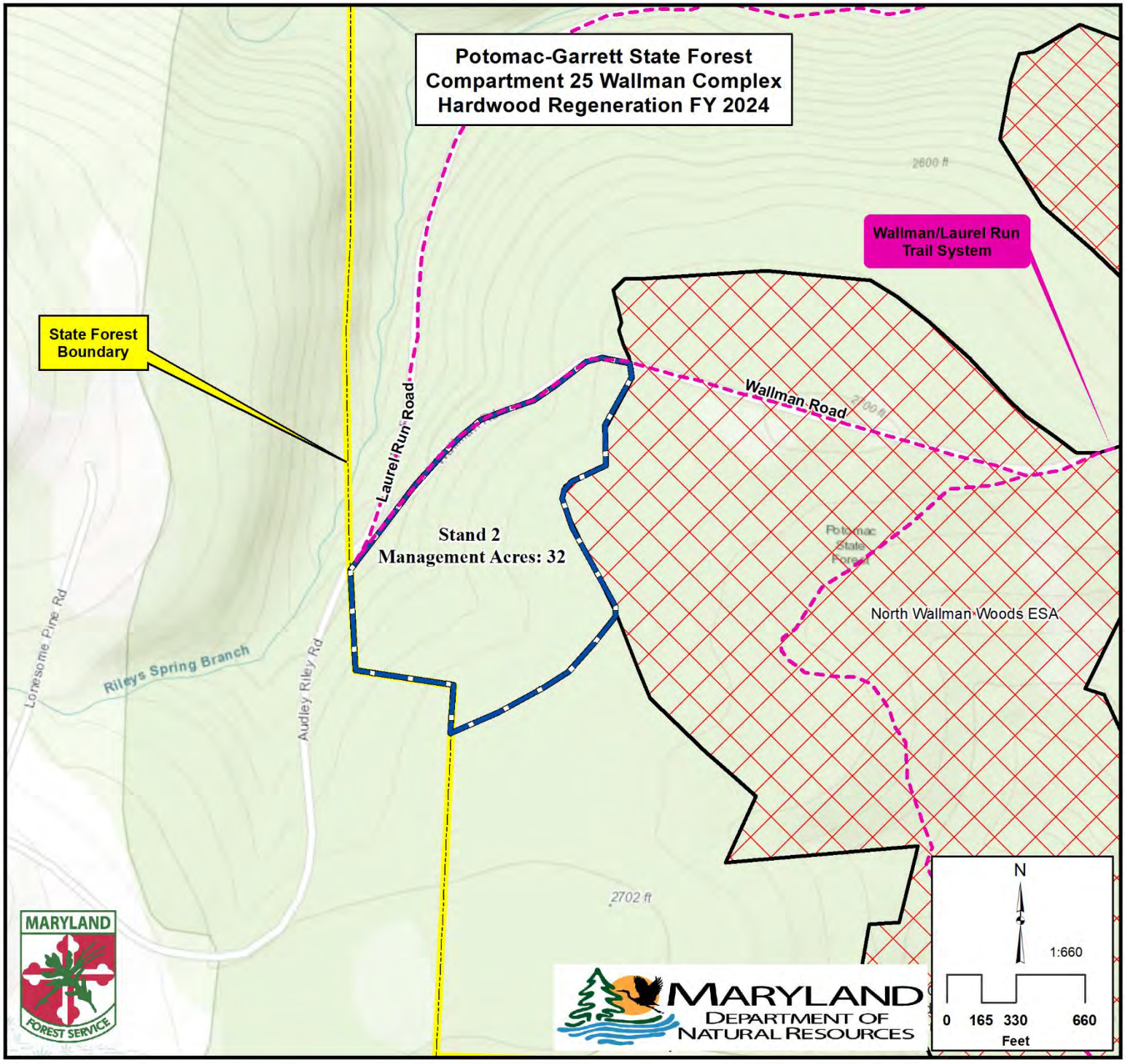
Management and Silvicultural Recommendations

Selective harvesting methods implemented in 1997 resulted in this stagnant small sawtimber stand dominated by red maple with a small component of northern red oak and white oak. The majority of the retention is considered unacceptable growing stock, owing to prior poor harvesting techniques evidenced by large scale damage to butt logs. Further management of this stand is not warranted, and a regeneration harvest will be implemented. All trees greater than two inches DBH will be harvested in to contribute desirable stump sprouts toward the overall stocking of the future stand. Retention will focus on four to eight dominant or codominant trees per acre selected for mast/seed production sources or wildlife habitat elements including cavities, den trees and nesting sites. Harvest volumes will total approximately 4,334 board feet/acre. Contract specifications will require high slash to remain on the harvest site to deter deer browsing on developing seedlings and stump sprouts.

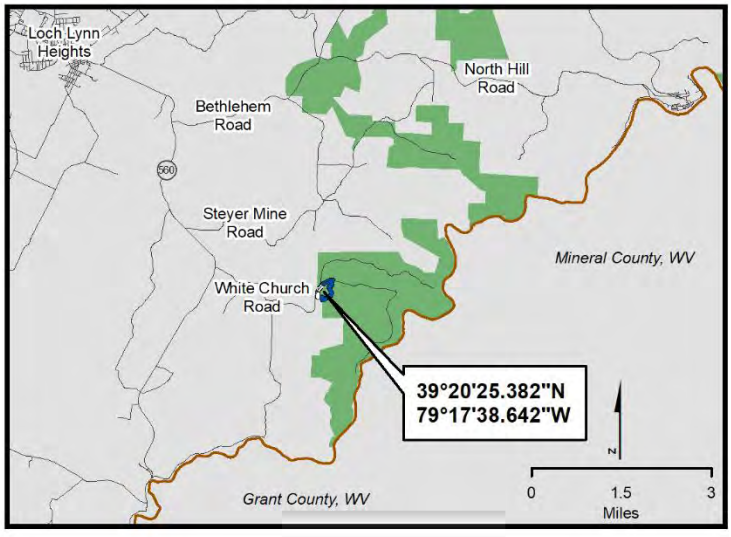


- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland of State Concern
- Streams and 50' Buffers





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



COMPARTMENT 25 – Stand 3 Residual Blocks **FY-24**
(PG-24-S-5)

Description/Resource Impact Assessment

Location: This 16-acre harvest proposal is in the Wallman Complex located on the south side of Wallman Road approximately 0.2 miles southeast of the intersection of Wallman Road and Laurel Run Road.

Forest Community Type and Condition: The blocks consist of 105-year-old medium sawtimber size timber with an average basal area of 136 ft^2/acre and an average merchantable diameter of 16.1". The canopy consists of red maple (36%), northern red oak (20%), white oak (19%) and sugar maple (10%). The stands are overstocked with a relative density of 92%. Live growing stock volumes are estimated at 9,700 board feet/acre and 17 cords/acre. Desirable saplings are found across 10% of the site along with minimal established desirable regeneration.

Interfering Elements: Interfering understory competition was found on 46% of the stand and does not pose a significant impediment to regeneration success. Tall woody interference occupies approximately 17% of the site, dominated by black birch and striped maple. Low woody interference is found on 7% of the site. Ferns occupy approximately 22% of the site. Several non-native invasive species were recorded within the management unit, including multiflora rose, garlic mustard, Japanese stiltgrass and autumn olive. Where feasible, efforts will be made to control/eliminate these deleterious species and prevent them from spreading into the surrounding 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 site estimated deer browse impact to be moderate. Monitoring of deer browse impacts will coincide with future 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: This proposal consists of four harvest blocks that were initially part of a 96-acre thinning conducted in 1985. In 2006, block regeneration harvests were implemented on approximately 14 acres of the surrounding stand. 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 rare, threatened, or endangered species have been identified on the site that would be impacted by the silvicultural prescription.

Water Resources: The management unit drains northwest into the Riley's Spring Branch of Laurel Run and east into an unnamed tributary of the Potomac River within the Potomac River Watershed. The proposed silvicultural treatments will be outside of all HCVF and stream buffer

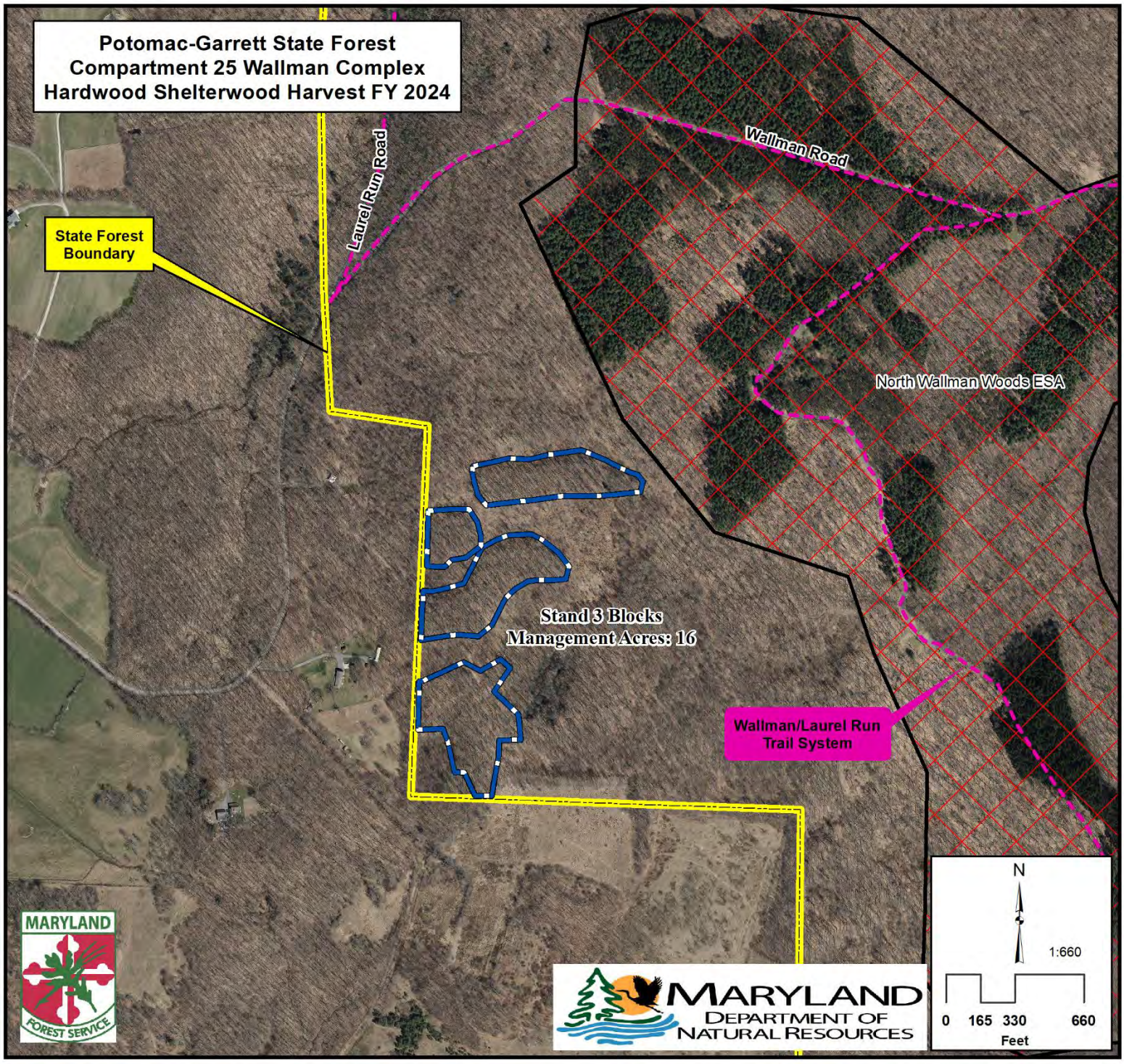
areas. No heavy equipment will be permitted within the protective riparian buffers of any streams or associated wetlands per the requirements set forth in the State Forest Sustainable Forest Management Plan.

Soil Resources: The harvest site is underlain with soils designated as Dekalb and Gilpin very stony loams, 15 to 25 percent slopes (DgD). This soil is moderately deep and well drained. Equipment limitations are slight to moderate and erosion hazard is moderate on steeper slopes. 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.

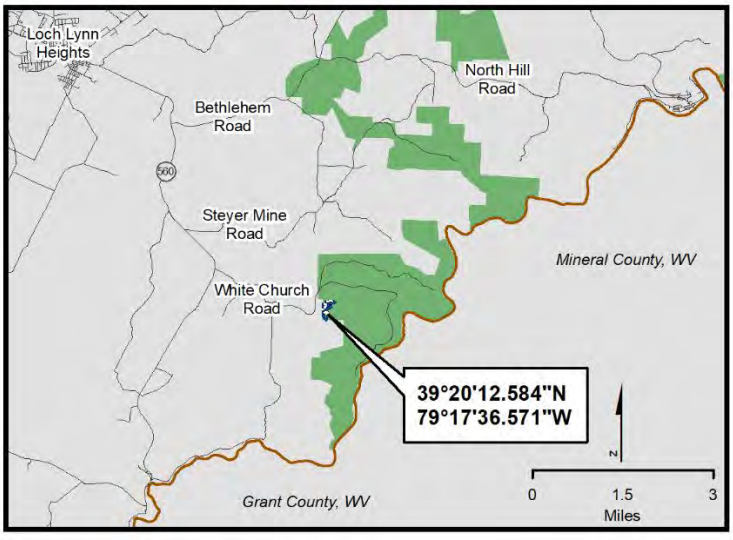
Recreational Resources: No developed recreational resources are located within this stand. Hunting is the primary recreational pursuit occurring in this area. Recreational opportunities may be disrupted for the duration of the harvest activities and access to the site may be limited depending on the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

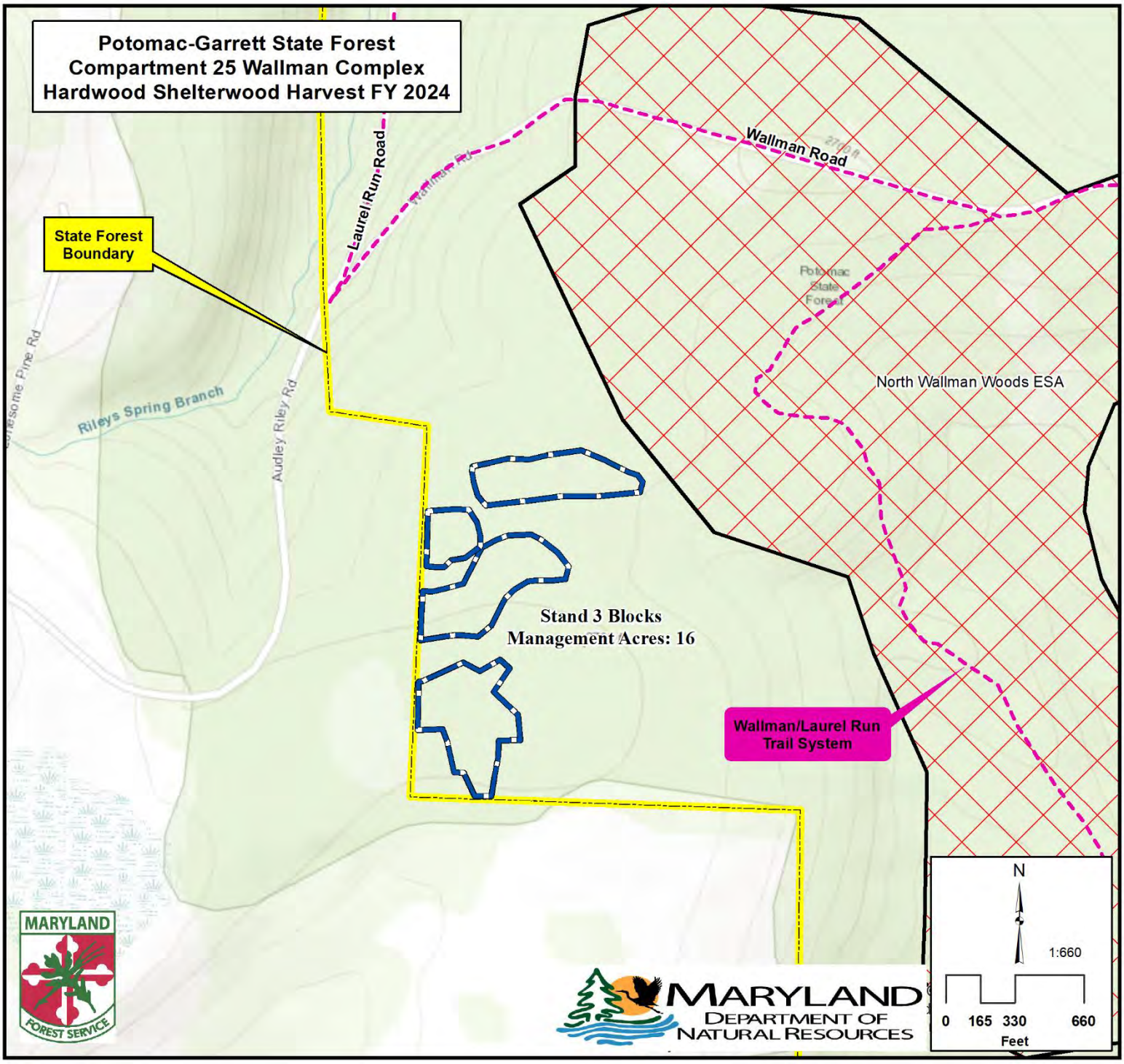
Management and Silvicultural Recommendations

This proposal consists of four harvest blocks that were initially part of a 96-acre thinning conducted in 1985. In 2006, block regeneration harvests were implemented on approximately 14 acres of the surrounding stand, producing insufficient acceptable growing stock to occupy the future stand, with most of the area converting to grasses and shrubs. In order to protect the acceptable regeneration that is present and prevent a similar result, a shelterwood harvest will be conducted leaving 40 – 50 ft^2/acre and requiring that high tops and slash be left on site to provide for the advancement and establishment of acceptable regeneration and protect the cohort from herbivory. Retention will focus on dominant/codominant trees selected for mast production and seed sources. The seed cut will be followed by a final harvest in five to ten years, depending on the advancement of adequate desirable competitive regeneration.

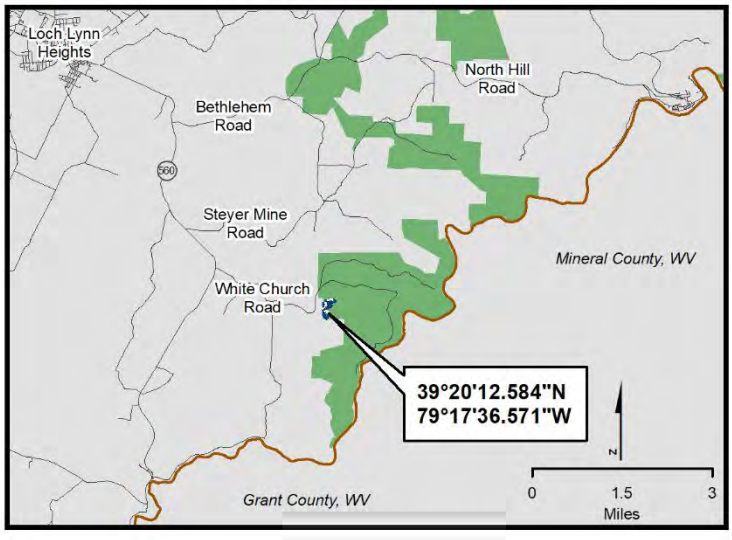


- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland of State Concern
- Streams and 50' Buffers





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



COMPARTMENT 39 – Stand 21 **FY-24**
(PG-24-S-6)

Description/Resource Impact Assessment

Location: This silvicultural proposal is located on the east side of Cranesville Road, approximately ¼ -mile southeast of Snaggy Mountain Road.

Forest Community Type and Condition: This management unit is composed of a small sawtimber Allegheny hardwood stand. The overstory consists of red maple (50%), white oak (23%), northern red oak (5%) and scarlet oak (4%). The stand has a relative density of 65% with an average basal area of 91 ft^2 /acre. Approximately 74% of the stand (137 ft^2/acre) is considered unacceptable growing stock. The 97-year-old stand has an average merchantable diameter of 13.5 inches. Live growing stock volumes are estimated at 5,808 board feet/acre and 10 cords/acre. Advanced regeneration is found on 26% of the site, comprised of established oak species, black cherry and competitive oak.

Interfering Elements: Interfering understory competition is found across the entirety of the stand. Tall woody interference occupies approximately 70% of the site and low woody interference is found on 33% of the stand, both dominated by black birch. Ferns occupy approximately 11% of the site. No Non-Native Invasive Species were recorded within the management unit.

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 site estimated deer browse impact to be moderate. Monitoring of deer browse impacts will coincide with future 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: This stand was initially thinned in 2001. 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 rare, threatened, or endangered species have been identified on the site that would be impacted by the silvicultural prescription.

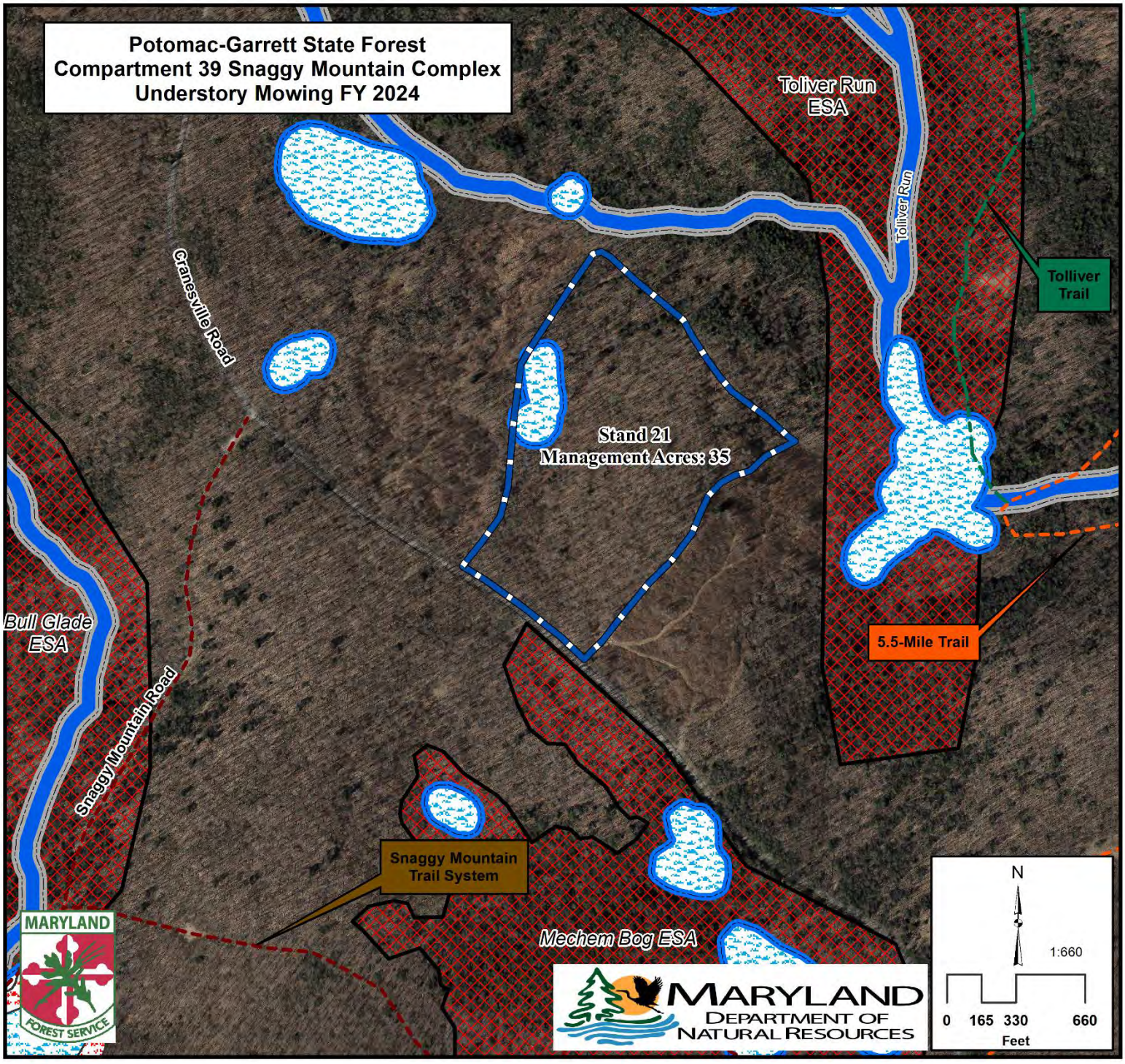
Water Resources: This stand drains northeast into Toliver within the Youghiogheny River Watershed. Also, a small wetland of state concern is located within the management The proposed silvicultural treatments will be outside of all HCVF and stream buffer areas. No heavy equipment will be permitted within 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 harvest site is underlain with soils designated as Dekalb and Gilpin very stony loams, 15 to 25 percent slopes (DgD). This soil is moderately deep and well drained. Equipment limitations are slight to moderate and erosion hazard is moderate on steeper slopes. 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.

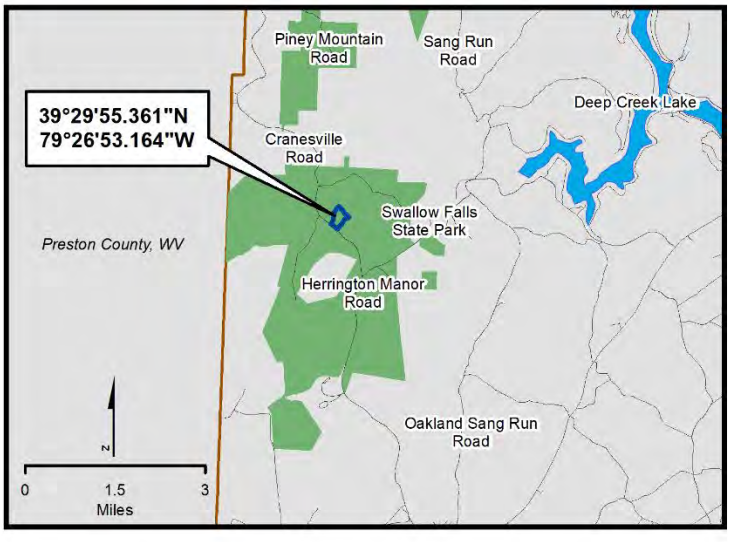
Recreational Resources: No developed recreational resources are located within this stand. Hunting is the primary recreational pursuit occurring in this area. Recreational opportunities may be disrupted for the duration of the harvest activities and access to the site may be limited depending on the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

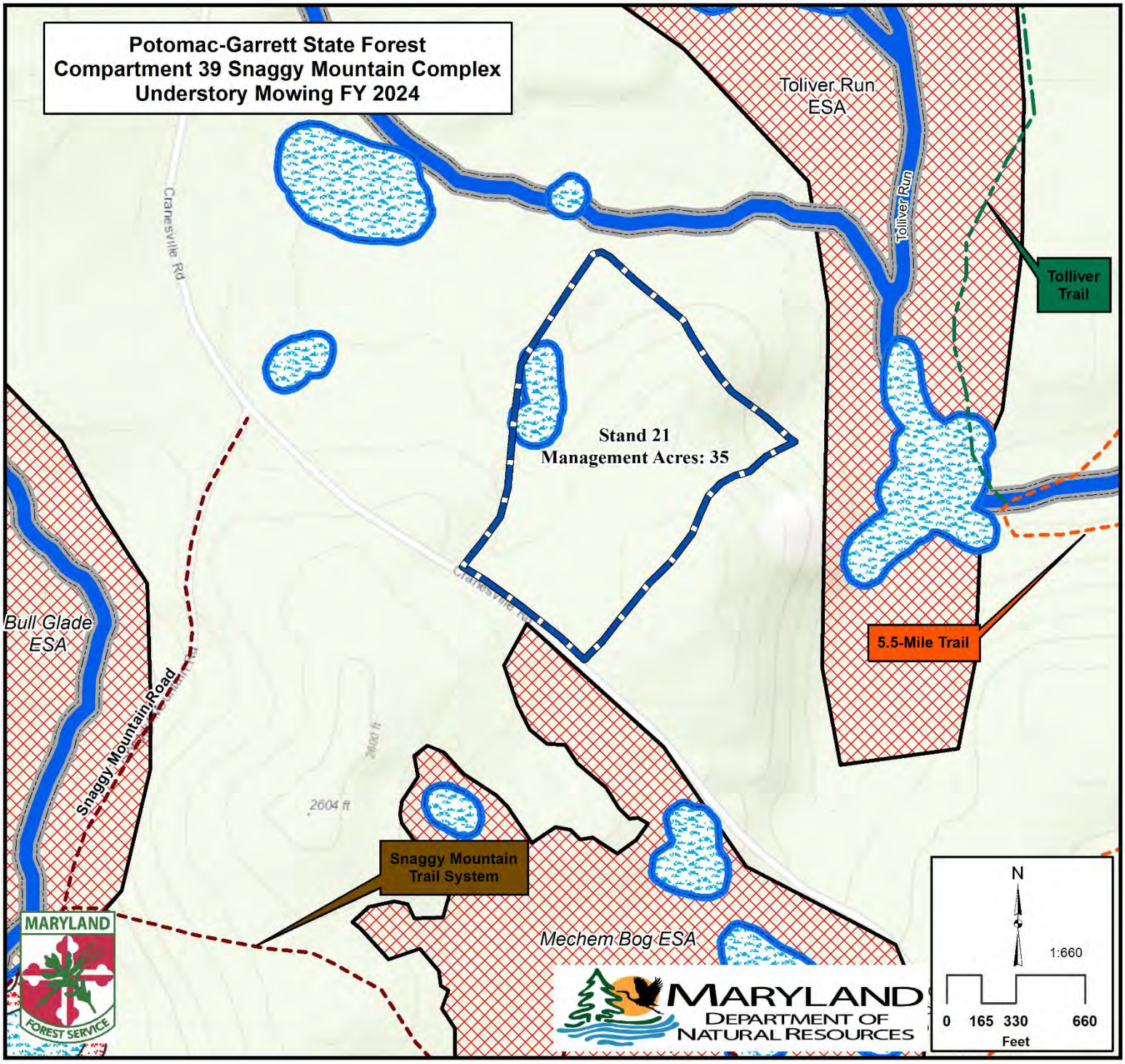
Management and Silvicultural Recommendations

After a thinning was conducted in 2001, a dense cohort of undesirable tall woody vegetation, predominantly comprised of black birch poles and saplings, has overtaken the understory and mid-canopy, occupying over 70% of the stand as tall woody interference. As an alternative to herbicide applications, which have consistently failed to facilitate the establishment of acceptable desirable regeneration, a contractor will be hired to mow the interfering vegetation with a rotary cutter/mulcher. The site will be monitored for regeneration establishment efficacy using this technique. Once adequate regeneration has been established, a final harvest will be conducted on the site.

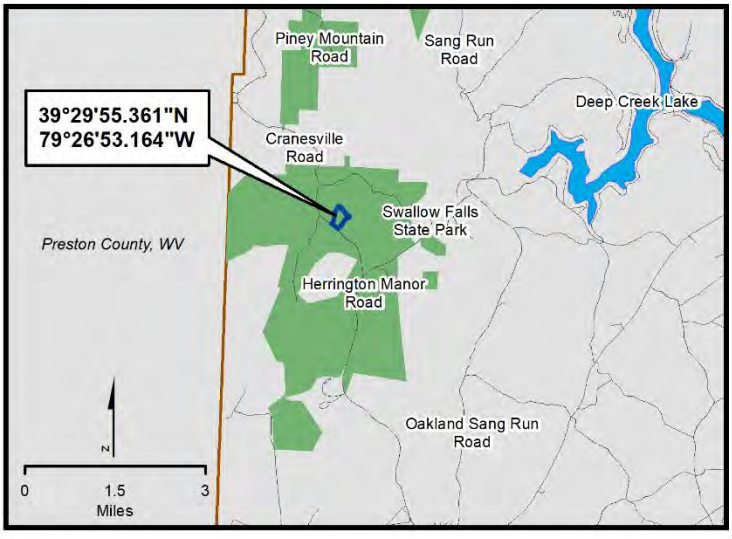


- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland with 50' Buffer
- Streams and 50' Buffers





- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland with 50' Buffer
- Streams and 50' Buffers



COMPARTMENT 41 – Stands 3 and 4 **FY-24**
(PG-24-S-7)

Description/Resource Impact Assessment

Location: This silvicultural proposal is located south of Maple Glade Road adjacent to Swallow Falls State Park.

Forest Community Type and Condition: This site contains a medium sawtimber hardwood stand that is approximately 97 years old, with an average merchantable diameter of 15.0 inches. The overstory is dominated by white oak (66%), with inclusions of eastern hemlock (9%) black locust (8%) and red maple (8%). The stand is overstocked with a relative density of 111% and an average basal area of 129 ft^2/acre. Competitive white oak regeneration is found on 37% of the site and established white oak is present on 48% of the stand.

Interfering Elements: There is little vegetative interference in the stand, with tall woody interference only occupying 7% of the stand. No low woody interference was noted during stand assessment. Similarly, ferns and grasses do not pose a threat to regeneration, being found on 11% of the site.

Japanese barberry was the only non-native invasive plant species found within the stand. Herbicide applications will be administered, where practical, to prevent the spread of this deleterious species into the adjacent forestland. Field evaluation of the management unit estimated deer browse impact to be moderate. Over browsing can facilitate failure of desirable seedling establishment and in extreme cases a shift in species composition dominated by undesirable tree species. 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: No prior silvicultural activity has been conducted in these stands. 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 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: These stands drain south into Toliver Run within the Youghiogheny River watershed. The proposed silvicultural treatments will be outside of all 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 units are categorized as Dekalb and Gilpin very stony silt loams, 15 to 25 percent slopes (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.

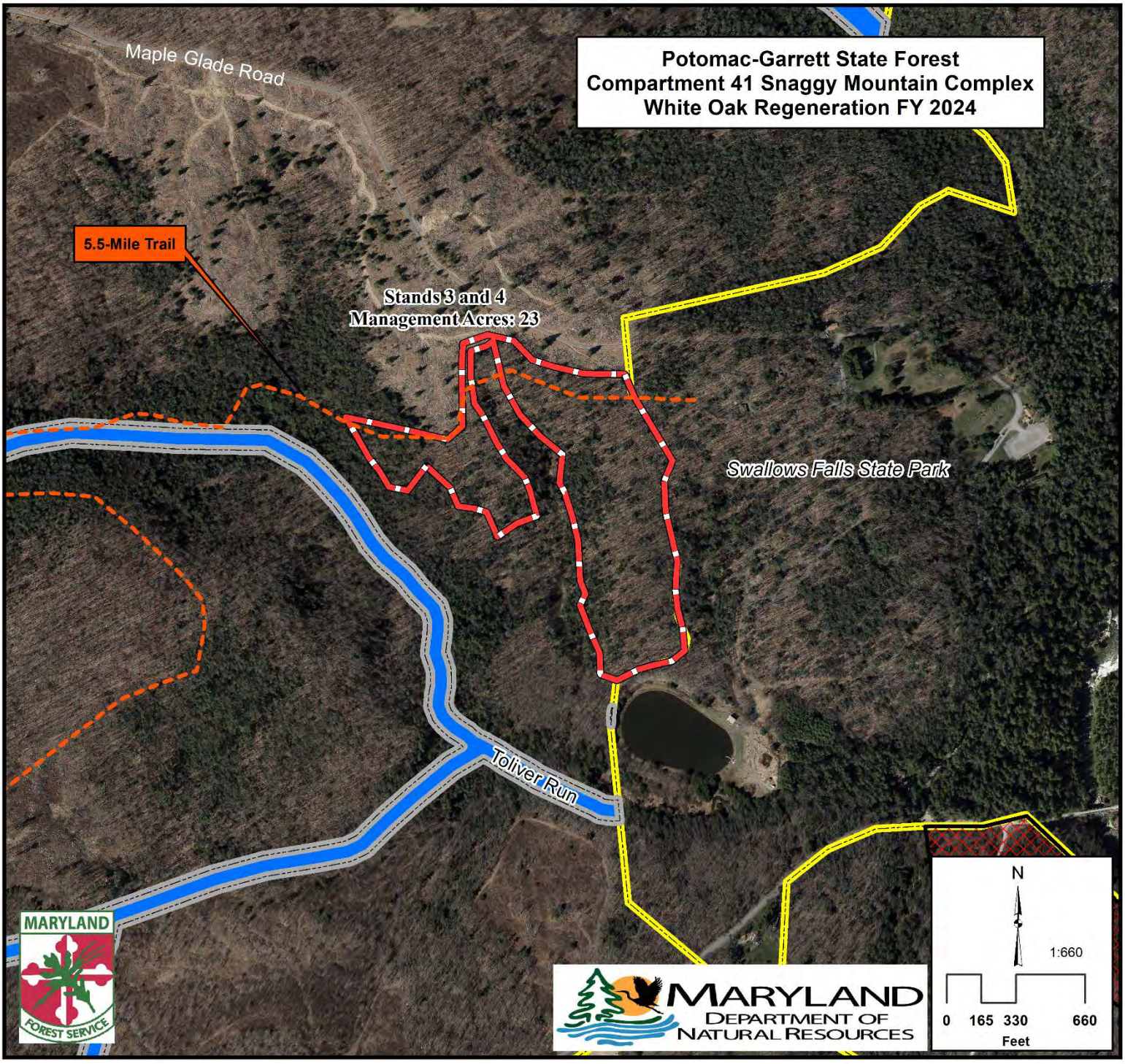
Recreational Resources: The management unit is adjacent to the Swallow Falls State Park campground. Harvesting will be restricted from May 1st through October 15th to minimize disruptions, i.e., noise, for park visitors during peak camping season.

A section of the 5 ½ Mile Trails crosses the northern portion of the harvest proposal. Access to the trail may be limited and/or suspended for the duration of the harvest depending on the timing of the cutting. The trail in this area is deeply incised and no longer functions as a sustainable trail. Contract stipulations will require that logging debris will be placed on the trail surface to effectively close it and a reroute will be established prior to the close out of the sale contract.

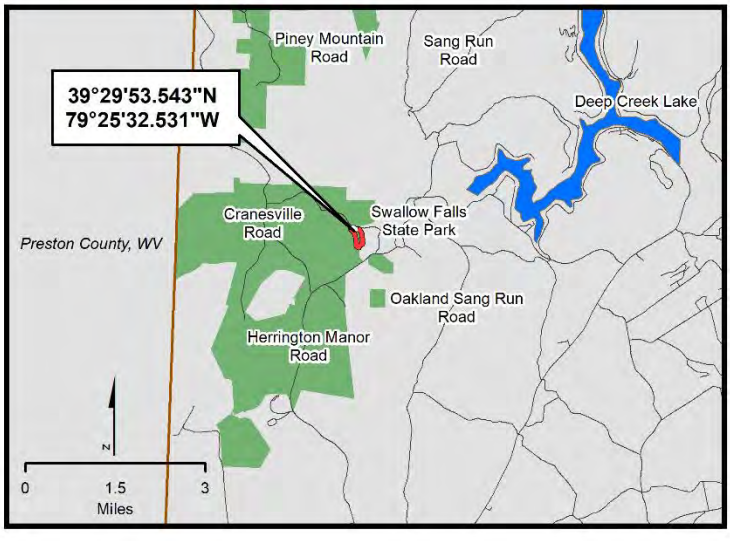
Hunting is also a popular activity in this area as the forest road provides a multitude of access points into the state forest. Opportunities to hunt the area may also be limited or disrupted as log trucks and heavy equipment enter/exit the area.

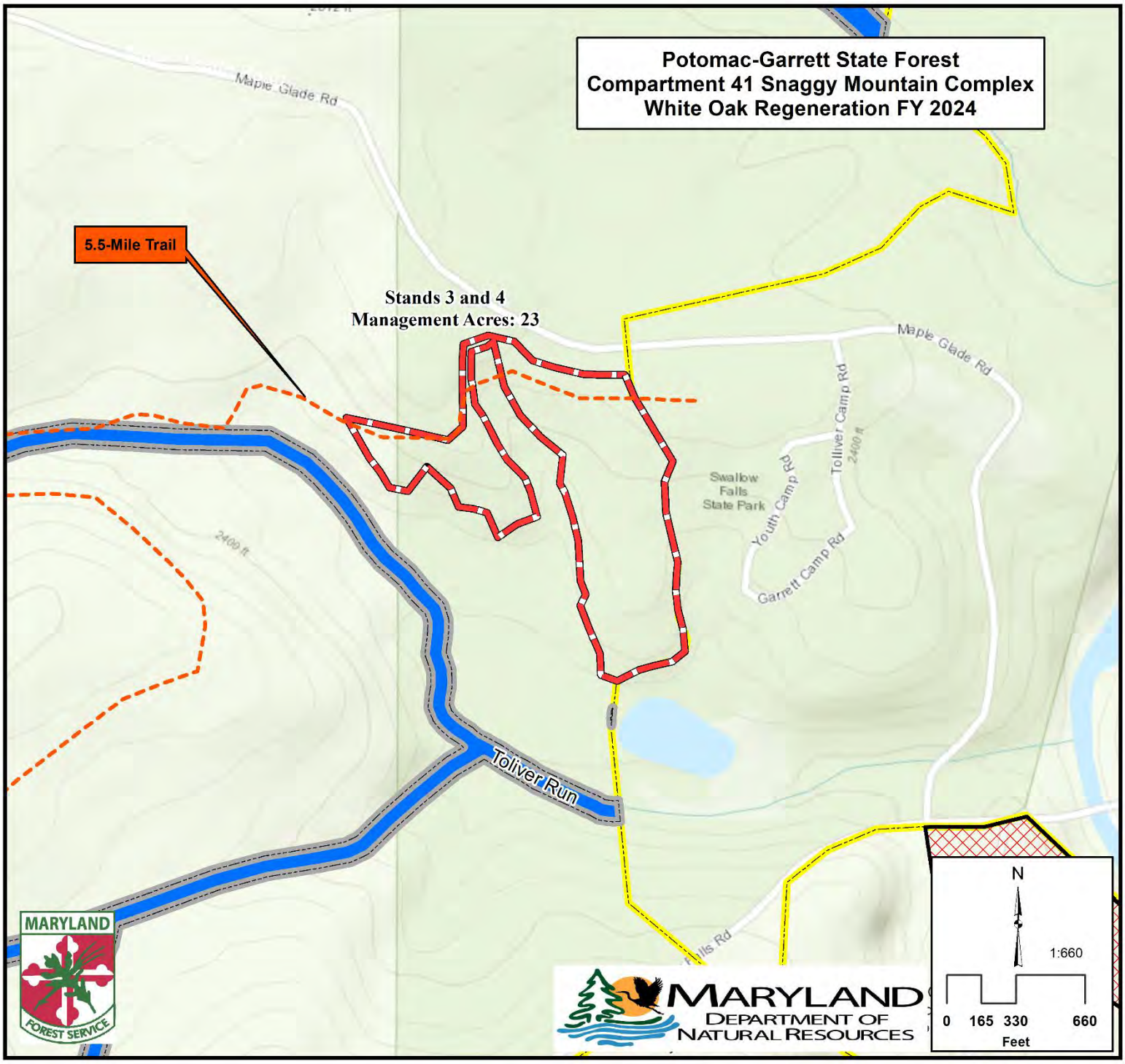
Management and Silvicultural Recommendations

Given the ongoing struggles with establishing and/or maintaining acceptable white oak regeneration, a regeneration harvest will be implemented on the site in order to allow the desirable regeneration to occupy the site and establish the future stand. The timing of the harvest is critical for retaining a strong white oak component throughout the forest. As with the adjacent harvests, stipulations will require that only sawlogs are taken, and high tops/slash are left on site to deter herbivory on smaller stems. The eastern hemlock and white pine components of the stand will also be retained.

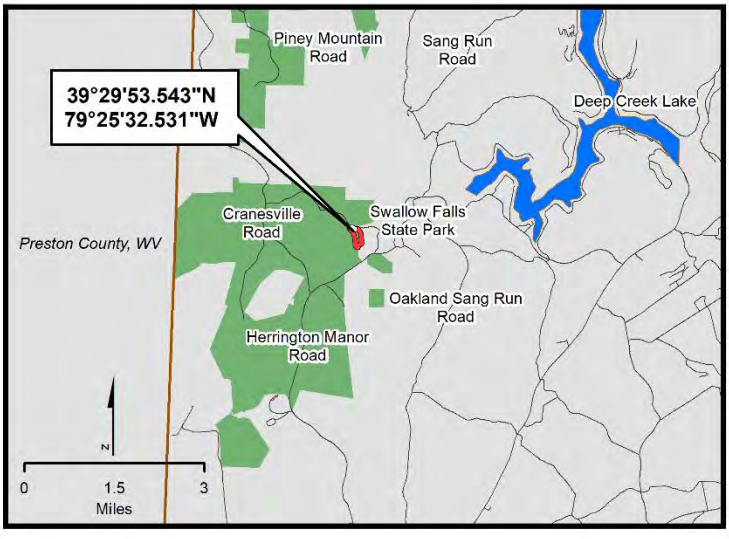


- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland with 50' Buffer
- Streams and 50' Buffers





- Wildlands
- Ecologically Significant Area
- Old Growth
- Old Growth Ecosystem Area
- Wetland with 50' Buffer
- Streams and 50' Buffers



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-2022. Currently, budget trends remain unchanged, meaning that the appropriation that was available in FY-2023 will be similar for FY-2024.

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 one Recreational Trail Grant in the amount of $160,000.00 for the rehabilitation of the Piney Mountain Snowmobile/ORV 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.

C. Operational Cost: Estimated Annual Expenses - *$448,950.00*

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-2024 budget proposal was prepared in August of 2022.

▪ *Classified Salaries, Wages and Benefits: $311,666.00*
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: $63,016.00*
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: $74,268.00*
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*
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**
2021	**520,000 BD FT**	**248,609**	**$113,450.00**
2022	**520,000 BD FT**	**1,043,111**	**$381,620.00**

Appendix 2: 2022 Forest Stewardship Council Audit Action Plan

Maryland Department of Natural Resources Forest Service
2022 Audit Summary

Date of Field Evaluation: 19-21 April 2022
Locations: Chesapeake Forest Lands / Pocomoke State Forest
Third Surveillance Audit
Tucker Watts, SFI Lead Auditor
Beth Jacqmain, FSC Lead Auditor

Forest Stewardship Council

2022 Observation; no Corrective Action is required

Indicator 7.3.a Workers are qualified to properly implement the management plan; all forest workers are provided with sufficient guidance and supervision to adequately implement their respective components of the plan.

Observation Justification and/or Explanation
DNR could improve knowledge of and familiarity with FSC ESRA policies that have been adopted by MD DNR as part of implementing the new FSC pesticides policy.

Appendix 3: 2022 Sustainable Forestry Initiative Audit Action Plan

Maryland Department of Natural Resources Forest Service
2022 Audit Summary

Date of Field Evaluation: 19-21 April 2022
Locations: Chesapeake Forest Lands / Pocomoke State Forest
Third Surveillance Audit
Tucker Watts, SFI Lead Auditor
Beth Jacqmain, FSC Lead Auditor

Sustainable Forestry Initiative

2022 Minor Corrective Action Request

SFI FM Std, Section 14.1.1: MINOR CAR
The summary audit report will be posted on the *SFI Inc.* website (www.sfiprogram.org) for public review.

Non-Conformity Evidence
The 2021 Surveillance Audit Report is not present on the SFI website, no confirmation that is has been submitted to SFI, Inc. was witnessed by the auditor. During the audit the 2021 Surveillance Audit Report was submitted to SFI, Inc. and posted to their website. Witnessed email and verified on SFI, Inc. website.

CAR has been closed.

Appendix 4: Interdisciplinary Team FY-24 Annual Work Plan Review and Comments

Maryland Department of Natural Resources - State Forests

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

Overview / Discussion of FY 2024 Work Plan:
The ID Team review meeting was held on October 12, 2022. All members were present except for Heritage personnel. Members were informed of the additional project involving the construction of an elevated platform for disabled hunters along the Hutton Demonstration Forest Disabled Hunter Road in Compartment 44. All members responded positively to the proposal and contact information was provided for Program Open Space as a means to secure funding for the project. One comment was made by Wildlife personnel regarding the understory mowing project to incorporate prescribed fire into the management strategy as a means to further increase the probability that desirable regeneration becomes established on the site.

On October 14, a field visit was conducted with Heritage personnel at the Compartment 24 Wallman Complex hardwood/conifer regeneration harvest. It was noted that the harvest proposal is adjacent to an area with a historic record of Appalachian cottontail. The silvicultural proposal has the potential to expand the habitat regime for the rare mammal. Also, several rock outcrops were visited, and discussions centered on omitting the areas from the harvest proposal.

Heritage also commented on the proposed white regeneration harvest in Compartment 41: Very impressive white oak regeneration! We found a wetland along the western edge of the proposed cut and it may be just outside the cut. It doesn't show up on the map that you provided, but it does appear on the DNR wetlands layer and is clearly a wetland based on the plant community, soils, etc. It forms the headwaters of an unnamed tributary flowing southward into Toliver Run. If the wetland is in or close to the proposed cut area, we recommend a 50' buffer around it. We also ask that you retain any white pine, along with hemlock as you already mentioned, throughout the cut area. We saw few white pines in the canopy but fortunately did find some saplings and small pole stage trees coming up in the understory in a few areas.

The Maryland Park Service representative expressed concerns regarding the timing of the proposed white oak regeneration harvest in Compartment 41: I was taking a look at the timber sale near the campground of Swallow Falls. My concern about that one would be the timing. Is there any way to have it done outside peak camping season? I'm sure we'd get a lot of complaints about the noise if our campground is full. Also, if you could give me a month or so notice so I can inform any campers about the noise I'd appreciate it. -Thanks, Donnie.

In regard to the Compartment 25 Stand 2 HCVF conifer regeneration harvest, this will be a great opportunity to replant the stand in native white pine following the stand removal to maintain the conifer component on the forest landscape. Planted seedlings will need to be fenced/protected to prevent herbivory from white-tailed deer.

Appendix 5: Citizens Advisory Committee Review and Comments

Potomac-Garrett State Forest Citizens Advisory Committee AWP FY-24 Review
Scheduled for October 26, 2021 @ 11:00am.
The Citizens Advisory Committee members were provided with online access to the Draft FY-24 Annual Work Plan for review and comment prior to the meeting.

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

No formal meeting was held for the Potomac-Garrett Citizens Advisory Committee. Members were asked to submit questions, concerns, suggestions for any proposals. No responses were received.

Appendix 6: Public Comments

FY 2024 Annual Work Plan Public Comments

(Names, addresses, and email addresses have been removed to maintain personal privacy, except for official organizational contacts. Superfluous text such as greetings and closures have been redacted. Lines separate individual comments.)

MARYLAND ORNITHOLOGICAL SOCIETY

April 21, 2023

Maryland Department of Natural Resources
580 Taylor Avenue
Tawes State Office Building
Annapolis, MD 21401
Email:
stateforests.dnr@maryland.gov

Re. 2024 Draft Work Plans for Maryland's Four State Forests

On behalf of the Maryland Ornithological Society (MOS), I wish to thank DNR for the opportunity to submit comments on the four 2023 draft work plans for Maryland's state forests. Our comments are as follows.

Eastern Region (Chesapeake/Pocomoke State Forest)
We commend the authors on the wealth of information in this plan, including vegetation types and the history of these forests.

We approve of the continuing measures to enhance habitat favored by forest interior birds (FIDs). We are pleased to see that bird watching is mentioned under recreational activities. We are glad to see that there is continued focus on the conservation of the Delmarva Fox Squirrel, but are concerned that proposed monitoring of bees and butterflies appears to have been dropped, aside from monitoring of Lupin and Frosted Elfin in the Furnace Tract (page 51). We applaud the plan for its inclusion of control of invasive species of plants, notably Phragmites.

We oppose the suggested expansion of off-highway vehicle (OHV) access to Eastern Region State Forests. MOS is not opposed to OHVs in principle. We use them ourselves. But while visiting public lands in other states, MOS members have seen the impacts of OHVs against wildlife habitat. They witnessed riparian vegetation beaten down by the passage of OHVs. They also witnessed a stream polluted by engine oil where OHVs crossed and re-crossed the stream. The noise of OHVs spoils the quiet enjoyment of forests by hunters, fishermen, birders, and other wildlife enthusiasts. We believe that expanded OHV access would be exclusive of other public users the Eastern Forests.

Greenridge State Forest
We would have preferred to see a more detailed plan. Bird watching is not mentioned at all as a recreational activity. Despite this omission, Green Ridge State Forest is visited by birders for its notable birds, as evidenced by having no less than fourteen eBird hotspots. We ask that birdwatching be included as a recreational activity, but do note that the 2024 plan for Greenridge acknowledges the presence of

"a wide variety of neo-tropical migrants." We are pleased to see that plans are being made to remove invasive trees and shrubs along Town Creek.

As above in the comments on Eastern State Forests, we oppose the suggestion of extending OHV access to Greenridge State Forest. Briefly, OHVs spoil the enjoyment of the forests by all other users.

Savage River State Forest

We are pleased to see that the plan objectives for forest conservation will seek 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" and maintain and enhance diversity of wildlife and habitat types.

We ask that bird-watching be listed among the Recreation Opportunities. MOS members and other birders already visit it for its rich assemblage of forest interior and other birds. This is evidenced by there being at least least eight eBird Hotspots in Savage River NF. Our members will be visiting some of those hotspots during our 75th Annual Convention May 19-21., 2023.

We are glad to learn of the continuing study of wood turtle populations. And we applaud the proposed passive acoustic monitoring of bird migration in the Appalachians. We similarly applaud the effort to control four non-native plant species as well as the wooly adelgid.

This forest is being maintained for multiple users, most of which are mutually compatible. The notable exception is the OHV user. This noisy form of recreation is disturbing to all who visit the forest to enjoy its peace and tranquility. Furthermore, OHVs can interfere with bird nesting and disturb other forms of wildlife. We note that there are already OHV trails at Meadow Mountain, East Shale Road, Margraff Plantation, Negro Mountain and the newly opened ones at St. John's Rock and the Wolf Den Run State Park.

The current plan for St. John's Rock includes evaluating up to over 4 miles of existing timber harvest infrastructure for conversion to OHV trails, and an additional 5-6 miles for motorcycle and electric bicycles. While we do not object to improvements on existing OHV trials, we oppose extension of trails as being incompatible with other public uses. We note that St. John's Rock is among the eBird hotspots.

An additional 5 miles of OHV trails are envisioned at Margraff Plantation, to be added to the existing 5.5 miles. The plan notes that the existing trails are in need of reinvigoration, so that alone would result in a net gain of 5.5 miles. We do not think a virtual doubling of trail length here would be supportive of shared usage of the public lands.

Potomac and Garrett State Forests

Once more we commend the Plan's objective to protect significant or unique natural communities and biodiversity, such as ecologically significant areas, high conservation value forests, and old growth forests, and efforts to enhance old growth. We applaud efforts to maintain and enhance diversity of wildlife species and habitat types, as well as control invasive plants.

We are particularly pleased to see Bird Watching now listed among the Recreational Opportunities, and that MOS is credited with pointing out the six eBird hotspots.

We commend the plan for its concern for rare and uncommon breeding birds and the ongoing efforts to control certain invasive plant species.

As we have noted above, Potomac/Garrett, and the other forests, are being maintained for multiple users, most of which are mutually compatible. The sole exception is OHV use. This noisy form of recreation is disturbing to all others who visit this forest. Furthermore, OHVs can interfere with bird nesting and disturb other forms of wildlife. We are pleased to see that there is no discussion of expanding OHV use in the Plan, with funding only for sustainability improvements and amenities of the already-existing OHV trails Snaggy Mountain Road, Piney Mountain Road, Laurel Run Road, Wallman Road, and Burkholder Road.

In closing, please note that MOS is a volunteer Maryland organization founded in 1945. We have approximately 1800 members, divided into 15 chapters. MOS is devoted to the enjoyment, study and conservation of wild birds and their habitats, with special focus on Maryland's birds.

We thank you for taking the time to consider our comments and ask that you contact me with any questions or responses to said comments.

Yours sincerely,

Bonnie Borsa

Bonnie Borsa
President
Maryland Ornithological Society

Kurt R. Schwarz
Conservation Chair

I am a resident of Frederick, Maryland and enjoy utilizing Maryland's public lands for various types of recreational activities. I am in support of actions that balance recreation access with resource management and ecological preservation. I believe Maryland's state forests are currently under-utilized for resource-based recreation activities compared with other state's forests. State forests offer excellent potential for low-impact, dispersed recreation such as natural surface trail systems.

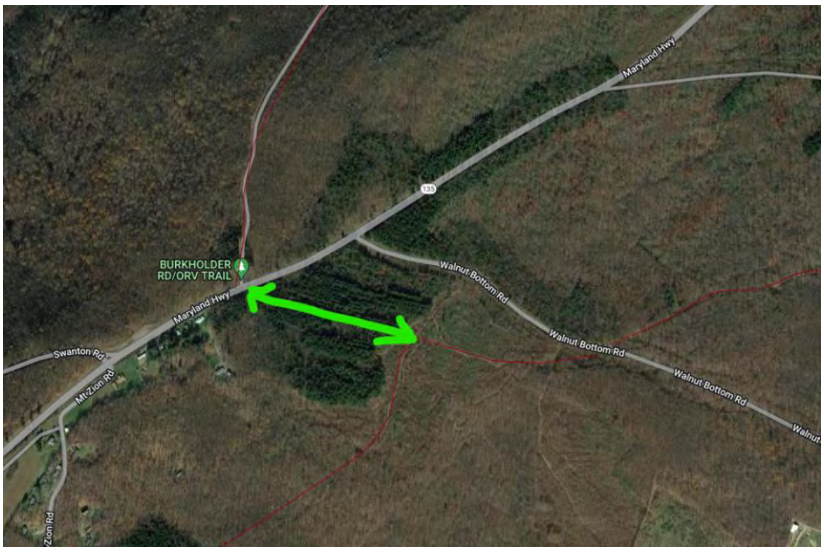
Specifically, I'd like to see Maryland's state forests follow the lead of MD state parks by creating professionally constructed trail networks that serve a variety of ability levels. The state's general permit for natural surface trail construction and MPS BMP's for natural surface trail construction have resulted in quality user experiences that limit maintenance strain on land managers. While I understand the need to increase accessibility to some areas, I believe there should also be longer-range, less-developed trail experiences for more advanced and adventurous mountain bikers and hikers. State forests are a perfect location to develop these experiences, which may fall in the "blue" or "black" columns in the MPS trail matrix.

In addition to trails, I support plans for general maintenance to existing roads and facilities. Any opportunities for dispersed camping and increased human-powered connectivity to other state lands are appreciated as well.

I just read the Mission Statement of DNR’s Forest Management and was moved by the words. And now with the advanced knowledge of what truly makes a sustainable, and fully diverse forest community to pass on to Maryland’s future generations of humans….and to protect aged, and still aging habitats of old growth forests for posterity, and to further transition established wildlife habitats….now seems the perfect time to be a better national leader in setting aside wide swaths of those important acres of flora, and fauna, and to carefully trim away the less valuable planned timber for harvesting. The existing and more valuable old growth forest, and old standing connected habitats for wildlife continuation can be more utilized as ‘Eco-Tourism’ trails, and paths, campgrounds, and more Maryland State, County, and even City Parklands. And Maryland’s forests are perfectly situated to be large drawls for many in the ever-expanding populations, and also harvesting the valuable available tourist dollars at newly established trails, or parks….and for the surrounding business communities.

Potomac-Garrett State Forest
Recreation Proposals

1. Investigate connector from Burkholder ATV trailhead to Backbone Mtn Trail southern leg
1. Currently in order to create a loop using Backbone Mountain Trail system, users have to use Walnut Bottom Rd and MD Rt 135. I propose a short (appx 1,000 foot) connection from the existing Backbone Mtn trail to a location across the road from the Burkholder ATV trailhead parking area



Thank you for your wonderful work maintaining this state's forest and giving us vibrant green spaces to enjoy. I am a hiker and love to explore our different state forests. Quiet time in nature revives my soul.

Please continue the work on expanding hiking and backpacking trails.

Through hiking on the Big Savage Trail with shelters and potable water would be a great draw for those seeking multiday outdoor adventures.

Maintenance of existing trails also a must.

When forest cutting is necessary on tracks adjacent to trails a border of uncut trees should be considered.

Also, when tree cutting does occur on plots next to trails educational signage could be posted explaining the forest harvesting practices lessening the outcry from people opposed to harvesting.

OLD-GROWTH FOREST NETWORK
Connecting people with nature by creating a national network of protected, mature, native forests

PO Box 21
Easton, MD 21601
oldgrowthforest.net
info@oldgrowthforest.net

Dear Secretary of Natural Resources for the Maryland Department of Natural Resources,
Thank you for giving us an opportunity to comment on the 2024 Annual Work Plans for our Maryland State Forests; however, we think the opportunity to comment should be better advertised. There should be an email list one could sign on to receive the plans when they are released.
Given the global, national, and local decline in biodiversity; and the global, national, and local increase in atmospheric greenhouse gases, we feel that our public state forests should remain standing, as much as possible, to counteract both threats. For instance, Washington State Forests are slated to receive income from carbon storage instead of only from wood fiber. We think Maryland should consider a similar adjustment. For more information see this article from the Washington State Department of Natural Resources.
We are strongly opposed to the harvesting of 94-year-old forests (Potomac-Garrett State Forests and Savage Forest) and a 112-year-old forest dominated by large red oaks and tulip poplars in Savage State Forest. We have concerns about other stands slated for cutting, as well, and will send these specific comments separately.

We are disturbed that our MD DNR Department of Forestry calls native species such as red maple, sweetgum, black birch, witch hazel, striped maple, and American beech 'undesirable' and sprays them with herbicides and/or mow them down. Many of our wildlife species, such as Luna moths, cardinals, and warblers (to name a few) depend on these species. We ask for a more holistic approach on our state lands.

According to FSC certification standards (6.3.) "Ecological functions and values shall be maintained intact, enhanced, or restored, including: Forest regeneration and succession." We detect some deficiencies in how this standard is met. For instance, industry-based 'stocking standards' are used to label forests as 'overstocked' and therefore in need of harvest. But our native forest condition, if it were restored, would surpass these stocking standards; therefore, they should not be used as a guideline.

Also, there seems to be an emphasis on creating early successional habitat. While early successional habitat is important, it should be kept in mind that: 1) Natural events such as wind storms and ice storms will continually create early successional habitat, 2) Estimates for the amount of early successional habitat naturally occurring in Maryland (pre-1600) are approximately 1-2% (more research is needed), and 3) If it is decided that more early successional habitat is needed it should not be created from our mature forests, instead it should be maintained in already young or disturbed forests.

RE: FY24-AWP-Maple-Glade-Harvest
Proposal appears to meet criteria for Best Management Practices for silvicultural operations, with adequate attention to current conditions on site.
I am in support of proposed amendment.

Has any impact study been done on Forest Interior Dwelling birds (FIDS)? Forest stand is 97 years old and is in the area of an eBird Hotspot that annually records many forest interior dwelling species such as thrushes, vireos, tanagers and warblers.
The Hotspot location is here: https://ebird.org/hotspot/L977071 and a sample checklist for the breeding season is here: https://ebird.org/checklist/S140572809
A reference is A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area by MD Dept Natural Resources, June 2000.
Thank you for your consideration.

I support the fiscal year 24 work plan for Potomac and Garrett state forest. My concern is that the 5.5 mile trail will remain open and usable while the harvest is being dumb. We would not want to see trail use interrupted for months long periods of time. This trail is also a popular mountain biking trail and any efforts to promote single track mountain biking compatible trail development would be encouraged and appreciated

Thank you for hearing my comments

We need to have more Single Track multi use trails added where Dirt Bikes are permitted as well. They do not tear up the land like 4 wheel ATVs do, they actually help keep the trails maintained and clear of debris. Many states have these trails where not only Dirt Bikes are allowed, but also mountain bikes, horse back and hiking are permitted with no issues. If you watch any single track dirt bike video on youtube, you will see how nice and clean and defined they actually keep the trail. Hope this is taken into consideration.

Thank you,
Jamie Breidenstein

The proposed logging seems reasonable and hopefully will not adversely impact bird populations (or, if so, only temporarily). Roughly how many years will it take for the 'released' oaks to reach the same height as the 97-yr old ones which are now there? Roughly how many dominant trees will be left?
To be quite honestly, we would prefer that Maple Grove remain unlogged, and wonder if that is an option.

I read your FY24 AWP Amendment Maple Glade Harvest plan and agree with it. It is smart to limit sound impact on the Swallow Falls camping areas. I'd ask that the trail located on teh site of the tree stand to be cut, not to be impacted by establishing a sufficient safety buffer zone to the tree felling. You might want to consider, if there is a vendor willing to use HORSES to pull the

timber out fo the woods. What a great tourist attraction for Maryland to see that live in action and maybe viewings could be established if horses were used.

Thank you for the opportunity to review and comment on the proposal. The plan is well written and thorough. I have not comments or questions. Best of luck!

My comments / questions on the proposed harvest in the FY24 WP are specifically related to the impact on the 5.5 Swallow Falls trail:

--how long will the trail be closed for harvesting work? Or, will the reroute be in place before trail closure?
--is there a map of the planned trail re-route?
--will the reroute be adequately marked?
--how was the sustainability of the trail determined? "*The trail in this area is deeply incised and no longer functions as a sustainable trail.*" -- I've ridden this on a mountain bike, fat bike and also have hiked this... I had no noticeable issues.
--what type of trail surface will be used for a reroute?
--who will perform this work?
--is there a historical significance of this section of trail? (I am aware all or part of the trail was a previous railway)

Also, as a communications professional, I would advise a public relations strategy related to the work plan. A notice and/or social media presence at integral points of this project (including an estimated timeline) will rekindle public interest and awareness.

Thank you for your consideration.

On behalf of residents of the state of Maryland and as a co-chair of the Sierra Club's Forest and Climate Grassroots Network team, I am writing to ask you to cancel plans for logging on @23 acres of Potomac-Garrett State Forest, Compartment 41, stands 3 and 4, adjacent to Swallow Falls State Park, the Maple Glaze Harvest. You have targeted century-old and older trees.
In this era of climate crisis, it is hard to fathom how the Maryland State Forest Service could gauge the paltry gains from intended timber sales as adequate compensation for the carbon surge those trees will contribute to our atmospheric overload already causing droughts, floods and fires for our nation and around the world.
In addition, Swallow Falls has been public land for over a century. What better way to provide a benefit to the public, increasingly confined to crowded and noisy cities and suburbs, than to protect precious resources like this state park for the mental health of people +today and the children of tomorrow.
Will those oaks ever grow back? There are many reasons why not, including that the climate conditions of today are far different than when those trees were seedlings that naturally regenerated from the existing forest.
Additionally, as pointed out in your Management and Silvicultural Recommendations, there are ongoing struggles with establishing and/or maintaining acceptable white oak regeneration.

Among them is the obvious challenge of grazing deer destroying replanted seedlings, invasive plant species taking over despite herbicide treatments that damage the health and biodiversity of the forest, and a shift in species composition dominated by undesirable tree species.
Your proposal also notes that hunting is also a popular activity in this area. But your proposal will destroy that habitat. The degradation of forest from logging will compromise this area of the park for decades to come, well beyond the lifetimes of those who now travel here for the abundant wildlife.
In this era of unprecedented changes and threats to the well-being of all life on the planet, please take a hard look at old ways of natural resource exploitation without concern for consequences. We are all suffering the consequences now, you and your family too. But you are in a position to directly do something about that. Please take that opportunity now, on behalf of all of us.

Hello
I strongly oppose any new hiking trail or timbering operation in Garrett State Forest. There are plenty of trails there that aren't even being used. I'm in the area all the time and always have the existing trails to myself. I live in the area and it seems to me you cater to out of towners that visit the area once a year to look at the leaves. The proposed projects will impact critical habitat for rattlesnakes, deer, bear, fishers and ruffed grouse.
It seems to me that the DNR has no idea on how to manage a forest. There is always a timber operation going on there and most of them have been complete total failures. It's a shame you ruined some best hunting spots on public land in the county. This itself is why the deer harvest are lower now, loss of habitat and continuous disturbances in the forest.
I'm not sure why you insist on working on timbering during hunting season. It's pretty frustrating to see sitting in a stand and seeing a bobcat with a cutterhead come driving by me timbering. There is plenty of time late winter for work to do. I voiced this to you several years ago, guess it fell on deaf ears.
All the understory spraying and mowing has pretty much been a total failure, you should be trying to reestablish the american chestnut oaks that stood here last century. There a plenty of suppliers that have blight resistant plants now. Why is it you are mainly cutting down all the oak trees and leaving the maples and pines? A lot of wildlife depends on the nuts for a fat layer to survive the harsh winters.
Instead of adding new trails repair the ones you got there are lots of wet spots with roots and rocks that hazards and need attention. Also the existing wood bridges are so slick when wet they are like walking on ice. These need some kind of traction strips added to them.
Thanks

These comments are offered in opposition to the plan to clear cut approximately 23 acres in two stands of an almost 100 year old native forest dominated by white oak, designated by DNR as the Maple Glade Forest.

The vast ecosystems created by and supported by old and mature forests are like no other ecosystem. Further, the ecosystem below ground is as vast if not more so than what is above ground. White oaks, in particular, support more forms of life than any other oak tree. These oak trees play a critical role in climate moderation, air filtration, watershed management, soil stabilization, wildlife habitat, wildlife nourishment, and pollinator hosting, among many other roles.

Oaks also support over 108 different types of fungi of which 57 depend entirely upon oak trees. 700 different types of lichen are found on oaks which support wildlife by offering nesting material, food and shelter. (https://www.lewisginter.org/oak-trees/Oaktrees/purify_moreair,are_supported_oak20trees)

Assuming conservatively 30 oaks per acre at 23 acres, that is over 690 mature oak trees being sacrificed at a time when our planet is warming, potable water is a scarce resource, healthy soil is at a premium and all the wildlife being supported from lichen, insects, amphibians, and macroinvertibrates are at risk and have had their populations decimated due to warming temperatures. These 690 mature oak trees cool the ground and air and protect their watershed.

As population increases and demand for housing and food increases, the pressure to cut down trees will increase dramatically. This same population will require clean water and air as well as cooler temperatures. Trees are the only reasonable way to obtain these resources, they are among our most valuable living resources.

I urge DNR not to approve the clear cutting of the 23 acres which drains into Tolliver Run, a pristine area. Further, the spraying of an herbicide to remove barberry is far worse than the possibility of getting volunteers to pull the invasive plant.

These comments are offered in opposition to the plan amendment for FY24 for clear cutting (referred to by DNR as a "regeneration harvest") approximately 23 acres in two stands of an almost 100 year old native forest dominated by white oak.
I found this information at your own DNR website:
"Native Birds Need Native Plants, January 2, 2019
Carolina Chickadee by Lee Jaffe, Flickr CC by NC SA 2.0
Here at Wild Acres, we like to promote using native plants in backyards to attract local wildlife species.
Over the years, Doug Tallamy's research has shown a clear relationship between native plants and birds, linking the importance of native plants for supporting insects like caterpillars. Tallamy's research has revealed that native oaks can support more than 530 species of butterfly and moth caterpillars while an invasive butterfly bush supports only one species."
Now I would never think it makes much sense to cut a diverse, mature forest with many decades of growth yet ahead to make way for a plantation stand of just one species, as valuable as white oaks can be. Especially if that forest already leans towards the dominant oaks.
If you want the best of both worlds, why not save this forest and use Maryland's equivalent of a Civilian Conservation Corps to plant stands of white oak on public lands which are fields in public parks - I see lots of opportunites at Frostburg's Glendening State Park and I see thousands of acres of former surface coal mines within ten miles or less of Frostburg where the state, private owners might take advantage of national USDA programs to do the same thing. Far too much cutting going on by all parties, not enough planting.
And I fully support the work done in this fine paper by a number of ecologists including one famous one based in Maryland and another who taught for many years at FSU and is now at Utah State University Eastern -

https://www.frontiersin.org/articles/10.3389/ffgc.2022.1073677/full Their work is a critique of a project which has been promoted around the country with public and private money: "The Young Forest Initiative" and it contains some very questionable global warming mitigation rationales and wildlife enhancements as well.
My perspective as the former Director of Conservation for NJ Audubon Society (1989-2001) who worked on many forest conservations issues including saving the NJ Highlands Region is that the most valuable ecological service we can perform is to preserve our older forests wherever found and begin the complex task of diverse ecological plantings on damaged lands such as those we have in Western Maryland in such abundance. How many acres of former coal sites sitting idle do we have? 5,000? 10,000? 20,000?
Inexcusable at a time of climate disruption.

These comments are offered in opposition to the plan amendment for FY24 for clear cutting (referred to by DNR as a "regeneration harvest") approximately 23 acres in two stands of an almost 100 year old native forest dominated by white oak.

Mountain Maryland Movement is a coalition of volunteers working on Appalachian Maryland energy and environmental issues since 2017. Our work focuses on the two westernmost counties — Allegany and Garrett — areas with an extensive legacy of resource extraction, primarily coal and timber. We are particularly concerned about public health and ecological harms from these extractive industries.

The rationale given for the clear cutting is so that white oak seedlings can be planted for future harvest. It should be noted that these stands are near Swallow Falls State Park and have a hiking trail through them — a resource that has benefits far beyond production value of harvestable hardwoods. In addition to the recreational value of preserving this centennial forest, these mature forest stands are most valuable for wildlife and for carbon sequestration. DNR is continuing to rely on outdated research, failing to acknowledge that mature and old growth forests sequester more carbon than seedlings and young trees.

These centennial white oaks, hemlocks, locusts and maples are viewed by the forestry industry as mature, but they are far from their peak which can be 300 or more years —- as evidenced by their kindred trees in the old growth stand at Swallow Falls. Throughout their life, these trees can continue to grow and absorb CO2, creating carbon sinks in the soil and soil level biomass.

In fact, this "regeneration harvest" would remove a large and effective carbon sequestration system, releasing CO2 from Arbuscular Mycorrhizal Fungi (AMF) and soil carbon, as well as increasing pollution from logging and transportation. Replacing these mature trees with seedlings also delays effective carbon capture by disturbing soil, and it will take an additional century to finally match the effectiveness of the existing, mature trees. We do not have time to wait for these forests to recover – we need to maximize draw-down of CO2 now to reach our climate goals.

Rather than contributing to greenhouse gas emissions and reducing an effective and mature carbon capture system, DNR should be advocating that these forest stands come under enhanced protection. Furthermore, DNR must update recommendations and directives from global and scientifically objective organizations, including the International Panel on Climate Change, rather than relying on industry-supplied talking points. Below is a link to a relevant review

article on which two Maryland-based researchers (Maloof and Brosi) are co-authors. To rely on the best available science is in the best interest of all Marylanders: protect the mature trees, let them grow old, and let them provide us and wildlife with the nature-based solutions that we are so in need of.

Thank you for this opportunity for Mountain Maryland Movement to share our comments in opposition to this proposed harvest.

https://www.frontiersin.org/articles/10.3389/ffgc.2022.1073677/full

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To whom it may concern:

I am strongly opposed to the Maple Glade Harvest for the following reasons:

1. People come to Garrett State Forest, use the campgrounds and cabins, and hike to see a forest, not a briar patch
2. The proposed harvest area has a couple very large white oaks and they are 'blue-dotted' for cutting
    a. Why not save them for future generations now that the Bicentennial Oak is no more?
3. The 'forest' between Swallow Falls and Herrington is not much of a 'forest' anymore as it seems to take the brunt of the 'board feet' being cut every year

Proposed Solutions:

1. Let nature take it's course in the timber harvests
2. End the understory cutting, spraying, etc. that only results in an open 'fern forest' (i.e., Snaggy Mountain Road on both sides of the outhouse)
3. Let the understory (blueberry bushes, cherry, etc.) grow so that the birds, chipmunks, etc. have a place to live

In conclusion, while the forest managers obviously have their hearts in the right place trying to make things better, it seems like there needs to be more emphasis on keeping forests as forests. Thank you!

OLD-GROWTH FOREST NETWORK
Connecting people with nature by creating a national network of protected, mature, native forests

PO Box 21
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October 28, 2023

Thank you for asking for input on the logging of Potomac-Garrett State Forest COMPARTMENT 41 – Stands 3 and 4, Snaggy Mountain Complex (PG-24-S-2) aka Maple Glade Harvest.

This stand is almost 100 years old and is dominated by white oaks (66%) which can live for 300 and more, so this stand is just transitioning from mature toward old-growth. White oak regeneration is found on 37% of the site and established white oak is present on 48% of the stand. Given the ongoing struggles with establishing acceptable white oak regeneration, it is inconceivable why the forest service would want to cut down this white oak forest, on public land, in its prime.

At present barberry is the only non-native species in the forest. The proposed harvest would open the forest to a greater incursion of non-native invasive species.

The older a forest gets the better it is at cleaning the water, the more it reduces stormwater runoff, the better it is at cleaning the air – including carbon dioxide removal – and the better it becomes as habitat for many species. When forests such as this are harvested, more carbon remains in the atmosphere, both from the decline in carbon capture by the living trees, and from the release of carbon from the forest soil after the harvest. Increased carbon release from harvesting is five times the amount released from fire, insects, wind storms, development, and drought, combined. If current management practices continue, the world's forests will achieve only half of their biological carbon sequestration potential.

The stand where the cut is proposed is adjacent to the Swallow Falls State Park campground, and a 5.5 mile trail connecting Swallow Falls State Park and Herrington Manor runs right through the stand. The proposed regeneration harvest will completely destroy the woodland ambiance of the trail for many decades. Leaving the tree tops behind as slash, as planned, will further disrupt recreation. The proposal mentions rerouting the trail, but there is no mention of the age or condition of the forest a new trail would go through. Will the new trail also go through a 97-year-old stand dominated by hardwoods? By looking at the map it doesn't appear that this is possible. Likely a new trail would go through a forest more recently harvested, thus reducing the trail's recreational attractiveness.

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I represent thousands of Maryland residents in saying that we feel this forest should remain standing and the ancient white oaks should be allowed to continue maturing. If there are problems with the trail every effort should be made to correct then without using the cutting of the forest as a prerequisite.

For the Forests,

Joan Maloof

Joan Maloof
Founder
(Printed on 100% recycled or tree-free paper)

CLIMATE COMMUNICATIONS COALITION

Maryland, November 14, 2023

To the attention of:
Mr. Robert Felt
Maryland State Forest Resource Planning Supervisor

Dear Mr. Feldt,

Thank you for requesting comments on the logging of roughly 23 acres of Potomac-Garrett State Forest, Compartment 41 (43?) stands 3 and 4, also known as the Maple Glaze Harvest. These two hardwood mixed stands are close to 100 years old and dominated by white oak. It is precisely these type of stands that are most valuable for wildlife and carbon capture and storage (CCS). These stands can make a difference during this climate emergency and biodiversity crisis. For that reason, we urge you to let these stands grow old and not conduct a 'regeneration harvest' of a forest that by no means is in need of regeneration.

These centennial white oaks, hemlocks, locusts and maples, while mature in forestry terms, are far from their peak. White oaks, for example, routinely become 300 years old and some grow much older such as Holy Oak in N.J. at 600 years or Maryland's own Wye Oak which was destroyed at roughly 500 due to a storm. Not to mention the Hemlocks which can live more than 800 years. Throughout their life, these trees continue to grow and absorb CO2, sinking it into the soil and their mass.

Logging these trees now for a "regeneration harvest" would annihilate this massive and effective carbon capture and storage, release the stored CO2 from Arbuscular Mycorrhizal Fungi (AMF) and soil-C, as well as increase pollution from logging, transportation, and any concomitant processing and manufacturing. Replacing these mature trees with seedlings delays effective carbon capture for up to 30 years due to the soil disturbances and will take an additional century to finally match the effectiveness of the mature trees. We do not have time to wait for these forests to recover – we need to maximize draw-down of CO2 right now to reach our climate goals.

The International Panel on Climate Change (IPCC) has concluded that during this climate emergency, mature (and old growth) forests must be left to proforestation which "provides the most effective solution to dual global crises—climate change and biodiversity loss. It is the only practical, rapid, economical, and effective means for atmospheric carbon dioxide removal

among the multiple options that have been proposed because it removes more atmospheric carbon dioxide in the immediate future and continues to sequester it long-term."

Similarly, the Policy Statement regarding Primary Forests and Integral Forest Lands (PF-IFL) by the International Union for the Conservation of Nature's (IUCN- U.N.), calls for the preservation of PF-IFL as these "play a pivotal role in providing essential, effective, and enduring nature-based solutions to address the biodiversity and climate crises that the world is facing, (...) including responding to climate change, respecting planetary boundaries, protecting and restoring biodiversity and cultural heritage, and advancing sustainable development."

For all the above, we urge MD Forest Service to review the science and climate based recommendations and directives from global and scientifically objective organizations and do what is in the best interest of all Marylanders: protect the mature trees, let them grow old, and let them provide us and wildlife with the nature based solutions that we are in dire need of.

Thank you-

Sonia Demiray
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The Climate Communication Coalition moves individuals, communities, corporations, and elected officials to act on environmental conservation and climate justice www.ClimateCC.org.

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