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Construction of an aquatic organism passage culvert replacement on Forest Road 73 in Woodford, VT. USDA Forest Service photo.

USDA Forest Service

Green Mountain National Forest

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USDA Forest Service Photo. A high elevation winter wonderland.

Green Mountain National Forest Town Meeting Report

The employees of the Green Mountain National Forest (GMNF) depend heavily on support from many municipalities, volunteers, partners, and contractors. The Forest would like to take this time to thank you and your community for the support and interest that you have shown in helping with the management of the approximately 400,000-acre GMNF. The GMNF is proud to be a part of Vermont and your town. It is truly one of Vermont's treasures and the largest contiguous public land area in the state. Forest staff work hard to achieve quality public land management under a sustainable multiple-use management concept to meet the diverse needs of all people -- people in your town as well as all of the visitors who come to Vermont every year. This has been another exciting year for us, and we have worked hard to support new opportunities on the National Forest that benefit the people and communities that we serve. The following is a brief summary of what happened in your National Forest throughout the past year:

Land Acquisition

In 2024 we secured funds for one land acquisition in Winhall. Acquisitions in the towns on Middlebury, Ripton, and Wallingford are expected to close in early to mid-2025. We are currently working on land acquisitions located in the towns of Stamford, Pownal, and Arlington. We have also secured 2025 funding for three land acquisitions in the towns of Chittenden, Sunderland, and Bristol. Each of the town Select-boards for these parcels have voiced their

approval. These public lands would not be possible without the assistance of The Trust for Public Land, The Conservation Fund, and the support of our local communities.

Also, the Forest has begun the process of its first Small Tracts Act (STA) case located in Winhall. The STA was enacted to help the Forest Service resolve land disputes and boundary management problems for parcels that generally are small in size. In 2020, the Act was amended to include the authority to sell, exchange, or interchange small parcels of land that are 40 acres or less, are physically isolated, inaccessible, or lack National Forest character.

Heritage Program

In 2024, Heritage completed review for twenty projects on the Green Mountain National Forest. We spent the majority of the field season completing fieldwork for the proposed Velomont mountain bike trail project, recording 32 sites and surveying approximately 115 miles on the Manchester Ranger District. In addition, we completed five Determinations of Eligibilities for the National Register of Historic Places (NRHP) including Ten Kilns and FR10 in Mount Tabor, and one Memorandum of Agreement.

USDA Forest Service Photo. GMFL Heritage Staff with CorpsTHAT crew at the Pier's Tavern site in Ripton after finishing clearing vegetation.

The Heritage program worked with CorpsTHAT in July to clear vegetation from the Pier's Tavern site along the Robert Frost Connector Trail in Ripton and from a CCC era culvert along FR10.

In June, GMNF Archaeologist, Sarah Skinner, gave a presentation titled "19th Century Logging & Charcoal Manufacturing at Mount Tabor, Vermont and Landscape Changes that Influenced the Creation of the Green Mountain National Forest" at the Dublin Seminar for New England Folklife in Deerfield, MA.

Retired GMFL Heritage Program Manager, Dave Lacy has been graciously spending his time volunteering for us processing and cataloguing artifacts, making a significant dent in our collections.

The Heritage Program would like to thank the numerous volunteers that have taken the time this year to help protect, preserve, and identify the cultural resources in the Green Mountains!

Road & Facility Construction & Maintenance

In cooperation with federal, state, and local governments, private contractors, and non-profit organizations, the GMNF Engineering staff repaired and maintained many roads, bridges, and other facilities throughout the Forest. Some highlights are as follows:

Forest Facility Improvements & Maintenance

The GMNF installed security cameras and made additional security upgrades to each of the three offices in Vermont including the headquarters in Mendon and the district offices in Rochester

and Manchester. Additionally, we began improvements to the barracks in Ripton to convert it to warehouse storage.

Forest Road Cooperative Aid to Towns

The GMNF continued to work in cooperation with the Towns of Hancock and Stratton on their Federal Lands Access Program (FLAP) projects funded by grants from FHWA Eastern Federal Lands Highway Division. These grants will complete the design of a bridge in the Town of Hancock that accesses the Texas Falls recreation area and the grant in the Town of Stratton will make improvements to Grout Pond Road which accesses the Grout Pond Campground and recreation area. Both projects are important to improve access to the GMNF.

New drainage culvert placed on Forest Road 39 in Hancock, VT. USDA Forest Service photo.

Forest Road Improvement & Maintenance Projects

The GMNF improved or maintained over 30 miles of National Forest System roads in the towns of Chittenden, Goshen, Bristol, Hancock, Mount Tabor, Readsboro, Ripton, Somerset, Stratton, and Woodford. Improvement work included the replacement of culverts and gates, stabilization of embankments, repairing storm damage, and the resurfacing of roads. Larger improvement projects included four aquatic organism passage culvert replacement projects in Mount Tabor, Ripton, and Woodford.

Recreation Programs

The GMNF provides a great diversity of outdoor recreation opportunities, connecting people with nature in a variety of settings. Outdoor recreation is valued as both an important part of Vermont's economy and a crucial component of many Vermonters' and visitors' physical and mental well-being. We support communities by creating, investing in, and sustaining opportunities for everyone to access and to cultivate their relationship with nature. The Forest Service recreation program actively seeks to identify and understand people's connections and barriers to the outdoors to ensure the GMNF, has a place for everyone to feel welcome. The Forest Service encourages participation in outdoor recreational activities and asks users to recreate responsibly by packing out all trash you bring in; adhering to site or trail closures; and seeking alternative locations when encountering packed parking lots or sites.

Forest-wide Activity

The newly installed colorblind viewer ready for use at Leffert's Pond in Chittenden, Vermont. USDA Forest Service photo.

We have a strong and united constituency among our partners, local communities, and interested publics to support and maintain outdoor recreation opportunities. The "Local Efforts" noted below highlight 2024 Recreation and Trail Program successes in acknowledgement of the outstanding collaborative effort exhibited between Forest Service employees, partner organizations, volunteers, state and local government representatives, and local businesses. Forest-wide efforts include allocating over $375,000 to 15 partner agreements with local community, government, and non-profit organizations for projects such as trail bridge replacements and shelter improvements along the Appalachian and Long Trails. Partner contributions totaled over $75,000 in these agreements, enhancing the Forest Service's capacity to meet our mission. In addition, over $1.4 million in contracted projects resulted in improved recreation amenities such as the new accessible fishing platform and colorblind viewers at Lefferts Pond in Chittenden (pictured) while supporting local businesses.

Additionally, the GMNF exceeded the national standards for Wilderness stewardship performance by maintaining Wilderness character on all eight Congressionally designated areas for the third year in a row. Stewardship partnerships included the Student Conservation Association, Northwoods Conservation Corps, and Society of Wilderness Stewardship. The Great American Outdoors Act continues to provide opportunities to deliver benefits to the American public through major investments in recreation infrastructure, public lands access, and land and water conservation. These investments will enable communities to Build Back Better by contributing to economic growth and job creation in rural America. The following highlights capture large program accomplishments but represent only a portion of the annual work that is completed to develop, improve and maintain recreational opportunities on the GMNF.

Local Efforts

Brandon: Forest Service worked with GMC to continue pack out and disposal of the old Sunrise Shelter materials. Working with Ridgeline Outdoor Collective, ROC continued maintenance on backcountry ski zones in the vicinity of Brandon Gap. Forest Service staff removed the kiosk roof near Brandon Gap following a tree strike. Forest Service staff completed high risk tree removals at the new Sunrise Shelter and logged out portions of the Long Trail south from Brandon Gap.

Chittenden: Forest Service staff completed the Lefferts Pond Access Improvements project. Contractors working on behalf of the Forest Service, installed an accessible fishing platform,

constructed and improved an accessible path, installed a colorblind telescopic viewer, and constructed an accessible cartop boat launch. Much of the day-use area was reseeded.

Goshen / Ripton / Leicester: Construction of the Moosalamoo Campground to Silver Lake Connector Trail is underway. The trail will likely be open for use during the summer 2025.

Goshen: A Forest Service timber contract expanded the wildlife opening at Blueberry Management Area. As the blueberries begin to seed the area, the recreational blueberry picking area will nearly double in size.

Hancock: At Texas Falls, Forest Service staff installed new picnic grills and installed a new picnic bench. Working with VYCC, Forest Service completed trail tread maintenance on the Texas Falls Nature Trail. The contract to reconstruct the Texas Falls Observation Area was awarded. Construction of the new observation area is expected in the summer of 2025.

Killington: Working with the Town of Killington, progress was made toward connecting the Sherburne Trailhead located on NFS lands to the trail network to the west of Route 100 near Gifford Woods State Park. Working with GMC, ATC, and VYCC a portion of the AT near Thundering Falls Trailhead was reconstructed to improve sustainability.

Leicester: Forest Service staff brushed out trails near Silver Lake and within the campground. Forest Service staff began repairing and repainting signs at the Silver Lake campground and picnic area. Working with VYCC, several trails near Silver Lake were maintained to standard including Aunt Jenny, Rattlesnake Cliffs, and North Branch Trail.

Lincoln: Forest Service employees performed high risk tree removals and site cleanup at Battell, Cooley Glen and Emily Proctor shelters. Employees logged out significant portions of the Long Trail between Lincoln Gap and Middlebury Gap and trail connections to Skylight Pond Trailhead and Cooley Glenn Trailhead. VYCC and Forest Service staff reconstructed portions of the West Vista Trail near Lincoln Gap. Forest Service employees painted, and reinstalled signs and signposts at the Battell Trailhead. GMC volunteers and staff performed trail maintenance on sections of the Long Trail and side trails. Staff replaced the roof on the Lincoln Gap kiosk. Engineering plans for the reconstruction of the parking lots were completed and passed to the Town for contracting.

Middlebury: Working with GMC, a segment of North Country Trail near Upper Plains Road was constructed.

Pomfret: Forest Service staff completed high risk tree evaluation and mitigation at the Happy Hill Shelter on the Appalachian Trail.

Pittsfield: Working with VAST, replacement of the California Lot trail bridge was underway in the Fall of 2024.

Ripton: Forest Service partnered with CorpsTHAT to complete vegetation removal at the Calvin Pier barn and tavern cellar holes. Forest Service worked with the Addison County Counseling Service to maintain the Wilkinson X/C Ski Trail network. Forest Service staff began project

work on the Widow's Clearing Trail relocation near the Wilkinson Trailhead. Relocation of a portion of the Widow's Clearing Trail was completed in 2024.

Rochester: Working with Ridgeline Outdoor Collective, portions of the Contest Trail were relocated to reduce the trail steepness and reduce legacy maintenance needs. Working with CorpsTHAT, Forest Service staff brushed out most of the Chittenden Brook Trail network and performed maintenance and reconstructed portions of the trail. Forest Service staff repaired two Chittenden Brook trail bridges that were damaged by tree strikes.

Salisbury: Forest Service contractors completed the paving project at the Falls of Lana Trailhead along State Route 73. Working with VYCC, Forest Service staff constructed rock features to reduce erosion on the Falls of Lana Trail near the rock steps. Working with both Sierra Club and VYCC multiple trail projects were completed on the Keewaydin Trail including annual maintenance, waterbar reconstruction, logout, and re-blazing.

Warren: Forest Service continued partnering with the StewardMRV to maintain Blueberry Lake and Warren Falls Observation Sites. Through a Forest Service cooperative agreement, Friends of Mad River has secured a contractor to install a fence and improve the stairway trail at Warren Falls. The fence and stairway trail improvements will reduce negative impacts to vegetation and improve visitor experience by more clearly defining the trail. Forest Service contractors reconstructed the short trail at the south end of Blueberry Lake. The trail was damaged by 2023 flooding. Working with CorpsTHAT, Forest Service staff and partners packed out a damaged trail bridge on Suki's Alley Trail. CorpsTHAT and the Forest Service performed trail maintenance on a portion of Flying Squirrel Trail.

Mount Holly: In partnership with VAST and funded by the Great American Outdoors Act, a trail bridge on Corridor 7 snowmobile trail was replaced.

Wallingford: In partnership with GMC, a caretaker hosted visitors and maintained the Little Rock Pond Shelter privy, tenting area, and surrounding trails. General Electric volunteers assisted Forest Service staff in replacing two minor trail bridges on the Ice Beds trail near White Rocks Picnic Area. A new information kiosk panel was installed at the Appalachian / Long Trail Parking Area on Route 140.

Mount Tabor: In partnership with VAST and funded by the Great American Outdoors Act, a complex trail bridge was replaced on Corridor 7 between Griffith Lake and Forest Road 30. Information panels at Big Branch Overlook were installed.

Peru: In partnership with GMC, a caretaker hosted visitors and maintained the Griffith Lake Tenting Area, Peru Peak Shelter, and surrounding trails. Trail bridge repairs were completed on the Stone Place and Utley Brook trails in partnership with VMBA and VYCC. At Hapgood Pond Recreation Area students from Burr and Burton Academy assisted Forest Service staff in removing a damaged trail bridge and repairing a washed-out pathway between the campground and day use area. This pathway and bridge were affected by flooding in July 2023. Additionally,

at Hapgood, projects funded by the Great American Outdoors Act are underway and include improving accessible fishing access and repairs to the bathhouse.

USDA Forest Service photo. 2024 SCA interns meet on the Great Cliffs of Mt Horrid in Joseph Battell Wilderness, Goshen, VT.

Winhall: In partnership with GMC and funded by the Great American Outdoors Act, a trail bridge on the Appalachian / Long Trail was replaced just north of the Lye Brook Wilderness. Within the Lye Brook Wilderness, trail crews worked several weeks at hardening the trail tread.

Stratton: In partnership with GMC, a caretaker provided onsite information and maintained back country facilities and trails at Stratton Pond. On the Appalachian / Long Trail, trail crews worked several weeks at hardening trail tread through the Lye Brook Wilderness. The information kiosk at Stratton Pond Trailhead was updated with new trail and shelter locations and overall information since the project work at Stratton Pond is complete. This kiosk panel was funded by an Eastern National Forests Interpretive Association grant. At Grout Pond Recreation Area, a VYCC crew assisted Forest Service staff in trail maintenance projects on the Pond Loop and West Loop trails. Vault toilets in the recreation site were removed and upgraded as part of the ongoing Grout Pond Recreation Site Improvements underway.

Wardsboro: The Wardsboro Pathfinders, with permission from the town and Forest Service, worked to mitigate the effects of illegal trail work on the 710 trail on National Forest land. Efforts were also made in blocking off illegal OHV trails coming onto National Forest land in the area as well.

Woodford: In partnership with GMC and Greenagers, much needed trail work was accomplished on the Appalachian / Long Trail north of Stage Road to Vermont State Route 9.

Stamford: In partnership with the Appalachian Trail Conservancy and GMC, trail tread work on the Appalachian / Long Trail was completed south of Risky Ranch Road.

Wilderness

Throughout 2024 Wildernesses on the GMNF continued to see increasing use. This is the third year in a row all eight designated Wilderness areas on the GMNF have met the National Standard for Wilderness Stewardship Performance (WSP) and preserving Wilderness character since a new monitoring protocol was adopted in 2015. WSP places heightened emphasis on the interdisciplinary responsibilities of wilderness stewardship and the potential linkages with other program areas. It seeks to foster improved integration and communication between program areas, to accurately reflect the collaboration required to steward our wilderness resource.

The Wilderness program is managed with a shared stewardship approach and partnership contributions. GMNF Wildness staff in 2024 consisted of a Wilderness program manager, a Society of Wilderness Stewardship Fellow, three Student Conservation Association interns, and support from our Recreation District staff. A Northwoods Stewardship Center pro trail crew was also hosted on the GMNF for five weeks and conducted trail work in the Breadloaf Wilderness on the Clark Brook trail which provides eastern access to the Long Trail.

2024 Wilderness Stewardship Performance Scores: (out of a possible 100 points total):

Big Branch Wilderness 68 points located in Dorset, Mount Tabor, and Peru. Visitor encounter monitoring was conducted along the Appalachian Trail / Long Trail and side trails in the Big Branch Wilderness and Peru Peak Wilderness. Dispersed recreation sites / campsites were monitored for impacts to protect natural resources while maintaining opportunities for unconfined recreation. Wilderness Rangers conducted five-year campsite monitoring to track trends with recreation use. Trail maintenance and improvements were conducted along the AT / LT and side trails. Invasive plant species were monitored, and hand pulled along trailheads, the trail system, and shelters to prevent spreading. Wilderness boundary monitoring was completed.

Breadloaf Wilderness 64 points located in Granville, Hancock, Lincoln, Ripton, and Warren. Visitor encounter monitoring was conducted to maintain opportunities for solitude. Trail maintenance and improvements were conducted along the Long Trail and side trails. A Northwoods Stewardship Center pro trail crew teamed up with the Student Conservation Association crew to conduct trail work along the Clark Brook trail. Dispersed recreation sites / campsites were monitored for impacts to protect natural resources while maintaining opportunities for unconfined recreation. Backcountry skiing activity has been monitored and some illegal tree cutting to improve skiing lines has been observed. Wilderness boundary monitoring was completed. National Visitor Use Monitoring (NVUM) was conducted at wilderness sites.

Bristol Cliffs Wilderness 68 points located in Bristol and Lincoln. Visitor encounter monitoring was conducted to maintain opportunities for solitude. Dispersed recreation sites / campsites were monitored for impacts to protect natural resources while maintaining opportunities for unconfined recreation. Wilderness boundary monitoring was completed.

George D. Aiken Wilderness 64 points located in Woodford. Visitor encounter monitoring was conducted to maintain opportunities for solitude. Dispersed recreation sites / campsites were monitored for impacts to protect natural resources while maintaining opportunities for unconfined recreation. Wilderness boundaries were monitored for encroachments.

Glastenbury Wilderness 70 points located in Bennington, Glastenbury, Shaftsbury, and Woodford. Visitor encounter monitoring was conducted along the Appalachian Trail / Long Trail and side trails in the Glastenbury Wilderness. Dispersed recreation sites / campsites were monitored for impacts to protect natural resources while maintaining opportunities for unconfined recreation. Trail maintenance and improvements were conducted along the AT / LT and side trails. Inholdings were monitored for Special Use Permit compliance. Wilderness boundaries were monitored for encroachments. National Visitor Use Monitoring (NVUM) was conducted at wilderness sites.

Joseph Battell Wilderness 70 points located in Chittenden, Goshen, Hancock, Ripton, and Rochester. Visitor encounter monitoring was conducted to maintain opportunities for solitude. Trail maintenance and improvements were conducted along the AT / LT and side trails. Dispersed recreation sites / campsites were monitored for impacts to protect natural resources while maintaining opportunities for unconfined recreation. The Great Cliffs on Mount Horrid were monitored to protect peregrine falcons during the nesting season. Wilderness boundaries were monitored for encroachments.

Lye Brook Wilderness 74 points located in Manchester, Stratton, Sunderland, and Winhall. Visitor encounter monitoring was conducted along the AT / LT and side trails in the Lye Brook Wilderness. Trail maintenance and improvements were conducted along the AT / LT and Lye Brook Falls trail. Invasive plant species were monitored, and hand pulled along trailheads, the trail system, and shelters to prevent spreading. Dispersed recreation sites / campsites were monitored at Bourn Pond for impacts to protect natural resources while maintaining opportunities for unconfined recreation. Eastern brook trout were stocked in Bourn Pond utilizing a helicopter in partnership with the Vermont Department of Fish and Wildlife. Campsite rehabilitation at dispersed sites along Bourn Pond was conducted with our partners from Leave No Trace and the Green Mountain Club. Roughly one acre of riparian buffer was restored around the pond that had been cleared for tenting sites and campfire wood. Wilderness boundaries were monitored for encroachments. National Visitor Use Monitoring (NVUM) was conducted at wilderness sites.

Peru Peak Wilderness 70 points located in Mount Tabor and Peru. Visitor encounter monitoring was conducted along the Appalachian Trail / Long Trail and side trails in the Big Branch Wilderness and Peru Peak Wilderness. Invasive plant species were monitored, and hand pulled along trailheads, the trail system, and shelters to prevent spreading. Trail maintenance and improvements were conducted along the AT / LT and side trails. Dispersed recreation sites / campsites were monitored for impacts to protect natural resources while maintaining opportunities for unconfined recreation. Wilderness Rangers conducted five-year campsite monitoring to track trends with recreation use. Trout were stocked in Big Mud Pond utilizing a helicopter in partnership with the Vermont Department of Fish and Wildlife. Wilderness boundaries were monitored for encroachments.

Special Uses

Recreation

In 2024 there were 31 active recreation special use permits, including isolated cabins, huts, outfitters and guides, recreation events and ski areas. 20 Outfitters and Guides operated on the Forest this summer, providing recreational experiences to those who may not be comfortable or experienced enough to seek those experiences on their own, and four endurance running events occurred. Eight applications were processed to a decision. 95% of the fees collected from permits issued under the Federal Lands Recreation Enhancement Act return to the National Forest on which the use occurs, to be used to improve the Recreation Special Uses Permit program.

Lands

There were 109 active Land Special Use Permits on the GMFL, including uses such as private right of ways, power and telephone lines, water systems, communication sites and maple tapping. Seven applications were processed to a decision. As required by various acts of Congress (Secure Rural Schools Act, Bankhead Jones Act, Act of 1908 Amended) the land use fees paid by special use holders are re-distributed to the states / counties where the special use is authorized to support essential services, such as roads, schools, wildfire protection plans, and emergency services.

Botany Program

Botanical inventory for rare plants and / or non-native invasive plants was completed in support of the following projects:

- Grass Mountain Early Successional Habitat project: multiple surveys in West Shaftsbury
- GMNF Wildlife opening surveys in Goshen, Granville, Hancock, Peru, Ripton, Wallingford and Winhall
- Velomont project: multiple surveys in Dorset, Mount Tabor, Peru, Stratton, Wilmington and Winhall
- Proposed small project sites in Middlebury and Peru
- Rare plant monitoring: multiple sites in Goshen, Landgrove, Leicester, Lincoln, Manchester, Middlebury, Mount Tabor, Pownal, Peru, Ripton, Rochester, Salisbury, Shrewsbury, Wallingford, and Weston

A yellow ladies'-tresses orchid, newly found in Wilmington. USDA Forest Service photo.

Rare and uncommon plants

As a result of inventory, new occurrences of Regional Forester Sensitive Species (RFSS) and / or state-listed plant species were detected in the following locations:

Species Scientific Name (state rank provided for non-RFSS)	Common	Town
Galium boreale (VT-S3)	northern bedstraw	Goshen
Calystegia silvatica ssp. fraterniflora (VT-S3?)	twin-flower hedge bindweed	Granville
Calystegia silvatica ssp. fraterniflora (VT-S3?)	twin-flower hedge bindweed	Granville
Juglans cinerea	butternut	Granville
Elymus trachycaulus (VT-S3)	slender wheatgrass	Hancock
Panicum virgatum (VT-S3)	switch grass	Hancock
Sorghastrum nutans (VT-S3)	Indian grass	Hancock
Crepidomanes intricatum (VT-S3)	weft fern	Leicester
Botrychium oneidense	blunt-lobed grapefern	Leicester
Homalosaurus pycnocarpos (=Diplazium pycnocarpon)	glade fern	Leicester
Crepidomanes intricatum (VT-S3)	weft fern	Lincoln

Carex backii	Back's sedge	Middlebury
Carex backii	Back's sedge	Middlebury
Carex hitchcockiana (VT-S3)	Hitchcock's sedge	Middlebury
Corallorhiza odontorhiza var. odontorhiza (VT-S2)	autumn coral-root	Middlebury
Crepidomanes intricatum (VT-S3)	weft fern	Middlebury
Elymus trachycaulus (VT-S3)	slender wheatgrass	Middlebury
Muhlenbergia tenuiflora (VT-S3)	slender muhly	Middlebury
Poa saltuensis var. saltuensis (VT-S3)	drooping bluegrass	Middlebury
Polygonum douglassii (VT-S2)	Douglas' knotweed	Middlebury
Woodsia obtusa (VT-S3)	blunt-leaved woodsia	Middlebury
Juglans cinerea	butternut	Middlebury
Carex laevivaginata (VT-S2)	smooth sedge	Mt Tabor
Crepidomanes intricatum (VT-S3)	weft fern	Mt Tabor
Liparis loeselii (VT-S3S4)	yellow widelip orchid	Mt Tabor
Equisetum palustre	marsh horsetail	Mt Tabor
Juncus brachycephalus (VT-S3)	broad-head rush	Peru
Muhlenbergia uniflora (VT-S3)	fall dropseed muhly	Peru
Pogonia ophioglossoides (VT-S3)	rose pogonia	Peru
Sorghastrum nutans (VT-S3)	Indian grass	Peru
Lillium philadelphicum (VT-S3)	wood lily	Pownal
Dichanthelium dichotomiflorum (VT-S3)	Cypress witchgrass	Salisbury
Dichanthelium xanthophysum (VT-S3)	yellow panic-grass	Salisbury
Elymus trachycaulus (VT-S3)	slender wheatgrass	Salisbury
Juncus secundus (VT-S1)	secund rush	Salisbury
Piptatherum pungens (VT-S2)	slender mountain-rice	Salisbury
Thelia asprella (VT-S1)	thelia moss	Salisbury
Vaccinium stamineum (VT-S1)	deerberry	Salisbury
Carex backii	Back's sedge	Salisbury
Cypripedium parviflorum	large yellow lady's-slipper	Salisbury
Juglans cinerea	butternut	Salisbury
Parthenocissus quinquefolia	ginseng	West Shaftsbury
Spiranthes ochroleuca (VT-S3)	yellow nodding ladies'-tresses	Wilmington
Muhlenbergia uniflora (VT-S3)	fall dropseed muhly	Winhall

Any time rare plants not currently designated as RFSS are found on the Forest, they are evaluated for future inclusion on the RFSS list.

In addition to botanical inventory, the following *known* rare plant occurrences (RFSS or VT state-tracked) were monitored: four RFSS in Goshen, 1 RFSS in Landgrove, 7 RFSS in

Leicester, 2 RFSS and one state-tracked species in Lincoln, 1 RFSS in Manchester, 11 RFSS and one state-tracked species in Middlebury, 5 RFSS in Mount Tabor, 2 RFSS in Peru, 1 RFSS in Pownal, 1 RFSS in Ripton, 2 RFSS in Rochester, 20 RFSS and 2 state-tracked species in Salisbury, 1 RFSS in Shrewsbury, 1 RFSS in Wallingford and 1 RFSS in Weston.

List of rare plant species (RFSS or state-tracked) monitored in 2024, by town.

Species Scientific Name (state rank provided for non-RFSS)	Common	Town
Blephilia hirsuta	hairy wood-mint	Chittenden
Cypripedium parviflorum var. pubescens	large yellow lady's-slipper	Goshen
Cypripedium reginae	showy lady's-slipper	Goshen
Equisetum pratense	meadow horsetail	Goshen
Sisyrinchium angustifolium	narrow blue-eyed-grass	Goshen
Platanthera orbiculata	roundleaf orchid	Landgrove
Asclepias exaltata	poke milkweed	Leicester
Blephilia hirsuta	hairy wood-mint	Leicester
Cypripedium parviflorum var. pubescens	large yellow lady's-slipper	Leicester
Panax quinquefolius	ginseng	Leicester
Phegopteris hexagonoptera	broad beech-fern	Leicester
Sisyrinchium angustifolium	narrow blue-eyed-grass	Leicester
Stellaria alsine	trailing stitchwort	Leicester
Luzula parviflora (VT-S2S3)	small-flowered rush	Lincoln
Carex bigelowii	Bigelow's sedge	Lincoln
Vaccinium uliginosum	alpine bilberry	Lincoln
Juglans cinerea,	butternut	Manchester Center
Lilium philadelphicum (VT-S3)	wood lily	Middlebury
Boechera stricta (=Arabis drummondii)	Drummond's rock-cress	Middlebury
Cardamine parviflora	small-flower bitter-cress	Middlebury
Carex foenea	bronze sedge	Middlebury
Celastrus scandens	American bittersweet	Middlebury
Drymocallis arguta (=Potentilla arguta)	tall cinquefoil	Middlebury
Hieracium venosum	rattlesnake hawkweed	Middlebury
Panax quinquefolius	ginseng	Middlebury
Pinus rigida	pitch pine	Middlebury
Sanicula trifoliata	long-fruited snakeroot	Middlebury
Solidago squarrosa	squarrose goldenrod	Middlebury
Asclepias exaltata	poke milkweed	Middlebury

Cypripedium parviflorum	large yellow lady's-slipper	Mt Tabor
Platanthera macrophylla	large roundleaf orchid	Mt Tabor
Platanthera orbiculata	roundleaf orchid	Mt Tabor
Solidago patula	roughleaf goldenrod	Mt Tabor
Trillium cernuum	nodding trillium	Mt Tabor
Myriophyllum humile	low water-milfoil	Peru
Utricularia gibba	humped bladderwort	Peru
Isotria verticillata	large whorled pogonia	Pownal
Cardamine concatenata	cutleaf toothwort	Ripton
Cardamine concatenata	cutleaf toothwort	Rochester
Stellaria alsine	trailing stitchwort	Rochester
Pellaea glabella (VT-S3)	smooth cliff-brake	Salisbury
Symphoricarpos albus var. albus (VT-S3)	wild snowberry	Salisbury
Aureolaria pedicularia	feverweed	Salisbury
Boechera stricta (=Arabis drummondii)	Drummond's rock-cress	Salisbury
Botrychium oneidense	blunt-lobed grapefern	Salisbury
Calamagrostis stricta ssp. inexpansa	bentgrass	Salisbury
Carex argyrantha	hay sedge	Salisbury
Carex backii	Back's sedge	Salisbury
Carex foenea	bronze sedge	Salisbury
Carex merritt-fernaldii	Fernald's sedge	Salisbury
Celastrus scandens	American bittersweet	Salisbury
Clematis occidentalis	purple clematis	Salisbury
Desmodium paniculatum	panicled tick-trefoil	Salisbury
Draba arabisans	rock draba	Salisbury
Hackelia deflexa	nodding stickseed	Salisbury
Helianthus strumosus	harsh sunflower	Salisbury
Hieracium venosum	rattlesnake hawkweed	Salisbury
Lespedeza hirta var. hirta	hairy bush-clover	Salisbury
Lespedeza violacea	violet bush-clover	Salisbury
Pinus rigida	pitch pine	Salisbury
Selaginella rupestris	rock spikemoss	Salisbury
Solidago randii	Rand's mountain goldenrod	Salisbury
Carex merritt-fernaldii	Fernald's sedge	Shrewsbury
Platanthera macrophylla	large roundleaf orchid	Wallingford
Botrychium multifidum	leathery grapefern	Weston

Non-native Invasive Plant Treatments

A project aimed at treating large-scale non-native invasive plant (NNIP) infestations was achieved in the Robinson IRP timber sale area with partners including the 2 crews from Vermont Youth Conservation Corps (VYCC) and one crew from CorpsTHAT, an organization whose mission is to connect the Deaf Community and the outdoors through education, recreation and careers. In Rochester (20 acres) of wild chervil and wild parsnip infestations were manually removed. In Hancock (30.7 acres) of wild chervil was manually removed. One VYCC crew also manually removed 1 acre of glossy buckthorn and honeysuckle in Manchester.

In addition to the aforementioned NNIP control projects, many other small infestations were controlled by staff, contractors, volunteers, and partner organizations (including VYCC) throughout the NF. While these infestations represent only a fraction of known infestations and many more are unmapped, they were targeted for control because they are in strategic locations or because they are relatively more feasible to control than others. A total of approximately 30.8 acres of the following species were managed in these towns:

A Vermont Youth Conservation Corps crew proudly stands on the mountain of wild chervil that they helped pull. USDA Forest Service photo.

Granville: 0.9 acres of wild chervil treated with herbicide by staff.
Hancock: 0.1 acres of multiflora rose and buckthorn hand-pulled by staff.
Leicester: 1.4 acres of wild chervil were hand-pulled by staff.
Manchester: 0.7 acres of honeysuckle, glossy buckthorn and common barberry treated with herbicide by staff
Pomfret: 0.3 acres of goutweed were treated with herbicide by staff, and 2 acres of common buckthorn and honeysuckle were treated with herbicide and 3.1 acres of spotted knapweed were hand-pulled, both by Appalachian Trail Conference partners.
Ripton: 1.3 acres of wild chervil treated with herbicide by staff.
Rochester: 0.6 acres of barberry were treated with flame torch by fire staff.
Salisbury: 0.1 acres of wild chervil treated with herbicide by staff.
Stockbridge: 4.7 acres of Japanese knotweed treated with herbicide by staff.
Woodstock: 1.8 acres of wild chervil treated with herbicide by staff.

Town of Warren Japanese Knotweed Project: The partnership designed to manage Japanese knotweed infestations on Forest Service lands within the Town of Warren (and on adjacent lands in the Granville Gulf at the tops of the Mad River watershed), continued this year. The partnership, made up by the Forest Service, the Warren Conservation Commission, and the University of Vermont Internship program (within the Rubenstein School of Environment and Natural Resources), collectively removed knotweed from 32 sites in Warren (4.6 acres, treated 3 times over the summer).

Richville Road Riparian Restoration Project: Botany staff worked with student volunteers from Burr and Burton academy to hand-pull non-native invasive plants around the native plantings

that they and other partners helped put in the ground last year. By promoting native species, the desired outcome is to prevent the spread of NNIP, restore the natural floodplain forest community, and maintain habitat for rare plants and animals.

In 2024 the Batten Kill Cooperative Invasive Species Management Association (CISMA), of which GMNF is a founding member, again supported an AmeriCorps position hosted by the Brattleboro Office of the Vermont Land Trust. With support from the steering committee, the AmeriCorps member and BK CISMA:

- Hosted a tree planting and bittersweet removal workshop
- Staffed a booth at the Batten Kill Fly Fishing Festival
- Hosted an apple tree pruning and release workshop
- Hosted an online webinar, "Tackling Invasives Together: CISMAs in Vermont"
- Conducted riparian buffer plantings with students from Burr and Burton Academy
- Published e-newsletters with educational articles on invasive plants
- Posted educational social media articles
- Coordinated and put on a statewide meeting of CISMA groups to promote broader communication and coordination between local groups

Towns wholly or partially included within the CISMA boundary and potentially benefitting from CISMA activities include Arlington, Dorset, Glastenbury, Manchester, Peru, Rupert, Sandgate, Shaftsbury, Stratton, Sunderland and Winhall.

Forest Vegetation Management

Forests in Vermont play a vital role and are valued for many reasons: they provide wildlife habitat, clean water, recreational opportunities, and thousands of jobs in the forest products sector. The GMNF manages forests to provide diverse habitats for wildlife and healthy forests that are resilient to stressors such as changing climate conditions, invasive insects and disease. Our management showcases the latest science and techniques while contributing to sustainable local supply of forest products.

Commercial timber harvest is used as a tool, as well as other types of non-commercial treatments including timber stand improvement, planting, and restoration of declining tree species. GMNF management includes growing older and larger trees, and regenerating forests to promote multiage trees across the forest. Ecological forestry on the GMNF also includes timber harvests that mimic natural disturbances, such as thunderstorm microbursts, which provide complex young forest habitats while protecting mature trees and groups of trees. Annual harvest levels from the GMNF range from 4 to 10 MBF (roughly 2% of Vermont harvests), supporting Vermont's rural economy and working landscapes.

The planning and implementation of ecological forestry on these federal lands entail resource specialist and stakeholder input that exceeds that of any other ownership in New England. The GMNF also works with a broad range of partners in the conservation community to manage forests, including the State of Vermont, the Audubon Society, the Ruffed Grouse Society, the

National Wild Turkey Federation, the Vermont Land Trust, and the Appalachian Trail Conservancy to name a few.

Accomplishments for 2024 include:

- Awarded timber sale contracts in Hancock, Stratton, Mt. Holly, and Weston, totaling approximately 8.8 million board feet of sawtimber and pulpwood.

- Prepared timber sales in Arlington, Hancock, Readsboro, Rochester, Shaftsbury, and Somerset, to be offered in 2025. These sales are associated with the South of Route 9 Integrated Resource Project, the Robinson Integrated Resource Project, and the Somerset Integrated Resource Project.

- Prepared sites for forest regeneration by removing damaged or diseased trees on 111 acres in the Towns of Peru, Pittsfield, Stamford and Stockbridge.

- Provided maple tapping opportunities to six permit and contract holders for over 9,000 taps in the towns of Lincoln, Stockbridge, Pomfret, Wilmington, and Mount Tabor.

- Awarded one timber sale contract and prepared two additional sales as part of the Robinson Integrated Resource Project. This project includes restoration activities and timber harvest on nearly 10,000 acres in Rochester, Hancock, Goshen, Pittsfield and Chittenden.

- Awarded one timber sale contract as part of the Early Successional Habitat Creation Project. This project includes habitat creation and timber harvest on approximately 1,000 acres per year over the course of 15 years for an estimated 15,000 acres in total across Arlington, Dover, Glastenbury, Jamaica, Landgrove, Manchester, Mount Holly, Mount Tabor, Peru, Pownal, Readsboro, Searsburg, Shaftsbury, Stamford, Stratton, Sunderland, Wallingford, Wardsboro, Weston, Wilmington and Woodford.

- Awarded one timber sale contract and prepared an additional contract for the Somerset Integrated Resource Project. This project includes restoration activities and timber harvest on over 8,000 acres in the towns of Dover, Glastonbury, Stratton, Somerset, Searsburg, Wilmington and Woodford.

- Analyzed potential vegetation management activities in support of the planned Telephone Gap Integrated Resource Project in the towns of Chittenden, Mendon, Killington, Stockbridge, Pittsfield, Goshen, Brandon and Pittsford.

- Sold permits for the collection of approximately 318 cords of firewood, 840 pounds of wild apples, 1 ton of balsam boughs, and 600 pounds of fungi.

- Continued work in restoring native trees (including butternut, American chestnut and beech) with research partners. A white oak planting was established in the town of Dorset to support white oak genetics research to better understand climate adaptation within the

species. This planting will begin as a scientific study through partnership with the University of Kentucky and will transition to a seed orchard over time.

- Cooperated with the Vermont Department of Forests, Parks, and Recreation and Middlebury College in the maintenance of Butternut Seed Orchards in Brandon and Middlebury. Seedlings were cultured from disease resistant trees found on state, private, and National Forest locations and were cross pollinated to further research and efforts to develop disease resistance.

- Continued to treat ash trees at 24 different locations across the Forest to make those trees more resilient to emerald ash borer infestation. Trees were treated in Chittenden, Hartford, Mt. Holly, Mt. Tabor, Peru, Pittsfield, Pomfret, Pownal, Stamford, Wallingford, and Woodford. The survival of treated trees will conserve genetic diversity of local populations, contribute to genetic diversity across the landscape, and provide a seed source for future restoration efforts. This project was done in coordination with other land managers and partners including the New Hampshire Division of Forests and Lands, Vermont Division of Forest Parks and Recreation, Vermont Land Trust, the Appalachian Trail Conservancy, the University of Vermont and the White Mountain National Forest.

Environmental Planning

In calendar year 2024, Forest staff completed 17 site-specific National Environmental Policy Act (NEPA) decision and analysis documents for multiple resource projects designed to implement the Green Mountain National Forest Land and Resource Management Plan (Forest Plan).

Highlights include:

- Appalachian Trail / Long Trail (AT/LT) Relocations project in Pownal and Woodford -- includes two short trail relocations of the AT/LT in Bennington County.

- Corridor 7 Trail Relocation of 11/30 Crossing project in Winhall -- construction of a 900-foot snowmobile trail relocation at the crossing of State Route 11/30. Also includes decommissioning four trail bridges and 0.25 miles of trail tread.

- Hapgood Pond Recreation Site Improvements project in Peru -- multiple improvements to the recreation site amenities at Hapgood Pond Recreation Area. Includes replacing stairs to the Knoll Pavilion, constructing a fishing pier, improving the nonmotorized boat access, replacing the vault toilets, and repairing the pavilions.

- Manchester Trail Bridge Replacements and Repairs project in Mount Holly, Mount Tabor, Peru, Winhall and Glastenbury -- replacement and repair of eleven trail bridges due to their poor condition to provide trail users with safe water crossings.

- Mount Snow High Traverse Widening project in West Dover -- widen approximately 400 feet of the High Traverse Trail, replace the primary buried power line in the same footprint, and construct a new 12-foot by 12-foot valve house for snowmaking at Mount Snow Resort.

- Green Mountain Power Silver Lake Diversion Dam Dredging project in Goshen -- approve a special use permit to allow temporary improvements to the Silver Lake Road, diversion dam access road, and diversion dam to allow for dredging of the diversion dam impoundment as required by a State of Vermont Consent Order and Final Judgement Order.

- Appalachian Trail (AT) Side & Corridor Crossing Trail Designations project in Norwich -- addition of several trails and trail segments to the designated trail system for a total of 2.2 new trail miles. Several unauthorized trails within the AT corridor lands in this area will also be closed.

- Multiple special use permits issued for use of National Forest System lands primarily for various recreation events and outfitter guide operations across the Forest.

In addition to completed decisions, other highlighted projects in progress include:

- Telephone Gap Integrated Resource Project located in the towns of Brandon, Chittenden, Goshen, Killington, Mendon, Pittsfield, Pittsford and Stockbridge. First initiated in 2019, the project is designed to improve wildlife habitat, enhance forest health and diversity, provide wood products for the local and regional economy, restore soil and wetland conditions, increase recreation and scenery viewing opportunities, and improve the trail and road network within the project area. The final environmental assessment and draft decision notice were publicly released in early December for a 45-day administrative review objection period. A final decision is anticipated in March 2025 pending the objection review process.

- Velomont Trail – Manchester Ranger District project located in the towns of Dorset, Peru, Mount Tabor, Landgrove, Winhall, Stratton, Somerset, Dover and Wilmington. The Velomont trail is a proposed state-wide, multiple-use, non-motorized border to border trail from Canada to the Massachusetts state line coordinated by a consortium of non-profit recreation organizations. This portion of the project would formally designate a mountain bike route across the Manchester Ranger District from Dorset to Massachusetts via nearly 100 trail miles of which about 72 miles are located on National Forest lands. The proposed trail includes new construction in combination with existing roads and trails. The public was invited to submit comments for the proposal through mid-December to help identify issues of concern. A final decision is anticipated in March of 2025.

- Northern Escarpment Ecological Restoration and Fire Resilience project located in the towns of Leicester, Middlebury and Salisbury. The project proposal would reintroduce the conditions and processes required to allow for perpetuating and enhancing fire-adapted natural communities in the northern portion of the Green Mountain escarpment geologic feature on the Middlebury Ranger District. Management activities consist of prescribed fire on approximately 3,772 acres, and includes non-commercial vegetation removal, insecticide treatments, and tree planting on a subset of the total acres. Forest staff are finalizing the proposal for public comment in late spring of 2025 and anticipate a final decision by January of 2026.

Fisheries Improvement

Forest staff monitored fish populations throughout the GMNF in 2024. This monitoring is part of a long-term data collection effort to understand fish population trends on the Forest. Additional sites were sampled to support the Vermont Department of Environmental Conservation. Streams in the following towns were sampled during the 2024 field season: Rochester, Arlington, Dorset, Shaftsbury, Weston and Peru. The Forest also maintains a network of water temperature monitoring sites across both the Rochester / Middlebury and Manchester Ranger Districts.

The Forest Service continued to work with partners on identifying and eliminating barriers to aquatic organism passage in 2024. Several barriers to native fish were removed in the Towns of Ripton, Mount Tabor, and Woodford. These structures no longer prevent the free movement of fish between downstream areas into stream segments managed by the Forest Service. These projects restore connectivity to important aquatic habitat and provide infrastructure resilience to flooding. Project partners include Friends of the Mad River, the White River Partnership, USFWS, the State of Vermont, Trout Unlimited, and the Vermont Natural Resource Council.

Stream restoration by reintroducing large wood material occurred, enhancing aquatic habitat along approximately 6.5 miles of forested streams. Adding large wood material improves habitat conditions for aquatic organisms and restores stream processes. These activities took place in Sunderland, Rochester, and Stockbridge. This work was completed by a combination of Forest Service staff via an agreement with Trout Unlimited.

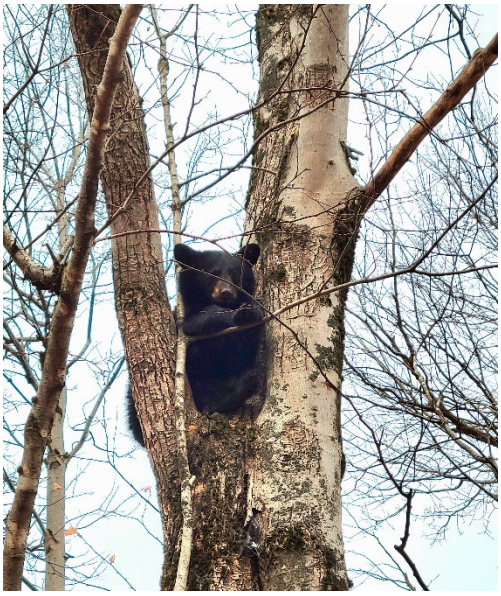
A Brook Trout is measured as part the GMNF data collection which helps to better understand fish population trends. USDA Forest Service photo.

Riparian planting occurred at multiple sites on the GMNF to help restore aquatic habitat. The Forest assisted the White River Partnership, and CorpsTHAT, at sites in Rochester, and Stockbridge.

The GMNF, in cooperation with the Vermont Department of Fish and Wildlife, continued the aerial stocking of brook trout to high elevation ponds at Griffith Lake and Big Mud Pond in Peru and Mount Tabor, Stratton Pond in Stratton, Little Rock Pond in Wallingford, and Branch, Bourn and Beebe Ponds in Sunderland. This stocking provides a unique fishing opportunity. Additionally, brook trout were stocked in Hapgood Pond in Peru and in the Deerfield River.

Wildlife Habitat Improvement & Monitoring

Wildlife habitat was improved and maintained through maintenance of openings on the Forest, both permanent and temporary. Approximately 250 acres of upland openings were maintained by mowing, or mastication in the towns of East Dorset, Granville, Goshen, Hancock, Hartford, Manchester, Mount Holly, Mount Tabor, Pomfret, Rochester, Stockbridge, Barnard, Salisbury, Readsboro, Weston, Stratton, Woodford, and Winhall. In addition, apple trees, which provide wildlife forage, were "released" by cutting competing vegetation in old orchards in Dorset, Pittsfield, Mount Holly, Mount Tabor, Peru, Somerset, Stratton, Weston, Wallingford, and Stamford.



A Black Bear poses for a photo on the Green Mountain National Forest. USDA Forest Service photo.

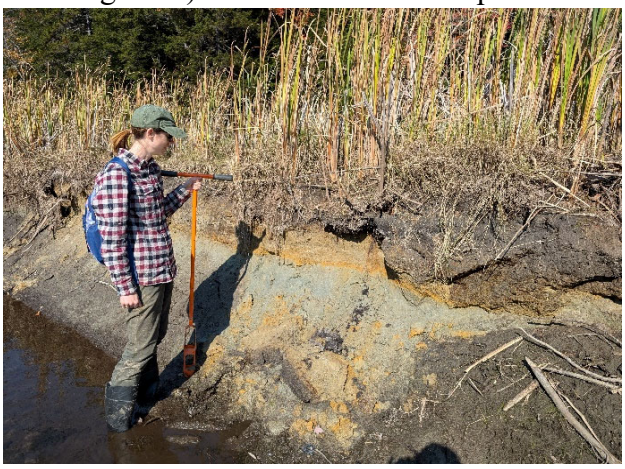
Butterfly surveys were conducted across the Middlebury and Rochester Districts in 2024 to understand the effects of forest management on Pollinator species. This is a combined effort between the GMNF and Vermont Ecosystem Center. Approximately 240 surveys were conducted in the towns of Rochester, Stockbridge, Hancock, Granville, Ripton, Goshen, Lincoln, and Chittenden. This is the first year of a multi-year project.

Songbird surveys were conducted in the Lye Brook Wilderness in Manchester in partnership with the Vermont Center for EcoStudies. This is a long-term project monitoring changes in forest bird communities. Songbird surveys using new recording technology were conducted in wetlands associated with future chop-and-drop treatments and paired uplands. The objective is to monitor the songbird communities before and after chop-and-drop treatments are conducted. Survey was conducted in Dover, Jamaica, Mount Tabor, Searsburg, Stamford, Sunderland, Weston, Wilmington, and Woodford. Peregrine falcon nest sites on or near the GMNF in Rochester, Salisbury, Stockbridge, and Wallingford continue to be monitored, and closures to protect sensitive nesting habitat continue seasonally from March 15th to August 1st each year at all sites except Wallingford. The peregrine falcon was removed from the federal list of endangered and threatened species in 1999 and the Vermont State list of endangered species in the spring of 2005; however, the species remains on the Regional Forester Sensitive Species list. A new nest site was identified and is being monitored in Rochester; this location successfully fledged at least one chick in 2024.

In partnership with the GMNF and Vermont Fish & Wildlife Department, Alexej Sirén, PhD, Postdoctoral Researcher with the USGS Vermont Cooperative Fish and Wildlife Research Unit at UVM's Rubenstein School of Environment and Natural Resources, developed a study on the effects of habitat, density, and climate on moose and winter tick ecology in the northeastern U.S. The primary objectives of this 2-year project are to develop and assess approaches for monitoring moose and winter ticks in the northeastern United States. Secondary objectives will focus on 1) improving data management and workflow, 2) further refining the camera method to collect climate and ecological data, and 3) identifying the extent to which climate, habitat availability, and density-dependence influence moose-tick dynamics. Cameras and snow stakes

were placed across the Forest which ties to a greater camera array stretching from New York to Maine under the auspices of NEWMN (Northeast Wildlife Monitoring Network).

Additionally, the Vermont based NEWMN group along with the Ruffed Grouse Society received a grant from the FEMC (Forest Ecosystem Monitoring Cooperative) to expand on the original moose study by deploying ARU's (autonomous recording units) to understand multi-species response to forest change, and to support long term comprehensive multi-species monitoring needs.



GMFL Soil Scientist, Kaitlyn Mroczka, stands next to an eroded soil column at Hapgood Pond in Peru. USDA Forest Service photo.

Soil / Water Monitoring

In the first half of 2024, the Green Mountain and Finger Lakes National Forests hired a new permanent Soil Scientist. She has experience mapping soils and plant communities in the western U.S. as well as soil conservation management in upstate New York. Her expertise and enthusiasm have already been a benefit to our program. She, along with a seasonal technician, began implementing the agency's Forest Soil Disturbance Monitoring Protocol (FSDMP) on various completed and proposed timber treatment and harvest stands. Silvicultural activities and timber harvest pose some of the greatest potential to impact soils across the Forests if not completed with care and the appropriate protective measures. FSDMP helps ensure we understand and minimize any short- and long-term impacts these land management actions may have on soil health and productivity across the Forests.

In her short time here, she has supported numerous projects including the proposed Velomont trail in the Manchester District which included identifying and verifying soils that would be more or less resistant or resilient to the proposed activity and helping determine more sustainable routes. As she continues to grow into her new role, she has been making meaningful connections with her counterparts on other Forest in the Region as well as experts in Vermont and New York. Beyond monitoring and project review, her current outlook includes implementing two long-term soil monitoring studies and working with regional specialists to develop Terrestrial Ecological Unit Inventory (TEUI) products for the Green Mountain and Finger Lakes National Forests. You can learn more about TEUI here: https://www.fs.usda.gov/soils/teui.shtml

The Green Mountain National Forest continued its partnership with the Vermont Agency of Natural Resources, Department of Environmental Conservation to partner in the State's Ambient Biomonitoring Network (ABN) around the Forest to track long term trends as well as potential impacts from permitted forest uses. Under this agreement, the State monitored physical and chemical parameters (temperature, pH, metals) and biological parameters (macroinvertebrates) at sites in the towns of Rochester (Bingo Brook and Smith Brook), Hancock (Hancock Branch), Shaftsbury (Little White Creek), and Dorset (Mettawee River). The Forest provided additional monitoring at these sites by conducting fish population monitoring at these sites as well. Once these water quality data are approved by the state, they are added to the Vermont Integrated

Watershed Information System, an online database that allows for public review of water quality data around the state. You can access these data here: https://anrweb.vt.gov/DEC/IWIS/. In 2025, the Forest and the DEC plan to conduct both ABN as well as specific water quality in wilderness areas to serve as a proxy for air quality trends in these valuable management areas.

Manchester District fish and wildlife staff continued their efforts monitoring water quality at Hapgood Pond in Peru. This effort contributes to Vermont's Lay Monitoring Program to track water quality in many lakes and ponds around the state. The program can always use more volunteers to conduct this important citizen science. To learn more or get involved, visit the program's website here: https://dec.vermont.gov/watershed/lakes-ponds/monitor/lay-monitoring-program

Hapgood Lay Monitoring: Scott Wixsom and Katie Stiles, paddle back to shore after conducting water quality monitoring on Hapgood Pond in Peru. USDA Forest Service photo.

In an effort to help conserve hydrologic function as well as soil health and productivity, the Watershed Program provided funding for a Cooperative Law Enforcement agreement with the Vermont Department of Fish and Wildlife to support additional patrols on the Manchester District. There are numerous sites where unauthorized OHV use occurs and leads to dramatic impacts to sensitive soils, usually in wetlands or at stream crossings. The increased law enforcement presence is intended to help educate the public about what uses are and aren't allowed on Forest Service trails while helping minimize unauthorized OHV use and the impacts it has on our water and soil resources.

Research & Inventory Activities

USDA Forest Service photo. From left to right: spotted salamander, alpine vegetation monitoring, white admiral butterfly, green frog.

The following research and inventory were approved and conducted on the GMNF during 2024:

- The Green Mountain National Forest wildlife team continues to collaborate with Vermont Center for EcoStudies on the Second Vermont Butterfly Atlas (VBA2), a five-year survey of Vermont's butterfly communities. GMNF conducts butterfly surveys throughout the season in Hancock, Rochester, Stratton, and Sunderland.

- John Butnor and a team from the Northern Research Station is collecting tree cores from white oak, red oak, shagbark hickory, and bitternut hickory in East Middlebury and Pownal. They will use these cores to look at the relationship between climate and historical growth of these species in Vermont. The team found that white oak is positively associated with increased temperature and precipitation in the Champlain Valley, factors predicted to increase with continuing changes in climate.

- Bucknell University in partnership with Pennsylvania Natural Heritage Program is using population genetics to investigate the conservation status of bog Jacob's ladder, *Polemonium vanbruntiae,* a rare flowering plant. To do this, they took leaf samples across its range, including in Dover and Ripton.

- University of Vermont and University of Maine researchers, funded by National Science Foundation, are studying northeastern alpine plants with the goals of better understanding adaptations and how this informs conservation of the plants through a changing climate. Plant samples taken in the town of Lincoln on the Green Mountain National Forest are contributing to this work.

- The Lake Dunmore Fern Lake Association Water Quality Committee has contracted stream assessments for North Sucker Brook to help understand the long-term trend of increasing phosphorous in Lake Dunmore. Water chemistry samples were collected at 4 different sites along the brook in the towns of Goshen, Salisbury, and Ripton.

- A team from State, Private, & Tribal Forestry, in collaboration with the University of New Hampshire, collected tree cores from American beech and red spruce trees in Sunderland to assess growth declines and generate a mortality model for American beech infected with beech leaf disease.

- Rosy Metcalfe, graduate student at Antioch University, conducted research on several species of snakes to better understand their distribution, relative abundance, and interaction with neonicotinoid pesticides on the Green Mountain National Forest. Occurrence data and blood samples were collected from smooth greensnakes, Dekay's brownsnakes, red-bellied snakes, common gartersnakes, ring-necked snakes, and eastern milksnakes from cover boards at 3 sites in Goshen.

- Scott Smyers of Oxbow Associates, in collaboration with Luke Groff of the Vermont Department of Fish & Wildlife, conducted visual and audio amphibian surveys at Crystal Pond and Haystack Pond in Wilmington and Mount Tabor. The surveys confirmed breeding populations of wood frogs, spotted salamanders, green frogs, spring peeper, and eastern newts.

- Marne Quigg, a graduate student at Northwestern University, is working in collaboration with the Chicago Botanic Garden to gain insights into effective restoration of American elm by examining elm genetics across their range. The team collected leaves from American elm in East Dorset, Mount Tabor, and Sunderland. The genetics of these samples are being processed over the winter.

- Cheryl Sullivan of the University of Vermont Entomology Research Lab established tick surveillance sites in open areas managed by prescribed fire in Manchester and Dorset. Ticks collected from these areas will be used to assess the presence of ticks and their pathogens as it relates to different habitat management strategies. At these sites, 67 ticks were collected and are being tested this winter for disease-causing pathogens and will be compared to ticks collected in nearby forested areas.

- Abby Robinson, a graduate student at Boston University, is studying the way host plant choice determines health and survival of white admiral butterflies. A total of 10 individual white admirals were collected using hand nets and hanging traps in Chittenden, Manchester, and Sunderland.

- Sophia Larson, graduate student at Drexel University, conducted soil surveys at the Bulley Brook timber sale in Wallingford and Little Mad Tom timber sale in Peru and Dorset. The soil surveys will correlate bulk density, soil porosity, and soil carbon to different Forest Soil Disturbance Monitoring Protocol soil disturbances.

- University of Vermont Field Naturalist graduate student Veronica Magner conducted inventory and evaluation of fire-adapted natural communities in the Green Mountain Escarpment in the towns of Middlebury, Salisbury, and Leicester in collaboration with Green Mountain National Forest's Ecology Program, Vermont State Ecologist Bob Zaino, Dr. Tony D'Amato, and Dr. Sonya Kaufman.

- University of Vermont Field Naturalist graduate student Alyssa Van Doorn conducted field validation of a State of Vermont old forest model, including sites all across Green Mountain National Forest. Her project is sponsored by Vermont Fish and Wildlife Department, working closely with State Ecologist Bob Zaino.

Wildfire & Prescribed Fire Activities

Prescribed fire and fuel break. USDA Forest Service photo.

Prescribed Fire

Fire management personnel on the GMNF, assisted by multiple internal and external partners, had a very successful and active prescribed fire season. Assisting Forest Service partners traveled from the Mt. Hood National Forest in Oregon, Gunnison National Forest in Colorado, Allegheny National Forest in Pennsylvania, and Wayne National Forest in Ohio. The Green Mountain National Forest Fire program also hosted multiple Job Corp Students from centers across the country, to provide valuable training opportunities and

accomplish GMNF prescribed fire objectives. We were also assisted on several prescribed fires by State of Vermont personnel, as well as Pomfret FD and the Appalachian Trail Conservancy. Resources were able to complete 26 prescribed fires here on the Green Mountain National Forest, covering 444 acres. These prescribed fires were conducted on a total of 6 burn days, when conditions were right to meet resource objectives. Prescribed fire treatment objectives were focused on hazardous fuel reduction in the Forest, improving wildlife habitat, stimulating oak regeneration, and reinvigorating blueberry patches. The following are the prescribed burns that were implemented in 2024:

Prescribed Fire Table

Date	Project Name	Acres	Ownership	Nearest Town
04/17/2024	Steam Mill	12	FS	Ripton
04/17/2024	AT Upper Lewis	28	NPS	Woodstock
04/22/2024	Farr Hill	17	FS	Granville
04/22/2024	West Hill Ext	12	FS	Granville
04/22/2024	Blueberry Lake Recreation	10	FS	Warren
04/22/2024	Blueberry Lake Trail	12	FS	Warren
04/22/2024	Rochester Wildflower	7	FS	Rochester
04/22/2024	Harmon Hill A	15	FS	Woodford
04/22/2024	Harmon Hill B	13	FS	Woodford
04/23/2024	Norton Farm Rd	13	FS	Ripton
04/23/2024	Homerstone Meadows A	17	FS	Wallingford
04/23/2024	South Wardsboro	38	FS	Wardsboro
04/25/2024	Beaver Meadows A	4	FS	Mount Holly
04/25/2024	Beaver Meadows B	3	FS	Mount Holly
04/25/2024	Beaver Meadows C	3	FS	Mount Holly
04/25/2024	Tarbellville	25	FS	Mount Holly
04/26/2024	Perry Basin	26	FS	Granville
04/26/2024	Beech Ridge	11	FS	East Dorset
04/26/2024	Stony Brook	17	FS	East Dorset
04/27/2024	FR31	49	FS	Mount Tabor
04/27/2024	FR30	32	FS	Mount Tabor
04/27/2024	FR10 Vista	2	FS	Mount Tabor
04/27/2024	Old Job Heritage Site	22	FS	Mount Tabor
04/27/2024	Ten Kiln Devils Den	32	FS	Mount Tabor
04/27/2024	Country Road C	13	FS	Winhall
04/27/2024	Country Road D	11	FS	Winhall
	TOTAL	444		

Local Wildfire Response

Green Mountain National Forest Resources also responded to three on-forest wildfires, totaling 0.3 acres. Two of those fires were human caused, resulting from abandoned campfires. The

Chandler fire was a lightning caused fire, east of Lake Dunmore, on Chandler Ridge. Resources also extinguished several abandoned campfires throughout the spring, summer and fall.
Both local and visiting Forest Service resources responded to four mutual aid requests for fire response on municipal lands, requested by State of Vermont.

Wildfire Table

County	Activity	Name	Acres	Cause
Addison	Wildfire	Chandler	0.1	Lightning
Bennington	Wildfire	Lye	0.1	Human
Addison	Wildfire	Kiosk	0.1	Human
*Addison	Wildfire	Abbey Pond	0.5	Human
*Bennington	Wildfire	VTVTS-2024071	1.25	Human
*Windsor	Wildfire	Morgan Road	57	Human
*Addison	Wildfire	Big Hollow	3.75	Human

*Denotes Mutual Aid Response to State of Vermont

Additional Program Highlights
In addition to prescribed fires that were completed in Vermont, fire resources also conducted 15 prescribed burns on the Finger Lakes National Forest in New York State for 417 acres. The majority of all the prescribed burns in NY were performed in the wildland urban interface.
Following our prescribed fire season, firefighters from the Green Mountain and Finger Lakes NFs mobilized to fires across the western United States and within Region 9 to Minnesota and Connecticut.

Smokey Bear was the special guest at Fenway Park where he celebrated his 80th birthday in August.

Our prevention and education program "Fire in Our Forest" was presented to several local schools and libraries in Vermont and New York and continues to grow in popularity with educators. We have partnered with the State of Vermont with this program and look forward to additional opportunities to present the program in the new year.

The fire management staff would like to thank the dedicated firefighters from the local fire departments and State of Vermont that responded to and assisted in the suppression of the wildfires that occurred this past year on the GMNF.

Public Outreach / Conservation Education

Employees of the GMNF typically spend a significant amount of time each year at local and state-wide fairs. This is a fun and refreshing way for our staff to be out and about with members of the community in full force. This past spring, summer and fall our staff again attended several community events, fairs

and job fairs that were held in Vermont. Each of these venues are wonderful opportunities for us to discuss GMNF related issues with the public and gather information from the thousands of people that we interact with.

GMFL employees Holly Knox, Brian Austin and Ethan Ready stand behind with the Skins and Skulls display at Boston Children's Hospital. USDA Forest Service photo.

In March, GMNF staff and the Urban Connections program worked to maintain our relationship with the patients and staff at Boston Children's Hospital by hosting our annual Forest Service Bingo game with Smokey Bear. Kids played along in person and remotely from their hospital rooms in Boston while our staff led the event. Forest Service employees provided clues for things that you might find in the forest, and players marked them on their bingo cards. Winners were treated to their choice of Smokey Bear items. In addition, we were able to offer our in person and remote Skins & Skulls interpretive program which has been a big hit with the patients at the hospital. These special events were made possible by Seacrest Studios, which broadcasts a weekly bingo game at Boston Children's. We always look forward to this event and working to grow our partnership with Boston Children's.

We are always open to working with local schools, towns and other organizations that are holding events that Smokey Bear, Woodsy Owl and our staff might be able to participate in. As mentioned above, last year we were able to launch our "Fire in Our Forests" program, introducing several hundred school age kids to northeast fire ecology and differentiating between harmful wildfires and helpful prescribed fires. If you are interested in having the Forest Service attend a school event or another community celebration, please reach out to us so that we can discuss the nature of the event and our schedules.

In 2024 the GMNF again partnered with Shelburne Farms to support the Forest for Every Classroom (FFEC) program which works to educate New England-based teachers about forest stewardship issues, provide tools to develop place-based service-learning curricula that meet current educational standards, and use local landscapes, resources, and community to connect classroom learning to real world application. Another critical program that we are proud to support is the Vermont Envirothon. The Vermont Envirothon helps students focus on Vermont's environmental issues related to forestry, wildlife, soils, and water resources through real-world learning in a teamwork environment. We would like to thank the Vermont Association of Conservation Districts for coordinating this important program and the many agencies and natural resource and conservation partner organizations that work hard to make the Vermont Envirothon possible. The program provides an opportunity for hands-on field experiences and activities with professionals in the field and serves as a way for high school-aged students to

actively learn more about the natural world around them. We have also been working with the Vermont Department of Forest Parks and Recreation to bolster interpretive services on State and Federal land at Branbury State Park and in the Moosalamoo National Recreation Area.

Again, thank you for your support of your National Forest. Together, we will continue to maintain and improve this valuable treasure for generations to come. Please reach out to any of our offices to make an appointment for in-person services. You can also visit us and learn more about the GMNF at our website online: https://www.fs.usda.gov/gmfl.

Like us on Facebook: https://www.facebook.com/GreenMountainFingerLakesNF/ and follow us on X: https://twitter.com/gmfl_nfs

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