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USDA Forest Service

Green Mountain National Forest

Town Meeting Report

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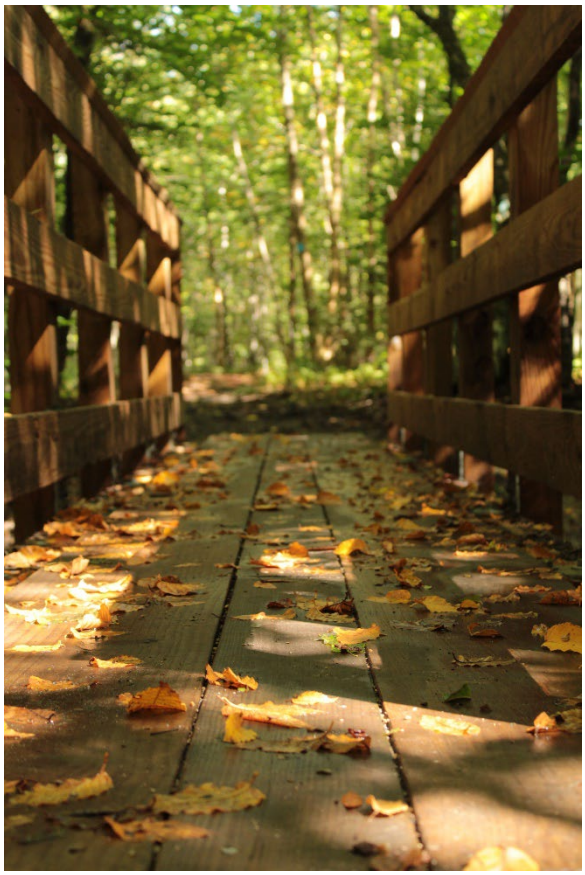

Photo 1 Foliage at the base of Mount Abraham in Lincoln, Vermont. USDA Forest Service photo.

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. Receiving several million outdoor recreation enthusiast visits annually, these visitors seek enjoyment in a natural setting while providing critical benefit to our local economies. 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.

As mentioned in our Town Report last year, we are in the process of building a new Forest Supervisor's Office in Mendon which we expect to be open for staff and visitors in the coming year. The former Rutland-based headquarters (231 North Main Street) for the Green Mountain and Finger Lakes National Forests has transitioned to a full-time virtual work schedule which will continue until our new office is completed on U.S. Route 4 in Mendon, Vermont. While our main phone number (formally for the Rutland Office) will remain the same (802) 747-6700, our mailing address has changed to: USDA Forest Service, Green Mountain & Finger Lakes National Forests, PO Box 220, Rutland, VT 05702. Please use this new mailing address and also visit our website for a current listing of Forest Service employees who can assist you throughout this temporary transition: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3838044.pdf.

The following is a brief summary of what happened in your National Forest throughout the past year:

Land Acquisition

In May of 2022 the GMNF acquired 619 acres in the towns of Lincoln and Warren through the Lincoln Peak Acquisition. We are currently working on acquisitions located in the towns of Mendon, Ripton, Stamford, Pownal, and Wallingford. We have one Land and Water Conservation Fund (LWCF) Submission for a property located in Arlington (Taconic Gateway) which we hope will be selected for funding in 2024. We have been supported by each of the town select boards for these parcels. The addition of 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.

Heritage Program

Heritage had a very busy and challenging year, completing the fieldwork for thirty-seven projects on the forest. We recorded or updated forty-three archaeological sites, surveyed 1,500 acres, completed four Determinations of Eligibilities for the National Register of Historic Places (NRHP), and three Memorandums of Agreement.

Photo 2 Archaeology Crew conducting shovel test units at Grout Pond for the Grout Pond Campsite Improvements project. USDA Forest Service photo.

In September, we welcomed Brandon Emerson, our new permanent Archaeological Technician, who joins us after a seasonal position on the Rogue River Siskiyou in Oregon.

We had the help of 3 volunteers throughout the season to complete project work, including Catie a high school student that joined our field crew for a week to learn about archaeology as a career with the Forest Service. We also engaged with the GMNF Rangers on a discussion on what archaeology is and what a career in the field looks like at the Robert Frost Trail.

The Vermont Youth Conservation Corps assisted Heritage and Recreation Program staff to clear the overgrown barn cellar hole at the site of the Pier's Tavern in Ripton. Once the trail is finished, the sign and interpretative site will be officially unveiled to the public.

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

Photo 3 Progress photo of the new Supervisors Office in Mendon. USDA Forest Service photo.

The GMNF began construction of their new administrative headquarters facility on US Route 4 in Mendon, Vermont. Work this year included is focused on the construction of the office and garage. Completion is planned for spring of 2023 with move in soon after.

We also painted the exterior of the workshop at the Mt. Tabor Crew Quarters. Further repairs are planned for that building next year to improve its appearance and protect it.

Forest Road Cooperative Aid to Towns

The GMNF completed important road improvement and maintenance projects in the towns of Goshen, Ripton, Rochester, and Brandon. Projects included road and parking improvements in the towns of Brandon, Goshen, and Ripton to improve access to the Moosalamoo National Recreation Area. The design of the West Hill Road Bridge in Rochester has been completed. The project is being completed through a partnership between the town of Rochester, Forest Service, FHWA Eastern Federal Lands Highway Division, and the Vermont Agency of Transportation, and is scheduled for construction in 2023. The GMNF worked with the Towns of Goshen, Hancock, and Stratton to develop applications for grants from FHWA Eastern Federal Lands Highway Division through their Federal Lands Access Program (FLAP). We are hopeful that these projects will be successful so we can continue to work with the Towns to improve access to the GMNF.

Forest Road Improvement & Maintenance Projects

The GMNF improved or maintained over 70 miles of National Forest System roads in the towns of Chittenden, Goshen, Granville, Hancock, Lincoln, Mount Tabor, Peru, Readsboro, Ripton, Rochester, Somerset, Stratton, Sunderland, Wallingford, Warren, 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 the repair of a washed-out culvert and road on Forest Road 21 (Mad Tom) in Peru and the reconstruction of Forest Road 39 (Texas Falls) in Hancock.

Photo 4 Construction work being done on the Forest Road 39 in Hancock. USDA Forest Service photo.

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

We have a strong and united constituency among our partners, local communities, and interested publics to support and maintain outdoor recreation opportunities. By joining together federal land-management agencies, state agencies, local communities, nongovernmental organizations, volunteers, and partners, we can address shared issues and align to provide services requested by the public. One example is the ongoing state-wide effort to develop an end-to-end mountain bike, backcountry ski, and hut network in partnership with the Velomont Trail Collective, Vermont Huts Association, State of Vermont Department of Forests, Parks and Recreation, Vermont Youth Conservation Corps, Vermont Mountain Bike Association, Catamount Trail Association and Quantified Ventures. The long-term vision for the Velomont Trail and Vermont Hut network is to connect 23 communities from Canada to Massachusetts with huts strategically located along the trail for overnight use.

The following accomplishments highlight 2022 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. The Forest Service relies on a community of collaboration and wishes to thank all of our partners, such as: Vermont Association of Snow Travelers (VAST), Vermont All-terrain Vehicle Sportsman's Association (VASA), Vermont Forests, Parks and Recreation, Vermont Youth Conservation Corps (VYCC), Ridgeline Outdoor Collective, Vermont Mountain Bike Association (VMBA), Green Mountain Club (GMC), Appalachian Trail Conservancy, town of Killington and the Killington Mountain Bike Club, Vermont Huts Association, Addison County Bike Club, Catamount Trail Association (CTA), Counseling Service of Addison County, Middlebury High School Diversified Occupations Program, Moosalamoo Association (MA), Blueberry Hill Outdoor Center (BHOC), Vermont Trail Trotters (VTT), Vermont Horse Council, and many more – including our dedicated campground hosts.

The Great American Outdoors Act gave the USDA Forest Service new 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. Through the support of multiple partners, three projects funded by the Great American Outdoors Act were completed or are underway, enabling improvement at 20 recreation sites on the Green Mountain and Finger Lakes National Forests.

With the help of the many hard-working volunteers and organizations we are able to provide a quality recreation experience in alignment with a strong environmental stewardship ethic. 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: Worked with GMC on replacement of the Sunrise Shelter on the Long Trail. GMC completed construction of the new shelter privy and completed site prep for a new shelter. Construction of the new shelter is scheduled for the summer of 2023.

Goshen: Worked with partners to perform trail maintenance and on the Stewart Trail. A contractor reset culverts and improved drainage along the existing trail corridor.

Goshen / Ripton: Resurfaced the Voter Brook Overlook path, parking area, and overlook, installed a panoramic sign, and installed a new picnic table at the overlook. Installed a new lean-to and shed at the

Moosalamoo Campground Camphost site. Worked with partner groups, MA and CTA on trail maintenance projects on Stewart Trail, Widow's Clearing, and Wilkinson Trail networks. Began trailhead reconstruction of the Oak Ridge Trailhead. The trailhead reconstruction project is expected to be completed Spring of 2023.

Granville: Installed a new trailhead kiosk at the Clark Brook Trailhead.

Hancock: Completed a chipping contract at the Texas Falls picnic area and observation site to improve site aesthetics and improve visitor experience. Completed high risk tree reduction work at the Texas Falls Observation site and nearby parking lots and picnic sites. Installed a new kiosk at the Hancock Overlook.

Killington: Worked with Town of Killington and other partners to complete Phase 2 of the Sherburne Trails trail network. Worked with partner, CorpsTHAT, to maintain and repair trail-tread and reduce trail switchback cutting on the Deer Leap Trail.

Leicester: Worked with VYCC to install new picnic tables at the Silver Lake day-use site and picnic area. Worked with VYCC to stabilize an eroded and slumping area near Campsite 1 at the Silver Lake Campground. Completed high risk tree removals and chipping at the Silver Lake Campground. Installed a new kiosk at the Minnie Baker Trailhead.

Lincoln: Performed high risk tree removal at the Battel Shelter. Installed a new kiosk at the Emily Proctor Trailhead.

Norwich: Worked with the ATC to remove abandoned and unlabeled tree stands positioned near the Appalachian Trail. Replaced the AT bridge in Pomfret near Stage Road.

Pittsfield: Worked with Ridgeline Outdoor Collective to authorize trail maintenance along the Contest Trail.

Ripton: Worked with VYCC and the Ripton Historical Society to remove vegetation from the Calvin Pier barn and tavern cellar holes. Worked with Ripton Historical Society to install an interpretive sign at the Calvin Pier cellar hole. Installed a bridge on the Robert Frost Connector Trail and completed work along the connector trail. Worked with VYCC to install new roadside signs near Breadloaf, and new site signs at the Robert Frost Wayside. MA installed a pollinator flower bed at the Robert Frost Interpretive Site. Worked with MA to install guard rails on a trail bridge located on the Haystack Trail.

Rochester: Installed picnic tables at Bingo Brook dispersed camping area campsites. Worked with Ridgeline Outdoor Collective and VMBA to complete the Bean's Bridge to the Tunnel Brook section of the Velomont Trail. Worked with partners Ridgeline and VMBA to begin construction of the Chittenden Brook to Morrill Brook section of the Velomont trail near Chittenden Brook Campground. Began construction of the Swan's Mill to Bingo section of the Velomont Trail. Completed a high-risk tree removal contract in the Chittenden Brook Campground.

Salisbury: Completed site prep for the Falls of Lana parking lot resurfacing project along State Route 53. Reconstruction and repaving of the Falls of Lana parking lot is scheduled for summer 2023.

Warren: Worked with the StewardMRV to maintain Blueberry Lake and Warren Falls Observation Sites. Worked with VYCC to install a wooden screen and gravel pad to improve aesthetics of the portable toilet at the Warren Falls Parking lot. Recontoured the Warren Falls gravel parking lot prior to the recreation season. Installed three new picnic tables at Blueberry Lake. Installed several picnic tables at Warren Falls Observation Area.

Shrewsbury: Improved the trailhead kiosk at the AT / LT Clarendon Gorge Parking Area in order to provide clear information to National Forest Visitors. This project was funded by the Great American Outdoors Act.

Wallingford: In partnership with GMC, a caretaker hosted visitors and maintained the Little Rock Pond Shelter privy, tenting area, and surrounding trails.

Weston: In partnership with VMBA and specifically Northshire Area Trail Systems (NATS), two trail bridges on the Moses Pond trail were replaced. This trail is managed for summer non-motorized uses. It is also part of the Catamount State-wide Cross Country Ski trail. This project was funded by the Great American Outdoors Act.

Peru: In partnership with GMC, a caretaker hosted visitors and maintained the Griffith Lake Tenting Area, Peru Peak Shelter, and surrounding trails. A Vermont Youth Conservation Corps crew worked on the AT / LT near Griffith Lake for six weeks. At Hapgood Pond Recreation Area, all picnic tables were replaced and campsites were resurfaced. Work at Hapgood was funded by the Great American Outdoors Act.

Winhall: In partnership with VAST, the trail bridge on the Jenks Connector trail was repaired and re-opened after it was critically damaged during the July rainstorm in 2021. This bridge also serves the Catamount trail.

Photo 5 VYCC spent several weeks working at Grout Pond. USDA Forest Service photo.

Stratton: In partnership with GMC, a caretaker provided onsite information and maintained back country facilities and trails at Stratton Pond. Work to reduce water quality impacts at Stratton Pond continued in 2022 and the AT / LT was officially relocated away from the pond shoreline, wooden tent platforms were constructed at the Stratton View Tenting Area and continued construction of the new overnight shelter is ongoing. At Grout Pond Recreation Area, in partnership with Vermont Huts Association, construction of a multi-season hut is ongoing off the Camp Loop within the recreation area. Additionally, VYCC and Wilderness Volunteers crews worked with Forest Service staff to repair puncheon on the Pond Loop and West Loop trails and constructed nearly 500’ of decked puncheon to improve the visitor experience. In the campground, all campsites were hardened and picnic tables were replaced utilizing recreation fee revenue. In partnership with VAST, a significant culvert was replaced with an Aquatic

Organism Passage (AOP) compliant structure and approximately 500 feet of trail was repaired with erosion control work and surfacing.

Glastenbury: In partnership with VAST, maintenance was performed on the snowmobile trails on Glastenbury Mountain. In partnership with GMC, the Kid Gore Shelter was maintained. Work included roof replacement, structure and foundation work.

Woodford: A new information kiosk was installed at Little Pond Trailhead. This kiosk will have a new information panel installed in the next year to help visitors navigate and appreciate their National Forest. At the Appalachian / Long Trail Trailhead, the pathway to the AT / LT was resurfaced by a VYCC crew. Additionally, new kiosk information panels are ordered and will be installed in the near future.

Stamford: In partnership with the Appalachian Trail Conservancy and GMC, construction has started on the new Seth Warner Shelter. The "old" Seth Warner Shelter site south of County Road was decommissioned.

Readsboro: In partnership with DHASH, a decision was signed in 2022 that will allow additional backcountry ski glades to be managed at Dutch Hill to increase the terrain available to experienced skiers.

Wilderness

Photo 6 Wilderness staff and partners performing campsite restoration at Bourn Pond in Lye Brook Wilderness, Sunderland, VT. USDA Forest Service photo.

Throughout 2022 increased visitor use has continued in the eight designated Wildernesses on the GMNF. Since the pandemic began, Americans have flocked to outdoor recreation, as the Wilderness encounter monitoring data indicates. This year all eight designated Wilderness areas on the GMNF have

met the National Standard for Wilderness Stewardship Performance (WSP) and preserving Wilderness character. 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 workforce increased in 2022 with our shared stewardship approach and partnership contributions. GMNF Wildness staff in 2022 consisted of a Wilderness program manager, a Wilderness seasonal ranger, a Society of Wilderness Stewardship Fellow, three Student Conservation Association interns, one Greening Youth Foundation Wilderness Steward, 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 along both the Appalachian Trail and Long Trail.

2022 Wilderness Stewardship Performance Scores: (out of a possible 100 points total)

Big Branch Wilderness 68 points located in Dorset, Mount Tabor, and Peru. Increased from 62 points in 2021. 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 conduct campsite monitoring every five years 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 maintenance was completed, educational signage was painted and improved marking boundaries along the trail system.

Breadloaf Wilderness 66 points located in Granville, Hancock, Lincoln, Ripton, and Warren. Increased from 60 points in 2021. 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 popular and heavily used section of the Long Trail heading south from the Lincoln Gap trailhead to sunset ledge. Dispersed recreation sites / campsites were monitored for impacts to protect natural resources while maintaining opportunities for unconfined recreation. Wilderness boundary maintenance was completed, educational signage was painted and improved marking boundaries along the trail system. Backcountry skiing activity has been monitored and some illegal tree cutting to improve skiing lines has been observed.

Photo 7 Northwoods Stewardship Center pro trail crew working on the Long Trail in Breadloaf Wilderness. USDA Forest Service photo.

Bristol Cliffs Wilderness 68 points located in Bristol and Lincoln. Increased from 64 points in 2021. 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 Rangers conduct campsite monitoring every five years to track trends with recreation use. A team of air quality specialists were assisted by our Wilderness Stewards to continue a long-term lichen monitoring research project within the Bristol Cliffs Wilderness. Samples were collected from the designated research plot for sensitive receptor species analysis. Wilderness boundary maintenance was completed, educational signage was painted and improved.

George D. Aiken Wilderness 64 points located in Woodford. Increased from 54 points in 2021. 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 maintenance was completed, educational signage was painted and improved.

Glastenbury Wilderness 72 points located in Bennington, Glastenbury, Shaftsbury, and Woodford. Increased from 68 points in 2021. Visitor encounter monitoring was conducted along the Appalachian Trail / Long Trail and side trails in the Glastenbury Wilderness. Wilderness boundary maintenance was completed, educational signage was painted and improved marking boundaries. 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.

Joseph Battell Wilderness 70 points located in Chittenden, Goshen, Hancock, Ripton, and Rochester. Increased from 66 points in 2021. 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. Wilderness boundary maintenance was completed, educational signage was painted and improved marking boundaries. The Great Cliffs on Mount Horrid were monitored during the peregrine falcon nesting period.

Lye Brook Wilderness 74 points located in Manchester, Stratton, Sunderland, and Winhall. Increased from 66 points in 2021. 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. Wilderness boundary maintenance was completed, educational signage was painted and improved marking boundaries. A Northwoods Stewardship Center pro trail crew teamed up with the Student Conservation Association crew to conduct trail work along the Appalachian Trail and Branch Pond Trail by the Douglas Shelter. 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. A team of air quality specialists were assisted by our Wilderness Stewards to continue a long-term lichen monitoring research project within the Lye Brook Wilderness class 1 airshed. Samples were collected from the research plot for sensitive receptor species analysis. Campsite rehabilitation at dispersed sites along Bourn Pond was conducted with our partners from Leave No Trace, Green Mountain Club, Appalachian Trail Conservancy, and Urban Connections. Roughly one acre of riparian buffer was restored around the pond that had been cleared for tenting sites and campfire wood.

Peru Peak Wilderness 72 points located in Mount Tabor and Peru. Increased from 68 points in 2021. 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. Trout were stocked in Big Mud Pond utilizing a helicopter in partnership with the Vermont Department of Fish and Wildlife. Wilderness boundary maintenance was completed, educational signage was painted and improved marking boundaries.

Special Uses

Recreation

In 2022 there were 29 active recreation special use permits administered to standard, including isolated cabins, huts, outfitters and guides, recreation events and ski areas. 19 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. Four applications were processed to a decision.

Lands

The GMNF administered 94 Land Special Use Permits to standard including uses such as private right of ways, power and telephone lines, water systems, communication sites and maple tapping. Four applications were processed to a decision.

Botany Program

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

- Proposed small project sites in East Dorset (0.5 acres), Glastenbury (37.2 acres), Hancock (2.2 acres), Killington (17.4 acres), Lincoln (1 acre), Middlebury (4.8 acres), Readsboro (65.1 acres), Ripton (3.5 acres), Salisbury (11 acres), Shrewsbury (10.1 acres), Stratton (<0.1 acres), Warren (2.2 acres), Winhall (2.1 acres), Woodford (7.8 acres)
- Restoration planning at the Richville Road site in Manchester (7.9 acres)
- Rare plant monitoring in Middlebury (86.9 acres), Mount Tabor (29.9 acres), Pownal (42.3 acres), Stratton (11.2 acres), Readsboro (1.1 acres)
- Robinson Integrated Resource Project (IRP) implementation: 16.1 acres in Pittsfield
- Timber theft investigation in Stratton (14.5 acres)
- Prescribed Fire and Silviculture workshop in Pownal (<0.1 acres)

As a result of inventory, new Regional Forester Sensitive Species (RFSS) occurrences were found for butternut (*Juglans cinerea*) in Hancock, perfoliate bellwort (*Uvularia perfoliata*) in Mount Tabor, and for two rare plants tracked by the state, wood lily (*Lilium philadelphicum*) in Manchester, and yellow oak (*Quercus muehlenbergii*) in Middlebury. 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 rare plants (RFSS or state-tracked) were monitored: one RFSS in East Dorset, one RFSS in Lincoln (with assistance from local volunteer and conservation leader Warren King), nine RFSS and three state-tracked species in Middlebury, eight RFSS and two state-

tracked species in Mt. Tabor, one RFSS in Pownal, two RFSS in Readsboro, three RFSS and one state-tracked species in Stratton, one state-tracked species in Warren, four RFSS and one state-tracked species in Woodstock.

List of rare plant species (RFSS or state-tracked) monitored in 2022, by town.

Species Scientific Name (state rank provided for non-RFSS)	**Species common name**	**Town**
Conopholis americana	Oak-drop	East Dorset
Juglans cinerea	Butternut	Hancock
Polemonium vanbruntiae	Appalachian Jacob's ladder	Lincoln
Lilium philadelphicum (VT-S3)	Wood lily	Manchester
Asclepias exaltata	Poke milkweed	Middlebury
Brachyelytrum erectum (VT-S2S3)	Shorthusk	Middlebury
Conopholis americana	Oak-drop	Middlebury
Cypripedium parviflorum var. pubescens	Large yellow lady's-slipper	Middlebury
Desmodium paniculatum	Paniculate tick-trefoil	Middlebury
Glyceria borealis (formerly VT--S3)	Small floating mannagrass	Middlebury
Hieracium venosum	Rattlesnakeweed	Middlebury
Juglans cinerea	Butternut	Middlebury
Lespedeza violacea	Violet bush-clover	Middlebury
Phegopteris hexagonoptera	Broad beech fern	Middlebury
Quercus muehlenbergii	Yellow oak	Middlebury
Ranunculus pensylvanicus	Pennsylvania buttercup	Middlebury
Sanicula trifoliata	Long-fruited snakeroot	Middlebury
Cypripedium parviflorum var. pubescens	Large yellow lady's-slipper	Mount Tabor
Cypripedium reginae	Showy lady's-slipper	Mount Tabor
Eleocharis ovata	Ovate spike-rush	Mount Tabor
Equisetum palustre (VT- S2S3)	Marsh horsetail	Mount Tabor
Juglans cinerea	Butternut	Mount Tabor
Panax quinquefolius	Ginseng	Mount Tabor
Sanicula trifoliata (VT-S3)	Long-fruited snakeroot	Mount Tabor
Solidago patula	Roundleaf goldenrod	Mount Tabor
Trillium cernuum	Nodding trillium	Mount Tabor
Uvularia perfoliata	Perfoliate bellwort	Mount Tabor
Corallorhiza odontorhiza var. odontorhiza (VT-S2-T)	Autumn coral-root	Pownal
Isotria verticillata	Large whorled pogonia	Pownal
Agalinis paupercula var. paupercula	Smooth agalinis	Readsboro
Agalinis paupercula var. paupercula	Smooth agalinis	Readsboro
Eleocharis ovata	Ovate spike-rush	Readsboro
Arceuthobium pusillum	Eastern Dwarf-mistletoe	Stratton

Carex wiegandii	Wiegand's sedge	Stratton
Epilobium palustre	Marsh willow-herb	Stratton
Platanthera orbiculata var. macrophylla	Large roundleaf orchid	Stratton
Luzula parviflora (VT-S2/S3)	Small-flowered rush	Warren
Botrychium multifidum	Leathery grapefern	Woodstock
Carex backii	Rocky mountain sedge	Woodstock
Carex hitchcockiana (VT-S3)	Hitchcock's sedge	Woodstock
Juglans cinerea	Butternut	Woodstock
Panax quinquefolia	Ginseng	Woodstock

In support of the Upper White River Cooperative Weed Management Association (CWMA), of which the GMNF is a founding member, staff, volunteers, and the CWMA coordinator controlled the following non-native invasive plant infestations:

- Chittenden: 0.2 acres of garlic mustard at Chittenden Brook Campground
- Goshen: 0.6 acres of garlic mustard, purple loosestrife, and wild parsnip at Brandon Gap
- Pittsfield: 0.3 acres of wild chervil at Corporation Brook
- Rochester: 0.6 acres of wild chervil on Forest Road 61, 0.1 acres of wild chervil at Chittenden Brook Campground, and 0.3 acres of Japanese barberry on the mountain bike trails behind the district office

Education and volunteer events were also held:

- In August, a public presentation was given at the Rochester Public Library entitled: “Replacing Invasive Plants with Native Species in the Home Landscape” for residents in all the Upper White River CWMA towns (Hancock, Granville, Pittsfield, Rochester, and Stockbridge) and beyond.

- In June, wild chervil management direction was offered to residents and businesses in Rochester, Hancock, and Granville via Front Porch Forum.

- In September, a barberry control event was held on the Sap Boiler trail behind the Ranger Station in Rochester.

In addition to infestations controlled within the Upper White River CWMA boundary, many other small infestations were controlled by staff, contractors, volunteers, and partner organizations, including VYCC and CorpsTHAT.

Photo 8 VYCC and CorpsTHAT pause for a photo after hours of manual labor controlling wild chervil (photo by Melissa Green). USDA Forest Service photo.

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 over 156.3 acres of the following species were controlled in these towns:

- Chittenden: 0.2 acres of goutweed were treated at on Chittenden Brook Road by a contractor as part of mitigations for timber sales within the Robinson IRP area (Souphouse sale).
- Mount Tabor: 73.3 acres of wild parsnip (mostly sparsely distributed) were treated by staff within the Old Job sale area that is part of the Early Successional Habitat Creation project.
- Pittsfield: 11.2 acres of goutweed, Japanese barberry, Morrow honeysuckle, wall lettuce, and common reed were treated by a contractor as part of mitigations for Mayo Meadow and Guernsey Brook timber sales within the Robinson IRP area, and another 0.2 acres of Morrow honeysuckle were treated by staff.
- Ripton: 0.1 acres of wild chervil, Morrow honeysuckle, and common buckthorn were treated by staff in the Widow's Clearing project area.

- Rochester: 51.5 acres of wild chervil were treated on Bingo Road and Thresher Brook by staff, VYCC, and CorpsTHAT; some of these infestations also extended into Hancock. An additional 0.5 acres of Japanese barberry and Morrow honeysuckle were treated by staff and Spikehorn, and 3.5 acres of Japanese barberry, Japanese knotweed, and goutweed were treated by a contractor as part of the Garage and Souphouse timber sales within the Robinson IRP area; some of these infestations extended into Chittenden.
- Salisbury: a tiny patch (less than 0.1 acres) of cypress spurge was controlled by staff.
- Somerset: 7.1 acres of wild parsnip and wild chervil were controlled by VYCC and staff within the Airport sale area within the Somerset IRP.
- Sunderland: 6.7 acres of wild parsnip and Morrow honeysuckle were controlled by staff within the South Fork sale area within the Early Successional Habitat Creation project.

In 2022 the Batten Kill Cooperative Invasive Species Management Association (CISMA), of which GMNF is a founding member, engaged two AmeriCorps members hosted by Hildene, the Lincoln Family Home in Manchester, and the Brattleboro Office of the Vermont Land Trust, respectively. With support from the steering committee, the AmeriCorps members:

- Hosted an educational edible invasive plants workshop in May at the Yellow Barn Farm in Arlington;
- Provided invasive species education to two third grade classes at Fisher Elementary School in Arlington;
- Staffed an invasive plant booth at the spring Batten Kill Fly Fest in Arlington;
- Held one volunteer invasive species identification and management event at Equinox Preserve in Manchester Center in September;
- Offered two invasive species educational articles on Facebook and to local newspapers;
- Established an ongoing invasive plant BioBlitz virtually via iNaturalist; and
- Published its first newsletter in April.

As a result of collaboration with partners within the CISMA, GMNF staff developed an informal agreement with Hildene in Manchester to collect seeds of woody species on the National Forest that could be grown out at the Hildene nursery and used in restoration work elsewhere in the CISMA, including the Richville Road restoration site on National Forest System land in Manchester. Other towns wholly or partially included within the CISMA boundary and potentially benefitting from CISMA activities include Dorset, Glastenbury, Peru, Rupert, Sandgate, Shaftsbury, Stratton, Sunderland, and Winhall.

Forest Vegetation Management

Below is a list of accomplishments for calendar year 2022.

- Timber sales were sold in Hancock, Pittsfield, Rochester, Somerset, Stockbridge, and Weston, totaling approximately 8.6 million board feet of sawtimber and pulpwood.

- Timber sales were prepared in Glastenbury, Goshen, Mount Holly, Pittsfield, Somerset, Stamford, Stratton, Sunderland, and Weston, to be offered in 2023-24. These sales are associated with the Early Successional Habitat Project, the South of Route 9 Integrated Resource Project, the Robinson Integrated Resource Project, and the Somerset Integrated Resource Project.

- The Forest prepared sites for forest regeneration by removing damaged or diseased trees on 420 acres in the Towns of Chittenden, Hancock, Stamford and Wallingford.

- The Forest accomplished timber stand improvement and crop tree release work on 125 acres of young forest in the Towns of Goshen, Stratton and Somerset.

- Forest staff planted approximately 11,000 trees on 45 acres to reforest plantations of non-native tree species following harvest and to restore dry oak forest habitat. Tree planting was accomplished in the Towns of Granville, Pownal, and Rochester.

- Our staff 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.

- In cooperation with the State of Vermont, Emerald Ash Borer monitoring has discovered a new infestation in the township of Somerset. Additional trap trees have now been established across the Forest to detect new infestations adjacent to existing areas.

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

- Sold one timber sale and prepared three 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.

- Sold one timber sale and prepared one additional sale as part of the South of Route 9 Integrated Resource Project. This project includes restoration activities and timber harvest on nearly 8,000 acres in Rochester, Hancock, Goshen, Pittsfield, and Chittenden.

- The Forest worked on preparation of two additional sales for 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.

- The Forest sold one timber sale and prepared another sale for the Somerset Integrated Resource Project. This project includes restoration activities and timber harvest on over 8,000 acres in the Towns of Dover, Glastenbury, Stratton, Somerset, Searsburg, Wilmington, and Woodford.

- The Forest 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.

- The Forest collected forest inventory data and conducted landscape assessment in support of vegetation management for the Telephone Gap project in Chittenden and Pittsfield.

- Permits were sold for approximately 343 cords of firewood, 840 pounds of wild apples, and 1 ton of evergreen boughs.

- The Forest continued work in restoring native trees (including butternut, American chestnut and beech) with research partners. GMNF staff located "challenged" beech trees that appeared to be resistant to beech scale insect to test this resistance.

Environmental Planning

In calendar year 2022, Forest staff completed 20 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).

Although not a completed decision, a major highlight to note includes the near completion of the proposed action for the Telephone Gap Integrated Resource Project located in the towns of Chittenden, Mendon, Killington, Stockbridge, Pittsfield, Goshen, Brandon, Rutland Town, and Pittsford. First initiated in 2019 with field surveys and public input, the proposed action is designed to change the existing conditions within the project area to meet Forest Plan goals, objectives, desired future conditions of forest resources. Formal invitation for public input on the proposed action is expected to start in early 2023 followed by an effects analysis to be documented in an environmental assessment.

In addition, the Reduced Roads - Supplemental Information Report (SIR) for the Early Successional Habitat Creation Project Environmental Assessment was completed in May. The project is located across the Manchester Ranger District involving multiple towns. The SIR documented new information and changed circumstances relative to dropping all permanent system road construction and limited temporary road construction associated with timber harvest activity for all future timber sales prepared to implement this project.

Other highlights include:

- Two separate ski lift replacement projects at Mount Snow and Sugarbush ski resorts in the towns of Dover and Warren, respectively. Replaces existing lifts to reduce wait times and improve the alpine ski experience. The additional Sugarbush Reverse Traverse Realignment and Snowmaking project realigns existing ski trails and adds new snowmaking infrastructure.
- White Oak Planting project in the town of Dorset plants up to 2,000 white oak seedlings on approximately 3 acres to conduct genetic tests on which trees are best adapted to local conditions.
- North Country Trail Corridor / Oak Ridge Trailhead project in the towns of Goshen, Middlebury, and Hancock consists of Oak Ridge Trailhead reconstruction, North Country National Scenic Trail construction (0.3 miles), and existing trail improvements to connect the trail on private land from the west to the Long Trail.
- Dutch Hill Glade Additions project in the town of Readsboro adds new glades to the Dutch Hill backcountry ski area.
- Prospect Mountain Trail Improvements project in the town of Woodford provides Nordic ski trail improvements including widening and new segments to improve trail congestion.
- Falls of Lana Parking Lot Improvement project in the town of Salisbury improves the Falls of Lana Trailhead parking lot through repaving and marking of parking spaces.

- Middlebury Office Conveyance in the town of Middlebury authorizes the conveyance of the decommissioned Middlebury Ranger Station to a non-Forest Service entity.
- Minvera Hinchey Shelter Area Management in the town of Shrewsbury replaces and relocates the existing shelter along the Appalachian Tral / Long Trail corridor.
- Manchester Trail Bridge Replacements in the towns of Winhall and Dover replaces two snowmobile bridges and one foot bridge along existing trails.
- Multiple special use permits issued for use of National Forest System lands such as utility right of way, private land access, and various recreation events and outfitter guide operations across the Forest.

Fisheries Improvement

Forest staff monitored fish populations throughout the GMNF in 2022. 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 2022 field season: Rochester, Hancock, Ripton, Granville, Mount Tabor, Weston, Landgrove, Arlington, Manchester, Woodford, Pownal, Stratton, Sunderland, and Peru**.** Additionally, Forest staff monitored sea lamprey spawning areas in the upper White River in the towns of Granville, Hancock, and Rochester. The Forest also maintains a network of water temperature monitoring sites across both districts.

Photo 9 Fish stocking with the help of Vermont Department of Fish and Wildlife. USDA Forest Service photo.

The Forest Service continued to work with partners on identifying and eliminating barriers to aquatic organism passage in 2022. Although off-Forest, brook trout habitat along the Mettowee River in the town of Dorset was improved by removal of three concrete structures. These structures had served as fish barriers, preventing the free movement of fish between downstream areas up onto stream segments

managed by the Forest Service. This project was supported, in part, by USDA Joint Chiefs' Funding and was completed through partnerships with the Poultney-Mettowee Conservation District and Trout Unlimited. There are ongoing projects on streams in Rochester, Goshen, and Warren, that will be completed in 2023. 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, Vermont Natural Resource Council, Battenkill Watershed Alliance, and the Poultney Mettowee Natural Resources Conservation District.

Stream restoration by reintroducing large wood material occurred, enhancing aquatic habitat along approximately 3.0 miles of forested streams. Adding large wood material improves habitat conditions for aquatic organisms and restores stream processes. These activities took place on Tunnel Brook in Rochester and Hancock and Blind Brook in Glastenbury. This work was completed by a combination of USFS staff and via agreement with Trout Unlimited.

Riparian planting occurred at multiple sites within the White River watershed to help restore aquatic habitat. The GMNF assisted the White River Partnership, and the Vermont Youth Conservation Corp, at sites in Rochester, Granville, and Hancock.

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 stock provides a unique fishing opportunity. Additionally, brook trout were stocked in Hapgood Pond in Peru to support our annual fishing derby.

Wildlife Habitat Improvement & Monitoring

Wildlife habitat was improved and maintained through maintenance of openings on the Forest, both permanent and temporary. Approximately 100 acres of upland openings were maintained by mowing, or mastication in the towns of East Dorset, Goshen, Granville, Hancock, Hartford, Manchester, Mount Holly, Mount Tabor, Pomfret, Rochester, Stockbridge, Barnard, Pomfret, Salisbury, Readsboro, Weston, Stratton, Woodford, and Winhall. In addition, apple trees, which provide high-value wildlife food, were "released" by cutting competing vegetation in old orchards in Rochester, Dorset, Pittsfield, Mount Holly, Mount Tabor, Peru, Somerset, Stratton, Weston, Wallingford, and Stamford.
Wildlife biologists and technicians continued work with the Vermont Department of Fish and Wildlife to monitor the populations and habitat requirements of bats since the advent of white-nose syndrome. Potential timber sale units within the boundaries of the towns of Somerset, Stratton, Mendon, Rochester and Chittenden) were monitored to determine the species composition of the bats on the landscape.

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. This summer was the initial pre-treatment survey season in Dover, Jamaica, Mount Tabor, Searsburg, Stamford, Sunderland, Weston, Wilmington, and Woodford. Peregrine falcon nest sites on 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.

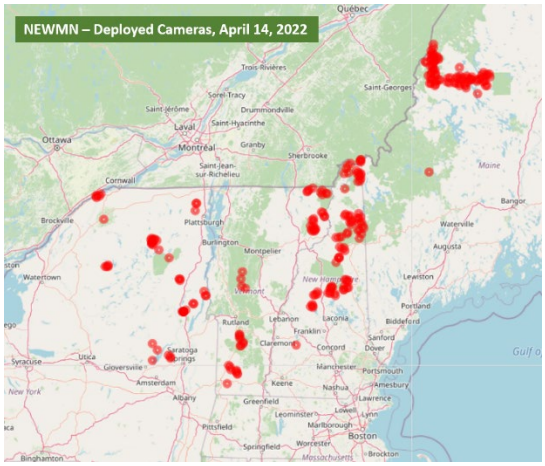

Photo 10 A study on the effects of habitat, density, and climate on moose and winter tick ecology in the northeastern U.S. has been developed by Alexej Sirén, PhD, Postdoctoral Researcher. USDA Forest Service photo.

In partnership with the GMNF and the Vermont Fish and 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 U.S. 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).

Photo 11 Moose caught on Autonomous recording units in the Forest. USDA Forest Service photo.

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.

Soil / Water Monitoring

Forest Soil Disturbance Monitoring was conducted in six payment units within five timber sales throughout the Forest to estimate forest management effects on soil and water resources. This included Bully Brook sale in Wallingford, Sunnyside sale in Peru, Swan's Mill sale in Hancock and Souphouse sale in Rochester and Chittenden. Monitoring was also completed in five wetlands proposed to receive "chop and drop" treatments of woody material immediately adjacent to the wetlands as part of the Early Successional Habitat Creation Project. Monitoring included gathering baseline data on solar insolation, water temperature, air temperature, and ground surface humidity. This will help Forest staff determine if the proposed treatments will have effects on the aquatic, wetland, and upland habitat conditions that could impact wetland functions or values. As part of a Long-term Soil Monitoring Project soil samples

were collected from ten soil pits within each of two sites in the Lye Brook Wilderness Area in Sunderland. Three sister sites in Mount Mansfield were also sampled. Many partners in the Forest Ecosystem Monitoring Cooperative contributed as well as the Vermont Youth Conservation Corps. This was the fifth data collection since 2002, each five years apart. The project was designed to detect and predict environmental changes in soil over 150 years. The soil samples are analyzed for a suite of chemical parameters, including exchangeable cations, carbon, nitrogen, and mercury. Although still in the baseline establishment period, significant trends in carbon, mercury, and exchangeable calcium levels may be emerging.

An agreement was funded and renewed with the Vermont Agency of Natural Resources, Department of Environmental Conservation to partner in monitoring water quality 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 (e.g., temperature, pH, metals, etc.) as well biological parameters (e.g., macroinvertebrates) at sites in the towns of Pownal (Broad Brook), Rochester (Bingo Brook and Wing Brook), and Woodford (Bickford Hollow Brook). The Forest provided additional monitoring at these sites by conducting fish population monitoring at these sites as well.

Research & Inventory Activities

Photo 12 Fungi (family Hugrophoracea, Goblet Waxcap, Oak-loving Gymnopus, and Upright Coral Fungus) photographed by Ben Lemmond during the MycoBlitz in August 2022. USDA Forest Service photos.

The following research and inventory were approved and conducted on the GMNF during 2022:

- Dr. Luke Groff, Vermont Department of Fish and Wildlife, led visual encounter, dipnet, and wading surveys at three pond or wetland sites in the town of Wilmington. Wood frog, spotted salamander, green frog, spring peeper, and eastern newt were identified.

- Dr. Christine Gardiner, Dartmouth College, led a community science effort to collect dragonfly larvae for mercury biomonitoring. Sampling was completed in the towns of Chittenden and Killington. Sample analysis is ongoing.

- Dr. Cameron McIntire led a collaborative effort between U.S. Forest Service, Forest Ecosystem Monitoring Cooperative, University of New Hampshire, and Vermont Department of Forest, Parks, and Recreation to continue a study of the interactive effects of tapping sugar maple and drought response. In late August and again in November 2022, a single increment core was collected from each of six mature sugar maple trees in the Bristol Cliffs Wilderness and Joseph Battell Wilderness, in the towns of Lincoln and Hancock. Analysis of growth rings and non-structural carbohydrates from these cores is ongoing at the UNH Ecohydrology Lab.

- Jason Karakehian, University of Illinois Urbana-Champaign, attempted fungi collection in a cedar swamp in the Aiken Wilderness in Woodford. Unfortunately, site conditions and other uncontrollable factors made the sampling unproductive.

- Dr. David Allen and Leander Ruhl, Middlebury College, completed sampling for multiple species of tick and collected forest variables at sites in the towns of Middlebury, Salisbury, and Goshen. Six of fifteen ticks tested positive for *Borrelia burgdoferi*, the pathogen which causes Lyme disease. Statistical analysis indicated that elevation had a negative effect on summer tick density, but no significant relationship between elevation and the presence of *B. burdoferi*. Tick density was correlated with lower average deciduous tree balsal area.

- Dr. Jay Raymond, West Virginia Institute of Technology, conducted preliminary inventory and sampling for Green Mountain National Forest sites suitable for characterizing above and below-ground red spruce communities in the towns of Shrewsbury and Killington.

- Leah Prudent, graduate student with the Dovciak lab from SUNY College of Environmental Science and Forestry was authorized to sample at pre-established sites on the GMNF in the towns of Lincoln, Mendon, and Shrewsbury to contribute to research on how climate, gap dynamics, and species community composition affect understory functional trait diversity in spruce-fir and northern hardwood forests. All experimental materials and markings were removed, and the sites were restored to pre-experiment conditions, concluding their field work on the GMNF.

- As part of the Northeast regional pitch pine assessment led by Dr. Kevin Dodds, Forest Entomologist with U.S. Forest Service and Dr. Tony D'Amato, University of Vermont, a 10-acre Escarpment site on the Green Mountain National Forest in the town of Salisbury was surveyed in May 2022 by one University of Vermont Field Naturalist graduate student and one USFS forestry technician. Overstory trees were assessed for crown class, live crown ratio, basal damage, and insect damage. Tree cores were collected from living overstory trees, and presence of saplings and seedlings was quantified. Coarse and fine woody materials were counted and measured on transects. Tree cores are currently being processed.

- Dr. Ryan Rebozo, Vermont Center for EcoStudies, led vegetation measurements at a site called The Dome in the town of Pownal. They sampled on areas previously burned using prescribed fire and on reference areas that have not seen fire in decades. Their monitoring efforts will continue into 2023 in collaboration with Raritan Community College.

- A team from USGS Patuxent Wildlife Research Center led by Dr. Evan Grant and Jill Fleming sampled six sites on Green Mountain National Forests in the towns of Warren, Hancock, Clarendon, Manchester, and Goshen for stream salamander and habitat characteristics. Data will be used to develop Dynamic Probabilistic Species Distribution Maps.

- Ben Lemmond, University of Florida, led a fungal inventory coined the Blue Ridge MycoBlitz in the town of Chittenden during August 2022. He gathered USFS personnel and nine enthusiastic and knowledgeable volunteers to accomplish documentation of an estimated 137 species in 75 genera over three days of field inventory. Uncommon species were identified, including the first

vouchered and sequenced specimens from Vermont of three taxa. This is the first fungal inventory known from Green Mountain National Forest.

Wildfire & Prescribed Fire Activities

Fire management personnel on the GMNF, with the help from off-forest resources, were very active this past season accomplishing eighteen broadcast prescribed fires while suppressing 7 GMNF wildfires and responding to multiple abandoned campfires and one smoke check by Emerald Lake. 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 carried out and the wildfires that were responded to this past year.

Prescribed Fire Table:

Town	Activity	Name	Acres
Woodford	Prescribed Fire	Red Mill	170
Goshen	Prescribed Fire	Goshen Blueberry	17
Ripton	Prescribed Fire	Robert Frost	14
Rochester	Prescribed Fire	Rochester Wildflower	1
Mt Tabor	Prescribed Fire	Old Job	24
Mt Tabor	Prescribed Fire	FR10 Vista	1
Rochester	Prescribed Fire	Tupper Terrace	47
Wardsboro	Prescribed Fire	Wardsboro S	41
Mt Tabor	Prescribed Fire	FR30	32
Winhall	Prescribed Fire	Country Road C	13
Mt Tabor	Prescribed Fire	Devils Den	32
Mt Tabor	Prescribed Fire	FR31	49
Stratton	Prescribed Fire	Grout Pond	13
Stratton	Prescribed Fire	Lost Branch	5
Pittsfield	Prescribed Fire	Mayo Meadow	86
Woodford	Prescribed Fire	Harmon Hill	56
Pownal	Prescribed Fire	Dome	331
Peru	Prescribed Fire	Hapgood Barrow Pit	1
		Total Acres	933

Wildfire Table:

County	Activity	Name	Acres
Addison	Wildfire	Upper Plains	2
Bennington	Wildfire	Cemetery	1
Bennington	Wildfire	Kendall	6
Windsor	Wildfire	Jones Mtn	2.4
Windsor	Wildfire	Bridgewater AT	.1
Addison	Wildfire	Silver Lake	.1
Rutland	Wildfire	White Rocks	.1

In addition to prescribed fire that was performed in Vermont, the fire crew also supported one military base in Massachusetts and conducted prescribed burns on the Finger Lakes National Forest in New York State for 321 acres. The majority of all the prescribed burns were performed in the wildland urban interface. Numerous red carded individuals were involved with providing support directly or indirectly for the local wildfire season as well as supporting the national wildfire suppression efforts. This support included the mobilization of resources responding to wildfires and all hazard incidents throughout the nation.

The fire management staff would like to thank the dedicated firefighters from the volunteer and local fire departments 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 the Forestry building at both the Addison County Fair in Addison and the Rutland State Fair in Rutland. These events allow our staff to answer questions about the 400,000-acre National Forest by the thousands of people that we typically interact with. It was refreshing to be back out with members of the community in full force this past spring, summer and fall and to have our staff on site at several community events that were held over the past year. Each of these venues are wonderful opportunities for us to discuss GMNF related issues with our partners and gather information from the public.

On August 24th GMNF staff and the Urban Connections program worked to maintain our relationship with the patients and staff at Boston Children's Hospital by virtually hosting our annual Forest Service Bingo game with Smokey Bear. Kids played along remotely from their hospital rooms in Boston while our staff led the virtual event from Vermont. Forest Service employees provided clues for things you might find in the forest, and players marked them on their bingo cards. Winners were treated to their choice of Smokey Bear items. The special event was made possible by Seacrest Studios, which broadcasts a weekly bingo game at Boston Children's. The virtual bingo event was one more example of our growing partnership with Boston Children's.

Photo 13 Employees hosting "nature bingo" virtually. USDA Forest Service photo.

We are always open to working with local towns and other organizations that may be holding events that Smokey Bear or Woodsy Owl and our staff can be a part of. This summer we were able to take part in the family friendly Dale Jr. Safe Kids 301 event with the New Hampshire Forest Protection Bureau in Laudon, NH. This event provided photo opportunities with Smokey Bear, wildfire prevention education and we were able to speak with nearly 100 kids and parents about our skins and skulls display.

On September 22nd, 23rd and 29th, Forest Service employees visited the Proctor High School to educated students in the field of ecology. The presentation included basic instructions on measuring and coring trees and other information about the local forest around the school. These visits also provided students with meaningful discussions about our work, opportunities to volunteer and how one might best position themselves for one of our many positions and employment within the agency.

In 2022 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 closely with the Vermont Department of Forest Parks and Recreation to bolster interpretive services throughout Vermont with a new State and Federal partnership that offers interpretive programming on both State and Federal land in Addison County. While this program was just launched in 2022, we hope to offer new and exciting educational opportunities and guided hikes this year at Branbury State Park and in the Moosalamoo National Recreation Area.

The Nature Watch Snorkel Program returned in 2022. After a 2-year break due to the pandemic the Green Mountain National Forest and the White River partnership successfully got students back in the water. Students learned about the importance of freshwater resources and their role in protecting them by collecting aquatic insects and actually getting in wetsuits to see under the water. Over two weeks, 250 students for the following schools participated: Bethel, Stockbridge, Rochester, Chelsea, Tunbridge, Killington, Barnard, Sharon, and Braintree. This program was held at the CCC Site in Rochester from September 12th through the 23rd.

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. Our Rochester and Manchester offices are open Monday through Friday from 8:00 AM until 4:30 PM. We ask that people call ahead of time (see office phone numbers below) to make an appointment for in-person services. You can also visit us and learn more about the GMNF at our new and improved website online: https://www.fs.usda.gov/gmfl.

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

Martina Barnes District Ranger, South Half - Manchester Ranger District 802-362-2307	**Christopher Mattrick** District Ranger, North Half - Rochester & Middlebury Ranger Districts 802-767-4261

/s/ John A. Sinclair; January 9, 2023

JOHN A. SINCLAIR
Forest Supervisor
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802-747-6700

JOHN SINCLAIR
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