



A tree from the Green Mountain National Forest serving as Vermont's Capitol Christmas Tree

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 support the Forest receives helps to accomplish an extremely robust program of work. The Forest would like to take this time to thank you and your community for your support and interest 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 the 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 the people -- people in your town as well as all of the visitors who come to Vermont every year. Below is a brief summary of what happened in your National Forest throughout the past year:

Rainbow Gathering

The Rainbow Family of Living Light held their Annual Gathering in the Green Mountain National Forest, on the Manchester Ranger District in 2016. The Gathering site was located on Forest Road 10 in Mount Tabor. Participants came from all walks of life and the Gathering which officially occurred from July 1 – 7, 2016 had a peak population of 10,121 on July 4.

A small group of Rainbow Family members remained on-site following the Gathering to assist with clean-up. Forest Service officials continued to monitor the area to ensure public health and safety, cultural and natural resource protection throughout the summer months.

The Forest Service extends sincere thanks and appreciation to all of the State, County, local agencies, organizations and to the local communities that assisted during the 2016 National Rainbow Family Gathering. Managing such a Gathering takes a lot of community involvement and quality partnerships to achieve a safe and successful outcome. With the assistance of our many partners, the Forest Service was able to meet that objective.

Land Acquisition

The Forest grew by 378.84 acres through the acquisition of lands in the Towns of Stamford and Pownal. Through this acquisition an additional mile of the Appalachian National Scenic Trail and Long National Recreational Trail was protected. The property is also significant to hikers because it contains a portion of Broad Brook, the water source used by those staying at an adjoining shelter called Seth Warner.

Heritage Program

The Heritage Resources program was presented with some unique challenges last summer when it was announced that the Forest would be the location of the National Rainbow Family Gathering. These types of events become tricky when attempting to protect non-renewable resources such as archaeological and historic sites. In the end, total protection of all resources was achieved with the cooperation of attendees.

Ongoing partner projects included artifact analysis conducted by the University of Vermont (UVM) Consulting Archaeology Program, the Vermont Archaeological Society (VAS), and the Forest. This multi-year collaboration again involved the analysis of thousands of artifacts collected at the Homerstone Quartzite Quarry Project near Little Rock Pond.

Other highlights include:

- Assisting the Batten Kill Watershed Alliance by conducting archaeological fieldwork prior to the implementation of a restoration project in the river near Arlington. Forest Service employees and VAS members participated in this project.
- Presentations were given by the Forest Archeologist in the Towns of Bennington and Castleton. The Bennington presentation, in particular, was well received with nearly 80 attendees.
- The Forest Archaeological Technician assisted the Vermont Agency of Transportation (VTrans) and State representatives in teaching children about archaeological fundamentals at the Turnbridge Historic Expo.
- The Heritage Program staff worked with Vermont Youth Conservation Corps (VYCC) crews and VAS members on a number of heritage stabilization projects on the Forest.
- Heritage Program staff led an archaeological testing project utilizing a VYCC American Sign Language (ASL) crew. The crew assisted the archaeologists in digging shovel test pits and screening the dirt in search of pre-contact Native American artifacts.
- Heritage Program staff have been working with line officers and Vermont Division for Historic Preservation staff to develop alternative procedures for addressing the workload involved with Section 106 of the National Historic Preservation Act. It is anticipated that a programmatic agreement will be implemented as a result of these efforts.

Road, Dam, & 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, trails, and other facilities throughout the Forest. Some highlights are as follows:

Forest Facility Improvements & Maintenance: Completed on-going routine maintenance and repairs of Forest buildings and other infrastructure as well as out-year planning, design, and preparation for facility

improvements. Completed an energy retrofit for a portion of the Manchester Ranger District Office and completed exterior repairs and installed additional insulation to the Rochester Ranger District Office and barn. Decommissioned a vacant recreation cabin in Stockbridge.

Dam Maintenance: Reconstructed the control gate at the Hapgood Pond Dam in Peru to restore water levels to design capacity.

Forest Road Cooperative Aid to Towns: Completed important road improvement and maintenance projects in the Towns of Goshen, Granville, Hancock, Rochester, and Mount Tabor. This included the completion and replacement of bridge 1 in the Town of Mount Tabor through an agreement with the Town, Forest Service, VTrans and Federal Highway Administration.

Forest Road Improvement Projects: Improved 4.4 miles of National Forest System roads in the Towns of Chittenden, Granville, Hancock, Lincoln, Peru, Ripton, Rochester, Stamford, Stratton and Woodford. This work included the replacement of culverts, stabilization of embankments and resurfacing of roads.

Forest Road Maintenance: Maintained 84.7 miles of National Forest System roads in the Towns of Ripton, Rochester, Chittenden, Goshen, Lincoln, Hancock, Mount Tabor, Peru, Somerset, Sunderland, Woodford, Winhall, Stamford, Wallingford, and Readsboro. This work included grading, ditching, culvert cleaning, mowing and brushing.

Road-Stream Crossing Improvements: Completed an Aquatic Organism Passage project in the Town of Chittenden on Forest Road 35.

Recreation Programs

The following accomplishments highlight 2016 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 Backcountry Alliance (VTBC), Vermont Association of Snow Travelers (VAST), VYCC, Rochester Area Sports Trail Alliance (RASTA), Vermont Mountain Bike Association (VMBA), Green Mountain Club (GMC), Catamount Trail Association (CTA), Counseling Service of Addison County, Middlebury High School Diversified Occupations Program, Moosalamoo Association, Manchester and the Mountains Bike Club (MMBC), Vermont Trail Trotters (VTT), Vermont Horse Council, and many more.

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:

Forest-wide:

- Working in partnership with numerous organizations, funding for projects on the Rochester and Middlebury Ranger Districts totaled \$134,953 in grant dollars to increase and / or improve recreation opportunities. Funded projects included: Sherburne Trail Network in Killington; Brandon Gap Backcountry Recreation Area; Rochester Ranger District hike / bike trail network; and Catamount Trail improvements. Thank you to the State of Vermont Recreational Trails Program!
- A new VYCC crew model was developed, integrating members who are hearing and members who are deaf. The "American Sign Language Crew" was developed in collaboration with the VYCC.
- Three chainsaw and cross cut saw courses were taught by the Manchester District recreation staff in 2016 benefitting many partners and trails throughout the GMNF.

Local Efforts:

Peru, Mount Tabor, Sunderland, Stratton and Woodford: Eight new kiosks were built by recreation staff and installed by VYCC crews.

Dorset, Wallingford, Stratton and Peru: The VYCC provided 4 crews for 16 weeks offering approximately 14,000 hours of support toward 10 different projects including construction on the new Dorset Hollow Trail, Ice Beds Trail maintenance, East Dorset Trail construction and work on three separate trail bridges.

Stamford, Woodford and Dorset: The GMC Long Trail and Volunteer Long Trail Patrol provided 4 crews for 9 weeks offering approximately 1,720 hours of support toward 5 projects including Stamford Pond puncheon replacement, Hell Hollow Bridge removal, Little Pond Trail restoration and East Dorset trail construction.

Searsburg and Readsboro: VAST worked to replace the Redfield Brook snowmobile trail bridge and accomplished other significant Corridor 9 trail maintenance.

Dorset: VMBA's Northshire Area Trails System chapter constructed one mile of new trail on the Dorset Hollow Trail.

Peru: Received 600 volunteer hours to support Hapgood Pond activities.

Peru: Added Hapgood Campground to the National Recreation Reservation Service.

Peru: Partnered with Burr and Burton Academy students for community service day at Hapgood Pond.

Sunderland: Partnered with the GMC to restore Story Spring Shelter roof and siding.

Stratton, Mount Tabor and Peru: Partnered with GMC for care takers at high use Appalachian Trail and Long Trail sites (Stratton Tower, Stratton Pond, Griffith Lake and Little Rock Pond).

Peru: Improved public water filtration system at Hapgood Pond bathhouse.

Chittenden: A decision was made to improve accessible access and parking at Lefferts Pond Day Use Area, when funding allows. Forest Service staff coordinated with the Town of Chittenden Planning Commission, State of Vermont Fish and Wildlife Department, State Game Wardens and Green Mountain Power to address water quality, recreation and sanitation issues at Chittenden Reservoir – including working to develop a Friends Group to assist with site maintenance. If you are interested in leading or joining a Friends Group, please contact Holly Knox: hknox@fs.fed.us.

Granville and Hancock: A decision to relocate the Boyden Brook Snowmobile Trail was signed in August 2016 with planning efforts underway for 2017 implementation.

Hancock: Repairs to the Tunnel Brook Trail were completed with the support of the Route 100 Snow Travelers, VAST and Harvey's Plumbing and Excavating, LLC. This trail has now officially re-opened for use once again connecting the Village of Hancock to the State-wide snowmobile trail network.

Killington: Funding for the Sherburne Trail Network, a multiple-use trail system designed for hiking and mountain biking was secured through the Town of Killington, public and private donations, a State of Vermont grant and Killington Mountain Bike Chapter fundraising efforts. The first several trail miles have been constructed and a parking lot for a new trailhead is underway.

Middlebury: Students and youth from the Counseling Service of Addison County and Middlebury High School Diversified Occupations Program continued to make tread improvements to multiple trail networks, including trails in the Moosalamoo National Recreation Area.

Pittsfield: Working with the Tweed Valley Travelers VAST Club and local contractors, multiple projects were completed on the VAST trail network; including bridge repairs and trail tread and gate improvements. Planning for additional repairs on the Bloodroot Gap and Caryl Brook Trails is underway.

Rochester, Chittenden and Goshen: Implementation of the Brandon Gap Backcountry Recreation Area has been ongoing with the support of dedicated volunteers donating over 700 hours of labor. This Recreation Area was created to address the lack of managed opportunities for alpine-oriented backcountry skiing and riding while aiding in the restoration of natural forest conditions and attempting to reduce incidents of unregulated cutting. The collaborative effort involves Forest Service employees, Dartmouth College staff and students, State of Vermont representatives, New York public land managers, Killington Search and Rescue, and the backcountry ski community, including partners: RASTA, CTA, and VTBC.

Rochester: Planning and community collaboration (including multiple public field trips in 2016) for the Robinson Integrated Resource Project continues with numerous recreation opportunities under analysis. A trail network directly connected to the Rochester Ranger District Office is under development with the support of RASTA volunteers and grant funding. Phase I will be completed in summer 2017 with funding being sought for the implementation of Phases II and III.

Salisbury: Funding was secured to complete improvements to the Moosalamoo Campground, including renovations to picnic tables and construction of a mountain bike pump track in 2017. A partnership with UVM is exploring the potential for natural playground structures within the campground.

Warren: Kicking off the summer season, Blueberry Lake was host to the VMBA's annual festival with support of the Mad River Riders and local businesses. Improvements to the Blueberry Lake Recreation Area are in the planning stages for 2017, including an additional trail loop in the mountain bike trail network. A volunteer agreement with the Warren Conservation Commission helped to improve the berry picking experience in 2016. The Forest Service continues to work with the Town of Warren to improve the recreation experience and safety at Warren Falls.

Agreements:

The Forest Service continued working with partners in Fiscal Year 2016 through numerous agreements. Through challenge cost share agreements the GMC continued work on the East Dorset Trail, worked on Bolles Brook watershed improvements at Little Pond Trail and removed the Hell Hollow bridge in the Glastenbury Wilderness with the assistance of the Draft Animal Power Network, replaced puncheon at Stamford Stream, repaired three shelters, provided caretakers for five shelter areas and provided two Wilderness interns. The VYCC maintained day use areas and trails, removed vegetation in the Brandon Gap backcountry skiing area, constructed sections of the Dorset Hollow and East Dorset Trails and installed kiosks. A new partnership with the Lexington School for the Deaf and the VYCC provided a crew of hearing and deaf youth who worked on kiosk installation and trail maintenance. VMBA maintained trails at Blueberry Lake area of Warren and assisted with the development of a fat bike opportunity map. A new partnership agreement was developed with the VMBA and the Northshire Area Trail Systems to construct the trails on Dorset Mountain. VAST maintained and repaired a number of trails and bridges. An agreement with the Vermont Department of Environmental Conservation continued water sampling to complete gathering baseline information for the wilderness Air Quality Value Plan.

Special Uses:

59 Land Special Use Permits were administered to standard along with 6 proposals and applications processed to a decision. The Permit authorizing construction of the Deerfield Wind Project in Searsburg and Readsboro was issued. 40 Recreation Special Use Permits were administered to standards.

Botany Program

Staff and volunteers monitored 63 populations of 45 species of rare plants Forest-wide, including some populations just off National Forest lands.

As part of the Robinson Integrated Resource Project, staff inventoried approximately 650 acres in the towns of Rochester, Hancock, Chittenden, and Pittsfield. One new rare plant population was found in these inventories.

In preparation for implementation of the South of Route 9 Integrated Resource Project, a 15-acre stand and adjacent powerline were inventoried for non-native invasive plants in Pownal.

One wildflower walk was provided for The Hardy Plant Club at sites in Ripton and Hancock. A presentation on native and edible plants was provided for VYCC while they were stationed in Rochester.

As a result of grant funds received by the Upper White River Cooperative Weed Management Association a collaborative group was formed, of which the GMNF is a founding member:

- A coordinator was hired, who surveyed for non-native invasive plants along approximately 20 miles of roads and trails within the boundaries of the Robinson Integrated Resource Project in the towns of Rochester, Hancock, Chittenden, and Pittsfield.
- The coordinator hand-pulled 21 small infestations of non-native invasive plants as part of an "Early Detection Rapid Response" effort in these same towns; species pulled were primarily wild chervil and purple loosestrife, but included some goutweed and wall lettuce.
- Non-native invasive plant pulling events were held with 13 middle school science students in Rochester, and 18 people through Project Harmony International, based in Waitsfield, at a site in Pittsfield.

Many small infestations were controlled by staff, contractors, and partner organizations, including Wilderness interns from the GMC, VYCC and Appalachian Trail Conference. While these infestations represent only a fraction of known infestations and many more are unmapped, they were chosen because they are in strategic locations or because they are relatively more feasible to control than others. A total of 45.2 acres of the following species were controlled in these towns:

- Bristol: wild chervil, Japanese barberry, and Morrow honeysuckle at Bristol Cliffs (1 acre total)
- Goshen: wild parsnip at Brandon Gap and wild chervil on the road to Silver Lake (2.9 acres total)
- Granville: wild chervil along FR101 and FR207 (20.5 acres total)
- Hancock: wild chervil at Middlebury Gap and Morrow honeysuckle at the Norske trail head (0.5 acres total)
- Lincoln: wild chervil at Bristol Cliffs (0.1 acres total)
- Mount Tabor: wild chervil at Devil's Den, and Morrow honeysuckle at Silver Bridge, along FR10, and Lake Trail head (2.1 acres total)
- Pittsfield: wall lettuce on Liberty Hill (0.3 acres total)
- Pomfret: wild chervil at the Arms Hill access (0.1 acres total)
- Pownal: Japanese barberry, multiflora rose, Morrow honeysuckle, and common buckthorn at The Dome (0.8 acre total)
- Readsboro: Morrow honeysuckle at the FR73 parking lot and FT 391 Trail head (2.2 acres total)
- Ripton: wild chervil at Steam Mill Clearing (1.6 acres total)

- Ripton / Lincoln: FR233: wild chervil and narrowleaf bittercress (2.4 acres total)
- Rochester: wild chervil surrounding the Rochester District Ranger Station (1.3 acres total)
- Stamford: garlic mustard along County Road and Morrow honeysuckle along FR264, both in the South of Route 9 project area (1.3 acres total)
- Woodford: Morrow honeysuckle along FR73, and Japanese knotweed at the Rose Barn parking area (8 acres total)

As a result of a grant received by the newly formed Batten Kill Cisma (Cooperative Invasive Species Management Association), of which GMNF is a founding member, a coordinator was hired to plan and implement a variety of inventory, control and outreach / education events, including the following:

- Arlington: Hosting a barberry workshop at the Arlington Recreation Park and Yellow Barn; worked with VYCC at the Cemetery Run property to plant about 40 trees and shrubs, and removed invasive honeysuckle, burning bush, bittersweet, and knotweed plants.
- Dorset: Sent letters to landowners about Japanese knotweed.
- Manchester and Sandgate: Cutting Japanese knotweed in Manchester and Sandgate (Tidd and Bourn Brooks) with the Community Restitution Crew and later in the season applied herbicide; developed and implemented an invasive species lesson for Hildene summer camps; removed and bagged seed heads from purple loosestrife at the public fishing access on Dufresne Pond Road in Manchester Center. Outreach and education throughout the Cisma included developing a Facebook page, then developing materials for Early Detection Rapid Response volunteers, writing press releases, and contacting garden clubs.

Forest Vegetation Management

Below is a list of accomplishments for calendar year 2016:

- The Forest awarded five Timber Contracts in Bristol, Granville, Lincoln, Peru, Searsburg, Goshen, Leicester and Salisbury to meet goals related to forest health, wildlife habitat, and timber production.
- Timber sales and stewardship contracts were prepared in Dorset, Readsboro and Peru as part of the implementation of the Dorset-Peru and South of Route 9 Integrated Resource Projects. Retained receipts (timber revenue) from stewardship contracts funded non-native invasive plant control and erosion control in Granville, Dorset, and Peru.
- Approximately 10,319 CCF of saw timber and pulpwood volume were sold in support of Vermont's forest products industry and associated employment. This volume was sold in contracts and permits, roughly equal to about 6 million board feet.
- The Forest awarded and administered contracts to prepare sites for reforestation on 221 acres and for timber stand improvement on 104 acres of young forest.
- Our staff cooperated with Vermont Department of Forests, Parks, and Recreation (VT FPR) 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.
- The Forest provided maple tapping opportunities to six permit and contract holders for 8,855 taps in the towns of Lincoln, Stockbridge, Pomfret, Wilmington and Mount Tabor.
- A decision was signed authorizing forest management activities on over 6,000 acres within the South of Route 9 Integrated Resource Project in Woodford, Stamford, Readsboro, and Pownal.
- Staff completed forest inventory and data collection in support of proposed activities for the Robinson Integrated Resource Project. This Integrated Resource Project will include restoration activities and timber harvest on thousands of acres in Rochester, Hancock, Goshen, Pittsfield and Chittenden.
- Permits were sold for approximately 356 cords of firewood, 486 Christmas trees, 1 ton of conifer boughs, and 200 pounds of mushrooms for public consumption.

- Staff continued work in restoring native trees (including butternut, American chestnut and beech) with research partners. GMNF employees located “challenged” beech trees that appeared to be resistant to beech scale insect in order to test their resistance.
- Staff partnered with the State of Vermont’s County Foresters on a variety of natural resource management activities.
- Staff coordinated invasive insect surveys and control efforts through a "Don't Move" firewood program in cooperation with the forest health experts from the State and Private Forestry Branch of the U.S. Department of Agriculture (USDA), Forest Service and with VT FPR.
- Staff partnered with UVM Extension, VT FPR and others in the planning and implementation of Firewood Awareness Week. Events were planned around the state to highlight what citizens can do to slow the spread of invasive pests and raise awareness about invasive insects and forest health.

Timber Stand Improvement (TSI) and Reforestation Program

Site preparation for natural tree regeneration was contracted for 221 acres for reforestation after harvest:

Town	Acres
Peru	53
Granville	168

Timber Stand Improvement for timber and wildlife was contracted for 104 acres:

Town	Acres
Winhall	99
Peru	5

Environmental Planning

In calendar year 2016, Forest staff completed 19 site-specific National Environmental Policy Act (NEPA) decisions and analysis documents for multiple resource projects designed to implement the GMNF Land and Resource Management Plan (Forest Plan). Highlights to note include the decisions to implement multiple resource management activities from the South of Route 9 Integrated Resource Project in the towns of Bennington, Pownal, Readsboro, Stamford, Woodford, and Whitingham; rehabilitate old roads and trails in the Bolles Brook watershed in the Glastenbury Wilderness in the town of Woodford; construct a new route for the Boyden Brook snowmobile trail, an important north / south corridor trail in the towns of Hancock and Granville; and upgrade parking and accessibility for the Lefferts Pond day use area in the town of Chittenden.

We continued work on the Robinson Integrated Resource Project located primarily in the towns of Hancock, Rochester, Stockbridge, Pittsfield, and Chittenden. The project was introduced in March at a public open house attended by over 100 interested participants. Field visits and workshops designed for additional public feedback were conducted during the summer and fall months while Forest Service staff continued resource inventory within the project area. This project is scheduled for an environmental analysis and continued public involvement in 2017. A final decision for what management activities to implement is anticipated for early 2018.

A major accomplishment in 2016 was the completion of our monitoring program transition efforts to comply with the 2012 Forest Service land management planning rule (36 CFR 219). The rule requires that our existing monitoring program must address eight specific monitoring elements. The final modified Monitoring Plan (Chapter 4 of the Forest Plan, Monitoring and Evaluation) describes our overall monitoring program, and lists the questions and indicators we selected for each of the eight required monitoring elements. Together the other monitoring questions we have retained will inform us on how well we are

achieving our Forest Plan goals, objectives and desired future conditions. As required by the planning rule, we will now prepare a monitoring and evaluation report every two years. The next report covering our monitoring efforts from 2014 to 2016 will be compiled and shared with the public by the end of 2017.

Watershed Improvement

Forest Service staff working in Fisheries, Engineering, Recreation, Wilderness management, non-native invasive species, and Soil and Water resources implemented several projects in the past year that improved the condition of water, soil, and / or aquatic resources. These projects were located in several towns across the Forest. Some of these projects may be discussed in more detail in other parts of this report:

- Partnered with Friends of Mad River, Vermont Agency of Natural Resources, U.S. Fish and Wildlife Service and Sugarbush Ski Area to retrofit the snowmaking weir on Slide Brook in Fayston to improve aquatic organism passage. The improved structure opened 2.4 miles of upstream habitat.
- Partnered with Trout Unlimited, Poultney-Mettawee NRC and Town of Dorset to retrofit a log weir grade control structure to allow aquatic organism passage at Lower Hollow Road crossing the Mettawee River. The project made 13 miles of high quality stream habitat accessible to downstream fish populations.
- Treatments to reduce the incidence of Non-Native Invasive Pest (NNIP) species at numerous locations were implemented. NNIP often result in changes to soil structure, chemistry or biology that are not within the natural range of soil variability.
- Restored approximately 1.3 miles of Tropical Storm Irene-damaged stream habitat in the West Branch of the White River in Town of Rochester using large wood / trees to stabilize a mass failure, form deep pools, and reconnect floodplain.
- Partnered with Batten Kill Watershed Alliance to place large wood for instream fish cover along a half-mile section of the Batten Kill River in Arlington.
- Place large wood / trees in Bingo Brook (Rochester) and Michigan Brook (Chittenden) to restore aquatic ecological functions such as sediment storage, stream bed stability, pool formation and cover for fish and other aquatic organisms.
- Replaced a culvert on Michigan Brook in Chittenden to restore aquatic habitat connectivity and improve flood resiliency.
- Partnered with the Town of Rochester, White River Partnership and the Vermont Fish & Wildlife Department to replace a culvert on Wing Brook to restore aquatic habitat connectivity and improve flood resiliency.
- Partnered with the Poultney-Mettawee Natural Resource Conservation District and VYCC to plant trees on 9 acres of riparian area along sections of 6 tributaries in Dorset and Pawlet.
- Partnered with White River Partnership and local schools to plant trees along the banks of the West Branch White River in Rochester and Second Branch White River in East Randolph.
- Stocked fingerling Brook trout to sustain a recreational fishery in the following ponds: Griffith and Big Mud in Mount Tabor; Stratton in Stratton; Little Rock in Wallingford; and Branch, Bourn and Beebe Ponds in Sunderland.
- Protected soil and water by rehabilitating 0.4 miles of old skid roads in Compartment 50 in the Dorset headwaters of the Batten Kill River.
- Protected water quality in Wallingford Pond by closing unauthorized vehicle access.
- Worked with the VYCC to improve the Camp Plymouth trail at Camp Plymouth State Park. Enlarged the path around the west end of the trail to comply with Americans with Disabilities Act requirements for 36" clearance. In addition, installed or improved 35 water bars, and added dead and down large woody debris to help stabilize an eroding segment of the footpath along Buffalo Brook.

Wildlife Habitat Improvement

Wildlife habitat was improved and maintained through the creation and maintenance of early successional habitat important to many species. More than 600 acres of permanent upland openings were maintained by prescribed fire, mowing, or mastication in the towns of Lincoln, Ripton, Pittsfield, Hancock, Rochester, Pomfret, Goshen, Granville, Mount Tabor, Manchester, East Dorset, Winhall, Peru, Shrewsbury, South Wardsboro, Salisbury, and Stockbridge. New upland openings were created as part of timber harvest in, Peru, Hancock, Ripton, and Granville. In addition, apple trees, which are a high-value wildlife food, were “released” by cutting competing vegetation from around old orchards in South Wardsboro, Winhall, Wallingford, Mount Holly, Stratton, Peru, Somerset, Searsburg, Granville, Hancock, Ripton, and Rochester.

Wildlife Biologists and Technicians continued to monitor for bats in many towns to evaluate population recovery from White Nose Syndrome. Also, potential timber sale units within the Robinson Integrated Resource Project boundary were monitored in Rochester, Pittsfield, Chittenden, and Stockbridge to determine if bats are present on the landscape.

Although Peregrine falcons were removed from the Endangered Species list a few years ago, nest sites on the GMNF in Wallingford, Goshen, and Salisbury were monitored. Chicks were observed at the Goshen and Salisbury nests.

The GMNF staff continued a cooperative effort with the Forest Service’s Northern Research Station to monitor pollinators (bees, beetles, butterflies) in upland openings to collect baseline data. In a similar partnership with Forest Service State & Private Forestry, pollinator habitat was assessed in permanent upland openings located in Goshen, Pomfret, Granville, Hancock, Rochester, Ripton, Lincoln, Dorset, and Peru. Our objective is to begin to understand how pollinators use National Forest habitats and which management activities are most beneficial to sustaining populations within and near the Forest.

The GMNF staff also worked with the United States Geological Survey (USGS) on a nationwide sampling effort to detect the salamander chytrid fungus *Batrachochytrium salamandrivorans* (Bsal). Staff worked with the USGS to identify wetlands on the Forest that harbored eastern newts and then assisted with data collection in the field. Eastern newts were sampled in wetlands located in Ripton, Rochester, Wallingford, Mount Tabor, Peru, Winhall, Stratton, Sunderland, and Woodford.

The GMNF staff assisted the Vermont Center for Ecostudies with their long-term breeding bird monitoring programs. The high-elevation bird community was surveyed at sites in Killington and Glastenbury. The breeding bird community at lower elevations was surveyed at sites in Peru.

Along with the Vermont Fish and Wildlife Department and Central Connecticut State University, the GMNF staff assisted in deploying camera traps at several sites within the Manchester Ranger District to determine the presence of the American marten, which was reintroduced to the Forest in the early 1990s after it was believed extirpated. Cameras were placed within the towns of Manchester, Sunderland, Glastenbury, Woodford, Searsburg, Pownal, Stamford, and Readsboro.

The GMNF staff worked closely with the Vermont Fish and Wildlife Department on a black bear study in the vicinity of the Deerfield Wind Project site. The goal of this long-term effort is to determine how the project will impact black bears and their habitats. Bears were captured and tracked in the towns of Whitingham, Wilmington, Readsboro, Searsburg, Stamford, Woodford, Pownal, and Bennington.

Soil Monitoring

Soil samples were collected back in 2012, and the vegetation inventoried at the two Vermont Monitoring Cooperative 200-year Soil Monitoring Project sites in Lye Brook Wilderness, in the Town of Sunderland. This is a joint effort between the Vermont Monitoring Cooperative, the Natural Resource Conservation Service, VT FPR, UVM, the Forest Service-Northern Research Station, and the GMNF. The VYCC also played a key role in the project by digging soil pits, assisting with vegetation data collection, and re-marking

plot corners. The project objective is to measure change in key ecosystem parameters such as, soil chemistry and vegetative community composition. This monitoring will provide insight into the long-term changes occurring in relatively undisturbed forest ecosystems in response to environmental factors including atmospheric deposition and climate change. The project will also provide insight into the storage of carbon in soil on the GMNF. The next scheduled round of soil sampling for the project is in 2017.

Forest Soil Disturbance Monitoring was conducted on ten timber sale areas throughout the Forest to estimate forest management effects on the soil resource.

Long-term Ecosystem Monitoring

Between 2008 and 2011, twenty long-term ecosystem monitoring plots (LEMPs) were established on the GMNF in order to measure change in key ecosystem parameters over the next fifty years. In preparation for the next round of monitoring scheduled to take place starting in 2018, the GMNF has been working with partners to review and refine methods and identify opportunities for additional collaboration in gathering and processing monitoring data. Through an agreement in 2016 with UVM's Rubenstein School of Environment and Natural Resources (RSENr) and the Vermont Monitoring Cooperative (VMC), plots that were missing data from 2011 after Tropical Storm Irene cut off access in Peru, Wallingford, and Woodford, were sampled in 2016.

During 2015, a group of collaborators from the RSENr, the VT FPR, and the VMC developed a state-wide network of forest health monitoring plots, building on past and existing forest health monitoring initiatives, including plots on the GMNF associated with the GMNF LEMP project, the Forest Service's Forest Inventory and Analysis Program, and the State's Hardwood Health Survey. This partnership led to the inclusion of a total of 12 plots on the GMNF as part of this network, in the towns of Bristol, Lincoln, Ripton, Salisbury, Leicester, Hancock, Rochester, Wallingford, Peru, Winhall, and Woodford. Monitoring at these locations will provide insight into long-term changes occurring in relatively undisturbed forest ecosystems in response to stressors such as atmospheric deposition, climate change, and invasive pests. Monitoring of the statewide network was initiated in 2015, and GMNF plots were sampled in 2016. These plots will be monitored annually.

Research Activities

The following is a list of research approved on the GMNF in addition to soil and forest ecosystem monitoring:

- Adrienne Brand, Biologist, Northeastern Amphibian Research and Monitoring Initiative, USGS - a research project studying the presence of the amphibian fungus *Batrachochytrium salamandrivorans* (Bsal) in wild amphibian populations, in the towns of Somerset, Woodford, Winhall, Stamford, Chittenden, Mount Tabor, Mount Holly, Weston, Pomfret, Norwich, and Bridgewater.
- Lauren Ash, Graduate Student, UVM – a survey for the presence of Ranaviruses and other amphibian disease in green frogs (*Lithobates clamitans*), wood frogs (*Lithobates sylvaticus*), spring peepers (*Pseudacris crucifer*), spotted salamanders (*Ambystoma maculatum*), and Eastern newts (*Notophthalmus viridescens*), in the vicinity of Abbey Pond in the towns of Bristol and Lincoln.
- Dr. Paul Hapeman, Assistant Professor of Biology, Central Connecticut State University – a research project studying the extent of occurrence of American marten (*Martes americana*) in southern Vermont and northwestern Massachusetts and key habitat features associated with their presence, in the towns of Woodford, Searsburg, Pownal, Stamford, and Readsboro.

Wildfire & Prescribed Fire Activities

Fire management personnel on the GMNF were very active this past season accomplishing eight prescribed fires while suppressing or assisting in the suppression of six GMNF wildfires. Prescribed fire and

mechanical treatment objectives were focused on reducing forest fuels, improving wildlife habitat and reinvigorating native blueberry patches. The following are the prescribed burns that were carried out and the wildfires that were responded to this past year:

Town	Activity	Name	Acres
<u>Goshen</u>	Prescribed Fire	Goshen Blueberry Management	27
<u>Peru</u>	Prescribed Fire	Apple Orchard	17
<u>Stratton</u>	Prescribed Fire	Grout Pond A	4
<u>Mount Holly</u>	Prescribed Fire	Tarbelville	21
<u>Mount Holly</u>	Prescribed Fire	Beaver Meadows	9
<u>South Wardsboro</u>	Prescribed Fire	South Wardsboro	41
<u>Woodford</u>	Prescribed Fire	Red Mill	169
<u>Peru</u>	Prescribed Fire	Pumphouse Sale Piles	17
<u>Peru</u>	Mechanical Contracting	Old Country Road B	5
<u>Pittsfield</u>	Mechanical Contracting	Liberty Hill/Mayo Meadow	5
<u>Chittenden</u>	Wildfire	Leffert's Fire	.10
<u>Stratton</u>	Wildfire	Landing Strip Fire	.10
<u>Mount Holly</u>	Wildfire	Mount Holly Fire	.10
<u>Stratton</u>	Wildfire	Champion Fire	.10
<u>Killington</u>	Wildfire	Deer Leap Fire	.10
<u>Stratton</u>	Wildfire	FR71 Fire	.10
		Total Acres	315.6

In addition to the work that was done here in Vermont, 15 individuals were involved with providing support directly or indirectly for wildfire season here in Vermont and Nationally. This support was in the form of assisting in the mobilization of resources or by directly responding to wildfires and all hazard incidents throughout the nation. These 15 individuals collectively spent approximately 380 days in this effort.

The fire management staff would like to thank the dedicated firemen and women from the Volunteer and Municipal fire departments that responded to and assisted in the suppression of the wildfires that occurred this past year on the GMNF.

During 2016 Smokey Bear traveled throughout the state of Vermont visiting youth and adults sharing the message, "Only you can prevent wildfires" at several events including: the Vermont Girl Scouts Green Mountain Day Camp; Vermont's Free Fishing Day at Hapgood Pond; the Junior Ranger Program at Bromley Ski Area; Vermont State Fair in Rutland; Children's Reading Hour's at the MacLure Library in Pittsford; Stepping Stones Early Learning Center and the Peru Fair and Parade.

Conservation Education

The GMNF is one of many key sponsors of the Vermont Envirothon. This state-wide program's target audience is high-school-aged students and helps to encourage them to learn more intentionally about the natural world. A total of ten Vermont schools were exposed to the Envirothon curriculum this year, with one hundred students participating in the culminating event held on May 19, 2016 at the Common Ground Center in Starksboro, Vermont. Websterville Baptist High School Team # 1 won the Vermont Envirothon and represented the State at the North American Envirothon held at Trent University in Ontario at the end of July.

The Vermont Envirothon is supported by a federal, state, local agencies and groups working in natural resource conservation. Partners include the Natural Resource Conservation Districts, Forest Service, Natural

Resource Conservation Service, VT FPR and Vermont Fish and Wildlife. A full list of sponsors / partners and additional information can be found on the Envirothon page at www.vacd.org.

The Forest For Every Classroom Program (FFEC) is a successful model for place-based learning in classrooms and communities across Vermont and several other states in the United States. It has been adapted in programs such as, A Trail for Every Classroom and A Park for Every Classroom, and a Watershed for Every Classroom. Educators who have participated in FFEC currently serve as teacher leaders promoting best instructional practices, partnering with local resource experts, and incorporating place-based and service-learning throughout their curriculum.

In 2016 the FFEC facilitated two gatherings for teachers and educators of Vermont, New Hampshire and Massachusetts through the Urban Connections Program. Urban Connections fosters the awareness and exploration of the importance healthy forests have on urban communities. Educators focused on workshops highlighting wildlife adaptation to the changing climate; diversity, privilege and equity, winter animal tracking and phenology as a method for exploring climate change. In the final spring gathering in May, all teachers re-convened at Shelburne Farms to share with each other the lessons and teaching practices they implemented during their year and to receive feedback on their plans for future curriculum development.

A Forest for Every Classroom had a very productive year in 2016, as Shelburne Farms and partners finished another successful course for eleven educators, reaching approximately 300 K-12 students with high quality, place-based programming. The FFEC program also partnered with over 15 natural resource experts from institutions such as the UVM, VT FPR, Project Learning Tree, the National Park Service, Red Start Forestry, and the Appalachian Trail Conservancy, to serve as guest instructors. The course focused on developing educators' content knowledge of forests while exploring the interrelated concepts of sustainability.

Several GMNF staff provided the Junior Ranger Program to students attending the One Planet Afterschool program in the Town of Bethel. Over a six week period these students learned about a variety of topics from orienteering and map reading to ecosystem management to what a day in the life of a Forest Ranger is like.

Again, thank you for your support of your National Forest. Together, we will continue to maintain and improve this valuable treasure.

Forest Service Offices in Vermont: Offices are open Monday through Friday from 8:00 am until 4:30 PM.

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