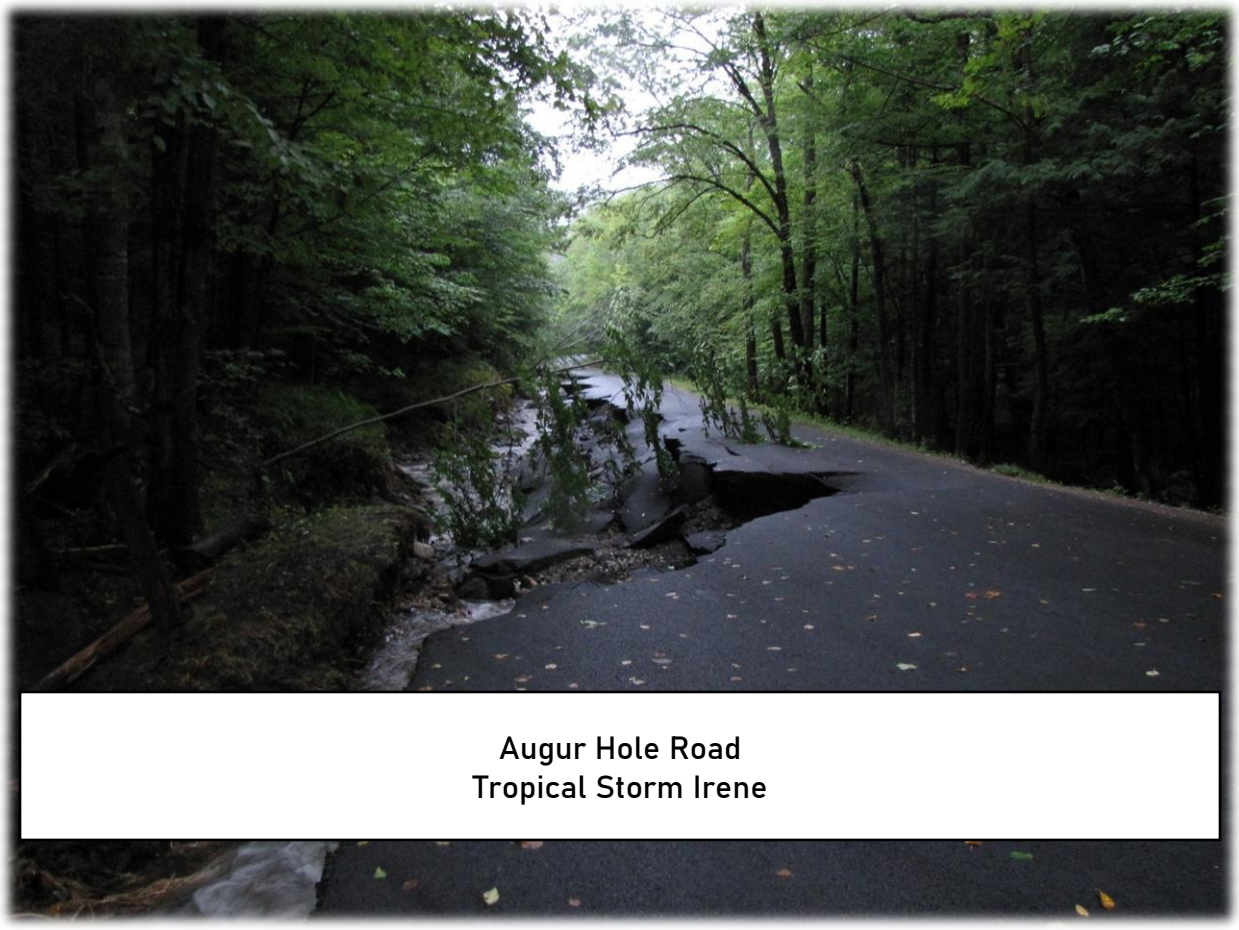
Town of Marlboro
Local Hazard Mitigation Plan



Augur Hole Road
Tropical Storm Irene

Town Adoption Date: September 4, 2025
FEMA Final Approval Date: September 5, 2025

Technical Assistance for the Plan development provided by the Windham Regional Commission

In cooperation with

Vermont Emergency Management and the Federal Emergency Management Agency

FEMA

Certificate of Adoption
Town of Marlboro, VT

A Resolution Adopting the
Town of Marlboro Local Hazard Mitigation Plan

WHEREAS, the Town of Marlboro, VT has worked with the Windham Regional Commission to identify natural hazards, analyze past and potential future damages due to natural disasters, and identify strategies for mitigating future damages; and

WHEREAS, The *Town of Marlboro Local Hazard Mitigation Plan* analyzes natural hazards and assesses risks within the community; and

WHEREAS, the *Town of Marlboro Local Hazard Mitigation Plan* recommends the implementation of action(s) specific to the community to mitigate against damage from natural hazard events; and

WHEREAS, the Town of Marlboro, VT authorizes responsible agencies to execute their responsibilities to implement this plan for the purposes of long-term risk reduction and increased community resiliency and;

WHEREAS, the Town of Marlboro, VT will follow the Plan Maintenance Process outlined in herein to assure that the *Town of Marlboro Local Hazard Mitigation Plan* stays up to date and compliant; and

NOW, THEREFORE BE IT RESOLVED that the Town of Marlboro, VT adopts the *Town of Marlboro Local Hazard Mitigation Plan*. While content related to the Town of Marlboro require revisions to meet the plan approval, changes occurring after adoption will not require the Town of Marlboro to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 4th day of September, 2025.
month, year

Selectboard Members

Molly Welch

Molly Welch – Chair

Kate Kirkwood

Jeff Skramstad – Vice Chair

ATTEST: Town Admin - Marlboro

Contents

INTRODUCTION AND PURPOSE

The impact of expected, but unpredictable, natural events can be reduced through community planning and action. The goal of this Plan is to provide a natural hazards local mitigation strategy that makes Marlboro more disaster resistant and more resilient after a disaster.

Hazard mitigation is any sustained action that reduces or eliminates risk to people and property from natural hazards and their effects. Based on the results of previous project impact studies, FEMA and state agencies have come to recognize that it is more cost effective to prevent damage from disasters than to repeatedly repair damage after a disaster has struck. This Plan recognizes that communities also have opportunities to identify mitigation strategies and measures during all phases of emergency management – prevention, preparedness, response and recovery. Hazards cannot be eliminated, but it is possible to understand the potential of hazards and the risk facing the community, and to identify what local actions can be taken to reduce the severity of hazard-related damage.

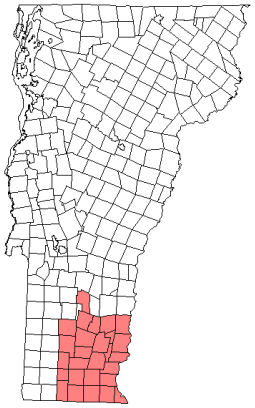
The purpose of this Plan is to assist the Town in identifying all natural hazards facing the community, ranking them according to local vulnerabilities, and developing strategies to reduce risks from those hazards. Once adopted, this Plan is not legally binding; instead, it outlines goals and actions to prevent future loss of life and property.

The benefits of mitigation planning include:

- Identifying actions for risk reduction that are agreed upon by stakeholders and the public.
- Focusing resources on the greatest risks and vulnerabilities.
- Increasing education and awareness of threats and hazards, as well as their risks.
- Reducing the degree of injury and inconvenience to the townspeople and their private and municipal property.
- Communicating priorities to State and Federal officials.
- Aligning risk reduction with other community objectives.

Adoption and maintenance of this Hazard Mitigation Plan will:

- Make certain funding sources available to complete the identified mitigation initiatives that would not otherwise be available if the plan were not in place;
- Support effective pre- and post-disaster decision making efforts;
- Lessen each local government's vulnerability to disasters by focusing limited financial resources to specifically identified initiatives whose importance have been ranked; and
- Connect hazard mitigation planning to community planning where possible.



WINDHAM REGION GEOGRAPHY

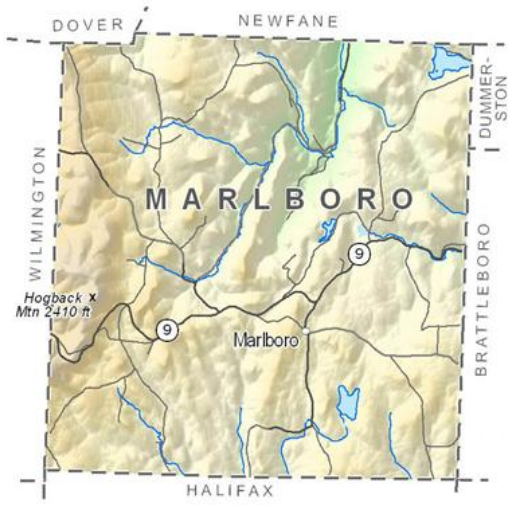
Situated in Vermont's southeastern corner, the Windham Region consists of 23 towns in Windham County, the neighboring towns of Readsboro, Searsburg, and Winhall in Bennington County, and Weston in Windsor County. The region is bordered by Massachusetts to the south and New Hampshire to the east. At over 920 square miles (590,000 acres), the region accounts for roughly 9.6% of the State's total land area. The Windham Region has several distinctive identities, largely defined by the diverse natural environment.

The Region's topography is relatively flat or gently rolling land in the Connecticut River valley in the east, while the western part of the region is characterized by the Green Mountain ridges and peaks with narrow stream valleys. Stratton Mountain is the highest point in the region at 3,936 feet. The lowest point is along the Connecticut River in Vernon, at 200 feet.

In addition to the Connecticut, other major rivers of the region are the Deerfield, Green, North, Saxtons, West, Williams, and all tributaries of the Connecticut. There are two major flood control reservoirs on the West River, Ball Mountain and Townshend, and two major storage reservoirs for hydropower generation on the Deerfield River, Somerset and Harriman.

COMMUNITY PROFILE

Geography and Land Use



The Town of Marlboro is a rural Southern Vermont hill town of 26,240 acres or 41 square miles in the eastern foothills of the Green Mountains in Windham County. Marlboro is bordered to the north by Newfane and Dover, to the west by Wilmington, Halifax to the south, and Brattleboro and Dummerston to the east. State Route 9 runs east west through Marlboro, passing over Hogback Mountain which is a regionally significant viewpoint known as the “100 mile view”.

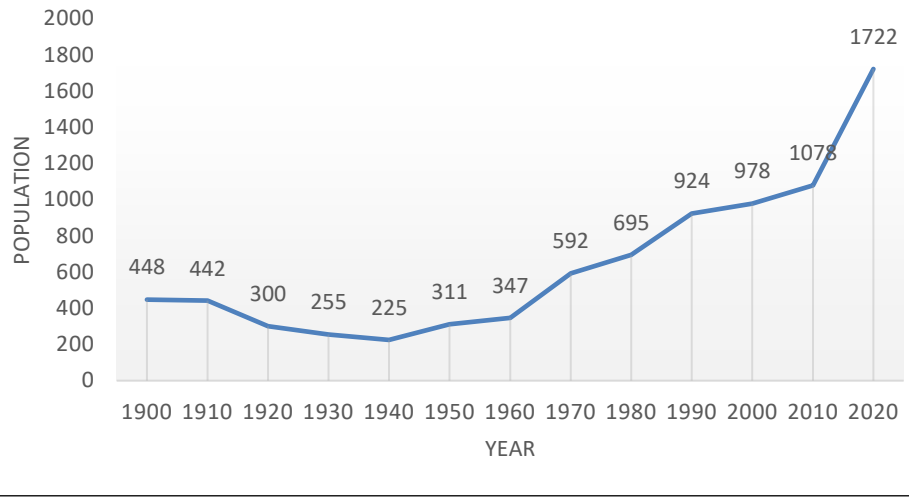
Marlboro is characterized by a centrally located historic village surrounded by predominantly low-intensity rural residential development, scattered along winding secondary roads, most of which are narrow, unpaved, and often highly scenic. Much of the off-road back-lands have remained undeveloped since the middle of the nineteenth century. The most intensive use of land occurs two miles south of the Village at Potash Hill, the home base for the Marlboro School of Music as well as the campus being available for rental to other groups. Marlboro does not have public water or sewer service, which limits the scale of development that can locate in the town. There are no large businesses in Marlboro and there are a number of small home-based businesses, which the town supports. Forest-related land use is very significant as a category of land use, agricultural land use accounts for very little of the total area. Residential land use is the largest category of land use. Commercial and industrial land use is almost entirely limited to the Route 9 corridor.

The majority of the landscape of Marlboro is forest land. With a few exceptions, the off-road back-lands have remained predominantly undeveloped since the middle of the nineteenth century.

The largest bodies of surface water in Marlboro are South Pond, 68 acres, and Sunset Lake/North Pond, 95 acres. There are also several brooks, including Gulf, Worden, Bellows, Branch, Harrisville, Hinesburg and Whetstone Brooks. The watersheds are 1) the Rock River, 2) the Deerfield River, 3) the North River, 4) the Green River, 5) the Whetstone Brook, and 6) Stickney Brook. The highest point in Marlboro is Hogback Mountain at approximately 2,400 feet.

The climate is generally temperate with moderately cool summers and cold winters, as in the rest of Vermont. The weather is unpredictable, and large variations in temperature, precipitation, and other conditions may occur both within and between seasons.

Development and Population Trends



United States Census Bureau: Decennial Census Data

As the following table shows, population in Marlboro has consistently increased since the 1940's. Census figures show a sharp increase in Marlboro's population between 1940 and 1950. This can be attributed to the founding of Marlboro College in 1946, which brought permanent faculty and other staff to Marlboro. Furthermore, each year, some students stayed to become Marlboro residents. Marlboro grew at an exceedingly high rate (70.61%) between 1960 and 1970. Several factors contributed to this and have continued to affect the growth rate, but the primary reason for this huge jump is that the U.S. Census in 1970 started to count the students at Marlboro College as residents of the Town. With the closing of the College, it is anticipated that there will be a decrease in population in the 2030 census. The population decrease likely offsets increases in residents that may occur in the next five years and there is likely no change to the vulnerability level between the last Plan and the one following this current Plan.

The Census Bureau has risk factors that increase vulnerability and provided that data at a county level. For Windham County that data shows that 13.1% of the population is below poverty, 27.4% has some type of disability, 5.9% are without a vehicle, and only 71.9% have broadband[1]. For Marlboro, 9.4% of the population is in poverty, 22% are disabled, 3.6% are without a vehicle, and 68.9% had broadband access. These statistics show that Marlboro is overall slightly less vulnerable compared to other towns in Windham County.[2]

In the 2020 census, the largest age group represented in Marlboro was for ages 20-24 years. This is due to the student population at Marlboro College. Since the closure of the college, this population bracket will likely have decreased significantly. The next largest bracket is 60 and older at 19.3% of the population. The rest of the population is evenly spread across the age brackets. This leads to a wide variety of people in Marlboro and each has their own set of needs and vulnerabilities.

The development pattern has not changed appreciably since the last Plan. Development trends noted by the Town are that more residents work from home than in prior years and there are more home-based businesses. The planning committee noted that without municipal water and sewer and a desire of many residents to remain a rural "bedroom community," there is not likely to be much new development in town.

Over the years, Marlboro has remained a rural community. Commercial development includes primarily inns, lodges and restaurants, artists and artisans, a summer music school, a summer camp and farms. There is scattered residential development. In recent years, there has been little new commercial or industrial development in Marlboro, however, as technological change facilitates remote workplace and

[1] US Census Bureau, My Community Explorer tool, ACS 2017-2021: Windham County, Vermont statistics.
[2] US Census Bureau, 2023 American Community Survey 5-Year Estimates.

business locations, the presence of home-based businesses and other businesses reliant upon electronic communication and sales could expand.

The largest institutional development is the Potash Hill campus (formerly Marlboro College and now owned by Marlboro Music Festival). With the College's closing in 2020, there has been a decrease in the overall use of the facility.

Development changes that were noted by examining Marlboro Town Permits between Fiscal Year 2021-2022 and Fiscal Year 2025-2026 include:

- Approximately 10 subdivisions of land were permitted.
- 5 new residences, 3 cabins and 2 yurts were built.
- 1 new commercial structure, a sugarhouse, was built.

Overall, there have not been appreciable changes in Marlboro's development since the last Plan update. There has however been an increase in more extreme weather patterns linked to climate change.

Emergency Services and Resources

Marlboro is served by the Marlboro Volunteer Fire Company (MVFC), a non-profit organization which was incorporated in 1948 with the purpose of providing fire protection to the town. They are a fully volunteer fire and emergency medical services company located at 779 South Road in Marlboro. MVFC is dispatched by Southwestern New Hampshire District Fire Mutual Aid Dispatch Center in Keene, NH. In an average year, MVFC responds to about 125 calls, including structure fires, vehicle fires, brush fires, EMS calls including motor vehicle accidents, smoke and carbon monoxide alarms, public assistance calls (for example, to help disables people), securing scenes of dangerous fallen power lines, mutual aid to neighboring towns, and other emergencies.

Given the constraints imposed by this type of volunteer organization it has neither the financial nor the human resources to provide the level of fire protection that would be required by large-scale development. Officers and personnel of the Fire Company include a Fire Chief, a Communications Officer, an Assistant Fire Chief, a Training Coordinator, and about 10 active firefighters and EMS personnel. MVFC makes all efforts to recruit or hire fire-fighting personnel to protect Marlboro residents. Members attend training courses sponsored by Vermont and New Hampshire when available. The Fire Company has been granted a Class C rating by the Vermont Fire Underwriters.

Police protection is contracted by the Selectboard annually and the town currently has a contract with the Windham County Sherriff's Department for part-time coverage. The Town also has a constable, who is currently Clarence Boston.

The Town has an appointed Emergency Management Director, Jay Sparks and an Emergency Coordinator, Keats Dieffenbach. The primary method of emergency notification is by email/ text/ phone calls and Vermont Alert. The Emergency Operations Center is located at the Marlboro Town Office at 510 South Road. Two Green Mountain Power (GMP) Battery Storage Walls are being installed in March of 2025, which will supply at least 96 hours of emergency power, based on usage, which GMP says could be even longer as the usage will be somewhat low being mainly computers, some lights (high efficiency), and the water pump. The Heat in the building is Oil Fed Boiler. This information and other important details regarding emergency management can be found in the Marlboro Local Emergency Management Plan (LEMP).

The Town used to have a designated shelter at Marlboro College, however, since the closure of the College that space is no longer available. The town is working with Marlboro Elementary School as being a potential place to use the gym and kitchen as the new shelter (cots, bedding, food, water, heat, etc.). The initial response from the school was positive and the Town and School are working on the details. The Marlboro Community Center is available as a "Warming Center", but not a full shelter. The

Town is actively working to sign people up with the VT Alert program, the E911 program, and a list of "at-risk" residents to be checked on. As most residents have alternate heat sources (i.e. wood stoves or generators for electric), at present the town recommends sheltering in place.

The nearest clinics to Marlboro are the Deerfield Valley Campus of the Southwestern Vermont Medical Center and an office of the Windham County Mental Health Clinic in Wilmington, seven miles west from Marlboro's center. The nearest hospitals are Brattleboro Memorial in Brattleboro, Grace Cottage in Townshend, the Southwestern Vermont Medical Center in Bennington, and Dartmouth-Hitchcock Medical Center in Keene, NH, (Cheshire Medical Center) and Lebanon, NH. The Vermont State Department of Health provides various services available to Marlboro residents, including well-child and immunization clinics, various screening clinics, including epidemiology, and consultations.[3]

Public Water and Sanitary Sewer Infrastructure

There are no municipal water or wastewater systems in Marlboro.

Transportation Infrastructure and Act 64

State Route 9 is the main road bisecting the community and offering access to Brattleboro to the east and Wilmington to the west. South of route 9, the town's roadways consist of four primary roads, Butterfield and South Road heading to Halifax, Grant Road heading to Wilmington and Ames Hill Road going to West Brattleboro. These four roads are heavily used by locals who are commuting to other communities. North of Route 9, the two primary roads are Higley Hill Road heading to Dover and Augur Hole Road going to Newfane. Higley Hill Road sees a lot of traffic related to the ski areas nearby.

As of 2020, a culvert inventory for the Town of Marlboro showed that there are 587 culverts in Town. Of those culverts, 26 were listed in poor condition and 10 were in critical condition and 2 were listed as urgent. The Town Highway Department has been actively replacing culverts throughout town in the past several years. There are 9 bridges in town, with 7 being owned by the State of Vermont on Route 9 and the remaining bridges being town owned.[4]

Vermont State Route 9 runs east to west through Marlboro for 8.3 miles. The Town is not responsible for maintaining Route 9. Marlboro has a total of 55.89 miles of town highways. The amount of mileage in each town highway class is shown in the table below.

Marlboro Town Highways Mileage by Class				
Class 1	Class 2	Class 3	Class 4	Total
0.00	14.95	39.4	1.54	55.89

Approximately 26.78 miles or 48% of total town road miles are hydrologically connected, which means the road is within 100 feet of a water resource (i.e., perennial/intermittent streams, wetlands, lakes or pond). Proximity to water resources can make these sections of road more vulnerable to flooding and fluvial erosion.

Act 64, the Vermont Clean Water Act, requires the state to develop a new Municipal Roads General Permit (MRGP). The MRGP requires Marlboro to conduct Road Erosion Inventories (REIs) for hydrologically connected municipal road segments. The ANR Natural Resources Atlas shows a lot of road segments in the town that are included in this regulation. Marlboro will also be required to develop Road Stormwater Management Plans for all hydrologically connected road segments not meeting MRGP standards. Marlboro would then be required to implement the Road Stormwater Management Plans over time, reaching full compliance by 2035. Road improvements, which generally consist of gravel resurfacing

[3] 2022 Marlboro Town Plan
[4] State of Vermont Agency of Transportation Bridge Inspection Reports. https://vtrans.vermont.gov/docs/bridge-inspections

and stone-lined ditching, also can make the roads more resilient in conveying excess water. Roads that were brought up to standard generally fared well in the most recent flood. Ongoing compliance with MGRP will improve the flood resilience of our roads, which are most likely to be damaged in flooding.

Communication Coverage

Access to high-speed internet and cell service coverage are important parts of emergency communication capabilities in a town. The Windham Region, as in many rural areas, has a patchwork of coverage levels with some areas not having coverage. In Marlboro, high speed internet access is available through private companies or through the Deerfield Valley Communications District. If residents don't have internet access at home, residents can go to the Marlboro Town Office or the Community Center to utilize computers or connect to the internet. The school also has fiber connection accessible by the public in their parking lot. Cell phone coverage spotty throughout Marlboro and the gaps between service areas are fairly widespread.

PLANNING PROCESS

Plan Developers

This plan was developed by a team of contributors who live and or work in Marlboro and serve in one or more capacities. Being a small, rural community, most individuals listed volunteer for their positions.

- Nick Morgan, Town Administrator, Assistant to the Selectboard
- Jay Sparks, Emergency Management Director
- Keats Dieffenbach, Emergency Management Coordinator
- Forrest Halzapfel , Town Clerk, Lister
- Andrew Richardson, Road Foreman
- Dan Elliott, Fire Chief
- Allison Turner, Fire Company Captain
- Carol Ann Lobo Johnson, Fire Company Board President
- Molly Welch, Selectboard
- Jeff Skramstad, Selectboard
- Kate Kirkwood, Selectboard
- Hunter Jack, Conservation Commission
- Nick Katrick, Fire Company Lieutenant
- Nancy Anderson, Hogback Mountain Conservation Association Secretary

Margo Ghia, Regional Planner with the Windham Regional Commission, assisted the Town with this update to meet the standards and guidelines of the latest FEMA *Local Mitigation Plan Review Tool*. FEMA Pre-Disaster Mitigation funding supported this process.

Update Process

This Local Hazard Mitigation Plan ('LHMP' or 'Plan') is an update to a Plan approved for the Town of Marlboro by the Federal Emergency Management Agency (FEMA) effective 11/29/2016 and expired on 11/29/2021. The below table lists the stakeholders that were provided an opportunity for engagement in this Plan update and how that opportunity was provided:

Stakeholder involvement	Stakeholders were invited to the public meeting through direct verbal invitation, email, and public announcements. As additional information was needed to develop the plan, the core planning

	team consulted with stakeholders on an individual basis depending on their area of service and knowledge.
General public involvement	An online survey was conducted for several weeks in September and October 2023 to gather input on lived experience of natural hazards in Marlboro, hazards of concern for the future and ideas for mitigation actions that the town could consider. Survey results are contained in this plan. Advertisement of the survey and public meeting were posted on the town website, announced at a Town Warning informational meeting, and advertised on Marlboro's Front Porch Forum. Paper copies of the survey were available at the information session and at the Town Office. One public meeting was held.
Businesses, academia, and other private and non-profit interests	The draft plan was provided to the following entities for their review and comment via email (see appendix): • Green Mountain Power – Electric Utility. Consulted via email on loss of power statistics and other resiliency projects planned for Marlboro. • Brattleboro Memorial Hospital - closest medical provider in the immediate region. • Marlboro School • Marlboro Volunteer Fire Company • Deerfield Valley Rescue • Potash Hill – Marlboro Music Campus, also available for rentals to other organizations
Neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development	The draft plan was provided via email for review and comment to: • The Planning Commissions and Emergency Management Directors of the adjacent towns of: Newfane, Dummerston, Brattleboro, Guilford, Halifax, Whitingham, Wilmington and Dover. • Basin Planner for the Agency of Natural Resources Department of Environmental Conservation. • The Plan was also sent to VEM for initial review, so the comments and input from all of the above-mentioned contacts and outreach strategies continued to be incorporated into the plan.
Representatives of nonprofit organizations, including community-based organizations that work directly with or provide support to vulnerable populations or frontline communities	While this list is not exhaustive, here are a number of groups that serve vulnerable residents that received the draft plan for review and input (see appendix for outreach email): • Bayada Home Health Services – Offers home health care services. • Mental Health Services of Southeastern Vermont – Provides professional counseling and rehabilitation services for all ages. • Marlboro Alliance – Supports individuals and families throughout Marlboro through emergency assistance, disaster relief, food and heating assistance among other things. • Marlboro Cares – Provides non-emergency assistance with needs such as transportation, simple home repairs, or running errands. • Marlboro Community Center - Operates the Community Center, Café and Library on the ground floor of the Marlboro Meeting House. • MOOver – Provides regional bus and shared ride transport service.

	• Green Mountain RSVP – Matches seniors with volunteer opportunities. • Gathering Place – Located in Brattleboro, offers adult day services. • Brattleboro Area Hospice – Offers services and support for serious illness, hospice and grief. • Southeastern Vermont Community Action – An anti-poverty agency servicing all ages in Windham County. • Deerfield Valley Food Pantry • Health Care and Rehabilitation Services of Southeastern Vermont (HCRS) – Provides all ages health care services. • Groundworks Collaborative – Based in Brattleboro. Serves people who are facing housing and food insecurity. • Youth Services – Resource for young Vermonters • Women's Freedom Center – Based in Brattleboro and working to end physical, sexual and emotional violence against women. • Senior Solutions – Resources for aging Vermonters

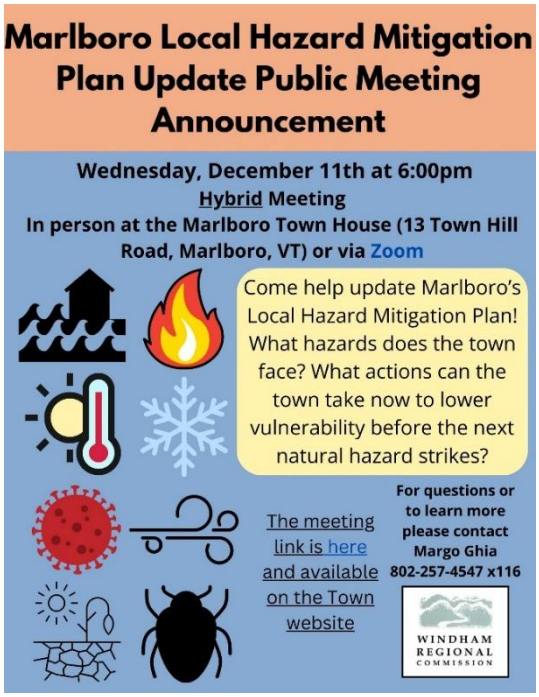
The planning process overview:

- October 25, 2024 – Kick-off meeting to set up the public meeting and develop the Planning Team. The Selectboard Administrator and the Emergency Management Director were the local leads and invited team members.
- November – December 6, 2024 – A public survey was made available to Town residents to provide input into the Hazard Mitigation process. An on-line survey link and notice was posted on the town website, on Marlboro's Front Porch Forum site, and Marlboro's Facebook page. Paper copies were available at the Town Office and at the Town Warning informational meeting.
- December 11, 2024 – At a public meeting, community members and Town Officials reviewed the following items:

    - **Update of the 2016 Marlboro Local Hazard Mitigation Plan**
        - Purpose & Process

    - **Hazard assessment included:**
        - Discussion of hazard events that have occurred since the last Plan
        - Discussion of online public survey results
        - Review and update of hazard assessment
        - Marking up of a map of Marlboro with local hazard notes

    - **Mitigation Goals and Actions**
        - Review/edit prior plan goals
        - Update of prior mitigation actions
        - Create an updated Mitigation Actions Table
        - Identify current gaps and capabilities with implementation
        - Identify any changes in hazard or action prioritization



- **Other Updates**
  - Discussion of recent mitigation work completed by the Town
  - Discussion of development trends – new developments, upcoming developments and vulnerability impacts
  - Overall resiliency concerns or ideas

- January – June, 2025 – Margo communicated with town committees and individuals to provide specific information for the plan: Road Foreman, Conservation Commission, Town Clerk, Emergency Management Director and Coordinator, Listers, Fire Warden, Fire Department, and Zoning Administrator.
- The draft plan was presented for internal town review to the original planning committee and other town personnel and appointees on July 22, 2025. This internal town review period was from July 22 – August 6, 2025. After receiving comments, Margo then finalized the draft.
- The draft plan was presented to Vermont Emergency Management on July 22, 2025 to be concurrently reviewed during the Town internal review and public review timeline.
- Monday August 4, 2025. Emails were sent to all neighboring communities and frontline organizations to review and offer comments on the draft plan.[5]
- Monday August 4 through Thursday, August 14, 2025 - The public comment period was open to review the draft LHMP and provide feedback on the Plan.
  - All advertising was conducted according to the advertisement process listed below.
  - Comments were received from four residents. Comments were incorporated into the plan.
  - At the Thursday, August 14, 2025 Selectboard Meeting there was an opportunity for public comments and discussion on the draft LHMP. From the discussion a few updates were made to the Hazard Mitigation Action Table.
- After the public comment period ended, revisions were made to the plan to finalize the draft for resubmittal to VEM. The updated plan was re-submitted for VEM review on 8/15/25.
- Inter-town and provider communication will repeat for future revisions of this Plan.

Advertisements for all public meetings, the public survey, and opportunities to review the plan were on the town website, various Marlboro Facebook pages (including the Marlboro VT Community FB page), Front Porch Forum, and at the three designated physical posting locations in town as required by state statute for all public documents.

Data Sources

Information was gathered for this update through a variety of sources listed below. A summary of data sources is provided here with some additional specific references cited elsewhere throughout:

- Surveys and warned, public meetings collecting public comment (comments were addressed in the plan and public meeting)
- 2017 Local Emergency Management Plan – local emergency resources
- Local knowledge of Planning Team members and other stakeholders – community impacts, priorities, trends, and overall plan guidance
- 2016 Marlboro Local Hazard Mitigation Plan – prior actions, goals, hazard assessment, and hazard profile information
- Flood Ready Vermont Community reports – NFIP participation data
- Flood Insurance Study (most recent is 2007) – FEMA flood hazard location information
- 2022 Marlboro Town Plan – community profile, mitigation related actions and goals
- US Drought Monitor to quantify historic periods of drought in Windham County

[5] See appendix for copies of neighboring communities and frontline organizations emails.

- US Center for Disease Control – understanding of the risk of heat-related illness
- National Weather Services, including NOAA Events Data, NOW Data, and Climate at a Glance - climate trends, climate records, and special weather events
- 2020 US Census and American Community Survey 5-Year Estimates - population data
- VTrans Town Highway Bridge Inspection Reports – transportation infrastructure statistics
- Vermont Statewide Highway Flood Vulnerability and Risk Map
- Green Mountain Power - outage data and information on the power infrastructure
- 2023 State of Vermont Hazard Mitigation Plan – hazard profile information, state goals, and hazard extent data
- FEMA Disaster Declarations for Vermont – county level declared disasters
- VT ANR Atlas – location of River Corridors and Special Flood Hazard Areas
- FEMA Flood Insurance Rate Maps (effective 12/2/2015) - location of Special Flood Hazard Area
- U.S. Geological Survey National Water Information System - flood extent data
- WRC Local Liaison Reports of Storm Damage – local event impacts
- CRREL Ice Jam Database – mapped ice jams
- Local invasive plant list from Peter Bergstrom of the Rockingham Conservation Commission, sent 8/21/2021
- Communication with VT State Forester, Jim Esden, and Windham County Forester, Sam Schneski, on 2/21/20 – invasive species information specific to Windham region
- VT Fish and Wildlife website – invasive species section
- VTinvasives.org – invasive plant and Forest Pest data
- Vermont Department of Health – Heat data

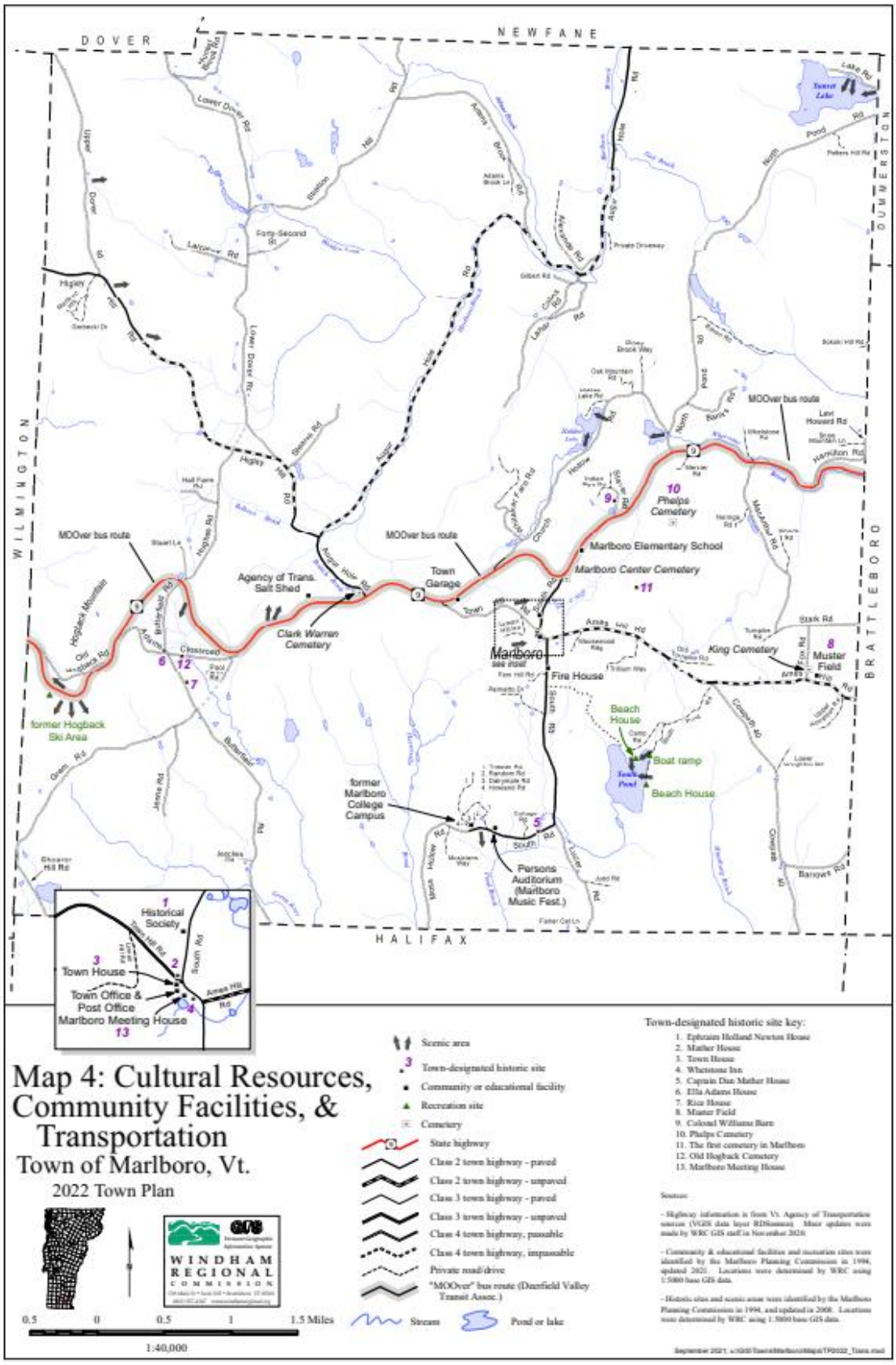
HAZARD IDENTIFICATION AND RISK ASSESSMENT

Community Assets

In addition to people, community assets relate to town owned buildings and infrastructure. There are not a lot of structures that are vulnerably located in Marlboro. All of the municipal buildings are on high ground. The village area, where most of the community facilities are located, is not near any streams and there is no floodplain in that area. Some of the primary assets noted by the town are:

- Marlboro town office and post office
- Community Center (next to town office)
- Volunteer Fire Department on South Road
- Elementary School on Route 9
- Potash Hill Campus on South Road
- Route 9 is a major local and state roadway – this is a vulnerable road
- Hogback Mountain gift shop
- Hogback conservation area
- Whetstone Inn (private Inn)
- South Pond – big community recreation area on private property

Map showing Marlboro Community Assets. Map from the 2022 Marlboro Town Plan.

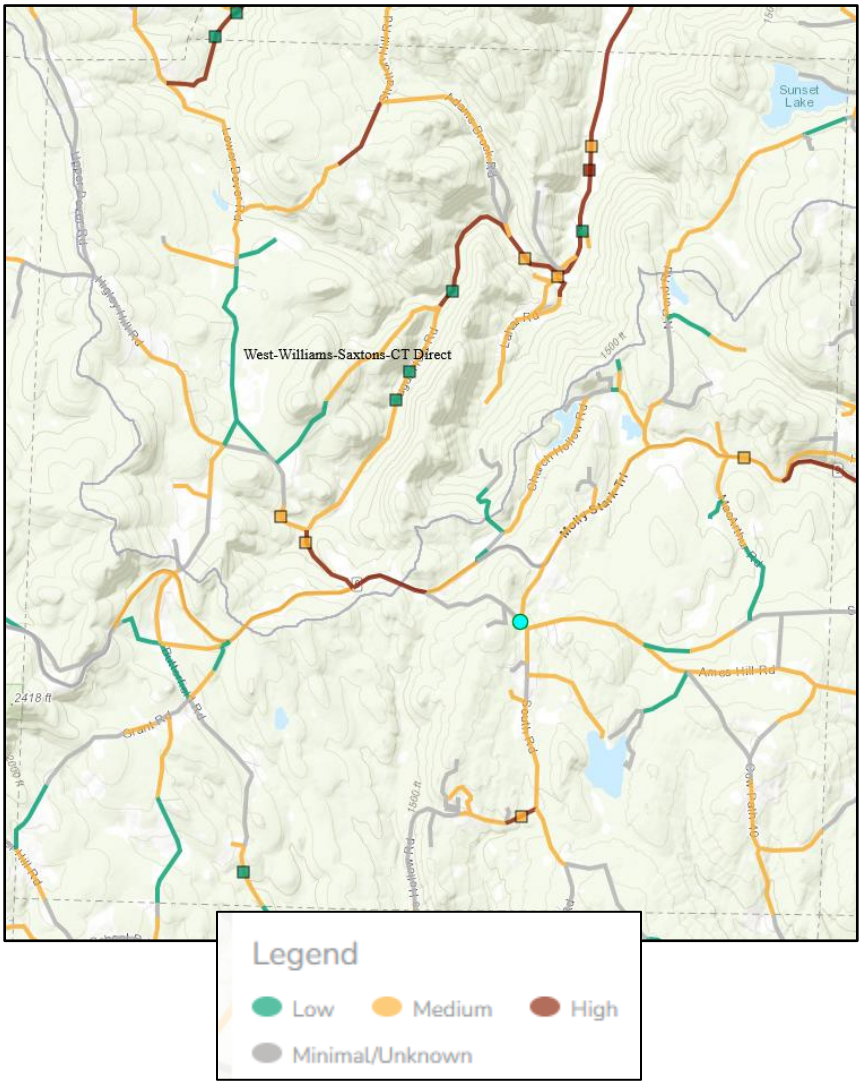


VTrans Transportation Infrastructure Vulnerability Mapping

The Vermont Department of Transportation has developed a 'Transportation Resilience Planning Tool' to quantify the flood vulnerability and risk of bridges, culverts, and road embankments throughout the state.[6] Vulnerability assessments were completed for the following infrastructure:

- Road/river embankments along state and town highways
- All long structures (spans greater than 20 feet) on state and town highways
- All culverts and short structures on the state highway system

The map shown below provides a vulnerability analysis of roads and bridges that are at risk of inundation, erosion, or deposition related to a 100-year flood event. The Tool combines river science, hydraulics and transportation planning methods and is applied at a watershed scale. This data can be used to inform project scoping, capital programming, and hazard mitigation planning for state and local highways. The map shown here shows the vulnerability ranking of roads and bridges in the Town.



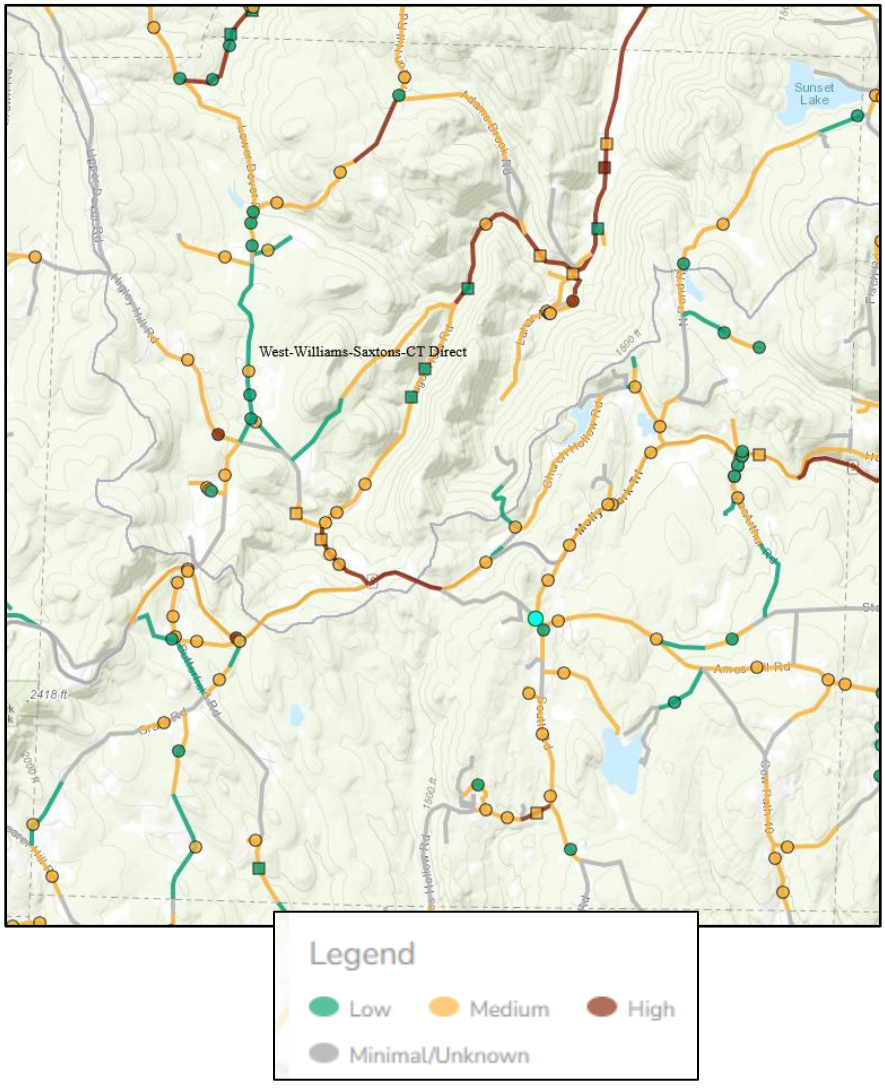
The preceding map, generated from the Transportation Resilience Planning Tool, identifies sections of Augur Hole Road, Molly Stark Trail, Hunter Brook Road, and Stratton Hill Road as being highly vulnerable road segments. The segments both rank high in mapped criticality and are prone to erosion. One bridge on

[6] VTrans Statewide Highway Flood Vulnerability and Risk Website: https://vtrans.vermont.gov/planning/transportation-resilience/statewide

Augur Hole Road is ranked as a high-risk bridge and 7 bridges around town are listed at medium level of vulnerability. All of the medium level structures are either located on highly vulnerable road sections or are close to those road segments.

The on-the-ground reality in town has shown that there are many highly vulnerable road segments, culverts and structures. The town has been working to identify and upgrade identified priority culverts and road segments to mitigate future damage from high rain events. There are also many private structures that have been identified as being at high risk of flooding. When hazardous road segments, structures and culverts are being analyzed, direct experience from the town should be counted more heavily than just the vulnerability maps.

The below map shows the same data from the Transportation Resilience Planning Tool, but also shows culverts. According to the map, there are two highly vulnerable culverts in the Augur Hole area. The majority of the culverts in town are of medium vulnerability. Once again, the town has identified road segments, culverts and structures in town that have failed or been significantly damaged in town during the large flooding events of the past several years.



The Transportation Resilience Planning Tool is a publicly accessible tool that can be accessed here or by searching for it online.

Federal Disaster Declarations for Windham County

There have been 24 Presidential Disaster Declarations in Windham County since 1953: 8 Floods, 8 Severe Storms, 3 Hurricanes, 1 Tropical Storm, 2 Biological Incidents (both Covid-19 related), 1 Snowstorm, and 1 Severe Ice Storm.[7] July, August and September are the months that historically have seen the highest number of declarations.

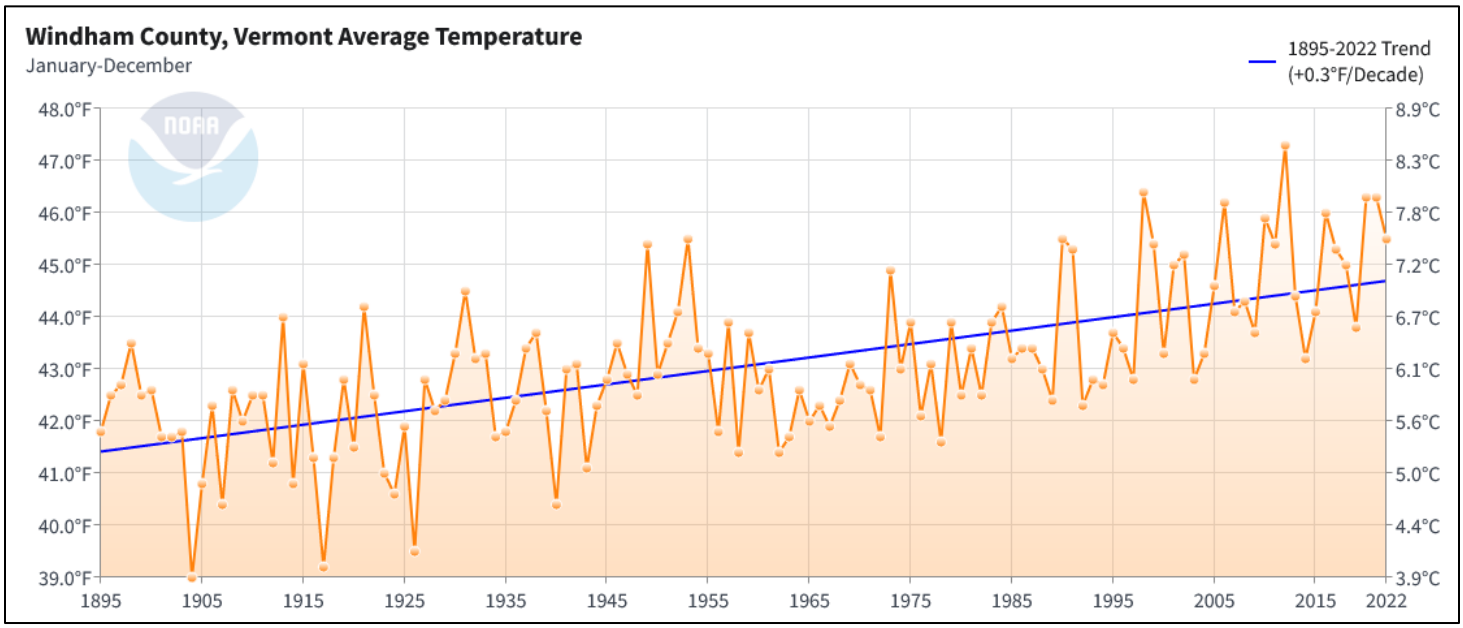
Disaster Declarations for Windham County, VT						
Disaster Number	**Incident Begin Date**	**Incident End Date**	**Declaration Date**	**Incident Type**	**Title**	**Disaster Close Out Date**
3609	8/8/2024	8/10/2024	8/78/2024	Tropical Storm	Tropical Depression Debby	
4762	12/8/2023	12/19/2023	3/2/2024	Severe Storm	Severe Storm and Flooding	
4720	7/7/2023	7/21/2023	7/14/2023	Severe Storms, Flooding, Landslides, and Mudslides	Severe Storms, Flooding, Landslides, and Mudslides	
3595	7/9/2023	07/17/2023	07/10/23	Flooding	July 2023 Flooding	9/27/2023
4621	7/29/2021	7/30/2021	9/29/2021	Severe Storm and Flooding	Severe Storms and Flooding	
3567	8/22/2021	8/29/2021	8/22/2021	Hurricane	Tropical Storm Henri	9/8/2021
4532	1/20/2020	5/11/2023	04/08/2020	Biological	Covid-19 Pandemic	
3437	3/13/20	1/20.2020	5/11/2023	Biological	Covid -19	12/22/2022
4356	10/29/2017	10/30/2017	01/02/2018	Severe Storm and Flooding	Severe Storms and Flooding	9/12/23
4043	5/20/2011	5/20/2011	11/8/2011	Severe Storm	Severe Storms and Flooding	1/14/2020
4022	8/27/2011	9/2/2011	9/1/2011	Hurricane	Tropical Storm Irene	
3338	8/26/2011	9/2/2011	8/29/2011	Hurricane	Hurricane Irene	3/10/2014
1816	12/11/2008	12/18/2008	1/14/2009	Severe Ice Storm	Severe Winter Storm	10/15/2014
1698	4/15/2007	4/21/2007	5/4/2007	Severe Storm	Severe Storms and Flooding	3/13/2013
1559	8/12/2004	9/12/2004	9/23/2004	Severe Storm	Severe Storms and Flooding	1/4/2011
1488	7/21/2003	8/18/2003	9/12/2003	Severe Storm	Severe Storms and Flooding	1/4/2011
3167	3/5/2001	3/7/2001	4/10/2001	Snow	Snow	2/28/2005
1336	7/14/2000	7/18/2000	7/27/2000	Severe Storm	Severe Storms and Flooding	6/30/2008
1307	9/16/1999	9/21/1999	11/10/1999	Severe Storm	Tropical Storm Floyd	6/30/2008
1124	6/12/1996	6/14/1996	6/27/1996	Flood	Extreme Flooding and Rainfall	2/23/2005
1101	1/19/1996	2/2/1996	2/13/1996	Flood	Ice Jams and Flooding	2/17/2005
518	8/5/1976	8/5/1976	8/5/1976	Flood	Severe Storms, High Winds & Flooding	4/16/1981

[7] FEMA tool: Data Visualization: Disaster Declarations for States and Counties: Windham County, VT http://www.fema.gov/data-visualization-disaster-declarations-states-and-counties Accessed 9/15/2021

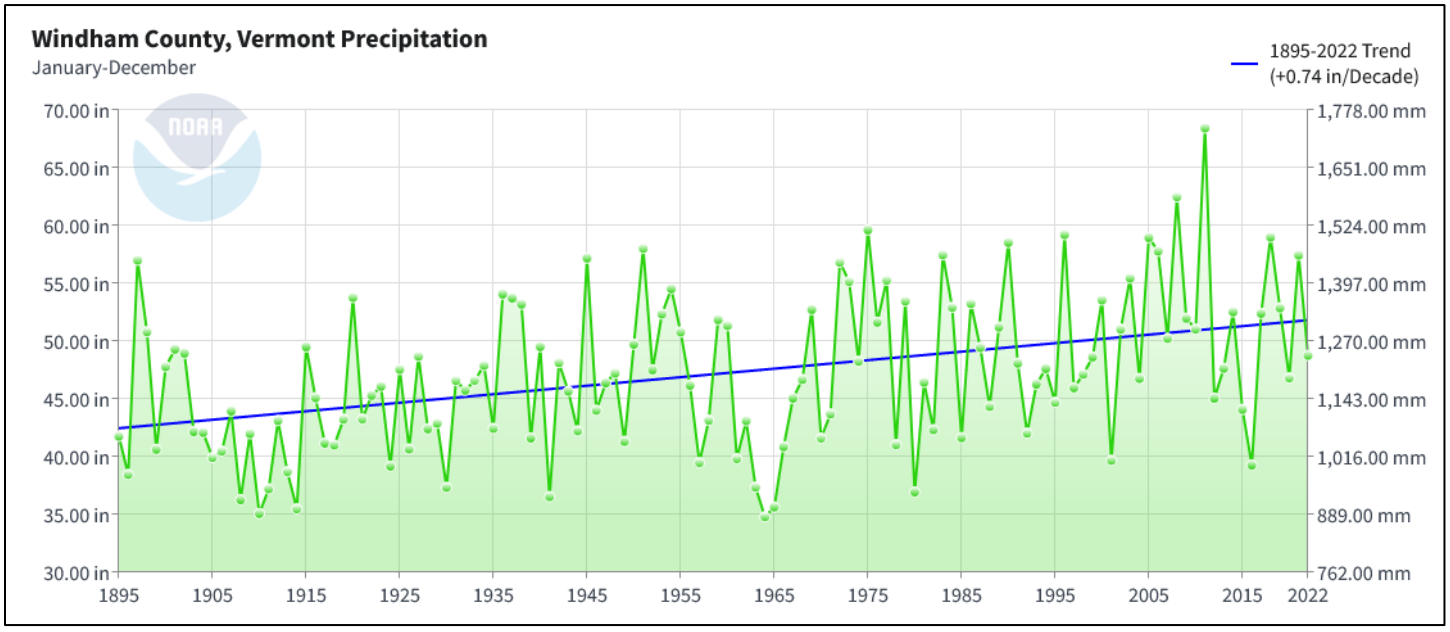
397	7/6/1973	7/6/1973	7/6/1973	Flood	Severe Storms, Flooding & Landslides	11/12/1976
277	8/30/1969	8/30/1969	8/30/1969	Flood	Severe Storms and Flooding	5/26/1972

Climate Trends

In recent years, it has become evident that human activities, mostly associated with the combustion of fossil fuel, have added to the natural concentration of greenhouse gases in the atmosphere and are contributing to rapid climate change on a global scale. An analysis of average annual temperature in Windham County shows that temperatures are rising on an average of .3°F per decade (see below graph). Data source: NOAA Climate at a Glance



Annual precipitation is rising at a rate of about .74" per decade (see below graph). While projections of the effects of climate change vary, it is generally predicted that the region can expect to have warmer temperatures year-round, with warmer, wetter winters, and increasingly erratic patterns of precipitation.



Data source: NOAA Climate at a Glance

Power Outage Statistics[8]

Green Mountain Power provided power outage statistics for the last 5 full years. Power outages present a vulnerability for those without backup power or that rely exclusively on electric for their heating or cooling. The data generally shows a fairly consistent average for the length of outages, the number of times a customer lost power and the total hours a customer was without power in a year between 2020 and 2024'. The data also shows how a year with more extreme weather (such as 2023) can greatly affect the outage averages.

	Avg Length of Outages in Hours Per Year	Avg # of Times a Customer was Without Power Per Year	# of Hours the Typical Customer was Without Power Per Year
2024	3.05	6.58	20.08
2023	7.37	9.77	72.04
2022	3.73	7.79	29.07
2021	2.76	7.69	21.21
2020	3.10	6.65	20.62
Annual Average 2020-2024	4.24	7.70	32.60

When a power outage occurs, communication systems become compromised. Landline phone service that has been converted from copper wire to fiber relies on an in-home battery back-up. The battery life is typically less than eight hours, whether the phone is used or not. Though most residents use cell phones,

[8] Data provided by Ken Couture of Green Mountain Power via email 11/3/2023.

service in Marlboro is spotty, further complicating the problem of contacting emergency services during power outages.

To mitigate the impacts of power outages, the following public buildings/critical facilities have been equipped with back-up power or generator hook-up:

- Marlboro Town Office: has PowerWalls for numerous days of backup power.
- Community Center: has a propane fired backup generator.
- Fire House: has a propane fired backup generator.

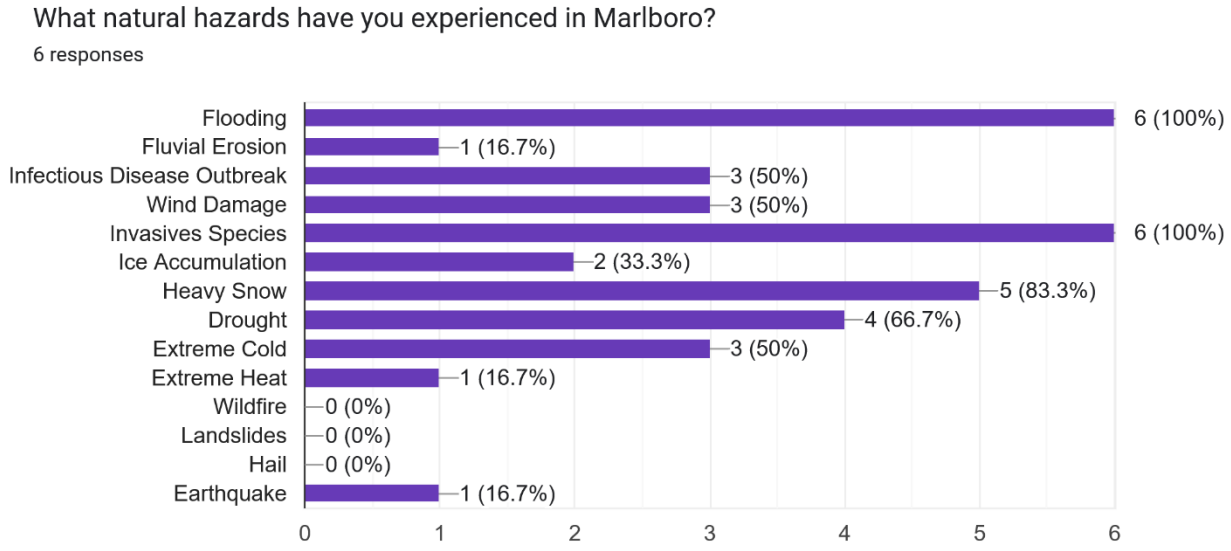
During a disaster, municipal response is managed by the EOC, this would include all communications – from phone calls to internet browsing and 2-way radio.

Connectivity is crucial in times of crisis. Telecommunications are needed for warning systems before disaster, as well as for response during and recovery after.

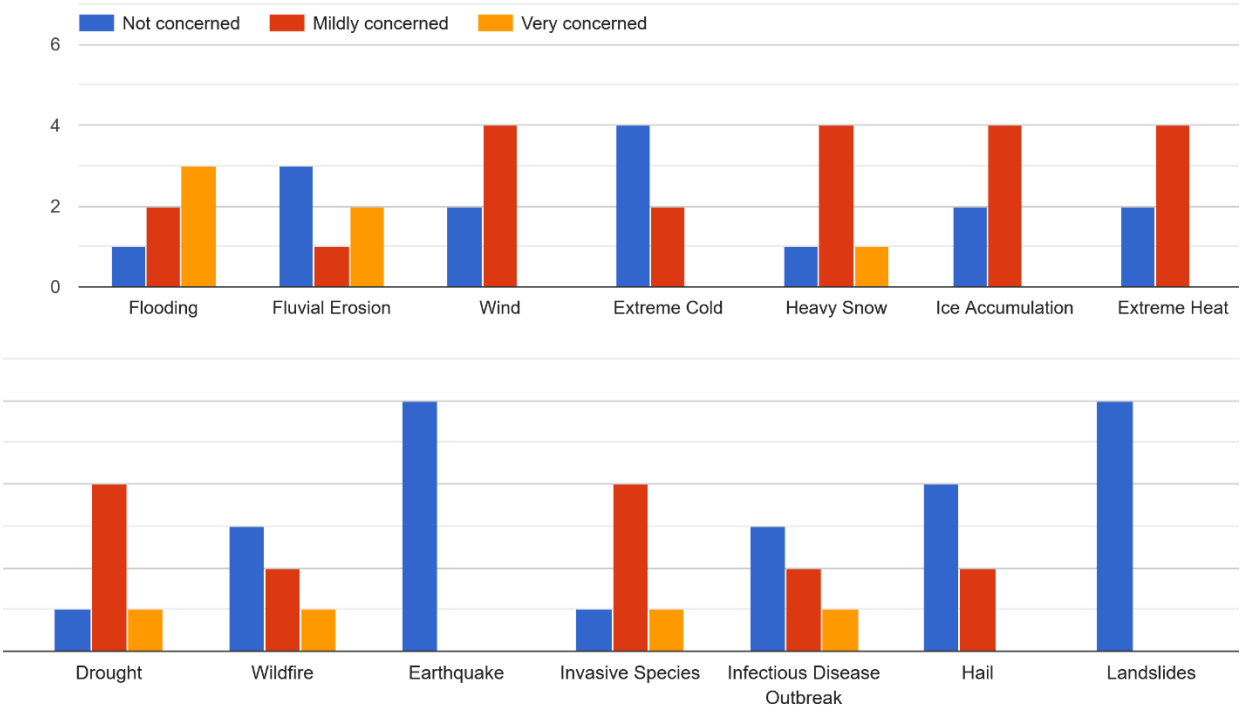
Hazard Ranking Process

A public survey was conducted to understand what natural hazards have been experienced and are of concern to people in Marlboro. The survey was open for all of November to December 6, 2025. The survey was advertised with an on-line survey link on the town website, on Marlboro's Front Porch Forum site, vial the Town's official public notice posting locations, Marlboro's Facebook page and at the Town Warning informational meeting on 11/1/2025. Paper copies were available at the Town Office and at the Town Warning informational meeting.

There were 6 responses to the survey. The top three hazards most experienced in town were flooding, invasive species and heavy snow. When asked how concerned residents were about various hazards, the hazards of highest concern were flooding, heavy snow, drought and invasive species. Hazards of medium concern were fluvial erosion, wind, ice, heat, and wildfire. Of least concern were the hazards of extreme cold, Infectious disease, earthquakes, hail and landslides. Survey results were shared with the Planning Committee before they worked on ranking hazards for the plan.



How concerned are you about the following natural hazards causing damage in the town in the future?



The hazard ranking process has been revised since the 2016 plan was developed. The hazards considered now only include natural hazards and align with what is contained in the State Hazard Mitigation Plan. The rankings below are based on data in terms of previous occurrences, probability of future events, and links to climate change. Asset impacts accounted for future conditions, including climate change, changes in land use, and demographic shift and/or changes in population. Community input is provided for measuring vulnerability specific to assets and residents. The combination of these factors in a quantified measure produces a score.

When taking the public survey and the ranking process together, the hazards hazards profiled in this Plan include: Ice, Snow, Cold (combined), Fluvial Erosion and Inundation Flooding (combined, and including ice jams), Wind (including tropical storms), Wildfire, Infectious Disease Outbreak, Invasive Species, Hail, Landslides, Heat and Drought.

Possible Hazard	Previous Occurrences	Probability of Future Occurrences	Linked to climate change (add 1 point)	Vulnerable Assets	Vulnerable Residents	Score:
Snow	4	4	1	4	4	**17**
Cold	4	4	1	4	4	**17**
Wind	4	4	1	4	4	**17**
Inundation Flooding	4	3	1	4	2	**14**
Wildfire	3	3	1	4	2	**13**
Ice	3	3	1	3	2	**12**
Fluvial Erosion	3	2	1	3	2	**11**

Possible Hazard	Previous Occurrences	Probability of Future Occurrences	Linked to climate change (add 1 point)	Vulnerable Assets	Vulnerable Residents	Score:
Infectious Disease	3	3	1	4	4	**11**
Invasive Species	3	4	1	1	1	**10**
Hail	2	2	1	1	1	**7**
Landslides	1	2	1	2	1	**7**
Heat	2	2	1	0	1	**6**
Drought	1	2	1	1	1	**6**
Earthquake	1	1		1	1	**4**

The rankings are based on this scoring break down:

Previous Occurrences (data driven):

Score	Meaning
0	No previous occurrences on record
1	One occurrence in last 50 years
2	Once every 10 years
3	Once every 1-5 years
4	More than once per year on average

Community input is made less subjective by quantifying vulnerability in relation to assets at risk and proportion of residents at risk.

Vulnerable assets (Community information):

Score	Meaning
0	None
1	1 asset, no community lifelines
2	2 assets, no community lifelines
3	3 assets, no community lifelines
4	4 or more assets, or any community lifeline

Vulnerable residents (Community information, specific to hazard location not the community as a whole):

Score	Meaning
0	None known
1	Less than ¼ of population
2	Less than ½ of population
3	More than ½ of population
4	All residents, town-wide hazard

Probability of Future Occurrences (data driven):

Score	Meaning
1	Unlikely: ,1% probability of occurrence per year
2	Possible: 1-10% probability of occurrence per year.
3	Probable: Between 11-75% probability of occurrence per year.
4	Highly Likely: >75% probability of occurrence per year.

Hazards with a ranking of five or below have a lack of risk either because of rare occurrence or lack of community exposure. Earthquakes are not common in Vermont and there have been only 15 earthquakes that had epicenters[9] in the state between January 1, 2016 and April 1, 2020. All of those events were recorded at 2.3 or less on the Richter Scale. On the scale, a 2.5 or less is not typically felt by humans. It was determined for Marlboro that no community assets or residents were very likely to be affected by this hazard. For hazards not profiled in this Plan (Earthquake), the reader can refer to the State of Vermont Hazard Mitigation Plan.

HAZARD PROFILES

Ice, Snow, and Extreme Cold

Winter weather often results in temporary road closures, school and business delays, and even power outages. Given the high amount of snowfall this region experiences, the town and residents are generally well prepared to deal with normal winter weather conditions. Severe winter storms, however, have been shown to affect the entire region resulting in:

- Extensive damage to above-ground power and utility lines and extended power outages (March 13-15, 2023 storm);
- Road shutdowns, making general travel, transport, and emergency vehicle access difficult;
- Shutdown of schools, businesses, and local government services, limiting access to goods and services;
- Structural failure from excessive snow loading, especially barns (storm of Dec 2008, DR 1816);
- Injuries and fatalities from poor driving conditions, frostbite, hypothermia, heart attacks from overexertion, and carbon monoxide poisoning from blocked vents.

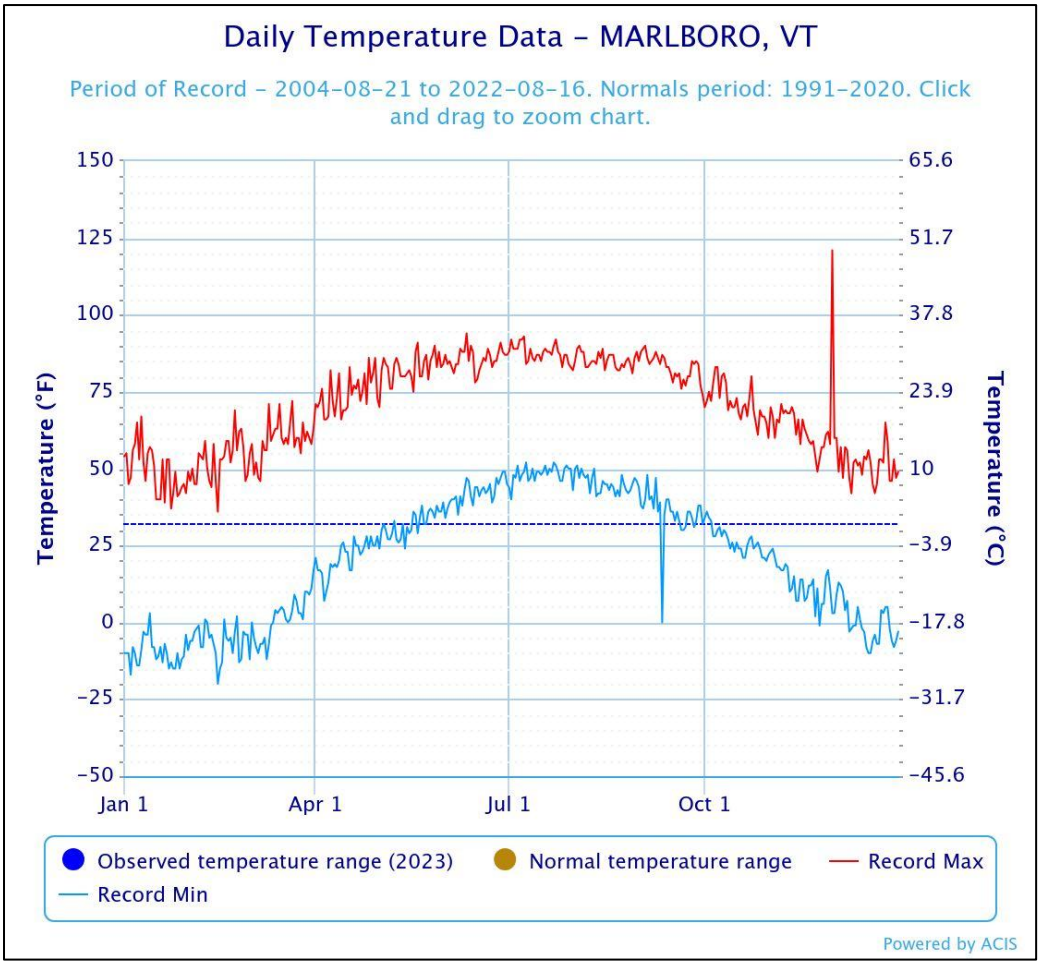
Severe winter weather affects the entire planning area, though higher elevations generally experience more extremes. An ice storm crossed the region in December of 2008 causing widespread downed trees and power outages in the region. The total cost of damages across the region triggered a Presidential Disaster Declaration DR-1816. Damage consisted of roads being blocked due to downed trees and utility lines. Thousands lost power for varying lengths of time and several shelters were opened. An event in March 2023 had similar results and 1-to-5-day power outages varying throughout the region, but did not trigger a federal declaration.

Extreme cold can cause damage to buildings and infrastructure. Cold temperatures alter the chemical composition of mortar, grout, and adhesives used in building construction which over time can lead to unsecured components. Extreme cold can cause frozen pipes which can cause significant damage to buildings. Town buildings should be winterized, with pipes drained and water shut off, in the event an extreme cold event is forecast. Additionally, town highway and fire department vehicles are vulnerable to damage. Keeping them indoors and properly maintained can help to limit damage.

Snow accumulation typically has not made the Town vulnerable to loss of road accessibility. The Town's fleet of snowplows ensures all roads are accessible, even in major accumulation events. Roads adjacent to critical facilities are well maintained. The change of winter storm events from mostly snow to rain and ice has increased the Town's risk with downed trees and resulting power outages, which are previously discussed in the High Wind hazard profile.

[9] Vermont ANR Department of Environmental Conservation: Recent Earthquakes in Vermont. https://dec.vermont.gov/geological-survey/hazards/earthquakes/recentquake

The below chart depicts historic temperature variations in the region (Marlboro is the NWS monitoring station for the region) to the present. The observed extreme temperatures for the period of record for each day are shown in highs (red) and lows (blue) with records going back to 2004. The coldest temperature on record is -15° on February 15, 2016, although wind chill factors have probably approached or even exceeded that benchmark on occasion.



The region usually experiences at least one large event every year or two. There have been three winter storm related declarations in Windham County:

- Winter Storm (DR1816) – December 11-18, 2008
- Snowstorm (DR3167) – March 2001
- Ice Jams and Flooding (DR1101) – January 1996

Extreme snowfall records are 36" in one day measured in West Wardsboro on December 19, 1986; the multi-day extreme recorded snow event was 41.6" measured in Marlboro on March 15, 2023.

Community Vulnerability and Potential Impacts

A changing weather pattern is leading to more ice accumulation in the winters, which causes downed powerlines and a loss of power. A loss of power, whether from ice or snow accumulation will cause issues such as loss of some communications (ex. computers and wifi), loss of refrigeration for food and medication, loss of water pumps, loss of power for lights and life support equipment and other consequences. Some of the most vulnerable populations will be those with health conditions that require certain medications or life support equipment, and business owners that depend on refrigeration for their products.

While the trend has been to have warmer winters, the instability of the changing weather can also lead to some extreme and prolonged cold spells. Extreme cold can leave the most vulnerable residents at risk of cold exposure. Heating bills rise as systems use more fuel. Residents of low income may have to make hard decisions between basic life needs such as food and heat.

Ice, Snow, and Extreme Cold Summary Table

	Location	Vulnerability	Extent	Observed Impact	Probability
Ice	Town-wide, with higher elevations being at greater risk of extremes	Road accidents, power outages, damage to property, docks, shorelines	The Ice Storm of January 6, 1998 (DR-1201) was an unusual combination of precipitation and temperature that led to the accumulation of more than 3" of ice in many locations, causing closed roads, downed power lines, and damage to thousands of trees. This storm was estimated as a 200-500 year event.	Extended power outages; road accidents; carbon monoxide from improper use of generators	Score of 3; Probable
Snow	Town-wide, with higher elevations being at greater risk of extremes	Roofs prone to collapse from weight; Power lines and trees; impassable roads due to snow drifts;	Extreme snowfall records are 36" in one day measured in West Wardsboro on December 19, 1986; the multi-day extreme	Roof collapse on at risk structures; road accidents; power outages from downed trees and wires; school	Score of 3; Probable

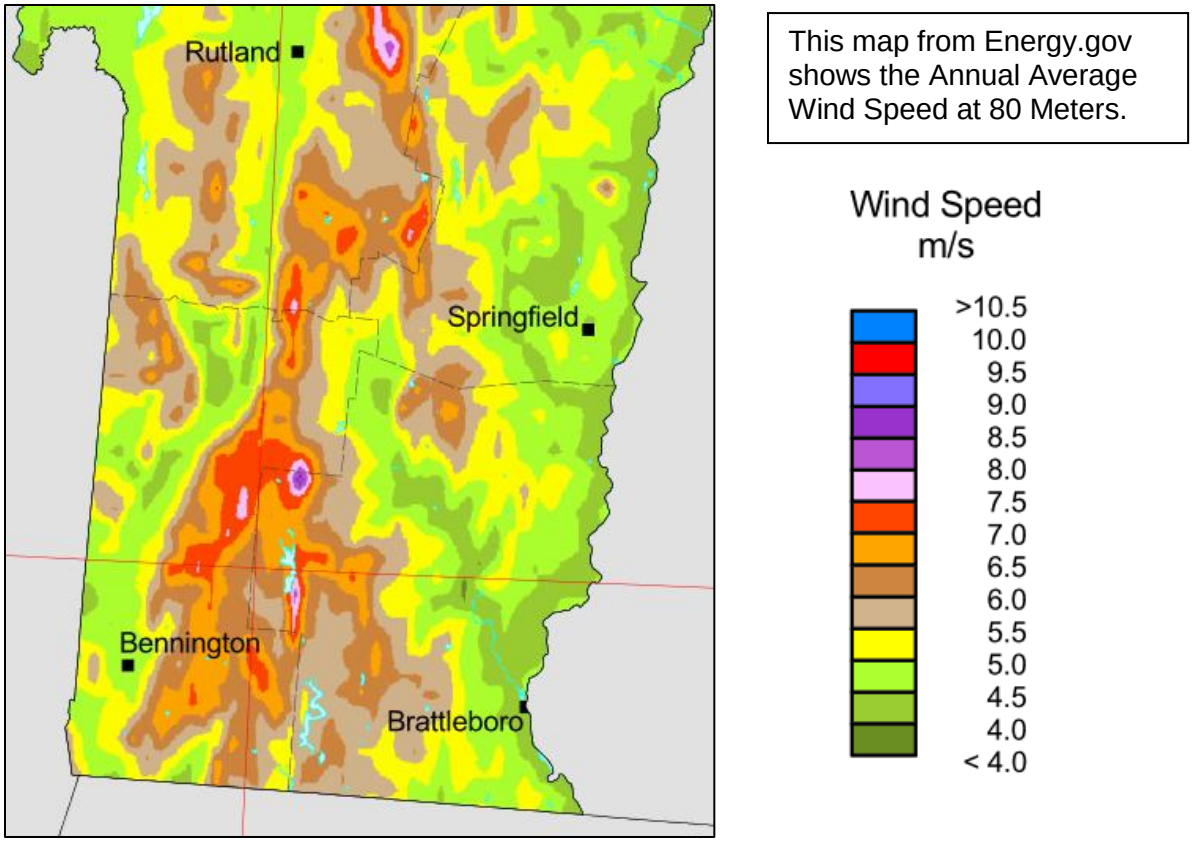
		indirect injuries from overexertion; Unsafe travel, especially for school buses and ambulances	recorded snow event was 41.6" measured in Marlboro on March 15, 2023. Heavy snow in Marlboro during this multi-day event resulted in loss of power for some residents for up to three days. Residents along Adams Brook Road were stranded for 48 hours because the 1 ton plow truck could not push the snow off the road.	cancellations and delays; outdoor recreation events cancelled;	
Cold	Town-wide, with higher elevations being at greater risk of extremes	People living in older structures; energy burdened households Structure fires Damage to water pipes Damage to agricultural crops	The coldest temperature on record is -15° on February 15, 2016 in Marlboro	Burst water pipes and flooding; school cancellations and delays; outdoor recreation events cancelled;	Score of 3; Probable

High Winds

High winds in the region can be associated with thunderstorms, microbursts, straight-line winds, snowstorms, hurricanes, tropical storms or tornadoes. High winds tend to sweep through after the passage of a weather front. Power outage is primarily caused by high wind events taking trees down onto lines, even more so than ice. Trees downed by high winds can damage structures, block roads, and down power and communications lines. Mobile home parks and houses on ridge lines are at greater risk from wind damage. Blowing and accumulating snow is an issue of winds during winter months for open roadways.

There are many trees in close proximity to roads, buildings and power lines. GMP trims trees near their lines only. There are areas where power lines go through the forest, so tree trimming is not as practical. Town road crews generally do tree and limb cleanup, but there is not a lot of *preventative* tree maintenance at the town level.

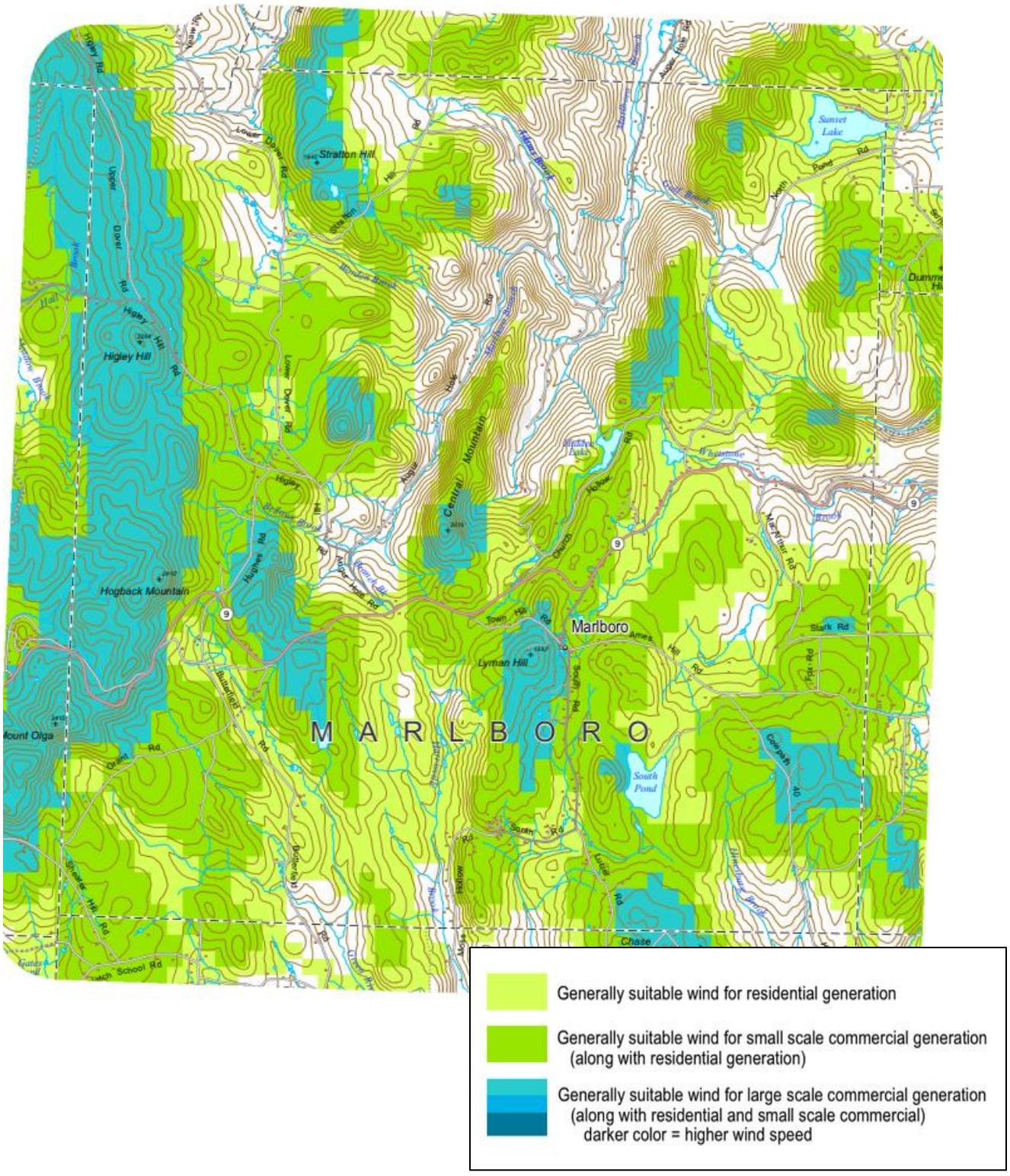
High winds can affect any location, though higher elevations are at more risk. The below map shows annual average wind speeds for southern Vermont, and the spine of the Green Mountains predictably has the highest speeds. The purple area to the north of the highlighted square is Stratton Mountain, which gets particularly high winds and is the highest peak in the Windham Region.



This map from Energy.gov shows the Annual Average Wind Speed at 80 Meters.

For a more localized look at wind speed, the below map shows wind power opportunity correlated only to wind speed[10]. The higher elevations in town, as well as a ridgeline that includes Hogback Mountain in the western portion of town have the highest wind speeds.

[10] This map was developed by the Windham Regional Commission for use by the Town and Region in energy planning efforts in 2017.


Stratton Hill
Higley Hill
Hogback Mountain
Central Mountain
Lyman Hill
Marlboro
M A R L B O R O
Sunset Lake
South Pond
Mount Olga
Generally suitable wind for residential generation
Generally suitable wind for small scale commercial generation (along with residential generation)
Generally suitable wind for large scale commercial generation (along with residential and small scale commercial) darker color = higher wind speed

The Beaufort Wind Scale, one of the first scales to estimate wind speeds, was created by Britain's Admiral Sir Francis Beaufort in 1805 to help sailors estimate the winds via visual observations. The scale starts with 0 and goes to a force of 12. The Beaufort scale is still used today to estimate wind strengths. This scale is applicable to tropical storms within the 'Hurricane' scale wind speeds.

Force	Speed		Land Conditions
	knots	mph	
0	<1	<1	Calm, smoke rises vertically
1	1-3	1-3	Light air, direction of wind shown by smoke drift only
2	4-6	4-7	Light breeze, wind felt on face, leaves rustle, vanes moved by wind
3	7-10	8-12	Gentle breeze, leaves and small twigs in constant motion, wind extends light flag
4	11-16	13-18	Moderate breeze, raises dust, loose paper, small branches move
5	17-21	19-24	Fresh breeze, small trees in leaf begin to sway
6	22-27	25-31	Strong breeze, large branches in motion, umbrellas used with difficulty
7	28-33	32-38	Near gale, whole trees in motion, inconvenience felt walking against the wind
8	34-40	39-46	Gale, breaks twigs off trees, impedes progress
9	41-47	47-54	Strong gale, slight structural damage occurs
10	48-55	55-63	Storm, trees uprooted, considerable damage occurs
11	56-63	64-73	Violent storm, widespread damage
12	64+	74+	Hurricane, extreme destruction

The Enhanced Fujita Scale or EF Scale is used to assign a tornado a 'rating' based on estimated wind speeds and related damage. When tornado-related damage is surveyed, it is compared to a list of Damage Indicators and Degrees of Damage which help estimate better the range of wind speeds the tornado likely produced. From that, a rating (from EF0 to EF5) is assigned[11]. There have been 2 EF1 tornadoes and 1 EF2 tornado in Windham County since 1990.

EF SCALE	
EF Rating	**3 Second Gust (mph)**
0	65-85
1	86-110
2	111-135
3	136-165
4	166-200
5	Over 200

According to NOAA records, there have been 169 days with wind events between 1950 and 2023 in Windham County, 66 of which caused property damage. Damage totals for these events together are $1,411,400. Most record of wind events indicates in the 40-60 mile per hour range, with damages of several thousand dollars. More current and extreme events experienced in Windham County include:

5/16/2022	Wardsboro	70 mph	Thunderstorm winds
3/7/2022	Region-wide	40-50 mph	Thunderstorm winds
5/15/2020	West [Name of Town]	50 mph	Thunderstorm winds
8/21/2019	Windham	EF1	Tornado
7/28/2018	Regionwide	50-60 mph	Thunderstorm winds
11/10/2017	Region-wide	40-50 mph winds	High winds
9/5/2017	Region-wide	50-60 mph winds	Thunderstorm winds
6/8/2011	Northern Windham C.	50 mph	Thunderstorm winds
7/20/2008	Region-wide	50 mph	Thunderstorm winds

[11] National Weather Service < https://www.weather.gov/oun/efscale>

2/17/2006	Region-wide	60 mph generally; Stratton Mtn measured 143 mph gusts	High winds, likely snow storm
7/21/2003	Stratton	EF1	Tornado; $100,000 in damages
6/5/2002	Windham	EF2	Tornado; $75,000 in damages
9/16/1999	Region-wide	60 mph	Hurricane Floyd; $175,000 in damages
7/6/1999	Guilford	90 mph	Microburst; $150,000 in damages
7/3/1997	Eastern Windham C.	Not recorded	Thunderstorm winds caused $100,000 in damages
9/21/1938	Region-wide	100+ mph	Hurricane Igor; $400 million damages across southern Vermont; 600 lives lost; widespread destruction

Community Vulnerability and Potential Impacts

As climate patterns continue to change, Marlboro is seeing an increase in high winds associated with storms earlier in the spring and later into the fall. High winds can cause downed powerlines which will impact businesses, homes, and municipal or emergency operations due to a loss of power. A loss of power will cause issues such as loss of some communications (ex. computers and wifi), loss of refrigeration for food and medication, loss of water pumps, loss of power for lights and life support equipment and other consequences. Some of the most vulnerable populations will be those with health conditions that require certain medications or life support equipment, and business owners that depend on refrigeration for their products.

Wind Hazard Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide	Downed trees, downed power lines, extended power outages; potential for injuries from falling debris or power lines; disruption to services and businesses	High winds in large storms are typically in the 40-60 mph range and in 1938 there was an extreme 100 mph event.	Wind Shear during the spring of 2023 brought downed trees and infrastructure damage from downed trees and branches	Score of 3: Probable

Fluvial Erosion and Inundation Flooding

Flooding is the most widespread and destructive hazard in the United States and in the Windham Region. Flooding can occur anytime of the year as a result of heavy rains, thunderstorms, tropical storms, hurricanes, snow melt, or rain on snow. It can result from the overflow of major rivers and their smaller

tributaries, or inadequate local drainage. Historically, floods have been a factor in over 80 percent of all federally declared disasters. People living in close proximity to bodies of water such as rivers, lakes, and streams are at greater risk from flooding than those not living in the floodplain. Municipal membership in the National Flood Insurance (NFIP) and having a compliant floodplain ordinance in place gives residents access to discount flood insurance and enables towns to regulate development within their regulated flood hazard area.

This photo shows the real connection of river and road during TS Irene, as the river reclaims its floodplain, edging in on the road. Photo courtesy of wilmingtonvtfloodrelief.com.

Much of the destruction from flooding in Vermont is due to fluvial erosion, which is the destruction of river banks caused by the movement of rivers and streams. This can range from gradual bank erosion to catastrophic changes in river channel location and dimension during flood events. This occurs when the stream has more energy than is needed to transport its sediment load, due to channel alterations or runoff events that increase water speed in the channel, leading to erosion. Major erosion events are typically associated with periods of heavy rainfall or rapid snow melt and tend to worsen the effects of flooding that often accompany these events. The historic road network of many Vermont towns and villages typically follows waterways. This historic settlement pattern creates vulnerability for the road network, infrastructure and development in these areas. Climate change is leading to larger storms and larger flood and fluvial erosion events, putting more development at risk. This trend is discussed in the Climate Change section earlier in this Plan.

A waterway that is constrained or impinged by development is unable to reach geomorphic equilibrium which increases flooding in that area and puts increased pressure and larger flood loads on upstream and downstream sections, as well as causing more flooding damage. A river is in geomorphic equilibrium when its water, energy, sediment, and debris are in balance. In this condition a river is neither building up sediment in the channel nor losing sediment from its bed. Importantly, a river in equilibrium has not become overly deep and can continue to overflow onto its floodplains. The water that spills onto the floodplain slows down, and the velocity of the water still in the channel does not become excessively powerful. Mitigation actions that assist with achieving greater stream equilibrium will lessen or even eliminate flooding levels and damages to nearby buildings and infrastructure. Historic development patterns limit or complicate mitigation in some areas.

The biggest flood events in the Windham Region in recent years have been Tropical Storm Irene in 2011 and the July 2023 flooding. Irene (DR4022) caused $31.9 million in public assistance damages for Windham County, $7 million for Bennington County, and $48.6 million for Windsor County. Total damage amounts for the July 2023 floods are still being tabulated as of this writing, but the amounts are expected to exceed that of Irene.

All FEMA received funds for the Town of Marlboro[12]:

DR #	Date of Declaration	Event Type	Awarded Amount
4720	7/14/2023	Severe Storm	$ 29,814.67
4356	1/2/2018	Severe Storm	$ 191,347.68
4022	9/1/2011	Hurricane	$ 886,989.97
1816	1/14/2009	Severe Ice Storm	$ 103,342.74
1698	5/4/2007	Severe Storm	$ 103,496.32
3167	4/10/2001	Snow	$ 2,245.34

Local Flooding Concerns and Experience

The Town of Marlboro is a relatively high elevation town that has more upper reaches of rivers verses the lower lying towns where rivers slow down and spread out. Because of its topography, there is relatively little inundation flooding. The inundation flooding that does occur tends to be from beaver dams that cause water to back up and spread out behind them. The town experiences more fluvial erosion as small brooks and streams rise quickly and scour the banks.

Tropical Storm Irene in August of 2011 cause the most infrastructure damage in Marlboro in recent memory. Several homes were damaged. Roads that sustained the most damage were Augur Hole Road, Butterfield Road, Church Hollow, Barrows Road, and Ames Hill Road.

Since 2011 there are some roads that have seen repeated damage from storms. These roads include Augur Hole Road, Fox Road, Stearns Road, and North Pond Road. The road crew has been making tremendous progress on fixing areas with repeated problematic erosion. They have been adding stone lined ditches and replacing and upsizing culverts throughout town. The road that needs the most attention at this time is Augur Hole Road. The road sits in a valley and Bellows Brook runs the length of the road. The amount of water that runs through the area during storms causes a lot of washouts.

Ice jam flooding is not very common in Marlboro in the early springtime. Marlboro doesn't have mapped historic ice jams. However, sometimes jams will form on the Whetstone River downstream in Brattleboro. Extent data is not available. To date, the probability of ice jam flooding is unlikely. Increasing warmer climate may cause increasing freeze/thaw cycles. Asset impacts may be likely to increase due to the effects of climate change.

[12] Open FEMA Dataset: Public Assistance Grant Project Summaries https://www.fema.gov/openfema-data-page/public-assistance-funded-project-summaries-v1

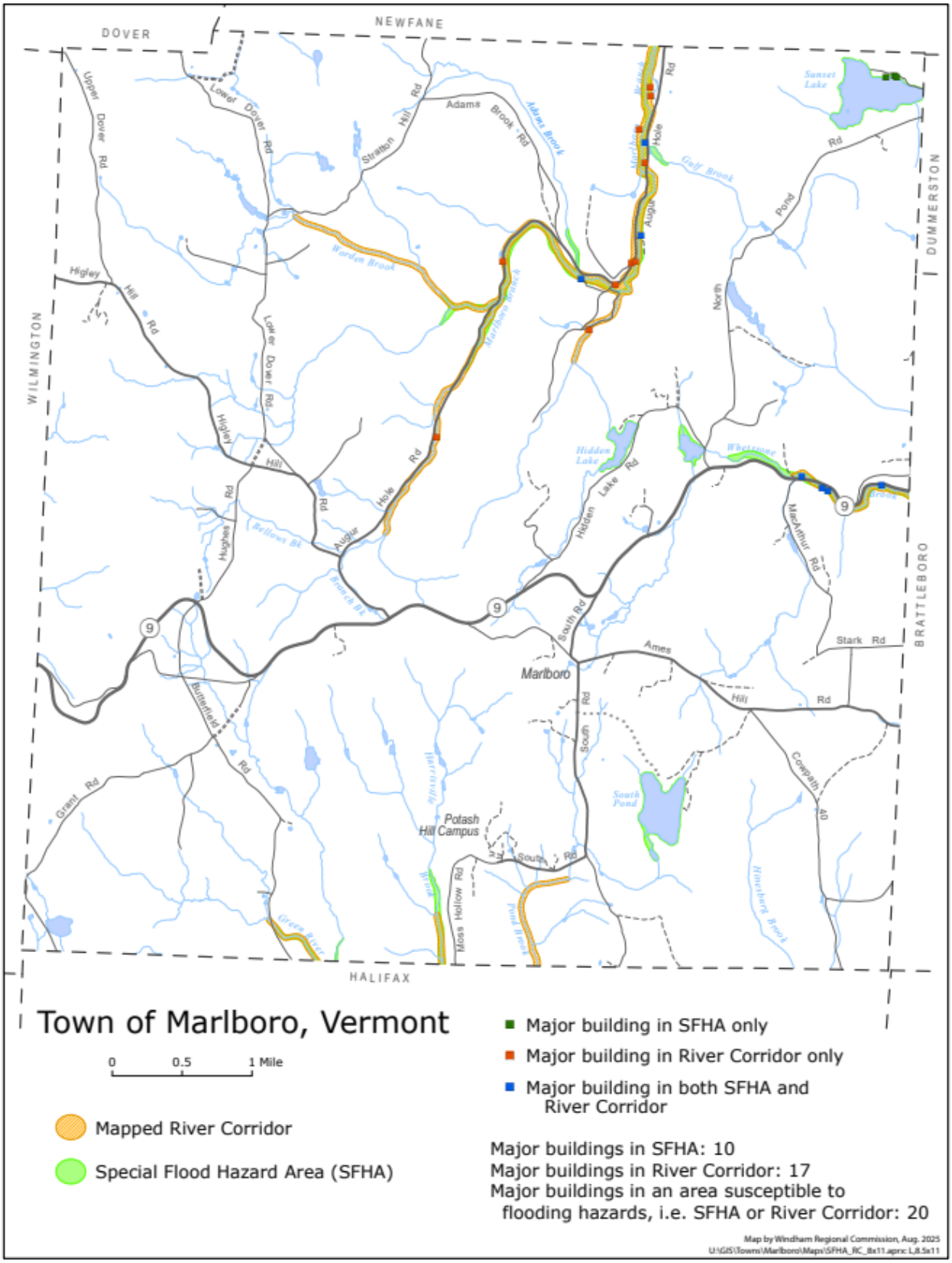
Events of the largest magnitude at the nearest recording station:

Highest Precipitation by Day: Marlboro, VT	
Date	**Amount (inches)**
10/30/2017 (DR 4356)	4.11
7/11/2023 (DR 3595/4720)	4.04
12/18/2023	2.99
6/27/2023	2.92
8/5/2020	2.89
9/19/2012	2.56
1/24/2024	2.53
3/14/2023	2.18
4/8/2022	2.17
5/1/2023	2.09
2/4/2022	1.85
11/3/2018	1.83
Period of record: 8/13/2003 to 1/11/2024	

Structures in Mapped Flood Hazard Areas

The map on the next page[13] shows where structures are located in one or more designated flood hazard areas. Note the location of clusters of structures.

[13] Map by Windham Regional Commission, August 2025.


DOVER
NEWFANE
WILMINGTON
DUMMERSTON
BRATTLEBORO
HALIFAX
Marlboro
Potash Hill Campus
Town of Marlboro, Vermont
0 0.5 1 Mile
Mapped River Corridor
Special Flood Hazard Area (SFHA)
Major building in SFHA only
Major building in River Corridor only
Major building in both SFHA and River Corridor
Major buildings in SFHA: 10
Major buildings in River Corridor: 17
Major buildings in an area susceptible to flooding hazards, i.e. SFHA or River Corridor: 20
Map by Windham Regional Commission, Aug. 2025

The FEMA mapped Special Flood Hazard Area or "SFHA" is the area subject to inundation by the 1% annual chance flood (100-year flood). FEMA also maps the .2% annual chance flood or the 500-year flood. To address the shifting dynamics of rivers in Vermont, the Vermont Agency of Natural Resources mapped River Corridors, which are areas subject to fluvial erosion. Together this mapping can assist in creating an understanding of where flood hazards exist and where towns should consider limiting development and focusing mitigation strategies. Official flood mapping is viewable by accessing the Vermont ANR Atlas, on the FEMA Map Service Center, or by contacting your Town.

There are 688 major structures in town, as per the E911 data.

There are 10 major structures in the Special Flood Hazard Area (100-year floodplain or SFHA).

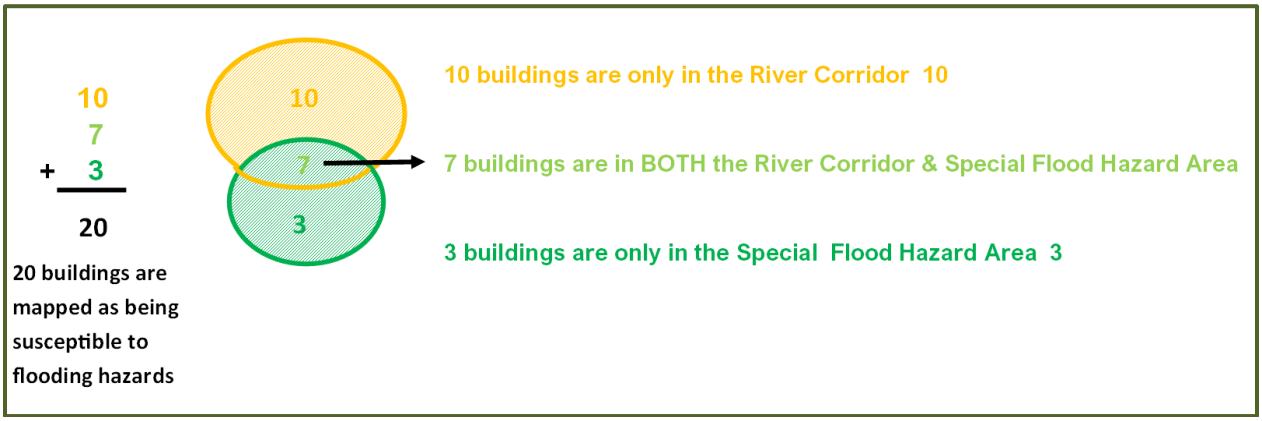
There are 17 major structures in the mapped River Corridor.

Of those above, 7 major structures are in both the Special Flood Hazard Area and the mapped River Corridor.

Note that no base flood elevations have been determined for the SFHA, meaning it's less precisely mapped.

Of the 20 buildings located in mapped flood hazard areas, all are either single family dwellings or camps, with the exception of Marlboro Collision, a commercial building located on Route 9.

There are 0 repetitive loss properties.



Property owners with a federally backed mortgage on a building in the SFHA are required to purchase flood insurance. A town being a member of the National Flood Insurance Program (NFIP) provides residents with access to flood insurance through the NFIP. If a town is not a member of the NFIP, residents must buy the required insurance on the private market. Properties outside of the FEMA floodplain can optionally purchase flood insurance at a lesser expense, and it still covers damages resulting from fluvial erosion in events that damage multiple properties.

Zero flood vulnerable structures in the Marlboro SFHA have flood insurance. This is an economic vulnerability for these residents in the event of a large flood event.

Community Vulnerability and Potential Impacts

In the wake of flooding and fluvial erosion, evidence of the water's destructiveness can often be seen in severely damaged homes and public buildings, failure of other town assets, and washouts of roads. These impacts can have a large ripple effect through a small community such as Marlboro. Damaged homes can displace residents either for the short-term or permanently. Underserved populations, such as the elderly

and the poor, often have the hardest times relocating to safe, temporary housing. Permanent relocation can be very difficult for any residents due to the housing crises that Vermont faces today.

Road closures due to washouts can disconnect the Town from surrounding communities. Loss of access to neighboring communities will result in an increased burden on residents and the Town itself as recovery efforts begin. Route 9 is the primary east-west road connection through town. The State of Vermont is in charge of maintaining Route 9, but the town is very reliant on the road to reach the larger population centers of Brattleboro and Wilmington. South of route 9, the town's roadways consist of four primary roads, Butterfield and South Road heading to Halifax, Grant Road heading to Wilmington and Ames Hill Road going to West Brattleboro. These four roads are heavily used by locals who are commuting to other communities. North of Route 9, the two primary roads are Higley Hill Road heading to Dover and Augur Hole Road going to Newfane. If these routes are cut off due to fluvial erosion, commuting times or the ability to reach neighboring communities will be compromised. Augur Hole Road is particularly susceptible to fluvial erosion.

The changing climate patterns in the region are the source of the biggest potential impacts to Marlboro's near and long-term future vulnerability. With more frequent and intense rain events, structures in the SFHA and River Corridor will be continually under threat of storm damage. Housing in the higher elevations of town, while not mapped as vulnerable structures due to flooding, will also be under threat. More frequent and intense rain will cause small mountain brooks to become hazardous and damage homes, wash out driveways and make town roads impassable.

Flood Hazard Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
FEMA SFHA, VT ANR mapped River Corridors, and Town identified River Corridor Protection Areas	Culverts, bridges, dams; properties near rivers and streams; septic systems. 20 buildings are located in FEMA or ANR mapped flood hazard areas, however countless more are located along small brooks that may eventually rise and cause damage during future and more intense rain events.	The areas most susceptible to fluvial erosion are along Auger Hole Road, Fox Road, Sterns Road. Augur Hole Road is of primary concern due to large stretches running alongside Branch Brook. Marlboro does not see much inundation flooding, except in a few areas where beaver dams create high levels of water that overtop a few roads.	Damage and debris to roads and driveways; damage to residential properties; stream bank collapse; streambank erosion.	Score of 4: Highly Likely

Wildfire

Wildfires pose a unique danger to communities and individuals. Wildfire conditions are typically most dangerous in spring when dead grass and fallen leaves from the previous year are dry and in the late summer and early fall. Drought conditions and high winds also increase the risk of wildfire. The most

common cause of wildfires in Vermont is humans through burning refuse, or untended or improperly extinguished campfires. Lightning strikes are also a less common cause of fires.

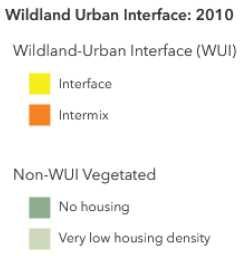
FEMA has the following four categories for wildfires:

1. Wildfire: fueled by natural vegetation. These most often occur in national forestlands. Federal agencies are responsible for fire management.
2. Interface or Intermix Fires: vegetation and built environment (buildings) provide fuel for fire.
3. Firestorms: occur during extreme weather events.
4. Prescribed Fires and Prescribed Natural Fires: intentionally set for a beneficial purpose.

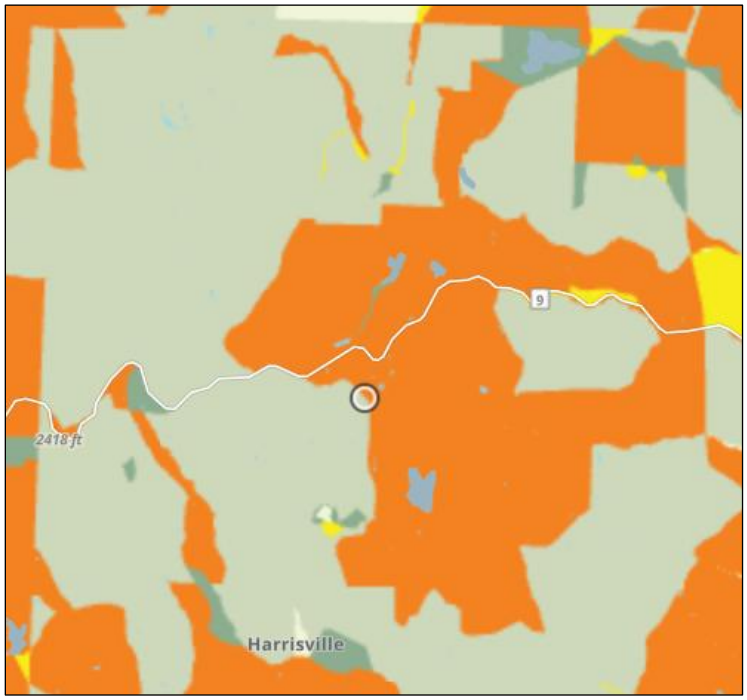
Most of Windham is heavily forested and there is potential, given the right conditions, for wildfires. As residential areas expand into forested areas, fires increasingly threaten people and residences. Protecting structures in these areas from fire poses special problems and can stretch firefighting resources. If heavy rains follow a major forest fire, other natural disasters can occur, including landslides, mudflows, and floods. Once ground cover has been burned away, little is left to hold soil in place on steep slopes and hillsides. A major wildfire can leave a large amount of scorched and barren land, and affected areas might not return to pre-fire conditions for decades.

Community Vulnerability and Potential Impacts

Because a large portion of Marlboro is forested, the geographic area of the hazard covers the majority of the community. Areas more prone to wildfires are described as "interface" or "intermix." Interface areas can be found along the divide between urban scale development and natural areas. There are not a lot of interface areas in town, except small parts along the Route 9 corridor. Marlboro is almost all characterized by "intermix" areas where residential dwellings are interspersed within heavily forested areas.

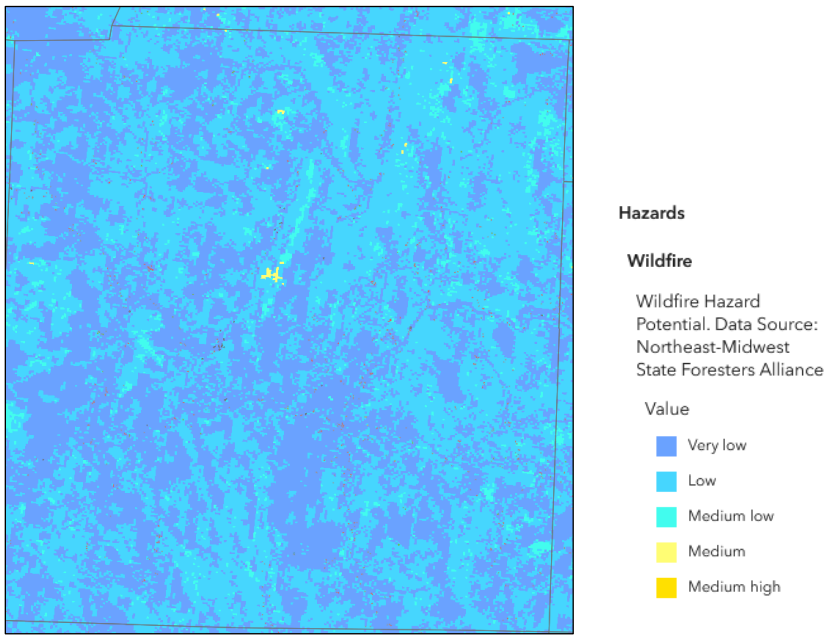


According to the Wildland Urban Interface map, the largest block of intermix areas are the lands east of Marlboro Village and north and south of route 9. The map shows identified "intermix" areas in orange and interface areas in yellow[14].



[14] Wildland Urban Interface Map, University of Wisconsin, 2010 (https://anrgeodata.vermont.gov/documents/c2b2c400961e4e6ab397ff10f9e466ba/explore)

The Vermont Municipal Vulnerability Tool shows the potential for wildfires in Marlboro as being a mix of medium low to very low[15].



Early Spring is the driest time of the year and is when the fire danger is the greatest. Wildfires in Marlboro are mostly caused by people burning brush. The Town of Marlboro requires residents to receive a burn permit before they conduct any brush burning. Residents must receive verbal consent from the Fire Warden, Deputy Fire Warden or Fire Chief. Permits will be issued if there is significant rain in the forecast for the day.

Marlboro has had brush fires at diverse locations throughout town. A large (10 acre) brush fire on Melchen Road in Brattleboro in November of 2024 also burned several acres into Marlboro. Additional brush fires, mostly less than an acre, have occurred in several locations in the past 20 years. Marlboro has not had any brush fires in the past two years, but previously there has been approximately one every two years.

Climate change is anticipated to impact the likelihood of wildfire occurrence in Windham County in the future. As Marlboro experiences warmer summer days and increasing chances of drought, the risk of wildfire will likely increase.

[15] Vermont Municipal Climate Change Vulnerability Indicators Tool. https://experience.arcgis.com/experience/fa443357641345efabd35e695947202b

Wildfire Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide	Damage to public infrastructure, utilities, private residences and businesses	The extent of wildfire risk can be hard to predict because it is so dependent on soil moisture, drought, and current weather conditions. The U.S. Forest Service maintains the Wildland Fire Assessment System, which provides national fire danger ratings and is updated daily. Danger level is ranked as low, moderate, high, very high, or severe. Wildfire conditions are typically most dangerous in spring when dead grass and fallen leaves from the previous year are dry and in the late summer and early fall.	Brush fires observed in the past 20 years have primarily been of less than an acre coverage, and were extinguished using water available from one fire truck, plus multiple hours work from 5 or more firefighters.	Score of 2: Possible

Infectious Disease Outbreak

COVID's unprecedented disruption of daily life is a grim reminder that climate change increases the risk of future infectious disease outbreaks. According to the Centers for Disease Control, vector borne illnesses such as Lyme disease, West Nile virus disease, and Valley fever are already on the rise and spreading to new areas of the United States. Milder winters, warmer summers, and fewer days of frost make it easier for these and other infectious diseases to expand into new geographic areas and infect more people.

The COVID-19 pandemic resulted in the first ever major disaster declaration of all 50 states, five territories, and the District of Columbia. In March of 2020, by Executive Order No. 01-20, the Governor declared a State of Emergency for Vermont, and restrictions to protect public health were enacted. While a variety of measures were recommended by the Center for Disease Control and the Vermont Department of Health to help curb the spread of disease, including frequent hand washing, wearing masks, and keeping a distance of 6 feet from other persons, vaccination was identified as the best way to keep from getting and spreading COVID-19. In Vermont, the vaccine was first made available to residents and staff of long-term care facilities in December 2020, and then to those 75 and older in mid-January 2021. The Vermont State of Emergency was extended for over a year until all restrictions were lifted on June 14 of 2021, when the benchmark of an 80% vaccination rate for the eligible population of Vermont was reached.

Even though the State of Emergency is behind us, the long-term impacts are still unclear. As of August 2023, the Vermont Department of Health reports that COVID hospitalizations are low, and there is one case reported in Orleans County. As of January 2024, the US Centers for Disease Control report 1,101 COVID deaths in Vermont. As of December 2023, the Vermont Department of Health reported 101

deaths in Bennington County, 54 deaths in Windham County, and 75 deaths in Windsor County, since January 2020. The death toll is based on death certificates that list COVID as a cause or probable cause of death. The Department of Health does not publish death counts at the municipal level.

Essential services, government operations, schools and businesses were severely disrupted during COVID, requiring rapid implementation of safety protocol to continue critical operations. While "social distancing" was an appropriate response to mitigate the spread, all sectors of the regional population experienced some form of disruption, especially those with no broadband or spotty broadband coverage. The pivot to a virtual environment has demonstrated that reliable broadband is a vital utility for business, work, school, healthcare, and civic involvement.

Community Vulnerability and Potential Impacts

To cope with Covid-19, Marlboro public facilities had to quickly learn how to move to a remote work setting. Unreliable communication capabilities made it difficult sometimes and the town should invest in technology to increase remote capacity.

The potential increase in infectious disease may be linked to climate change and warming temperature patterns. Warmer weather increases the ranges of vectors of disease that might have normally been unable to survive in Vermont. Higher temperatures also allows for increased breeding and increased heat resistance for diseases. Vulnerable populations, such as the chronically ill, very young, and elderly are at the highest risk of suffering extreme reactions to infectious diseases. Marlboro's population, like the rest of Vermont, is aging and infectious diseases may prove to be a bigger threat in the future.

Infectious Disease Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide	Total population, especially older adults, young children, and those with underlying health conditions; critical facilities and services, healthcare providers, and schools	Statewide emergency declaration from March 13, 2020 to June 14, 2021 for COVID-19	54 deaths in Windham County, local outbreak, no published data on death counts at the municipal level, job loss, remote schooling, loss of business revenue, food insecurity; isolation	Score of 2; Possible

Invasive Species: Plants and Forest Pests

Eurasian milfoil is present in over 80 waterbodies in Vermont (Photo courtesy of VT DEC)

Invasive plant species are a region-wide hazard; however, each location will be confronted with a distinct

mix of invasive species that thrive under the particular ecological conditions of that place. Each invasive species has a different potential to spread to other areas based on the rate at which it spreads and the ecological suitability of the ecosystem that it is expanding into.

An invasive species can be defined as **an exotic species whose introduction into an ecosystem in which the species is not native and causes or is likely to cause environmental or economic harm or harm to human healt**h[16].

Invasive Plant Species

In the absence or near absence of natural predators or controls, invasive non-native plants are able to spread quickly and out-compete native plants. Invasive plant species can create monocultures, which often provide poor habitat for native animals that have not evolved with the non-native species, resulting in degraded habitat value and increased vulnerability. The invasive plant issue really escalated in the early 1990's. Invasive plants tend to thrive in disturbed areas. Within the Windham region, they are more prolific in the towns along the Connecticut River than they are to the west, because the eastern towns are more populated, contain major transportation routes such as I-91 and the rail corridor, which serve as vectors for their expansion, and tend to have significant land disturbance. Some of these plants were originally planted because of their positive aspects such as their ability to grow in difficult growing conditions, long growing season length, their large seed production and their ornamental value. These same reasons are a big part of why they have become invasive.

Black Swallowwort carpets a bank to the exclusion of almost everything else. It even twines up a utility pole guy wire. Note the abundant seed pods. (Photo courtesy of John Anderson, [Name of

Japanese knotweed, vtinvasives.org

Heavy travel corridors like VT Routes 9 and 100, and I-91, and even waterways, such as the Connecticut and Deerfield Rivers and their riparian areas, act as corridors that invasives can overtake and spread along.

Particular invasive plant concerns in the Windham region are listed in two groups based on their estimated threats to natural and hard infrastructure. All (except spindle tree) are quarantined, Class B Noxious Weeds in Vermont[17].

Group A—Higher threats to infrastructure:

1. There are heavy infestations of Japanese Knotweed (*Fallopia japonica*) along the North Branch of the Deerfield River and the Rock River, as well as the lower reaches of several brooks. It leaves shorelines susceptible to erosion because there is no other vegetation

[16] (USDA) https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ct/technical/ecoscience/invasive/?cid=nrcs142p2_011124

[17] vtinvasives.org is the primary website for information. This list was developed by Peter Bergstrom of the Rockingham Conservation Commission. Email dated 8/21/2021.

stabilizing the stream bank (Basin 11 Management Plan, Preliminary Draft 2007). TS Irene both (1) eroded stream and river banks, removing many riparian trees, and (2) moved fragments of knotweed to new areas, thus allowing knotweed to flourish on the bare soil left in its wake.

2. Asiatic (Oriental) bittersweet (*Celastrus orbiculatus*), an aggressive climbing vine that can smother trees, utility poles, and buildings.
3. Amur, Morrow's, Tartarian, and Bell's honeysuckle (*Lonicera mackii, morrowii, tatarica, x bella)*
4. Japanese & Common barberry (*Berberis thunbergii & B. vulgaris)*, which promote Lyme disease by harboring high populations of deer mice, one of the intermediate hosts of deer ticks.
5. Common and Glossy (European) buckthorn (*Rhamnus cathartica & R. frangula*), which slow forest regrowth.
6. Burningbush (*Euonymus alatus*)—still a common ornamental in yards, spreading to woods via birds that eat the low-value fruit, little wildlife value, should be excavated.


Burning Bush, vtinvasives.org

Group B—Lesser threats to infrastructure:

7. Mile-a-minute vine (*Persicaria perfoliate*), on Federal invasives list that is included in state list. Considered a "watch list" species in VT, but can cover other plants as well as hard infrastructure.
8. Garlic mustard (*Alliaria petiolate*) is common along roads and in fields and riparian areas, and can invade forests.
9. European spindle tree (*Euonymus europaeus*)-locally problematic, not on VT invasives list; suggested for addition to it. Very hard to control. You can buy seeds on eBay.
10. Goutweed (*Aegopodium podagraria*)—Highly invasive, has solid green leaves, or variegated green & white leaves. Very hard to control.
11. Norway maple (*Acer platanoides*)— inhibits growth of nearby plants spread widely by seeds to nearby woods, little food or habitat value to wildlife. Should not plant any new ones. Provides good breeding habitat for Asian long-horned beetles (ALB).
12. Purple loosestrife (*Lythrum salicaria*)
13. Yellow flag iris (*Iris pseudacorus*)—wetland plant
14. Amur maple (*Acer ginnala*)
15. Tree-of-heaven - Looks very similar to sumac and walnuts (black and butternut) but has smelly leaves when crushed, and smooth leaf margins except at the base.
16. Wild Chervil *(Anthriscus sylvestris)* - This invasive plant can be seen starting in May alongside roads, and is notable in our rolling Vermont fields. Often confused for Queen Ann's Lace which blooms later in the summer.

Five groups of invasive plants, listed below, are thought to pose the highest threat to native and/or hard infrastructure. Barberry is also a human health threat (Lyme disease).

Common name	Latin name	Locations	Threats	Control
Japanese	*Fallopia japonica*	Banks of all rivers and many brooks.	Can grow through asphalt, into	Mowing (endless), repeated cutting &

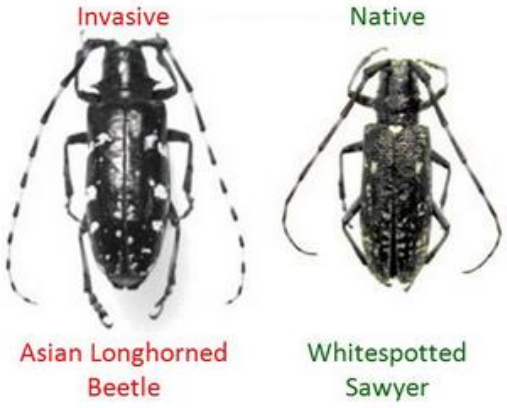
Knotweed		Located along many roads too.	basements, and block trails; more likely to wash out than natives	digging (3-10 years), mesh or cover with very thick black plastic
common and glossy (European) buckthorn	*Rhamnus cathartica & R. frangula*	Clearcuts, woodland edges	Prevents regrowth of native trees	Excavation including roots
Japanese & Common barberry	*Berberis thunbergii & B. vulgaris*	Planted shrub, escapes to woods	Increases deer mice which harbor deer ticks with Lyme disease	Excavation including roots
Burningbush	*Euonymus alatus*	Planted as ornamental, birds spread seeds to woods	Displaces native shrubs	Excavation including roots
Amur, Morrow's, Tartarian, and Bell's honeysuckle	*Lonicera mackii, morrowii, tatarica, x bella*	Planted as ornamental, birds spread seeds to woods	Displaces native shrubs	Excavation including roots

Invasives tend to come up early and flower early, allowing them to get established before native plants have the chance. It may be possible to slow down or even halt the spread of these species by identifying and removing plants as soon as they appear. Early detection is the key. This detection can be aided by educating residents about the identification of and problems caused by invasive species. Preventing the spread of invasive plants is something that everyone can assist with. The first step is to not plant non-native plants on your property and to remove invasives that exist. Additionally, it is important that when soil is disturbed, to plant native cover before invasives have a chance to establish themselves. Proper disposal of non-native vegetation is critical to avoid its spread, safely burning the material when possible. Avoid transporting non-native plants, including firewood and garden debris, as this is critical to prevent the spread of non-native seeds and forest pests. Mowing roadsides from the north to the south can also help prevent the migration of invasive seeds on-site.

Invasive Forest Pests

Non-native invasive species cause irreversible impacts on tree health, forest composition, and biodiversity. Species of concern include:

- Ash yellows – present throughout VT
- Asian longhorned beetle – not confirmed in VT; closest identified known location is Worchester County, Mass. in 2008; this insect will have a major impact if it becomes established in Vermont.
- Balsam wooly adelgid - present throughout VT
- Beech bark disease - present throughout VT
- Beech leaf disease - confirmed in southeastern Vermont
- Butternut canker - present throughout VT
- Chestnut blight - present throughout VT



- Dutch elm disease – has spread throughout VT
- Elm zigzag sawfly – not yet confirmed in VT
- Elongate Hemlock scale – confirmed in parts of VT
- Emerald Ash borer – confirmed and spreading in VT
- Hemlock wooly adelgid – confirmed in southern VT
- Jumping worms (3 species found in VT) - confirmed in all Vermont counties with the exception of Essex and Orleans
- Oak wilt – not yet detected in VT, but has recently been found in in multiple locations in New York state.
- Pear thrips - present throughout VT
- Red pine scale – not confirmed yet in VT
- Sirex woodwasp – confirmed in parts of VT
- Spongy moth – established in VT
- Spotted lanternfly - been found in several states, including Pennsylvania, Connecticut, Delaware, Maryland, New Jersey, New York, Virginia, and West Virginia and Ohio; not yet established in VT, but an interception of truck cargo in VT did find 3 adults of the species
- Thousand cankers disease – never been detected in VT
- Wandering broadhead planarian - distribution is currently unknown. This species was recorded for the first time in Montréal, Canada in 2019
- White pine blister rust - present throughout VT
- Winter moth - never been detected in Vermont.

Between emerald ash borer (EAB), Asian longhorned beetle (ALB) and hemlock wooly adelgid (HWA) alone, more than 14 different species of trees in Vermont are threatened including: maple, elm, horse chestnut, willow, ash, poplar, European mountain ash, hackberry, and hemlock. EAB is spreading fast; within the Windham region, as of this writing EAB is present in these towns, listed with detection year:

- Dover 2025
- Grafton 2025
- Weston 2025
- Marlboro 2024
- Newfane 2024
- Brattleboro 2023
- Guilford 2023
- Halifax 2023
- Westminster 2023
- Whitingham 2023
- Putney 2022
- Townshend 2022
- Vernon 2021
- Wilmington 2021
- Readsboro 2020
- Londonderry 2019
- Rockingham 2024
- Sommerset 2024
- Stratton 2024
- Wardsboro 2024
- Winhall 2024

Emerald Ash borer insect

EAB only feeds on Ash trees, but that is 7% of Vermont's tree species. EAB is often moved around on firewood that people transport. Eradicating the insect on wood requires heating it to at least 140 degrees or higher for greater than 60 minutes.

Blonding with pecked holes on ash trees is a sign of EAB infestation.

EAB essentially girdles the ash trees, killing them. It lives between the inner bark and the wood, so it isn't that deep. Woodpeckers like feeding on EAB, but the woodpecker population isn't large enough to significantly impact the EAB population. Also the woodpeckers don't generally detect the insects in the trees until they have been present for about two years, which is too late to save the tree. One of the best diagnostic methods for detecting EAB is called "blonding". "Blonding" is a clear symptom of EAB infestation. It occurs when woodpeckers, while foraging for the succulent EAB larvae, flake off outer layers of bark, revealing the lighter or blond-colored inner layers of bark.[18]
The hemlock woolly adelgid (HWA), *Adelges tsugae*, is a tiny insect from east Asia that attacks forest and ornamental hemlock trees. It feeds on young twigs, causing needles to dry out and drop prematurely. Trees may die in four to six years. Some survive, but with sparse foliage, losing value as shelter for wildlife and their ability to shade streams.

Sustained cold leads to kill off of the adelgid insects. Mortality rates of even 91%, however, can still lead to population growth through the warm season because they reproduce asexually so it only takes one for the population to expand. The HWA mortality rate shifts each year based on temperature patterns throughout the year, especially cold winter temperatures cause die off.

Hemlock wooly adelgid presence

In the Windham region, it was initially found in Brattleboro and the Guilford area. It is now found in 14-15 Windham Region towns, and has been recently found in Springfield in Windsor County. HWA is moving south to north in lower elevations first, and is mostly throughout southern Vermont at this point. Dead or dying hemlocks are a sadly regular sight in the region. It was first found at the SIT campus in 2010 and is now found throughout the town of Brattleboro.

Hemlock trees and even whole stands are showing signs of decline, but trees in Vermont have not been reported to have been killed from HWA alone. Foresters have been watching infested trees for eight years, and the trees haven't been killed yet most likely because winter temperatures kill off enough of the HWA to give the tree a temporary reprieve. HWA does weaken the trees to the point that other secondary stresses, such as funguses and disease, may result in their mortality. Another pest, Hemlock elongate scale was found recently for the first time in Guilford, Vernon and Brattleboro.

Jumping Worms,(Pheretimoids), also known as snake worms, are a rising invasive concern. There are approximately 19 species of earthworms known throughout Vermont. All species of earthworms are

[18] University of New Hampshire Cooperative Extension – Blonding on Ash trees information sheet. <http://extension.unh.edu/resources/files/Resource004103_Rep5824.pdf> Accessed 3/2/15.

invasive to Vermont, but the recent arrival of the Jumping Worm has caused concern for Vermont forests and gardens.

Jumping worms arrived in Vermont through horticulture, recreational fishing, and worm composting systems. Jumping Worms, or their cocoons, arrive with plant and soil materials. They are also imported to be used as live bait for fishing, or have been shipped to Vermont for use in worm composting bins. Populations of Jumping Worms are growing rapidly. The worms are mostly parthenogenetic, so it only takes one worm to found a new colony. They are prolific reproducers, and colonies can grow quickly.

Jumping Worm - smooth, glossy dark gray/brown color. Bodies are firm and not coated in "slime".

Jumping Worms pose an ecological threat to all of Vermont's forests. They feast on forest floor organic matter and the herbaceous layer, leaving the forest floor with little leaf litter, which is an essential component to the regrowth of forests and the food chain of forest animals. The change in the forest habitat structure may lead to a decline in native species and facilitate the spread of invasive plant species. Jumping worms also pose a threat to horticulture and the maple sugar industry.

Community Vulnerability and Potential Impacts

Invasive Plants

Marlboro is a heavily forested community. Invasive species, such as Glossy Buckthorn, is prevalent in the forests all throughout town. Japanese Knotweed is moving into town, especially along the rivers, such as the Whetstone Brook. Other species such as Oriental bittersweet, certain species of honeysuckle, Japanese barberry, yellow flag iris, and common and glossy (European) buckthorn have become well established in many locations including in the Hogback Mountain area. Garlic mustard has been found along roads in Marlboro. Knapweed is semi-invasive that has been found along the power line corridors and railroad tracks—where it seems capable of withstanding spraying. Yellow rattle is another invasive flowering plant, a parasite on grass, is now being seen on power lines.

Invasive plants can lead to stream bank erosion, less timber that can be harvested from forested areas, and excessive strain on labor on farms. Riparian invasives such as Japanese Knotweed overtake river banks and force out native plants. The shallow roots of Knotweed leads to unstable river banks and a greater likelihood of fluvial erosion occurring during high water events. Unstable banks put community assets and private homes in the SFHA and/or River Corridors in further danger. Invasive plants in the forest ecosystem, such as Buckthorn, decrease the regeneration of native species which can cause a long-term economic decline to the forest products industry, which is an important economic asset in town. Other invasive species, such as Barberry, provide a great habitat for ticks, which carry diseases harmful to human health. Tick-born diseases are likely to rise and impact the health of residents and visitors.

Invasive Pests

Invasive pests can be found all throughout the Town of Marlboro. Jumping worms, perhaps the newest concern to Marlboro residents, poses a threat to horticulture, the maple sugar industry, and forestry as soil health is degraded. Residents can help slow the spread of Jumping Worms by buying bare root plants for their properties. Forest health, which has a large economic relevance in Marlboro, will be threatened as Jumping Worms increase. Other invasive pests, such as Emerald Ash Borer, can infect trees along Marlboro's roadways, causing series injury to passing motorists as dead trees come down. EAB will also likely affect Ash Trees in the forest ecosystem which will negatively impact the forest products industry that is prevalent in Marlboro.

The warming weather patterns in the region, both during the hot summer months and winters that are seeing less long durations of freezing weather will contribute to the rise and spread of invasive species currently in Marlboro. The changing climate, and a more global trade economy, will also see new invasive species coming into the region with further compromise to the natural ecosystem as well as economic impacts to farms and forestry.

The Town Conservation Commission, Hogback Mountain Conservation Association, Ames Hill – Marlboro Community Center (AHMCC) and the Old Oaks Headwaters Stewardship Committee all work on invasive species identification and removal throughout the Town of Marlboro.

Invasive Species Summary Table

	Location	Vulnerability	Extent	Observed Impact	Probability
Plants	Elevations generally below 1,500 feet are most susceptible to invasive species, although any land with some sort of major disturbance (from wind, water, logging, or land clearing and development) could potentially host them.	Areas at particular risk are road sides, newly cleared areas, disturbed land, riparian buffers, especially eroded buffers; power line right of ways	There are heavy infestations of Japanese Knotweed along the Whetstone Brook. Japanese barberry and common and glossy buckthorn have become well established in many of the wooded locations throughout Town. Beach Leaf Disease and Elongate Hemlock Scale are affecting Beach and Hemlock trees throughout town.	Dead and dying trees along roadways and powerlines, and near buildings; invasive plants along roadways and waterways; Compromised soil stability along waterways. Overgrowth in shallow waters that kill off other plants and block sunlight.	Score of 4; Highly Likely
Forest Pests	Town-wide; areas where firewood is transported into the area from away, like campsites, are at higher risk	Forests, agriculture, waterways, native species; risk of downed trees in public rights of way from EAB and other pests.	EAB was officially found in Marlboro in 2024; HWA is ubiquitously present in Marlboro. Over half of the trees in Vermont are host species of one of these main pests, so the potential impact is great. Jumping worms have been found in home gardens.	Dead and dying trees along roadways and powerlines, and near buildings; threats real and potential to local forest economy related to maple syrup industry, fall tourism, and logging	Score of 4; Highly Likely

Hail

Hail is pellets of frozen rain that form during storms where air flows carry rain upwards into the cold atmosphere and freeze. As pellets freeze, they combine together, creating balls of ice that rain down onto

the land. These pellets of ice balls typically range from 5-50 mm in diameter on average, with much larger hailstones forming in severe thunderstorms. The size of hailstones is a direct function of the severity and size of the thunderstorm by which it is produced. No matter the size, hail can damage agricultural crops, structures, and cause bodily harm to those unfortunate enough to be caught outside.

Since the last plan, there have been 4 reported hail storms in Windham County. These storms were located in Jacksonville, West Halifax, West Brattleboro and Brattleboro. The neighboring community of Newfane had a quarter size hail event in 2013 and another event with quarter to golf ball size hail in 2011. The town of Townshend reported penny size hail in 2007.

TORRO Hailstorm Intensity Scale

	Intensity Category	Typical Hail Diameter (mm)	Probable Kinetic Energy (J/m2)	Typical Damage Impacts
H0	Hard Hail	5	0-20	No damage
H1	Potentially Damaging	5-15	>20	Slight general damage to plants, crops
H2	Significant	10-20	>100	Significant damage to fruit, crops, vegetation
H3	Severe	20-30	>300	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Destructive	25-40	>500	Widespread glass damage, vehicle bodywork damage
H5	Destructive	30-50	>800	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40-60		Bodywork of grounded aircraft dented, brick walls pitted
H7	Destructive	50-75		Severe roof damage, risk of serious injuries
H8	Destructive	60-90		Severe damage to aircraft bodywork
H9	Super Hailstorm	75-100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorm	>100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Community Vulnerability and Potential Impacts

Hailstorms usually occur in Vermont during the summer months and generally accompany passing thunderstorms. Thunderstorms, including those with hail, are very localized and may affect one municipality, or part of one, and not another. In areas where hail occurs, it can be significant to area farmers, who can lose entire fields of crops in a single hailstorm. Large hail is also capable of property damage, including both structures and vehicles.

Hail Summary Table

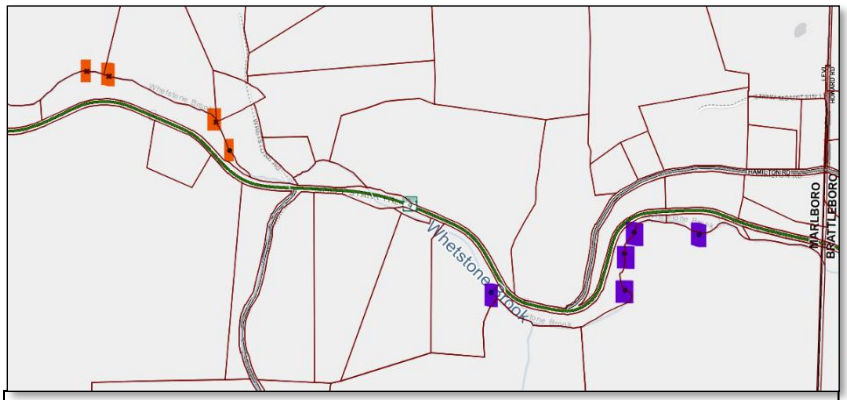
Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide	Agriculture, homes, businesses, vehicles	While not common, hail storms can crop up with isolated thunder storms. The neighboring community of Newfane had a quarter size hail event in 2013	Agricultural plant damage and vehicle damage	Score of 2; Possible

		and another event with quarter to golf ball size hail in 2011.		

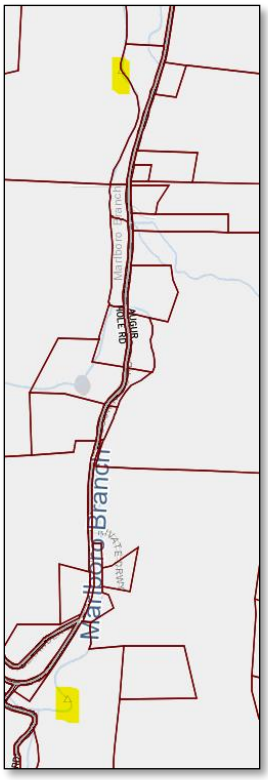
Landslides

Landslides are a serious geologic hazard common to almost every state in the United States. Some landslides move slowly and cause damage gradually, whereas others move so rapidly that they can destroy property and take lives suddenly and unexpectedly. Gravity is the force driving landslide movement. Factors that allow the force of gravity to overcome the resistance of earth material to landslide movement include: saturation by water, steepening of slopes by erosion or construction, alternate freezing or thawing, removal of trees and other vegetation and earthquake shaking. Landslides are typically associated with periods of heavy rainfall or rapid snow melt and tend to worsen the effects of flooding that often accompanies these events. In areas burned by forest and brush fires, a lower threshold of precipitation may initiate landslides. Landslides in Marlboro are primarily related to fluvial erosion. The maps below are from the Vermont ANR Atlas.[19]

Maps of Landslides in Marlboro



Portion of Whetstone Brook that has mapped gullies and "other" landslide features. Orange spots are gullies. Purple spots are landslide features labeled as "other."



Portion of Marlboro Branch that has mapped landslides. Yellow spots are landslides.

[19] Vermont ANR Atlas. Geology Layer, landslides. https://anrmaps.vermont.gov/websites/anra5/

Community Vulnerability and Potential Impacts

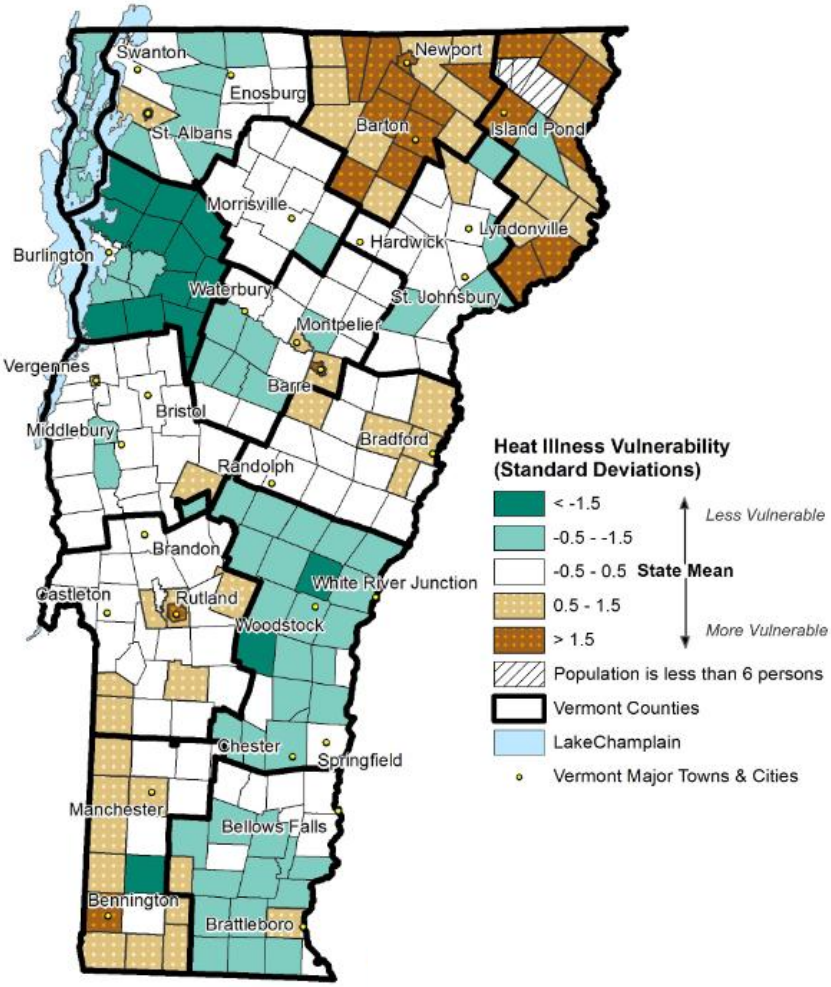
Landslide Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide. Landslides and gullies primarily forming along rivers and small brooks. Whetstone Brook and Marlboro Branch are current hotspots.	Roads, culverts, buildings	Two mapped landslides are along the Marlboro Branch and 4 gullies and 5 "other" landslide features are along the Whetstone Brook. Landslides and gullies are most likely to form along steep narrow rivers that run through Marlboro.	Landslides and gullies have damaged portions of Route 9 (State controlled) and Augur Hole Road.	Score of 2: Possible

Heat

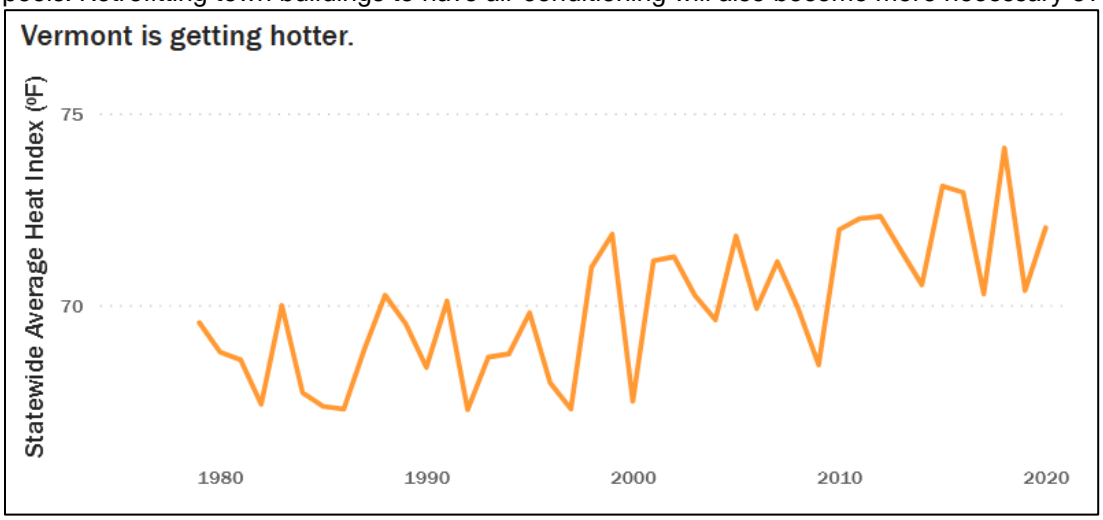
The Centers for Disease Control reports that more people die from heat than other weather-related events. The actual number of deaths are most likely underreported because heat can exacerbate other underlying conditions such as heart and respiratory disease, leading to death[20]. The impacts of extreme heat can be particularly challenging in areas like the Windham Region where residents are not accustomed to high temperatures and are less likely to live in air-conditioned structures.

[20] Centers for Disease Control, Heat Related Illness: Picture of America Report



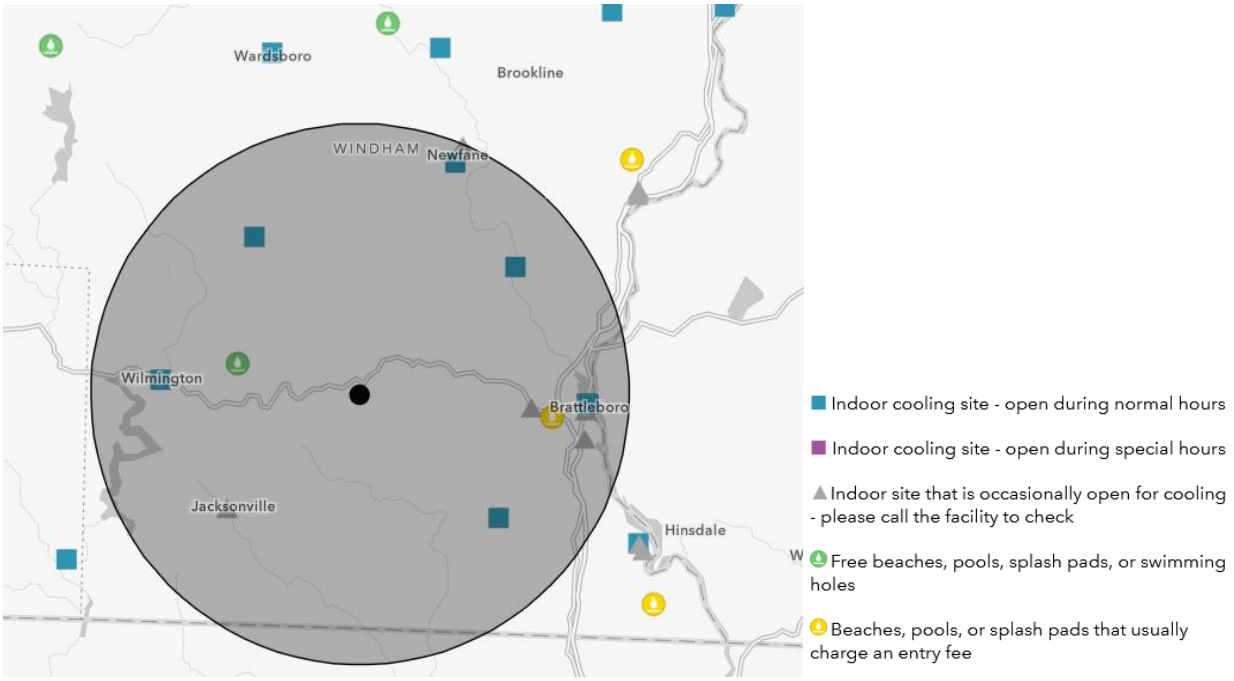
The map to the left is a Heat Vulnerability Index developed by the Vermont Department of Health. The Vermont Heat Vulnerability Index draws together 17 different measures of vulnerability in 6 different themes: population, socioeconomic, health, environmental, climate, and heat illness. These measures are combined to measure the overall vulnerability of Vermont towns to heat-related events.

Windham County has an average of 12 excessive heat days per year; Windsor County has 14 days yearly on average; and Bennington County has 9. Overall, the graph below shows that the statewide average heat index is increasing over time. With this trend, towns should be considering ways to assist residents with managing and getting cool during excessive heat days, through cooling shelters and community pools. Retrofitting town buildings to have air conditioning will also become more necessary over time.



There are no official cooling centers in Marlboro. There are several posted on the Vermont Department of Health Hot Weather website that are located in nearby communities.[21] The site continues to be updated and information on each cooling station, its location, hours and any other site-specific important information can be found.

Cooling Sites within 10 Miles of Marlboro, Vermont



From the VT Department of Health Hot Weather Cooling Map

Community Vulnerability and Potential Impacts

As a rule, the National Weather Service considers "excessive heat" to be an event when the maximum heat index is expected to be 105° or higher for at least two days and nighttime air temperatures will not drop below 75°. As temperatures continue to rise during the summer months due to changes in the weather pattern, there will continue to be a rise in excessive heat days. The primary impact of extreme heat or prolonged periods of hot weather is to human life. Hot conditions, especially when combined with sun and high humidity, can limit the body's ability to thermoregulate properly. Prolonged exposure to hot conditions can lead to heat cramps, heat exhaustion, heat stroke, or exacerbate other pre-existing medical conditions. Some of these impacts require medical attention and can be fatal if left untreated. Children and the elderly are especially vulnerable to heat-related illnesses.

Heat Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide	Children, elders, people with underlying conditions, people below	NOAA recorded an excessive heat event in Vermont on July 1, 2018 in Bennington and	Increased hospitalizations due to heat-related illness (VT Dept. of Health data), five heat-related deaths	Score of 3; Probable

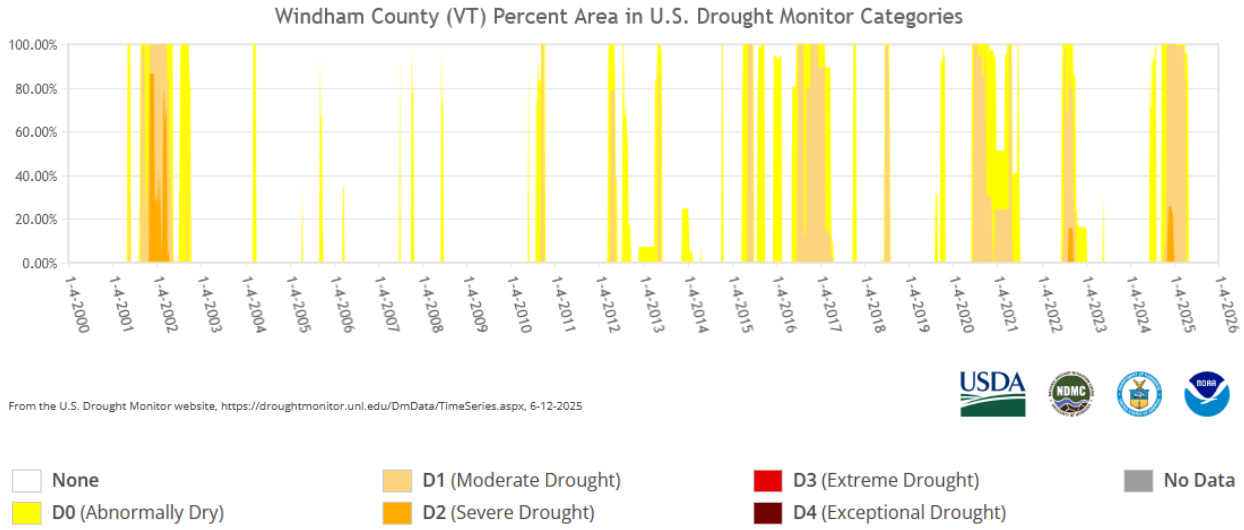
[21] Vermont Department of Health: Hot Weather. https://www.healthvermont.gov/environment/climate-health/hot-weather

	the poverty line; water supplies and water bodies; livestock	Windham Counties. Temperatures were recorded in the mid-90s with heat indices registering at 105 degrees. The high temperature in Marlboro during this event was 85 degrees.	reported statewide in the summer of 2018	

Drought

Drought is defined as a shortage of water relative to need. According to the Vermont 2023 Hazard Mitigation Plan, drought is a complex phenomenon for several reasons:

- [It] is difficult to monitor and assess because it develops slowly and covers extensive areas, as opposed to other disasters that have rapid onsets and obvious destruction.
- The effects of drought can linger long after the drought has ended.
- The northeast United States can also experience "flash" or rapid-onset droughts with intense dry periods of about 2 to 6 months followed by a period of above-normal precipitation.



It seems paradoxical that while climate change is generally bringing increased levels of precipitation that Vermonters should experience drought. However, climate change also is linked to climate instability and extremes. Due to climate change the increasing frequency and duration of droughts will also increase impacts to town assets. According to the US Drought Monitor, Windham County has experienced some level of drought every year since 2012. Minor portions of the county also experienced severe drought (D2) in August 2022 and November/December 2024. The worst period of drought on record was between November 2001 until March 2002.[22]

[22] US Drought Monitor website: https://droughtmonitor.unl.edu/DmData/TimeSeries.aspx, accessed 6/12/2025

In late 2020, USDA Farm Services Agency issued a declaration of drought-related disaster conditions, making all Vermont farmers eligible to apply for emergency loans. With drought conditions persisting for more than a year, the State of Vermont reactivated its Drought Task Force in July 2021.

Community Vulnerability and Potential Impacts

In Marlboro, drought conditions will likely increase over time as the instability of weather patterns leads to more extreme weather. This can lead to loss of potable drinking water, increase in wildfires, and loss of income in forestry operations.

Extended periods of drought during a Vermont growing season can be devastating for forestry. Forestry operations are susceptible to drought because extended warm and dry seasons can increase risk of disease. Drought also weakens or kills wildlife, and the dieback of vegetation and increased risk of wildfire destroys habitat.

Drought can also result in loss of potable water when wells run dry. Although the surface waters may appear to have recovered from a period of drought following a return to normal precipitation, replenishing groundwater levels is a longer process. Low water levels in wells can yield higher concentrations of metals (uranium, iron, sulfur, arsenic, and manganese) in drinking water, making the water unsafe to drink.

Drought conditions are also favorable for wildfires. Low water levels can also affect recreation and fishing. Low water levels, paired with rising temperatures, can trigger occurrence of blue-green algae in lakes and ponds. High winds, low humidity, and extreme temperatures can all amplify the severity of the drought. The severity of a drought depends on the duration and extent of the water shortage, as well as the demands on the area's water supply.

Drought Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide	Crop loss, loss of drinking water, higher occurrence of algae blooms; increased risk of wildfire	Worst drought was Nov 2001 to March 2002; some level of drought experienced yearly since 2012	Loss of drinking water	Score of 2: Possible

MITIGATION STRATEGY

Goals of Mitigation

The Town Goals listed here were reviewed in this update. The Town's overall goals of this Plan remain the same since the last update.

- Reduce the loss of life and injury resulting from all hazards.
- Reduce the impact of hazards on the town's water bodies, natural resources, and historic resources.
- Reduce the economic impacts from hazard events.
    - Minimize disruption to the road network and maintain access,
    - Mitigate financial losses incurred by municipal, residential, industrial, agricultural and commercial establishments due to disasters,

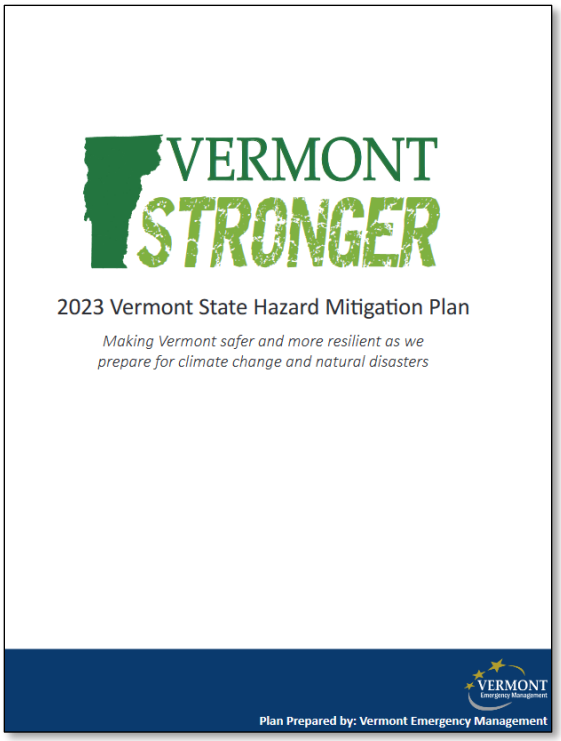
- Ensure that community infrastructure is not significantly damaged by a hazard event.
- Being proactive in implementing any needed mitigation projects for public infrastructure such as roads, bridges, culverts, municipal buildings, etc.

- Hazard mitigation planning is incorporated into other community planning projects, such as the Town Plan, Capital Improvement Plan, and Town Local Emergency Operation Plan.
- The general public continues to participate and be actively involved in the hazard mitigation planning process.

Comparing the above Town goals with the below goals from the Draft State Hazard Mitigation Plan, they align in an overarching way.

Goals shown in the Draft 2023 Vermont State Hazard Mitigation Plan:

- Protect, restore, and enhance Vermont's natural resources to promote healthy, resilient ecosystems.
- Enhance the resilience of our built environment – our communities, infrastructure, buildings, and cultural assets.
- Develop and implement plans and policies that create resilient natural systems, built environments, and communities.
- Create a common understanding of – and coordinated approach to – mitigation planning and action.



Community Capabilities

Each community has a unique set of capabilities, including authorities, programs, staff, funding, and other resources available to accomplish mitigation and reduce long-term vulnerability. Marlboro's mitigation capabilities that reduce hazard impacts or that could be used to implement hazard mitigation activities are listed below.

➢ Administrative and Technical

In addition to the Emergency Management Services described in the Community Profile section, elected town officers and other staff that can be used for mitigation planning and to implement specific mitigation actions include: a 3 member Selectboard and a Town Administrator.

In addition to elected officials, there are the appointed Conservation Commission, Emergency Management Director and Coordinator, 2 Fire Wardens, a Health Officer, a 6 member Planning Commission, Tree Warden, DVFiber Representatives, Volunteer Fire Department and several other town groups.

To augment local resources, the Town has formal mutual aid agreements for emergency response – fire and public works. Technical support is available through the WRC in the areas of land use planning, emergency management, transportation, GIS mapping, and grant writing. Technical support is also available through the State ANR for floodplain administration and VTrans Districts for hydraulic analyses.

➢ Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Examples of planning capabilities that can either enable or inhibit mitigation include land use plans, capital budgeting programs, transportation plans, stormwater

management plans, disaster recovery and reconstruction plans, and emergency preparedness and response plans. Examples of regulatory capabilities include the enforcement of zoning ordinances, subdivision regulations, and building codes that regulate how and where land is developed, and structures are built.

Town Plan: Adopted January 13, 2022
Description: A framework and guide for how future growth and development should proceed.
Relationship to Natural Hazard Mitigation Planning: Includes goals, policies, and action steps related to flood resilience. While this may not have been done in past updates, going forward there should be a distinct consideration of natural hazards in choosing sustainable areas intended for growth and expansion.

Town Zoning: March 6, 2018
Description: A land-use planning tool used by municipalities to regulate how land and buildings are used within specific areas.
Relationship to Natural Hazard Mitigation Planning: Works in conjunction with Hazard Mitigation Planning by regulating what can or cannot be built in areas of concern.

Subdivision Regulations: March 4, 2010
Description: Local laws that govern how land is divided into smaller parcels, or lots, for development.
Relationship to Natural Hazard Mitigation Planning: Works in conjunction with Hazard Mitigation Planning by regulating what land use and development activities can take place in areas of hazard concerns.

Flood Hazard Area Bylaws: adopted March 6, 2018
Description: Provides for orderly community growth promoting the health, safety, and general welfare of the community.
Relationship to Natural Hazard Mitigation Planning: Works to minimize and prevent the loss of life and property, disruption of commerce, the impairment of the tax base and the extraordinary public expenditures and demands on public services that result from flooding and other flood related hazards. Ensures that the design and construction of development in flood and other hazard areas are accomplished in a manner that minimizes or eliminates the potential for flood and loss or damage to life and property.

Road and Bridge Standards: Adopted July 25, 2019
Description: Provide minimum codes and standards for construction, repair, maintenance of town roads and bridges.
Relationship to Natural Hazard Mitigation Planning: Standards include management practices and are designed to ensure safety of the traveling public, minimize damage to road infrastructure during flood events, and enhance water quality protections.

Road Erosion Inventory Report: Full Inventory completed in 2012, with major updates in 2020. Since then it has been updated as needed by the town.
Description: Prioritizes those infrastructure projects necessary to improve transportation network resiliency and water quality.
Relationship to Natural Hazard Mitigation Planning: Improvements are designed to minimize or eliminate flood impacts on hydrologically connected road segments.

Local Emergency Management Plan: Adopted May 22, 2025 and renewed each year
Description: Establishes lines of responsibility and procedures to be implemented during a disaster and identifies high risk populations, hazard sites, and available resources.
Relationship to Natural Hazard Mitigation Planning: Includes actions for tracking events and response actions including damage reports to facilitate funding requests during recovery. This type of information can be essential to preparing hazard mitigation project applications for FEMA funding.

Fire Department ISO Rating: The MVFC's ISO number is not publicly available due to being a private company.
Description: This rating is a score from 1 to 10 that indicates how well-protected the community is by the local fire department.
Relationship to Natural Hazard Mitigation Planning: Everyone wants to keep family, home, and business safe from fires. The ISO rating is a measure of the effectiveness of a community's fire services.

Status of Other Plans & Regulations:

- Transportation Plans: No stand-alone transportation plan is currently in place.
- Stormwater Management Plan: No stand-alone Stormwater Master Plan currently is in place.
- Building Codes: Marlboro does not have its own building codes and uses building codes required by the state.

➢ Financial

Financial capabilities are the resources that a community has access to or is eligible to use to fund mitigation actions.

Marlboro's FY25 annual operating budget was $736,650. For the same fiscal year, the Highway Department's budget was $1,291,450.

Marlboro has had one FEMA Flood Declaration since the last plan. The Town received approximately $28,245 in funds to repair infrastructure from the July 2023 storm.

The Marlboro Volunteer Fire Company serves the town of Marlboro and receives a portion of its annual operating budget from the Town of Marlboro. In FY25, the town of Marlboro provided $35,000 in operational funds and $50,000 in capital improvement funds to the Department. The Department fundraises the difference to meet their overall operating and capital improvement budget.

➢ Education and Outreach

Marlboro has several education and outreach opportunities that could be used to implement mitigation activities and communicate hazard-related information:

- Town Website: https://marlborovt.us/
- Two Newspapers: The Commons & Brattleboro Reformer
- Marlboro Facebook Pages, including the Marlboro, VT Community FB Group
- Marlboro Front Porch Forum
- Marlboro Community Center
- Marlboro Warming Center at the Marlboro Community Center
- Marlboro Alliance (including Marlboro Cares)
- Marlboro Volunteer Fire Company (including rescue)
- Marlboro Emergency Operations Center (activated in emergencies)

NFIP Compliance

The Town joined the National Flood Insurance Program (NFIP) in 1985. The effective date of the current Flood Insurance Rate Map (FIRM) is September 28, 2007. The Zoning Administrator, acting as Floodplain Administrator, enforces NFIP compliance through permit review requirements in the Flood Hazard Area regulations. The Zoning Administrator reviews all development permit applications to determine if the property and/or building is located in any floodplain boundaries. If so, the Administrator reviews the application to ensure that all relevant regulations are adhered to and does any needed inspections before working with the Planning Commission on issuing a permit. If an application is for rebuilding of a damaged structure, the history of damages is reviewed and a consultation with ANR will

assist in how to proceed with permitting. For additions/improvements to existing structures, a determination of location in relation to waterway must be understood, as well as whether the improvement is considered substantial. ANR has 30-days to review all applications in floodplain boundaries and may offer comment to the town. ANR review opportunity is required before the town can issue a permit, and serves as a second technical review of applications which can assist the town in deciding whether to issue or deny a permit. For permitting following an event, coordination with ANR is necessary for Substantial Damage Determinations. Once determinations are made, joint communication with property owners, ANR, VEM, and the insurance provider will assist in decisions about rebuilding, buyouts, or relocations.

The Town is working towards additional training and support for the Zoning Administrator in terms of floodplain administration, as addressed in the mitigation action table in the Plan. The Town seeks guidance from the Windham Regional Commission and the State when technical floodplain administration questions arise that can't be answered locally.

Marlboro's regulations outline detailed minimum standards for development in FEMA Special Flood Hazard Areas. The town administers the NFIP minimum requirements related to substantial damage and substantial improvement thresholds. The Town works with the WRC and ANR to correct and prevent NFIP compliance issues through continuous communications, training and education.

The Town discussed the following as possible actions to continue NFIP compliance:

- Prepare, distribute, or make available NFIP insurance explanatory pamphlets or booklets.
- Participate in NFIP training offered by the State and/or FEMA.
- Establish mutual aid agreements with neighboring communities to address administering the NFIP following a major storm.

State Incentives for Flood Mitigation

Vermont's Emergency Relief Assistance Funding (ERAF) provides state funding to match FEMA Public Assistance after federally declared disasters. Eligible public costs are generally reimbursed by FEMA at 75% with the State matching 7.5%. The State will increase its match to 12.5% or 17.5% of the total cost if communities take steps to reduce flood risk as described below.

12.5% funding for eligible communities that have adopted four (4) mitigation measures:

1. NFIP participation
2. Town Road and Bridge Standards
3. Local Emergency Plan
4. Local Hazard Mitigation Plan

Marlboro's ERAF rate, as of June 2025, is 17.5%.

17.5% funding is available if a community does either or both of these enhanced mitigation measures:

1. Regulates development in ANR mapped River Corridors
2. Joins FEMA's Community Rating System

Identification of Mitigation Actions

Based on community priorities identified since the last plan as well as during the planning process of this plan, the Planning Team discussed mitigation strategies, reviewed projects from the 2017 Plan, and identified possible new actions from the following categories for each of the high scoring natural hazards identified in the Risk Assessment.

1. **Local Plans and Regulations:** These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.

2. **Structure and Infrastructure Projects:** These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This applies to public or private structures as well as critical facilities. These projects may be eligible for funding through FEMA's Hazard Mitigation Funding Programs.

3. **Natural Systems Protection:** These actions minimize damage and losses and preserve or restore the functions of natural systems.

4. **Education and Awareness Programs:** These actions inform and educate the public about hazards and potential ways to mitigate them. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. Greater understanding and awareness are more likely to lead to community support for direct actions.

For the selected actions, the Planning Team assigned a responsible party to lead the implementation of each action; identified potential funding; and developed a timeframe for implementation.

MITIGATION IN ACTION								
Local Plans and Regulations								
	HAZARD(S) ADDRESS-ED	**ISSUE/ CONCERN**	**ACTION DESCRIPTION / CURRENT STATUS**	**RESPON-SIBLE ENTITIES (Lead party in bold)**	**TIME-FRAME**	**POTENTIAL FUNDING**	**Community Lifeline Connection Y/N**	**MITIGATION / PREPARED-NESS / PREVENTION / MAINTENANCE**
1	All Hazards	The Town would like residents to have access to VTAlert	EMD will work with VEM to understand VTAlert sign-up rate in town and will advertise signing up for VT Alert through town social media.	Emergency Management Director	Sept. 2025 – Dec. 2025	Town budget	Yes	Preparedness/ Prevention
2	Flooding/ Fluvial Erosion	Organization around local floodplain administration is needed. Floodplain Administrator needs to be designated and trained.	Designate a new Floodplain Administrator. Provide training for the Floodplain Administrator (FEMA EMI class, online STARR classes, etc.) with a goal of CFM certification.	Floodplain Administrator	Sept. 2025 – Dec. 2025	Town budget	Yes	Prevention/ Preparedness

	Structure and Infrastructure Projects							
	HAZARD(S) ADDRESS-ED	**ISSUE/ CONCERN**	**ACTION DESCRIPTION / CURRENT STATUS**	**RESPON-SIBLE ENTITIES (Lead party in bold)**	**TIME-FRAME**	**POTENTIAL FUNDING**	**Community Lifeline Connection Y/N**	**MITIGATION / PREPARED-NESS / PREVENTION / MAINTENANCE**
3	High Wind/ Heavy Snow/ Extreme Cold	With the closing of Marlboro College, the town does not currently have an emergency shelter.	Look into establishing a new emergency shelter in Marlboro. Possibly using the public school as the official site. An establishment of a shelter would reduce risk to loss of life by providing access to a warm space during extreme cold and warmth and access to power for life support devices during power outages due to high winds or heavy snow.	Emergency Management Director	Sept. 2025 – Sept. 2026	Town budget	Yes	Preparedness/ Mitigation
4	Fluvial Erosion	Conditions of several bridges in town are not fully known.	Reach out to VTrans to have someone come and talk to the Road Crew about bridge conditions.	Road Foreman	Sept. 2025 – Dec. 2026	Town budget/ VTrans		Prevention/ Maintenance
5	Fluvial Erosion	In the event of another Irene level storm, Augur Hole Road has a high potential risk of washing out in sections again.	Have a road engineer look at water flow along the entire road and give recommendations for ways to slow water and stabilize banks.	Road Foreman	May 2026 – Nov. 2026	Town budget/ VTrans		Prevention/ Mitigation
6	Fluvial Erosion	Culvert #26 on Higgly Hill Road does not meet state standards.	Have a hydraulic study completed of Culvert # 26 on Higgly Hill Road.	Road Foreman	May 2026 – Nov. 2026	VTrans		Prevention/ Mitigation
7	Fluvial Erosion	Town Hill Road	On Town Hill Road, add stone to ditches or hydroseed banks and replace all culverts.	Road Foreman	April 2027 – Sept. 2027	Town budget		Mitigation
8	Fluvial Erosion	Fox Road has repeated severe washouts.	Examine hydrology along Fox Road and determine actions needed to stabilize	Road Foreman	May 2026 – Nov. 2026	Town budget/ VTrans		Prevention/ Mitigation

			road during high rain events.					
9	Ice	Route 9 has a lot of ice on the road during the winter	Approach VTrans about possible solutions that could be worked out to help address the Town's concerns of ice on Route 9.	Highway Department	Nov. 2025 - March 2026	Town budget		Mitigation
10	Fluvial Erosion, Wind, Heavy Snow	Access to broadband services or cellphone service is not available in all areas of town.	Identify areas of town that have poor radio coverage and explore options for repeater antennas to boost coverage	Emergency Management Director	Jan. – Dec. 2026	Town budget/ Volunteers	Yes	Preparedness
11	Fluvial Erosion, Wind, Heavy Snow	Access to broadband services or cellphone service is not available in all areas of town.	Identify potential cell tower locations	Select Board	Jan. 2027 - June 2027	Town budget	Yes	Preparedness
12	Drought	There are not enough fire ponds during droughty conditions to fight fires.	Address the hydrant problems Hamilton Pond and on Lower Dover Road.	Fire Department	April 2027 – Sept. 2027	Town budget/ Vermont Rural Fire Protection Task Force		Maintenance
13	Drought / Wildfire	There are not enough fire ponds during droughty conditions to fight fires.	Do a complete check of all hydrants to evaluate their status and water levels during drought conditions. (The MVFC currently examines and flushes all functioning dry hydrants (8) every year. Try to identify if there are any new potential areas for hydrants.	Fire Department	April 2026 – Sept. 2026	Volunteer hours		Prevention

	Natural Systems Protection and Nature-based Solutions							
	HAZARD(S) ADDRESS-ED	**ISSUE/ CONCERN**	**ACTION DESCRIPTION / CURRENT STATUS**	**RESPON-SIBLE ENTITIES (Lead party in bold)**	**TIME-FRAME**	**POTENTIAL FUNDING**	**Community Lifeline Connection Y/N**	**MITIGATION / PREPARED-NESS / PREVENTION / MAINTENANCE**
14	Flooding	Installed beaver deceivers, particularly on North Pond Road, Grant Road, and Butterfield Road, are not always maintained and when they are not working properly, they can cause water to flood roads.	Create a plan with the Agency of Natural Resources for regular maintenance of installed beaver deceivers.	Road Foreman	Jan. - March 2026	Town budget		Maintenance
	Education and Awareness Programs							
	HAZARD(S) ADDRESS-ED	**ISSUE/ CONCERN**	**ACTION DESCRIPTION / CURRENT STATUS**	**RESPON-SIBLE ENTITIES (Lead party in bold)**	**TIME-FRAME**	**POTENTIAL FUNDING**	**Community Lifeline Connection Y/N**	**MITIGATION / PREPARED-NESS / PREVENTION / MAINTENANCE**
15	Invasive Species	Road equipment contributes to the spread of invasive species.	Organize a training for the highway department on effective ways of cleaning equipment and what to do with invasives to minimize their spread	Conservation Commission	March - April 2026	Town budget		Mitigation
16	Invasive Species	Ash trees along public roads pose a risk to the public as they begin to decline to the invasive Emerald Ash Borer.	Conduct educational outreach about effective strategies the public can take to reduce the spread of EAB.	Conservation Commission	March - April 2026	Volunteer hours		Mitigation
17	Invasive Species	Early detection of invasive species is important to be able to help manage it before it becomes a larger problem.	Host a first detector training to raise awareness and train first detectors to spot invasive insects in Marlboro	Conservation Commission	March - April 2026	Volunteer hours		Prevention

18	Heat	During heat advisories, which are increasing every year, residents don't have many options of places they can go to cool off.	Develop a permanent page on the Town website sharing information on nearby cooling centers in neighboring communities. Provide education to residents on how to locate cooling shelters.	Emergency Management Director	May 2026 - June 206	Town budget	Yes	Preparedness/ Mitigation
19	Landslides	Landslides are not well documented throughout the state.	Have town staff, officials, and residents become educated on how to report observed landslides (rockfalls, debris flows, other mass failures) via the landslide hazard online reporting form.	Selectboard	March – Sept. 2026	Town budget		Maintenance
20	Wind, Snow, Cold, Heat, Infectious Disease, Hail	Some residents are not aware of hazard risks or how to mitigate them.	Provide website content and newsletter articles on hazards that can impact the community, personal property and people who may be at risk, and actions for preventing losses or hardship such as home retrofits, landscaping, and crop insurance.	Emergency Management Director	May 2026 – June 2027	Town Budget		Preparedness/ Mitigation
21	Infectious Disease/ Cold/ Wind/ Heavy Snow	There is not a comprehensive list of highly vulnerable residents to provide life safety checks on during hazardous events.	Provide education to residents to sign up for CARE, which is a self-identification to E911 of medical needs. This is important for identifying high risk individuals during infectious disease outbreak, extreme cold snaps or during periods of prolonged power outages that occur due to heavy snow or wind.	Emergency Management Director	Jan. – Dec. 2027	Town Budget	Yes	Preparedness/ Prevention

Mitigation Action Evaluation

For each mitigation action identified above, the Hazard Mitigation Planning Team evaluated its potential benefits and/or likelihood of successful implementation. Each action was evaluated against a broad range of criteria, including a planning level assessment of whether the costs are reasonable compared to the probable benefits. Results of this evaluation are presented in the table below.

Note that the Town will make every effort to maximize use of future Public Assistance Section 406 Mitigation opportunities when available during federally declared disasters.

Action Evaluation Criteria:

- Life Safety – How effective will the action be at protecting lives and preventing injuries?
- Property Protection – How effective will the action be at eliminating or reducing damage to structures and infrastructure?
- Technical – Is the mitigation action a long-term, technically feasible solution?
- Political – Is there overall public support/political will for the action?
- Administrative – Does the community have the administrative capacity to implement the action?
- Other Community Objectives – Does the action advance other community objectives, such as capital improvements, economic development, environmental quality, or open space preservation?

Each of the above criteria is ranked with a -1, 0, or 1 using the following table:
1= Highly effective or feasible
0 = Neutral
-1 = Ineffective or not feasible

Estimated Cost:
1 = less than $50,000;
2 = $50,000 to $100,000;
3 = more than $100,000

C/B – Are the costs reasonable compared to the probable benefits? Yes or No

MITIGATION ACTION EVALUATION AND PRIORITIZATION										
	Local Plans and Regulations									
ID	**ACTION DESCRIPTION**	**Life Safety**	**Prop Protect**	**Tech**	**Political**	**Admin**	**Other Obj**	**Benefit Score**	**Est Cost**	**C/B**
1	EMD will work with VEM to understand VTAlert sign-up rate in town and will advertise signing up for VT Alert through town social media.	1	0	1	1	1		4	1	Y
2	Designate a new Floodplain Administrator. Provide training for the Floodplain Administrator (FEMA EMI class, online STARR classes, etc.) with a goal of CFM certification.	1	1	1	1	1		5	1	Y

	Structure and Infrastructure Projects									
	ACTION DESCRIPTION	**Life Safety**	**Prop Protect**	**Tech**	**Political**	**Admin**	**Other Obj**	**Benefit Score**	**Est Cost**	**C/B**
3	Look into establishing a new emergency shelter in Marlboro. Possibly using the public school as the official site. An establishment of a shelter would reduce risk to loss of life by providing access to a warm space during extreme cold and warmth and access to power for life support devices during power outages due to high winds or heavy snow.	1	0	1	1	1		**4**	2	Y
4	Reach out to Vtrans to have someone come and talk to the Road Crew about bridge conditions.	0	1	1	1	1	1	**5**	1	Y
5	Have a road engineer look at water flow along the entire road and give recommendations for ways to slow water and stabilize banks.	1	1	1	1	1	1	**6**	1	Y
6	Have a hydraulic study completed of Culvert # 26 on Higgly Hill Road.	0	1	1	1	1		**4**	2	Y
7	On Town Hill Road, add stone to ditches or hydroseed banks and replace all culverts	0	1	1	1	1		**4**	2	Y
8	Examine hydrology along Fox Road and determine actions needed to stabilize road during high rain events.	0	1	1	1	1		**4**	2	Y
9	Approach VTrans about possible solutions that could be worked out to help address the Town's concerns of ice on Route 9.	1	0	1	1	1		**4**	1	Y
10	Identify areas of town that have poor radio coverage and explore options for repeater antennas to boost coverage	1	0	1	1	1		**4**	2	Y
11	Identify potential cell tower locations	1	0	1	1	1	1	**5**	1	Y
12	Address the hydrant problems Hamilton Pond and on Lower Dover Road.	1	1	1	1	1		**5**	2	Y

13	Do a complete check of all hydrants to evaluate their status and water levels during drought conditions. (The MVFC currently examines and flushes all functioning dry hydrants (8) every year. Try to identify if there are any new potential areas for hydrants.	1	1	1	1	1		**5**	1	Y
	Natural Systems Protection and Nature-based Solutions									
	ACTION DESCRIPTION	**Life Safety**	**Prop Protect**	**Tech**	**Political**	**Admin**	**Other Obj**	**Benefit Score**	**Est Cost**	**C/B**
14	Create a plan with the Agency of Natural Resources for regular maintenance of installed beaver deceivers.	0	0	1	1	1	1	**4**	1	Y
	Education and Awareness Programs									
	ACTION DESCRIPTION	**Life Safety**	**Prop Protect**	**Tech**	**Political**	**Admin**	**Other Obj**	**Benefit Score**	**Est Cost**	**C/B**
15	Organize a training for the highway department on effective ways of cleaning equipment and what to do with invasives to minimize their spread	0	1	1	1	1	1	**5**	1	Y
16	Conduct educational outreach about effective strategies the public can take to reduce the spread of EAB.	0	1	1	1	1	1	**5**	1	Y
17	Host a first detector training to raise awareness and train first detectors to spot invasive insects in Marlboro	0	1	1	1	1	1	**5**	1	Y
18	Develop a permanent page on the Town website sharing information on nearby cooling centers in neighboring communities. Provide education to residents on how to locate cooling shelters.	1	0	1	1	1	1	**5**	1	Y

19	Have town staff, officials, and residents become educated on how to report observed landslides (rockfalls, debris flows, other mass failures) via the landslide hazard online reporting form.	0	1	1	1	1	1	**5**	1	Y
20	Provide website content and newsletter articles on hazards that can impact the community, personal property and people who may be at risk, and actions for preventing losses or hardship such as home retrofits, landscaping, and crop insurance.	1	1	1	1	1	0	**5**	1	Y
21	Provide education to residents to sign up for CARE, which is a self- identification to E911 of medical needs. This is important for identifying high risk individuals during infectious disease outbreak, extreme cold snaps or during periods of prolonged power outages that occur due to heavy snow or wind.	1	0	1	1	1	0	**4**	1	Y

Incorporating Mitigation into Other Local Planning Mechanisms

As part of the planning process, local planning mechanisms were reviewed for how well they consider and incorporate the mitigation goals of the town. Areas of improvement should be considered when each of these planning tools is updated. The more that tools can align and reflect each other, the more effective the town can be in consideration of hazard mitigation when making choices and decisions. There is no timeframe set for updating the below referenced plans and regulations, however, as each document is updated the hazard mitigation plan will be reviewed for incorporation. The goals of this hazard mitigation plan will be incorporated in the upcoming town plan update to ensure that emergency preparedness and mitigation planning efforts are considered, with particular attention to furthering the projects in the Mitigation Actions Table herein.

Plans and Studies

Capability	Description	Incorporation of Previous Plan	Improvement Opportunity
Town Plan	Plan for coordinated town-wide planning for land use, municipal facilities, etc.	The Town Plan was adopted January 13, 2022. The Town considered the LHMP when drafting the plan.	A comprehensive integration of the Local Hazard Mitigation Plan should occur with the next update of the Town Plan.
Local Hazard Mitigation Plan (LHMP)	Plan that identifies hazards in community and proposes actions to reduce or eliminate risk	The mitigation actions from the previous plan were reviewed and actions considered still relevant were carried forward into this plan.	Plan has a 5-year lifespan. Maintaining an up-to-date plan keeps the town eligible for FEMA mitigation grant funding. Review yearly.

	to people, property, and the natural environment.		
Stormwater Plan	Plan that identifies stormwater improvements for municipal roads.	The Town does not have a Stormwater Master Plan. Town received a General Permit to discharge stormwater from municipal roads.	A Stormwater Master Plan is not a high priority for Marlboro. The LHMP incorporates several mitigation actions that will improve stormwater runoff.
Local Emergency Management Plan (LEMP)	Municipal procedures for emergency response.	The LHMP influences a lot of the actions in the LEMP and the two plans reference each other.	Updated yearly. The goal is to complete all LEMP appendices.
Invasive Species Management Plan	Plan that provides guidance on effective management of invasive species.	The Town does not have an Invasive Species Management Plan and the LHMP lists mitigation actions the town identifies as needed.	This has not been done and is recommended.
Culvert Inventory	An inventory of the size, material, condition and location of culverts. Updated annually by Public Works Department.	A full town Culvert Inventory was completed in 2019. The Culvert inventory is directly tied into the mitigation actions that were outlined in the 2017 plan and influenced the creation of the current plan.	None identified.
School Emergency Response Protocol	School procedures for emergency response	The 2017 LHMP was not integrated into this protocol.	The Town should continue discussions with the school about using the facility as an emergency shelter.

Administrative Capacity and Capability

Capability	Description	Incorporation of Previous Plan	Improvement Opportunity
Emergency Management Director	Prepares plans and procedures for responding to natural disasters other emergencies and leads response efforts.	The EMD was involved in the 2017plan and works to implement mitigation activities laid out in the plan.	None identified
Planning Commission	Municipal body responsible for planning for the community, including maintaining the town plan, zoning bylaws, and subdivision regulations.	The Planning Commission was involved in the 2017 plan and worked to implement mitigation activities that they were the lead on.	None identified.

Development Review Board	Municipal body responsible for evaluating and deciding on proposed development.	The Town has a Development Review Board that reviews all permit applications.	The DRB should become review the Town SFHA and River Corridor By-law requirements.
Zoning Administrator	Administrative officer responsible for administering zoning bylaws.	Marlboro has one part-time Zoning Administrator.	The Town Zoning Administrator should receive training to become a Certified Floodplain Manager.
Tree Warden	Responsible for trees on public property, including town properties, schools, and within public right-of-way.		Recommendation to have the Tree Warden identify any Ash Trees on municipal properties and create a management plan for them.
Selectboard	Legislative body of the town for all purposes required by the state.	The Selectboard was involved in the 2017 plan and worked to implement mitigation activities that they were the lead on.	None identified.
Mutual Aid Agreements – Emergency Services	Agreement for regional coordinated emergency services.	SWNH Dispatch for fire and rescue dispatch – written agreement/contract; State police act as a backup service	None identified.
Mutual Aid Agreements – Public Works	Agreement for regional coordinated emergency highway maintenance services.	The 2017 LHMP was not integrated into any agreements.	Recommendation to formalize agreements with adjacent towns.
VEM Training	Training provided by state to ensure emergency responders are adequately prepared to respond to emergency incidents.	The 2017 LHMP was not integrated into any trainings.	Recommendation to have emergency responders at Marlboro Volunteer Fire Company attend a Vermont Emergency Management training if they have not completed one in awhile.
Highway Department	Municipal department responsible for overseeing all aspects of municipal road network, including maintenance and construction.	The Highway Department was involved in the 2017 plan and worked to implement mitigation activities that they were the lead on.	None identified

Town Clerk & Treasurer	Responsible for receiving and recording town archives, recording deeds, filing vital statistics information, running treasury.		None identified

Financial Resources

Capability	Description	Incorporation of Previous Plan	Improvement Opportunity
Town Budget	Annual municipal operating budget, approved at Town Meeting	The Town added budget items into the Town Budget based on actions the Town was working on from the 2017 plan.	Consider creating a special line-item for a structures fund to be used to improve structures damaged in hazardous events.
Taxing Authority	Ability to assess and collect property taxes.	The 2017 LHMP was not integrated into tax decisions.	None identified

Zoning and Regulations

Capability	Description	Incorporation of Previous Plan	Improvement Opportunity
National Flood Insurance Program (NFIP)	Provides ability for residents to acquire flood insurance.	The 2017 LHMP did not influence the NFIP membership of the Town.	The Town should review the requirements of the NFIP and officially designate the Zoning Administrator as the Floodplain Administrator. Member in good standing.
SFHA bylaws	Regulates development in FEMA identified SFHAs.	The 2017 LHMP was not integrated into SFHA bylaws.	Review all SFHA and River Corridor bylaws to make sure they align with the topography and hazard concerns of Marlboro.
Zoning	Regulates the development and division of land, standards for site access and utilities	The 2017 LHMP was integrated into the Zoning of Marlboro.	See SFHA opportunity.
Building codes	Codes for fire and building safety are in place for multifamily structures and are regulated by the Division of Fire Safety. There are also Statewide Standards for Energy Efficiency	The 2017 plan did not integrate in with Town building codes as the Town does not have additional requirements from the State.	None identified.

	and Electrical Safety for buildings.		
Road Standards	Design and construction standards for roads and drainage systems.	The 2017 LHMP was not integrated into road standards.	None identified. State road and bridge standards adopted.
Wetland Protections	Protection of environment, water resources, wildlife, biota. Protected by 1990 Vermont Wetland Rules	The 2017 LHMP influenced additional wetland protections in Town by adding additional Town designed lands on top of state and federal SFHA and River Corridors.	None identified.
River Corridor Bylaws	Regulates development in River Corridors as identified by Vermont ANR.	The previous LHMP's influenced the town's decision to adopt River Corridor.	See SFHA opportunity.
Sewage Regulations	Regulates on-site sewage systems.	The 2017 LHMP was not integrated into any local sewage regulations.	None identified. Governed by state sewage regulations.

Outreach and Education

Capability	Description	Incorporation of Previous Plan	Improvement Opportunity
Town Website	Municipal website providing relevant information to residents and businesses about public meetings, resources, etc.	The 2017 plan did not integrate with the Town Website except for posting announcements of public engagement, plan adoption, and hosting the adopted plan. The Town does have a page on the website dedicated to Emergency Management.	Continue to update the emergency page for residents providing contact information and emergency shelter information.

PLAN MAINTENANCE PROCESS

Yearly Review and Plan Monitoring

Once the plan is approved and adopted, the Emergency Management Director, along with interested and appointed volunteers and stakeholders, will work with the Windham Regional Commission (WRC) or a private consultant to monitor, evaluate, and update the plan throughout the next 5-year cycle. The plan will be reviewed annually after Town Meeting Day at a Selectboard meeting in conjunction with the review of the town's Local Emergency Management Plan (LEMP). This meeting will allow town officials and the public to discuss the town's progress in implementing mitigation actions and determine if the town is interested in applying for grant funding for projects. In addition to tracking progress in implementing the plan, the EMD will lead town officials in evaluating the effectiveness of the plan in meeting plan goals and

reducing vulnerability. WRC will assist with this review if requested by the Town. The plan evaluation will address:

- Progress in implementation of plan actions and goals.
- Discuss the effect of completed mitigation actions and their impact on vulnerability.
- Evaluation of unanticipated challenges or opportunities and their effect on capabilities of the town.
- Evaluation of hazard-related public policies, initiatives and projects.
- How mitigation strategy has been incorporated into other planning mechanisms
- The effectiveness of public and private sector coordination and cooperation.

Progress on actions will be kept track using a "mitigation action tracking table" or another monitoring tool of the Town's choice. There will be no changes to the plan unless deemed necessary by the Town, and if so, the post disaster review procedure will be followed.

Five-Year Update Process

Hazard mitigation planning is dynamic with changes in land use, changes caused by events, and the effects of climate change. To ensure that the Town maintains a current and relevant LHMP, it is important that it undergo a major update periodically as required in 44 CFR § 201.6(c)(4)(i). This update process will be thorough and occur at least every five years, and will include an evaluation, incorporate any new requirements that FEMA has set, and account for changes in the Town. To ensure funding for this comprehensive update, the Town should be applying for FEMA funding at the 2½ year point. Awarded grants can be put out to bid using the Town's procurement rules and a Consultant hired to assist with the following procedure[23]:

1. The Emergency Management Director (EMD) will gather a team to serve as the Planning Team. Members may include: Selectboard members, Fire Chief and fire personnel, Zoning/Floodplain Administrator, Constable or Police Chief, Road Commissioner/Foreman, Planning Commission members, Town Health Officer, prominent business owners, longtime residents, impacted residents, and any interested stakeholders, etc.

2. The Consultant will guide the Team through the evaluation and update processes. These processes will include advertised public meetings. The update will address:
   - Incorporating hazard events that have occurred since the last plan update.
   - Changes in community and government processes which impact hazard response.
   - Community growth and development trends and their impact on vulnerability.
   - Incorporation of new mitigation actions and goals.
   - Impacts of climate change on the locality.

3. From the information gathered, along with data collected, the Consultant will prepare the updated draft in conformance with the latest *Local Mitigation Plan Review Tool* and *Local Mitigation Planning Policy Guide* developed by FEMA.

4. The Town will have a chance for an internal review of the draft Plan update and changes will be incorporated. Emphasis in plan updates will be put on critically looking at how the plan can become more effective at achieving actions and meeting goals.

5. The draft Plan will then be made available for public comment and advertised locally. The draft Plan will simultaneously be distributed for review and comment to adjacent towns and entities serving vulnerable populations within the town or regionally. Comments will be addressed and a final draft will be developed.

[23] Towns can also choose to use funding in-house to develop their LHMP without outside assistance.

6. The final draft Plan will be provided to Vermont Emergency Management (VEM) for their review. Any received comments that need addressed for Plan compliance will be addressed and revised draft submitted back to VEM.

7. Once VEM designates the Plan 'approved pending adoption' the Consultant will inform the Town that the Plan is ready for adoption. The adopted Plan will be submitted to VEM and FEMA. FEMA will issue notice of 'final approval' and set the date that an updated LHMP needs to be complete in order to maintain having a compliant plan in place.

Post-Disaster Review/Update Procedure

Should a significant disaster event occur, a special review by the town's Planning Team should occur in regards to the LHMP within 6-months of the event. This review will serve to document the facts of the event and assess whether completed mitigation actions effectively lessened town damages. Newly needed mitigation projects will be discussed and placed on the town's mitigation action tracking sheet to ensure they are considered for the next plan update and/or pursued prior. An 'After-Action Report' will be distributed to the Team to the Selectboard for their awareness. The Report should note whether the Plan needs to be amended. If the Team determines that modification of the plan is needed, then the Team drafts an amended Plan based on the recommendations. VEM can be consulted for guidance during this process. The amended plan will need to be re-reviewed and adopted as in the Plan update process discussed above.

Ongoing Public Participation

Maintenance of this Plan and support on the implementation of the stated mitigation actions is a smooth process when there is continued participation of community members. To keep the public engaged in hazard mitigation efforts, the Town proposes to do the following:

- Provide engaging hazard mitigation information at Town Meeting, including education about individual and family resiliency measures.
- Yearly review and tracking of progress on mitigation actions using a tracking tool. This should be done at a Planning Commission or Selectboard public meeting and with the participation of Team members that helped in Plan development.
- Post the Plan on the town website for public access and share pertinent hazard related information on the Town website, Town sponsored social media, and at local public notice locations.

This Plan is a tool to promote hazard mitigation discussions with the goal of leading to actions that increase resiliency and lessen or eliminate hazard impacts.

APPENDIX

1. Mitigation Action Tracker
2. Update on Mitigation Actions identified in the prior Hazard Mitigation Plan
3. Public Survey Advertising
4. Public Survey Questions and Summary of Results
5. December 2024 meeting flyer and Agenda
6. December 11, 2024 Public Meeting Email Invite
7. Email sent to adjacent towns for comment on the draft plan (To be inserted after public comment period.)
8. Email sent to frontline organizations for comment on the draft plan (To be inserted after public comment period.)
9. Flyer advertising availability of Draft Hazard Mitigation Plan for public comment & Notice on Marlboro's town website

1. Mitigation Action Tracker

	2025 LHMP MITIGATION ACTION TRACKER					
	Action	**Information in Hazard Mitigation Plan**			**Current Status**	
		Responsible Party	**Timeframe for Completion**	**Funding Source**	**Date Began**	**Current Status**
1	EMD will work with VEM to understand VTAlert sign-up rate in town and will advertise signing up for VT Alert through town social media.	Emergency Management Director	Sept. 2025 – Dec. 2025	Town budget		
2	Designate a new Floodplain Administrator. Provide training for the Floodplain Administrator (FEMA EMI class, online STARR classes, etc.) with a goal of CFM certification.	Floodplain Administrator	Sept. 2025 – Dec. 2025	Town budget		
3	Look into establishing a new emergency shelter in Marlboro. Possibly using the public school as the official site. An establishment of a shelter would reduce risk to loss of life by providing access to a warm space during extreme cold and warmth and access to power for life support devices during power outages due to high winds or heavy snow.	Emergency Management Director	Sept. 2025 – Sept. 2026	Town budget		
4	Reach out to VTrans to have someone come and talk to the Road Crew about bridge conditions.	Road Foreman	Sept. 2025 – Dec. 2026	Town budget/ VTrans		
5	Have a road engineer look at water flow along the entire road and give recommendations for ways to slow water and stabilize banks.	Road Foreman	May 2026 – Nov. 2026	Town budget/ VTrans		
6	Have a hydraulic study completed of Culvert # 26 on Higgly Hill Road.	Road Foreman	May 2026 – Nov. 2026	VTrans		
7	On Town Hill Road, add stone to ditches or hydroseed banks and replace all culverts.	Road Foreman	April 2027 – Sept. 2027	Town budget		

	2025 LHMP MITIGATION ACTION TRACKER						
	Action	Information in Hazard Mitigation Plan			Current Status		
		Responsible Party	Timeframe for Completion	Funding Source	Date Began	Current Status	
8	Examine hydrology along Fox Road and determine actions needed to stabilize road during high rain events.	Road Foreman	May 2026 – Nov. 2026	Town budget/ VTrans			
9	Approach VTrans about possible solutions that could be worked out to help address the Town's concerns of ice on Route 9.	Highway Department	Nov. 2025 - March 2026	Town budget			
10	Identify areas of town that have poor radio coverage and explore options for repeater antennas to boost coverage	Emergency Management Director	Jan. – Dec. 2026	Town budget/ Volunteers			
11	Identify potential cell tower locations	Select Board	Jan. 2027 - June 2027	Town budget			
12	Address the hydrant problems Hamilton Pond and on Lower Dover Road.	Fire Department	April 2027 – Sept. 2027	Town budget/ Vermont Rural Fire Protection Task Force			
13	Do a complete check of all hydrants to evaluate their status and water levels during drought conditions. (The MVFC currently examines and flushes all functioning dry hydrants (8) every year. Try to identify if there are any new potential areas for hydrants.	Fire Department	April 2026 – Sept. 2026	Volunteer hours			
14	Create a plan with the Agency of Natural Resources for regular maintenance of installed beaver deceivers.	Road Foreman	Jan. - March 2026	Town budget			

	2025 LHMP MITIGATION ACTION TRACKER						
	Action	Information in Hazard Mitigation Plan			Current Status		
		Responsible Party	Timeframe for Completion	Funding Source	Date Began	Current Status	
15	Organize a training for the highway department on effective ways of cleaning equipment and what to do with invasives to minimize their spread	Conservation Commission	March - April 2026	Town budget			
16	Conduct educational outreach about effective strategies the public can take to reduce the spread of EAB.	Conservation Commission	March - April 2026	Volunteer hours			
17	Host a first detector training to raise awareness and train first detectors to spot invasive insects in Marlboro	Conservation Commission	March - April 2026	Volunteer hours			
18	Develop a permanent page on the Town website sharing information on nearby cooling centers in neighboring communities. Provide education to residents on how to locate cooling shelters.	Emergency Management Director	May 2026 - June 206	Town budget			
19	Have town staff, officials, and residents become educated on how to report observed landslides (rockfalls, debris flows, other mass failures) via the landslide hazard online reporting form.	Selectboard	March – Sept. 2026	Town budget			
20	Some residents are not aware of hazard risks or how to mitigate them.	Emergency Management Director	May 2026 – June 2027	Town Budget			
21	Provide education to residents to sign up for CARE, which is a self- identification to E911 of medical needs. This is important for identifying high risk individuals during infectious disease outbreak, extreme cold snaps or during periods of prolonged power outages that occur due to heavy snow or wind.	Emergency Management Director	Jan. – Dec. 2027	Town Budget			

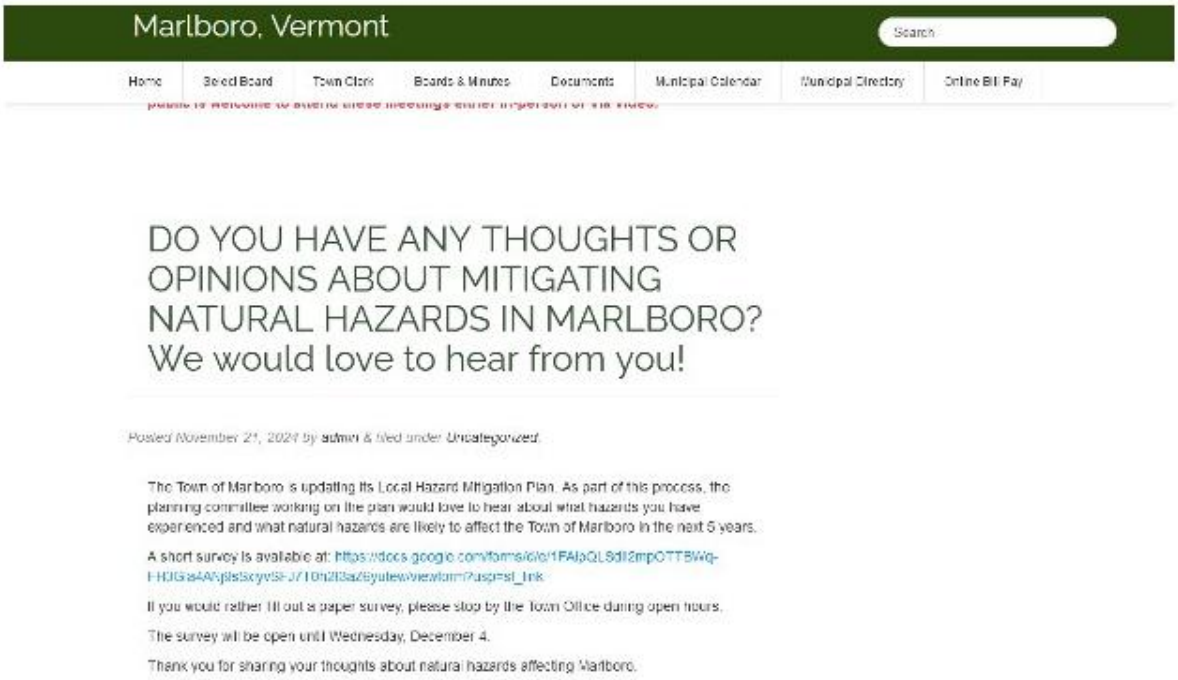
2. Update on Mitigation Actions identified in the prior Hazard Mitigation Plan

MITIGATION ACTION TRACKER

Hazard Addressed	Action	Information in Hazard Mitigation Plan				Current Status		
		Responsible Party	Timeframe for Completion	Funding Source	Project Priority	Completed? (Y or N)	If not completed, current status	If not completed, to include in new plan?
All Hazards	Sign up with VTAlert and do outreach to residents to sign-up. Having VTAlert in place will allow for faster notification to residents and responders, and faster evacuation and response to future events.	EMD	Begin November 2015 - Complete by June 2016	Town budget	High	Y	Need a new round of education and outreach to reach new residents	Yes
Flooding	Mill Pond dam repairs – skim resurfacing will suffice for now, but more may need to be done in the future	Road Foreman	Start investigation of needed repairs Fall 2015; skim resurfacing in 2016 or 2017 which will take a couple days to complete	Town budget	High	N	The beavers will build the dam up periodically, but generally this area has not been a problem.	No
Fluvial Erosion	Update Floodplain bylaw to include River Corridors	Planning Commission and Windham Regional Commission	Started Fall 2014 - complete for vote TMD 2017	Town budget	High	Y		
Fluvial Erosion	Extend arch or put in new larger arch at Bridge 2 on Higley Hill Road to stop imminent bridge collapse, road failure and fluvial erosion caused by inadequate structure (see details after table)	Road Foreman and Contractor	Depends on grant funding; Ideally Summer 2017; can be completed in one month	VTrans Structures grant or FEMA HMGP grant	High	N	The Highway Department reached out to the State of Vermont about 2 to 3 years ago. They need someone to come and talk to them about the bridges in town.	No Do include an action about needing State to come and talk to Road Crew.
Fluvial Erosion	Culvert upgrade on Lahar Road to either a box culvert or open bottom arch culvert	Road Crew	Funding dependent, but needs done within 2 years;	VTrans Structures Grant	Medium	Y		
Fluvial Erosion	Berm removal along the Marlboro Branch of the Rock River just before Adams Brook (see details after table)	Town Road Crew	Start Spring or Summer 2017, would take about a week to complete	Town Budget	Medium	Y	Updates along this road are a top priority for the Town.	
Fluvial Erosion	Bank stabilization and upgrade of culvert 18 (from current 2' squashed to 6' arch culvert) to protect Higley Hill Road erosion and accommodate bank-full capacity (see details after table)	Contractor and Road Foreman	Start by 2020	VTrans Structures grant or FEMA HMGP grant	Medium	N	Upgrades through Grants in Aid and other Road Crew efforts have helped Higgly Hill Road.	No
Flooding and Fluvial Erosion	Installation of sensors on bridges to give audio and visual warning to drivers when water levels reach certain heights	EMD	Started research June 2016; Hope to install by November 2017	Town budget	Low/ Medium	Y		
Fluvial Erosion	Berm removal along the Marlboro Branch of the Rock River at the northern end of Auger Hole Road before the Newfane town line (see details after table)	Town Road Crew	At any point in the next three years; Action will take about two weeks to complete; could be done gradually to take fill material as needed for other jobs elsewhere	Town Budget	Low	POSSIBLE	The Town Highway Department has been removing berms throughout town with the Grants in Aid program and on their own.	No
Fluvial Erosion	Box culvert repair/rebuild and realignment on Auger Hole Road at Higley Hill Road (see details after table)	Contractor and Road Foreman	Start by 2021	VTrans Structures grant or FEMA HMGP grant	Low	N	All of Auger Hill Road is a priority for evaluation and suggestions for action.	Yes

Invasive Species	Complete the town-wide invasive species assessment and implement the Conservation Commission's plan around invasive species	Marlboro Conservation Commission	Started assessment in May 2015; Complete Spring 2017	Town budget and volunteer hours	High	N	THE CONSERVATION COMMISSION WAS ONLY RECENTLY RECCONSTITUTED AFTER IT HAD PROBLEMS DURING COVID. THEY ARE PAYING ATTENTION TO INVASIVE SPECIES, SO A NEW PLAN ON THIS SHOULD BE INCLUDED	Yes
Invasive Species	Host a first detector training to raise awareness and train first detectors to spot invasive insects in Marlboro	Marlboro Conservation Committee; VT State Forester Jim Esden	Hold training in Fall 2016 or Summer 2017	Volunteer hours	High	IN PROGRESS	SEE THE ABOVE. SINCE IT HAS BEEN RECONSITITUTED, THE COMMISSION HAS BEEN DOING TRAINING AND HAS BEEN WORKING ON HANDLING THE "EMERALD BORER" INVASION.	Yes
Invasive Species	Hold a public event around the cleanout of glossy buckthorn around South Pond	Marlboro Conservation Commission and Ames Hill Association	First cleanout to be held spring 2016; Yearly cleanout through 2025 will be needed because of seed-bank	Town budget; volunteer hours	Medium	UNSURE	AGAIN, AS THE CONSERVATION COMMISSION HAD NOT BEEN THAT ACTIVE UNTIL THE PAST YEAR OR SO, A COMPLETE EFFORT DID NOT OCCUR, THE AMES HILL ASSOCIATION HAS TAKEN STEPS TO PREVENT INVASIVE SPECIES IN/AT SOUTH POND	Yes INCLUDING DOING ONGOING WORK SHOULD BE INCLUDED.
Invasive Species	Invasive species management at Town Forest at Hogback Mountain	Hogback Mtn. Conservation Assoc and Town Selectboard	Assessment Fall 2015 and start management in 2016; Ongoing thereafter	Town budget; volunteer hours	Medium	Y	THE HMCA HAS CONTINUED TO WORK ON THIS AS PART OF THEIR MANDATE. SUGGESTIONS OF ACTIONS WOULD BE BENEFICIAL	Yes

3. Public Survey Advertising



Survey Advertised in:

- Website
- Front Porch Forum
- Facebook

Available in person:

- Town Hall
- Town Warning Informational Meeting (held 11/23/24)

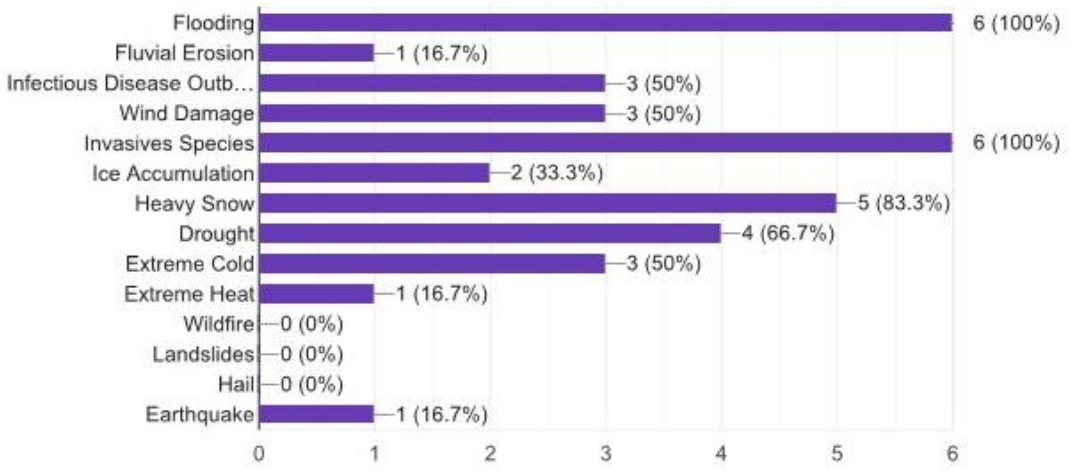
4. Public Survey Questions and Response Summary

Marlboro Hazard Mitigation Plan Public Survey

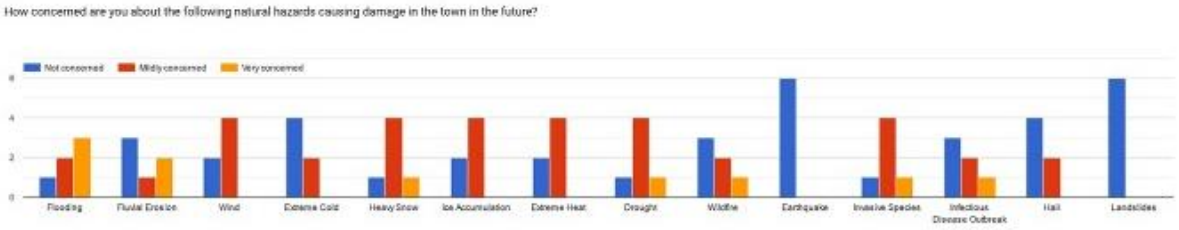
6 responses

What natural hazards have you experienced in Marlboro?

6 responses



How concerned are you about the following natural hazards causing damage in the town in the future?



Where in town have you seen damage from a natural disaster? (Which hazard, when did it occur, and where in town was the damage?)

5 responses

Flooding from Irene and rains in 2023/ throughout town

Irene, everywhere!
There has been a noticeable increase in very windy days. Large tree down in our yard this past summer.
Ice storm - before Irene, can't remember the date. Power and phone on Butterfield out for extended period of time

Irene—whole town

Irene - took away all my property 15 feet from my front door; strong winds knocked down trees on my property, regular high water which erodes the banks (and is a problem on the Augur Hole)

South Road and Route 9 (ice storm), our driveway (flooding from Whetstone Brook), Route 9 (road washed away from Hurricane Irene flooding)

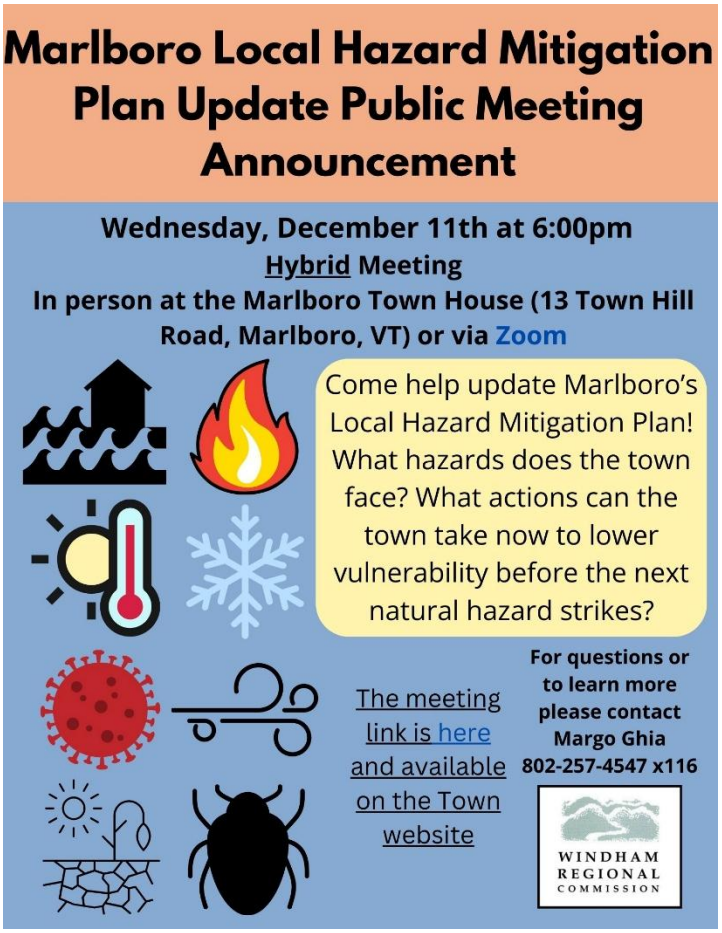
Can you think of any specific actions that the town might be able to take that would help lesson the damage from a future natural hazard?

2 responses

More active work on providing stone embankments. Would also appreciate a better warning system during flooding. There is no active system and I have evacuated 3 times since Irene. We also need safe places to go (and enough warning time to get out) with our animals. I will never leave my pets home.

Trim more trees along public road ways, cut down or significantly reduce size of dead trees along town roads.

5. December 2024 meeting flyer and Agenda



AGENDA FOR TODAY'S MEETING

1. **Overview of Updating the Marlboro Local Hazard Mitigation Plan**
   - Purpose
   - Process

2. **Mitigation Goals and Actions**
   - Brief review of the current Mitigation Actions Table that the Town updated
   - Discuss hazard events that have occurred since the last Plan & Where hazards repeatedly cause damage
   - Discuss recent mitigation work completed by the town
   - Create an updated Mitigation Actions Table for the updated Plan
   - Identify gaps and capabilities with implementation

2. Other Updates
- Discuss development trends – new developments, upcoming developments
- Overall resiliency concerns or ideas
- Review of other elements and address questions that weren't discussed

6. December 11, 2024 Public Meeting Email Invite

--------- Forwarded message ---------
From: **Town Admin** <townadmin@marlborovt.us>
Date: Wed, Dec 4, 2024 at 1:48 PM
Subject: Meeting on generating a New LHMP for Marlboro being handled by the WRC
To: Timothy Segar, Staley McDermet, Patti Smith, William Shakespeare, Matt & Lucy Tell, Jennifer Girouard, Pieter van Loon , Forrest Holzapfel, Andrew Richardson, Erika Korb, Robin MacArthur, Ryan Williams, Tamara stenn, Eva Grimaldi, kate Kirkwood, Christine Colella , Mike Purcell, Sarah Grant, John Nevins, Diana Todd, Laurel Copeland, Nancy Anderson , Bob Anderson, Allison Turner, Dan Elliot, carol ann lobo johnson
Cc: Molly Welch, Jeff Skramsta, Kate Kirkwood

Hi All,

Quick note here: please do not "REPLY ALL" if you reply to me with any thoughts or questions, just replay to < Townadmin@marlborovt/uss >.

Noo onto the reason for this email:

First off, I have tried to reach out to all of the Town's Commissions and Committees, if I have missed anyone on your commission/committee, please feel free to forward this email to them.

Second, I have widely publicized this upcoming meeting on 12/11 @ 6:00p in the Town Office. Unfortunately the MCC is not available and the town house is just too much to hold a "presentation" oriented meeting.

Thus, there will be somewhat limited space and I am encouraging those who can to attend via ZOOM, the link is the normal link the Select Board uses and is on the SB page of the website and will also be available on the posted agenda.

Third, this is an open public meeting so I am hoping that residents will be attending also.

Fourth, the purpose of the meeting is a presentation by the WRC who is creating the LHMP for us and an opportunity for the WRC Person, Margo Ghia, to get feedback on what items and projects should or could be included. Much of the LHMP concerns road issues, but it also deals with conservation issues, land use issues, etc.

Fifth, I have attached the last LHMP (2016) the town had completed (also by the WRC), COVID caused a real snafu with having a new one done in a more timely fashion, but a FEMA grant has allowed the Town to begin this process again.

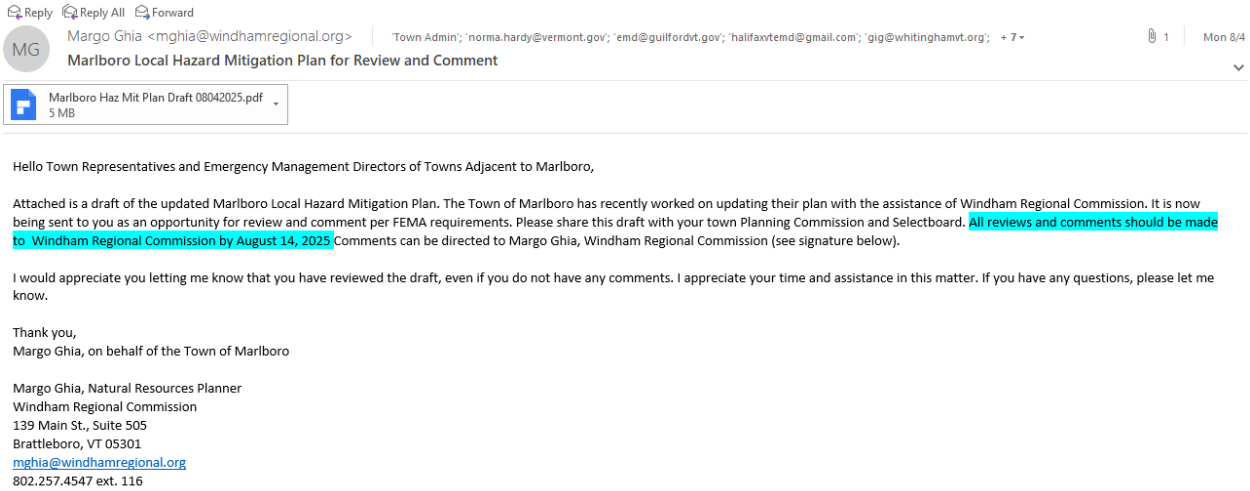
I am hoping we get good attendance (again, I am pushing ZOOM attendance to preserve space in the town office), and can provide Margo (WRC) with good ideas to include in the new LHMP.

Thank you and please reach out with any questions.

AGAIN: please do not "REPLY ALL" if you reply to me with any thoughts or questions, just replay to < Townadmin@marlborovt/uss >.

Best Regards,
Nick Morgan
Marlboro Town Administrator/Select Board Assistant
townadmin@marlborovt.us
802-254-2181
PO Box 518, 510 South Road, Marlboro, VT 05344

7. Email sent to adjacent towns for comment on the draft plan



Reply Reply All Forward

MG

Margo Ghia <mghia@windhamregional.org> 'Town Admin'; 'norma.hardy@vermont.gov'; 'emd@guilfordvt.gov'; 'halifaxvtemd@gmail.com'; 'gig@whitinghamvt.org'; + 7 1 Mon 8/4

Marlboro Local Hazard Mitigation Plan for Review and Comment

Marlboro Haz Mit Plan Draft 08042025.pdf
5 MB

Hello Town Representatives and Emergency Management Directors of Towns Adjacent to Marlboro,

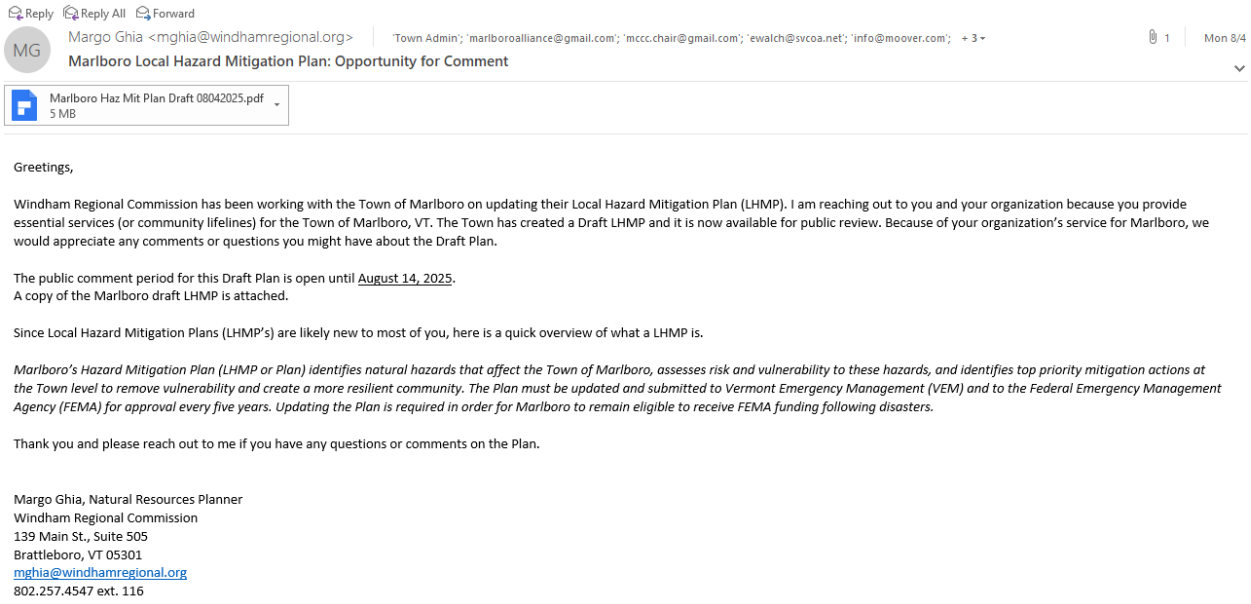
Attached is a draft of the updated Marlboro Local Hazard Mitigation Plan. The Town of Marlboro has recently worked on updating their plan with the assistance of Windham Regional Commission. It is now being sent to you as an opportunity for review and comment per FEMA requirements. Please share this draft with your town Planning Commission and Selectboard. All reviews and comments should be made to Windham Regional Commission by August 14, 2025. Comments can be directed to Margo Ghia, Windham Regional Commission (see signature below).

I would appreciate you letting me know that you have reviewed the draft, even if you do not have any comments. I appreciate your time and assistance in this matter. If you have any questions, please let me know.

Thank you,
Margo Ghia, on behalf of the Town of Marlboro

Margo Ghia, Natural Resources Planner
Windham Regional Commission
139 Main St., Suite 505
Brattleboro, VT 05301
mghia@windhamregional.org
802.257.4547 ext. 116

8. Email sent to frontline organizations for comment on the draft plan



Reply Reply All Forward

MG

Margo Ghia <mghia@windhamregional.org> 'Town Admin'; 'marlboroalliance@gmail.com'; 'mccc.chair@gmail.com'; 'ewalch@svcoa.net'; 'info@moover.com'; + 3 1 Mon 8/4

Marlboro Local Hazard Mitigation Plan: Opportunity for Comment

Marlboro Haz Mit Plan Draft 08042025.pdf
5 MB

Greetings,

Windham Regional Commission has been working with the Town of Marlboro on updating their Local Hazard Mitigation Plan (LHMP). I am reaching out to you and your organization because you provide essential services (or community lifelines) for the Town of Marlboro, VT. The Town has created a Draft LHMP and it is now available for public review. Because of your organization's service for Marlboro, we would appreciate any comments or questions you might have about the Draft Plan.

The public comment period for this Draft Plan is open until August 14, 2025.
A copy of the Marlboro draft LHMP is attached.

Since Local Hazard Mitigation Plans (LHMP's) are likely new to most of you, here is a quick overview of what a LHMP is.

Marlboro's Hazard Mitigation Plan (LHMP or Plan) identifies natural hazards that affect the Town of Marlboro, assesses risk and vulnerability to these hazards, and identifies top priority mitigation actions at the Town level to remove vulnerability and create a more resilient community. The Plan must be updated and submitted to Vermont Emergency Management (VEM) and to the Federal Emergency Management Agency (FEMA) for approval every five years. Updating the Plan is required in order for Marlboro to remain eligible to receive FEMA funding following disasters.

Thank you and please reach out to me if you have any questions or comments on the Plan.

Margo Ghia, Natural Resources Planner
Windham Regional Commission
139 Main St., Suite 505
Brattleboro, VT 05301
mghia@windhamregional.org
802.257.4547 ext. 116

9. Flyer advertising availability of Draft Hazard Mitigation Plan for public comment & Notice on Marlboro's town website

Marlboro Local Hazard Mitigation Plan

PUBLIC COMMENT PERIOD

The draft Marlboro Local Hazard Mitigation Plan is now available for public review on the town website: https://marlborovt.us/

A paper copy can be made available at the Town Office.

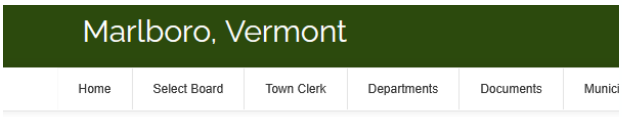
The Marlboro Selectboard will receive comments and discuss the plan at their August 14th meeting.

The Plan is open for comment until

August 14, 2025

Comments should be directed to:
Margo Ghia, Windham Regional Commission.
802-257-4547 x116 or
email mghia@windhamregional.org.

We encourage your review and participation!



PLEASE NOTE THE PUBLIC COMMENT PERIOD FOR THE MARLBORO LOCAL HAZARD MITIGATION PLAN IS NOW OPEN.

Posted August 5, 2025 by ***admin*** *& filed under* ***Uncategorized****.*

The draft Marlboro Local Hazard Mitigation Plan is now available for public review on the town website:

https://marlborovt.us/wp-content/uploads/2025/08/2025-08-04-Draft-Marlboro-Haz-Mit-Plan.pdf

A paper copy can be made available at the Town Office. The Marlboro Select Board will receive comments and discuss the plan at their August 14th, 2025 meeting (6:00pm) at the Town Office (and on ZOOM – Link is available on the Select Board Page of the Town's website – https://marlborovt.us/boards-minutes/select-board/ – and will also be available on the agenda for this meeting also posted on the Select Board page on Tuesday, August 12th, 2025).

As space is somewhat limited, while all are invited to attend, if you can attend via ZOOM, you are encouraged to do so.

The Plan is open for comment until August 14, 2025. Comments should be directed to:
Margo Ghia, Windham Regional Commission.
 # 802-257-4547 x116 or
email mghia@windhamregional.org.

The Marlboro Select Board strongly encourages your review and participation – THANK YOU!