

Local Hazard Mitigation Plan for the Town of Newfane, Vermont

Including the Village of Newfane



Flooding next to the Newfane Town Offices – July 29, 2021

FEMA Approval Pending Adoption Date: December 12, 2023

Town Adoption Date: January 4, 2024

Village Adoption Date: January January 16, 2024

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Technical assistance by the Windham Regional Commission



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INTRODUCTION AND PURPOSE

This Multi-Jurisdictional Hazard Mitigation Plan is an update to a prior Plan adopted by the Town and Village of Newfane and approved by FEMA on June 9, 2015. This plan addresses and includes the Town's incorporated Village of Newfane. For all functional purposes the Town is responsible for all relevant hazard mitigation services for the Village. More information about their connection is in the Town and Village Profile, and an email from the Chair of the Village Trustees (from the 2015 plan) are included in the appendix.

The purpose of this plan is to assist the Town of Newfane in identifying all of the hazards facing the town and to identify strategies to begin reducing risks from identified hazards.

Hazard mitigation is any sustained action that reduces or eliminates long-term risk to people and property from natural and human-caused hazards and their effects. Based on the results of previous Project Impact efforts, FEMA and state agencies have come to recognize that it is less expensive to prevent disasters than to repeatedly repair damage after a disaster has struck. This plan recognizes that communities have opportunities to identify mitigation strategies and measures during all of the other phases of Emergency Management – preparedness, response and recovery. Hazards cannot be eliminated, but it is possible to determine what the hazards are, where the hazards are most severe and identify local actions that can be taken to reduce the severity of the hazard.

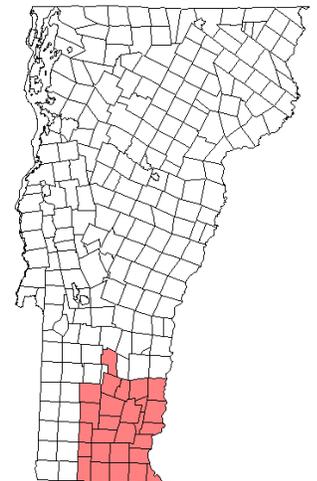
Hazard mitigation strategies and measures alter the hazard by eliminating or reducing the frequency of occurrence, averting the hazard by redirecting the impact by means of a structure or land treatment, adapt to the hazard by modifying structures or standards or avoid the hazard by stopping or limiting development, and could include projects such as:

- Flood-proofing structures
- Tying down propane/fuel tanks in flood-prone areas
- Elevating furnaces and water heaters
- Identifying and modifying high traffic incident locations and routes
- Ensuring adequate water supply
- Elevating structures or utilities above flood levels
- Identifying and upgrading undersized culverts
- Proactive land use planning for floodplains and other flood-prone areas
- Proper road maintenance and construction
- Ensuring critical facilities are safely located
- Establish and enforce appropriate building codes
- Public information

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, and Williams, 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.

NEWFANE GEOGRAPHY & TOWN AND VILLAGE PROFILE

The Town of Newfane covers approximately 24,500 acres in the West River Valley of Windham County. In terms of local settlement patterns there are three separate villages, Newfane Village (officially incorporated), Williamsville and South Newfane. They are connected by a network of local roads. Each village is a uniquely clustered settlement, dominated by older, historic homes with small commercial and community-related services. These village centers are surrounded by a more rural, forested landscape which has experienced residential growth over the years. Housing development has been targeted most significantly in many of the more rural, back-road areas of the community. Very little new development has occurred in the villages of Williamsville and South Newfane or in the more inaccessible, western-central geographic areas of Newfane.



Village of Newfane in the Fall.

Newfane's major surface waters, depicted on the Existing Land Use Map (page 6) include the following rivers, brooks and ponds: West River, Rock River, Baker Brook, Smith Brook, Hunter Brook, Wardsboro Brook, Adams Brook, Joy Brook, Marlboro Branch, and Kenney Pond. There are a number of smaller privately developed ponds in the Town as well, some of which provide water for firefighting. The majority of the local rivers, brooks and streams are classified by the State of Vermont as Class B Waters. This classification means that the water quality is suitable for bathing, recreation, irrigation and agricultural uses, has good fish habitat and aesthetic value, and is acceptable for public water supply with filtration and disinfection. There are some streams in the southeastern portion of Town near Lost Mile Road that are classified by the State of Vermont as Class A waters because they feed into the drinking water supply for the Town of Brattleboro.

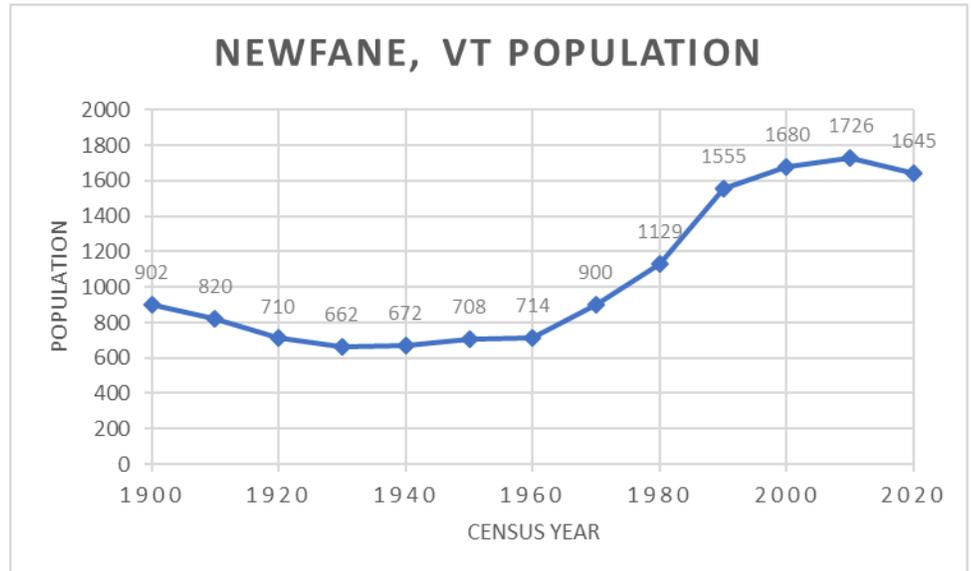
The climate is generally temperate with moderately cool summers and cold winters; as in the rest of Vermont. Average annual precipitation is around (54) inches, snowfall averages (91) inches. The weather is unpredictable, and large variations in temperature, precipitation, and other conditions may occur both within and between seasons.

Other Significant Issues Affecting Newfane

1. Newfane has an annual two-day Heritage Festival every October which draws tourists from miles away as well as locals, slowing traffic to a halt on Rt. 30 at the village common area.
2. Route 30 is a main route for skiers traveling to resort communities north and west of Newfane.
3. Flooding is an issue with many bridges in town, and the bridge maintenance budget is an item of constant concern for the Selectboard.
4. Kenolie Village Campground on River Road has an influx of hundreds of campers that park and stay from May until November every year. This increase in temporary population for short periods of time is a boost to the economy.
5. During TS Irene, Williamsville and South Newfane were cut off due to flooding and washed out roads. There are now areas of along the Rock River/Dover Road which will be a continual source of problems.
6. Due to TS Irene, there are some landslide/erosion problems on Dover Road at the town line of Dover and Newfane.

Demographics

The Town of Newfane has a population of 1645 people as of the 2020 Census. The town population grew overall between 1950 and 2010, with a slight decline between 2010 and 2020. This is shown in the adjacent graph.



Drinking Water and Sanitary Sewer

The Town does not operate a municipal drinking water supply or wastewater system. Residential and commercial buildings obtain drinking water from individual wells while wastewater is handled with individual septic systems.

The greatest threat to the groundwater supply is from Newfane's three villages where lot sizes are small and development relatively dense. Failed or failing septic systems could impact groundwater supplies in those areas if not properly mitigated. This can in part be achieved by implementing the Town Plans Groundwater policies including investigating community water and or wastewater systems in Newfane's village areas.

Transportation Network

Newfane is located at the crossroads for a significant portion of the traffic that moves throughout the region. The Town is located between Brattleboro, the region's economic center of activity, and the various ski areas and bedroom communities to the north and west. These areas are linked by two major roadways, Route 30 which travels through the eastern portion of Newfane, and the Depot and Dover Roads, which pass through Williamsville and South Newfane and on to Route 100 where tourists can access several ski areas.

There are approximately 17 miles of Class 2 and 47 miles of Class 3 roads in Newfane. Approximately 44.5 miles, or 66%, of the Town's road mileage is hydrologically connected, which means it 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.

Public Safety and Emergency Management

As of the drafting of this plan Jay Wilson serves as the Emergency Management Coordinator and Road Foreman. Tim Shafer serves as the town's Health Officer. These positions have an active role in most town wide emergency situations.

The NewBrook Fire and Rescue Department is responsible for municipal fire protection and fire prevention since 1948 and emergency medical services since 1984. The Department is a member of the Southwest New Hampshire District Fire Mutual Aid System, which provides dispatch services for the area fire and emergency medical agencies. Newfane contracts with Rescue Inc. to provide ambulance and emergency care throughout Town. NewBrook has twelve main pieces of apparatus, including a brush truck, three pumpers, a rescue truck, a utility or squad truck, an ATV, a rescue sled and trailer for off-road work, 3000-gallon tanker, 1500-gallon 4WD Forestry tanker, and a 1931 Model A Ford pumper for parades. The department has on-call volunteer fire and EMS personnel. The Fire Department's facilities are located on Vermont Route 30 .6 miles north of Newfane Village.

The NewBrook firehouse, which is equipped with a generator, a full kitchen, and other facilities, can be (and has been) used as a public emergency shelter in time of need. In 2014 NewBrook was designated a Disaster Recovery Center (DRC) by FEMA. This facility also serves as the Emergency Operations Center (EOC) for the town during emergency situations and is located at 698 VT Route 30. The towns alternative shelter and EOC is located in the town garage at 269 Depot Road.

Grace Cottage Hospital is 5.1 north of Newfane Village and is the nearest hospital with emergency services while Brattleboro Memorial Hospital is located approximately 13 miles to the south, in Brattleboro Vermont.

The Town of Newfane does not have its own police force. Instead, the community relies upon the State Police, from its barracks in Westminster. This agency responds to local complaints and emergency calls. The Town contracts with the Windham County Sheriff Department for speed controls.

Electrical Utility¹

The Town of Newfane’s electrical power is primarily provided by Green Mountain Power. As of April 2023, there were 1,522 electrical meters in the town.

The town of Newfane is fed from three of Green Mountain Power’s distribution circuits:

West Dummerston - DM-G6 circuit – The DM-G6 circuit is by and large the primary feed to the town of Newfane and its serves majority of the town including the Village of Newfane. Very small sections of the northwest and southeast corners of the town are fed by other GMP circuits (see below). The DM-G6 circuit is sourced / fed from GMP West Dummerston substation that is located in the northwest corner of West Dummerston.

East Jamaica – EJ-G7 circuit – GMP’s EJ-G7 circuit feeds customers in the northwest corner of the town along Cushing Flats Road and S. Wardsboro Road.

South Brattleboro – BS-G32 circuit – GMP’s BS-G32 circuit feeds customers in the southeast corner of the town along Lost Mile Road and Sunset Lake Road.

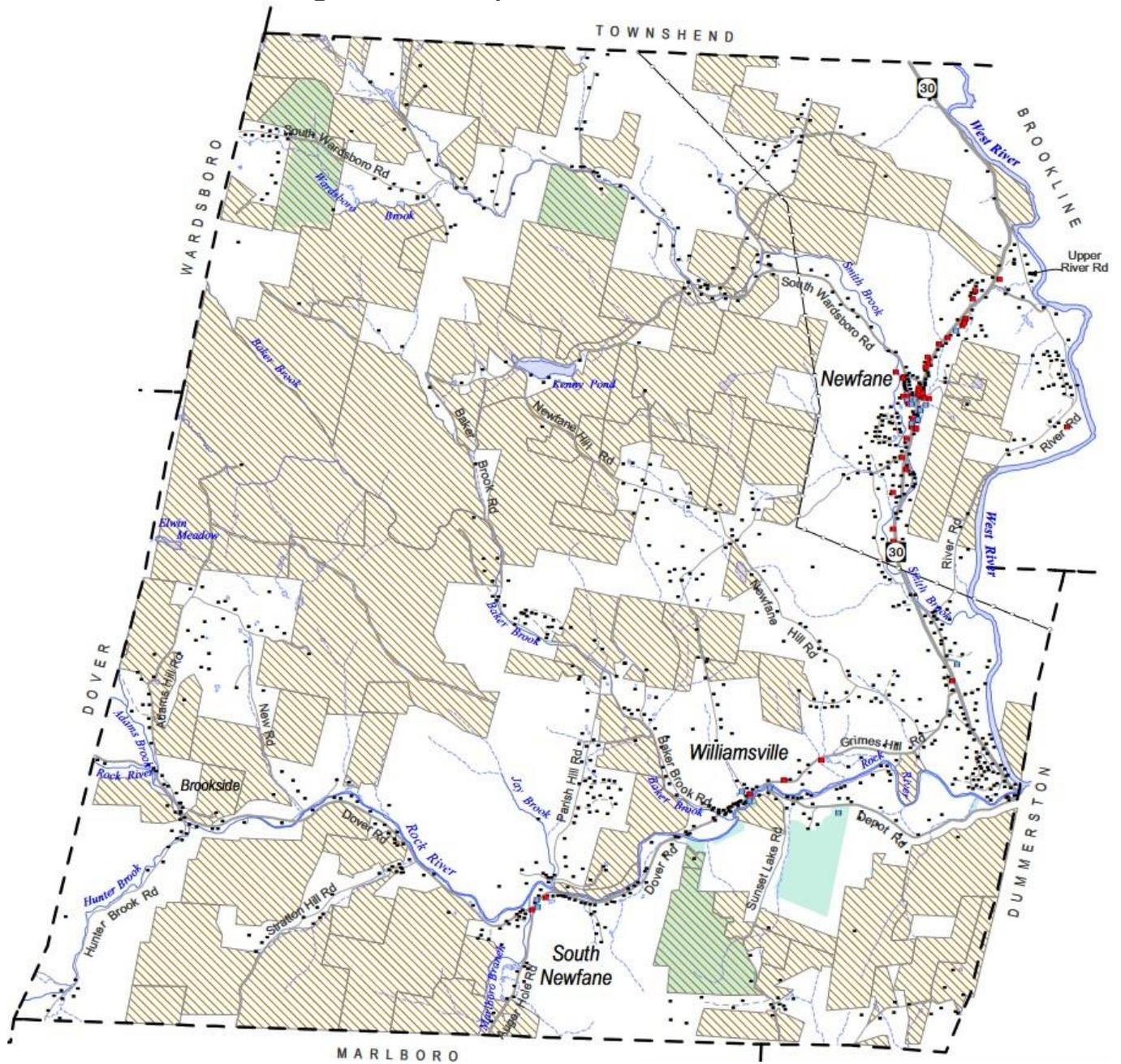
Data for the Town of Newfane that was provided by Green Mountain Power shows Town Level Outage Statistics for a five-year period from Jan 1, 2018 to Dec 31, 2022.

Year	# of Electric Customers (As of April, 2023)	Customers (GMP Meters) Affected	Customer Hours Out	Avg # of Times a Customer was Without Power Per Year	Avg Length of Outages in Hours Per Year	# of Hours the Typical Customer was Without Power Per Year	Comments
2018	1,522	8,267	42,422	5.43	5.13	27.87	April, May, December Major Storms
2019	1,522	4,690	19,341	3.08	4.12	12.71	2 Major Storms, VT western slopes high wind
2020	1,522	5,652	19,189	3.71	3.40	12.61	No Major Storms
2021	1,522	5,302	18,432	3.48	3.48	12.11	No Major Storms
2022	1,522	7,024	40,553	4.61	5.77	26.64	2 December Major Storms

Green Mountain Power (GMP) has met with Newfane town leaders at a Selectboard Meeting to discuss grid resiliency projects that GMP is advancing. GMP is planning to bring storm hardened power line construction to the Route 30 corridor and also to the feed from East Jamaica into the northwest corner of Newfane. This type of construction is less susceptible to tree contacts from wind and heavy wet snow events, which GMP is seeing on an increasing level with the changing climate

¹ Data provided by Ken Couture, Leader of Grid Resiliency, of Green Mountain Power, email 5/19/23.

Town of Newfane Existing Land Use Map from 2018 Town Plan



- Residential structure
- Commercial structure
- Public/institutional structure
- Conservation land
- ▨ Parcel enrolled in Use Value Appraisal
- Roads

PLANNING PROCESS

Plan Developers

The core Hazard Mitigation Planning Team who assisted with the update of the Newfane Hazard Mitigation Plan, and representing the Town of Newfane include:

- Jay Wilson: Road Forman, EMD
- Merle Tessier: Zoning Administrator, Flood Hazard Administrator, E-911 Coordinator

Being a multi-Jurisdictional plan, there were representatives at the meeting who represented both the Village of Newfane and the Town of Newfane. The Village representative was:

- Angela Sanborn: Chair of Newfane Selectboard, Village of Newfane Trustees

Representatives from Newfane institutions and residents who participated in the Hazard Mitigation Update include:

- Wanetta Powling: Administrative Assistant to the Newfane Selectboard
- Jane Douglass: Newfane Planning Commission
- Pete VanLoon: DRB, has served on many Town Committees over the years
- Ann Goleb: Vice Chair of the Newfane Selectboard
- Ken Estey: Chair of Planning Commission

This plan was supported by an Emergency Management Planning Grant funds from FEMA. Margo Ghia, Planner and Mike McConnell, Senior Planner with the Windham Regional Commission assisted the Town with the update.

Organizations Sustaining Community Life-lines and Providing Services to Vulnerable Populations

The following organizations provide community lifeline support to Newfane residents, with their primary base of operations being located both within and outside of Newfane. A reasonable attempt was made to engage these organizations in the planning process for the update of the Newfane Local Hazard Mitigation Plan. Outreach occurred via email to the below Newfane based organizations main point of contact on their websites to provide an opportunity to review and comment on the draft plan (see appendix H). FEMA review requirements changed in the midst of the planning process. Public notices were posted at: Town Office building, W.W. Building Supply, Moore Free Library and the Williamsville and Newfane Post Offices.

Organizations located within Newfane

- Newbrook Elementary School – K-5 Elementary
- Kindle Farm School – Elementary, Middle and High School for students who need extra support
- Newbrook Fire & Rescue – Volunteer organization servicing Newfane.
- South Newfane Schoolhouse Association – Provides a gathering place for the community.
- Moore Free Library – Provides access to educational items and activities and serves as a gathering place for the community.

Organizations outside of Newfane, providing services in Newfane

- Green Mountain Power – Electric Utility. Consulted via email on loss of power statistics and other resiliency projects planned for Newfane.

- Leland & Gray High School – Sending high school for Newfane residents.
- Grace Cottage & Brattleboro Memorial Hospital – Primary hospitals used by Newfane residents.
- Senior Solutions, Council on Aging for Southeastern, VT
- MOOver – Provides bus, van, taxi and volunteer rides for residents needing transport.
- The Gathering Place – Safe space for people with physical or cognitive impairments.
- Groundworks – Servicing people who are facing a full continuum of housing and food insecurities.
- Brattleboro Area Hospice – Provides programs to dying and grieving community members.
- Health Care & Rehabilitation Services (HCRS) – A comprehensive community mental health provider.
- Southeastern Vermont Community Action (SEVCA) – Anti-poverty, community-based non-profit.
- Visiting Nurse and Hospice for VT & NH – Home, health, hospice and pediatric services.
- Women’s Freedom Center – Works to end physical, sexual and emotional violence against women.

Plan Development Process

The 2023 Newfane Local Hazard Mitigation Plan is an update to the 2015 Multijurisdictional mitigation plan. A summary of the process taken to develop the 2023 update is provided below. All initial public meetings were offered as on-line meetings due to the Covid-19 pandemic.

Representatives from the Town of Newfane and Village of Newfane participated in all aspects of the development of this plan.

April 2021: Led by Road Foreman Jay Wilson, members of the Town Staff provided updates on the status of mitigation actions identified in the 2015 Newfane Hazard Mitigation Plan.

April 2021: A public meeting notice announcing that the Town was engaged in hazard mitigation planning and updating their LHMP was posted on the Town website and on community notice boards at the Town Office, W.W. Building Supply, Moore Free Library and the Williamsville and Newfane Post Offices. An email notification of the public meeting and invitation to join was sent out by the Town to all Town officials, Town staff, Town committee members as well as to Newfane based community life-line organizations such as the NewBrook Fire Department, NewBrook Elementary, and the Moore Free Library.

April 12, 2021: The first of two public meetings was held. Discussed at the meeting is what a LHMP is, the benefits of hazard mitigation planning and the current plan status. The group then reviewed and confirmed the plan purpose, shared hazards encountered in Town since the last plan and identified the highest priority natural hazards affecting the Town. There were 7 people in attendance (all were representatives from the Town and/or Village’s various boards and committees).

April 21, 2021: The second of two public meetings was held. The group updated mitigation actions whose statuses were incomplete from the previous Hazard Mitigation Plan to incorporate into the new

**Update of the Newfane
Local Hazard Mitigation Plan
Public Meeting Announcement**



2 Meeting Dates: April 12th and April 21st, 2021
Time: 6:00-7:30 PM
Via Zoom
See Newfane Town website for meeting details

Come learn about and help to update Newfane’s Local Hazard Mitigation Plan! What hazards does the town face? What actions can the Town take now to lower vulnerability before the next natural hazard strikes?

For more information, contact:
Margo Ghia at 802-257-4547 x116 or mghia@windhamregional.org



plan. The group then identified new mitigation actions to be included in the updated plan. The group also provided input on storm history and assets vulnerable to the highest risk natural hazards. There were 9 attendees (9 Town and Village employees or elected officials).



June 7, 2021: Communication was sent via email to EMD's and Town Managers of all neighboring towns informing them of Newfane's Hazard Mitigation Plan process and requesting input into the development of hazard mitigation ideas. No responses were received. A list of neighboring towns and email contacts for EMD's and town Managers as well as a copy of the request is in the Appendix.

June 2021 – August 2022: Work on the Newfane Hazard Mitigation Plan was paused due to needed prioritization of WRC Staff of expired plans in other communities.

August 2022: A public survey was developed to collect information on resident's perceptions of hazards affecting the Town. The survey was distributed to attendees at the first two public forums for review before the survey was publicly released.

September 6, 2022: The public survey was added to the Administrative Report for the Selectboard to provide input and distribution instructions on the survey. After the meeting, the survey was publicly announced on the Town website and posted on the official bulletin boards in Newfane as designated at the organizational meeting when the new Selectboard took office. The survey was also sent to attendees at the first public forums asking them to distribute it to their networks as well as Town Officials and Committee members. The survey was primarily distributed through electronic means, but a paper copy was available at the Town Office.

The initial public meetings to update the Town Plan were held during the height of the Covid-19 pandemic and were held virtually.

September 21, 2022: The public survey was closed. The survey had 33 responses. The results of the survey confirmed what the planning committee had prioritized as the top Town hazards. The results also highlighted two new potential top threats in the next five years that the Town should examine in the next hazard mitigation update. Those were invasive species and drought. A copy of the survey questions and results is in the Appendix.

September 2022 – April 2023: Margo Ghia & Mike McConnell worked on plan drafting.

April 17- May 10, 2023: The Draft Newfane LHMP was reviewed by members of the original public meetings (including the Village Trustees Chair), the Town Selectboard, and members of the Development Review Board.

May 10 – 26, 2023: Margo Ghia updated the Draft LHMP based on feedback provided.

June 14 – 28, 2023: Public Comment period for the Newfane Draft LHMP. To advertise the public comment period, a flyer was posted in all public notice boards in Newfane. The Town of Newfane

posted the comment period flyer and draft LHMP on the Town Website. The draft plan was sent out by email to neighboring communities to ask for review and feedback on the plan (see appendix E for a list of neighboring communities. As some contacts had changed since 2021, the contact list was updated to reflect current EMD's and Town Administrators. The Town of Brookline reviewed the plan at a Selectboard meeting and did not have any comments to add to the plan.

June 21 – 28, 2023: As part of the Public Review process, an email was sent to all essential service providers who are based in Newfane. The email explained what an LHMP is and asked for feedback or questions on the draft LHMP. A copy of the email is in Appendix H. A list of Newfane based organizations is listed on page 7. No comments or questions were received by life-line organizations.

July 18, 2023: The Draft Newfane LHMP was submitted to Vermont Emergency Management for review.

October 2023: Comments received back from Vermont Emergency Management

November 2023: Margo Ghia updated the draft Newfane LHMP to address comments received from Vermont Emergency Management.

Information was gathered for the updated Newfane Local Hazard Mitigation Plan through a variety of sources. A summary of these data sources is provided below and specific references are listed throughout this Plan.

- Local knowledge of the participating Newfane Planning Team and other relevant parties
- Information from the 2015 Newfane Local Hazard Mitigation Plan
- Floodready Vermont Community reports and NFIP information
- 2018 Newfane Town Plan
- 2018 - 2022 Green Mountain Power Outage Data
- 2018 State of Vermont Hazard Mitigation Plan
- National Oceanic and Atmospheric (NOAA) National Climatic Data Center's Storm Events Database
- FEMA Disaster Declarations for Vermont
- FEMA NFIP Insurance Program
- FEMA Flood Insurance Maps
- U.S. Geological Survey National Water Information System- Stream Gage Data
- WRC Local Liaison Reports of Storm Damage

Changes Since the 2015 Plan

As described in the Town Profile section of this Plan, the Town experienced a slight population decline between 2000 and 2020.

Newfane has made progress in completing the mitigation projects identified in the 2015 Plan and that is discussed in the Implementation section of this Plan. The town has carried over mitigation actions from the 2015 that were incomplete and still relevant. They have also identified new priorities based on

natural events, such as significant flooding events, that were experienced during the time between the last plan and this updated plan.

For the last 10 years, there have been no large housing developments nor new commercial developments in town. For housing, there was about an average of 1 to 2 new houses permitted each year. During the height of the Covid-19 pandemic, new housing permits jumped to about 10 per year. Since that time, new housing permits have gone back down to about 2 to 3 per year. For commercial development, WW Building Supply redeveloped a site along Route 30 in the Newfane Village so it could relocate from Loop Road and expand its operations.

RISK DEVELOPMENT

The risk assessment portion of a Hazard Mitigation Plan contributes to the decision-making process for allocating available resources to mitigation projects. 44 CFR Part 201.6(c)(2) of FEMA's mitigation planning regulations requires local municipalities to provide sufficient hazard and risk information from which to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.

Methodology and Vulnerability Analysis

A vulnerability analysis for each community begins with an inventory of possible hazards and an assessment of the risk that they pose. These are the questions to be answered: How likely is this hazard to occur in my town? How badly could it impact my town? What areas of town would or could be affected by the hazard? This Plan update utilized the 2015 analysis ranking technique in updating the Hazard Assessment table.

The **Likelihood** (frequency of occurrence) is classified as:

- Unlikely: < 1% probability in the next 100 years.
- Possible: 1% to 10% probability in the next year, or at least one chance in the next 100 years.
- Likely: 10% to 100% probability in the next year, or at least one chance in the next 10 years.
- Highly Likely: Near 100% probability in the next year.

The **Potential Impact** (percentage of the town affected) of the hazard is classified as:

- Negligible: < 10% of properties damaged/Minimal disruption to quality of life.
- Limited: 10% to < 25% of properties damaged/Loss of essential facilities/services for up to 7 days/few (< 1% of population) injuries possible.
- Critical: 25% to 50% of properties damaged/Loss of essential facilities/services for > 7 days < 14 days/Major (< 10% of population) injuries/few deaths possible.
- Catastrophic: > 50% of properties damaged/loss of essential facilities/services for > 14 days/Severe (> 10% of population) injuries/multiple deaths possible.

Likelihood:

U = unlikely

P = possible

L = likely

HL = highly likely

Potential Impact:

N = negligible

L = limited

CR = critical

CA = catastrophic

Additional considerations in the discussion were: the impacts of climate change, seasonal weather patterns, what areas of town are likely to be affected the most, the probable duration of the hazard, the speed of onset and amount of warning time considering the existing warning systems available.

The combination of the **Likelihood** and the **Potential Impact** are used to determine the **Vulnerability Ranking** as being HIGH, MODERATE, LOW or VERY LOW. Climate change was considered in the impacts and ranking of these hazards. In general, hazards are expected to be more extreme due to climate change, increasing local vulnerabilities.

The hazards from the State Hazard Mitigation plan that were considered for inclusion in Newfane’s Hazard Mitigation Plan by the core Hazard Mitigation Planning Team included: Fluvial Erosion, Inundation Flooding, Ice, Snow, Wind, Heat, Cold, Drought, Landslides, Wildfire, Earthquake, Invasive Species, Infectious Disease Outbreak and Hail. It is not feasible to study each hazard in depth by the Town and therefore a ranking system was used to identify the priority hazards to address. The rationale for why any listed hazard is not addressed is because it was prioritized with a low vulnerability ranking. For hazards that are not profiled in this plan (Drought, Invasive Species, Infectious Disease Outbreak, Heat, Cold, Landslide, Wildfire, and Earthquake) the reader is directed to the current [Vermont State Hazard Mitigation Plan](#).

This Plan will focus on five high vulnerability natural hazards. These include **flooding/fluvial erosion** (combined into one hazard in this plan since they are intertwined), **wind, and significant snow and ice storms** (combined into one hazard in this plan). All of these, were addressed in the 2015 plan. Also addressed in the 2015 plan were wildfire and landslides. Landslides in town are related to fluvial erosion, so those mitigation actions are integrated under that category. Wildfire did not rank high in the vulnerability ranking and therefore was not addressed as a high vulnerability hazard in this plan. However, the Town noted that they would like to carry over the 2015 mitigation actions that were related to wildfire.

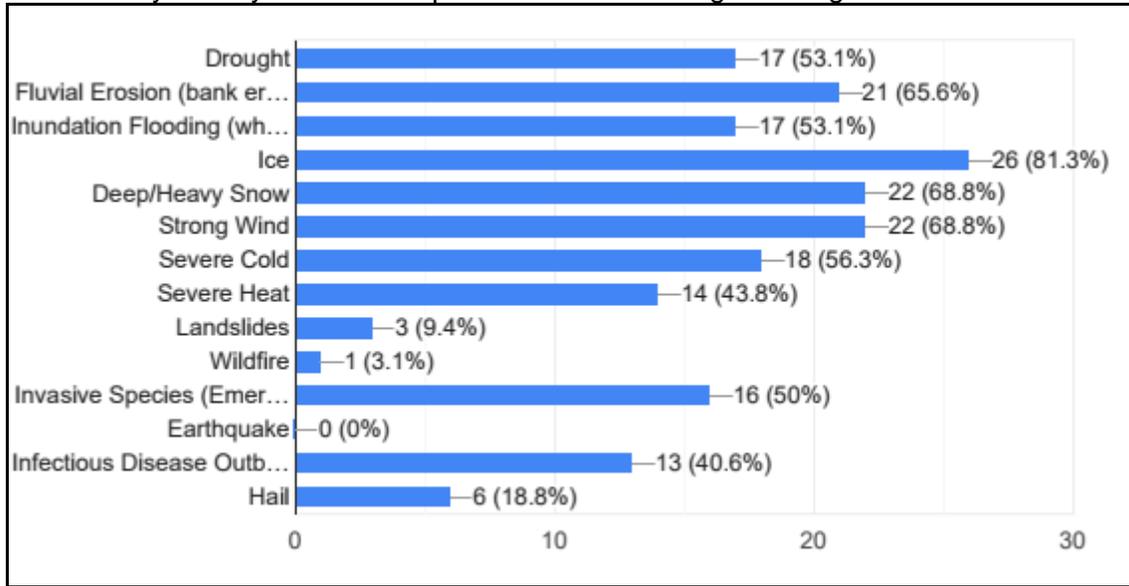
Hazard	Likelihood	Potential Impact	Vulnerability Rating	Vulnerability and Climate Change Concerns
Flooding/Fluvial Erosion	HL	CR	High	Floodplains and River Corridors throughout entire town have seen occurrences of inundation flooding and fluvial erosion. With the changing climate, it is anticipated that these occurrences will continue and only affect human infrastructure more frequently. Roads throughout town, private homes and businesses and town infrastructure such as the town office are at risk.
Wind	HL	L	Moderate	Heavy winds associated with stronger winter and summer storms cause downed trees. Tree and branch debris lead to more frequent large scale utility outages and can block or limit emergency access routes.

Hazard	Likelihood	Potential Impact	Vulnerability Rating	Vulnerability and Climate Change Concerns
Ice Storm	HL	L	Moderate	With the changing climate, storms are producing more mixed precipitation, including sleet and freezing rain, which lead to hazardous icy conditions.
Significant Snow Event	HL	L	Moderate	Snow is a common occurrence in Newfane, but while deep snow poses more work for residents and town crews to open up the road network, it is the mixed precipitation storms (snow, ice, sleet and freezing rain) that are seen more frequently in recent years and that cause more wide-spread electrical outages and hazardous road conditions.
Drought	P	L	Low	There is concern for public and private water supplies, with the impacts mostly on the residential sector.
Invasive Species	L	L	Low	Forests and fields throughout town. Impacts on natural environment.
Infectious Disease Outbreak	P	L	Low	Town wide; people impacted but not town assets
Heat	P	L	Low	Vulnerable citizens are the most at risk.
Cold	L	L	Low	Unpredictable winters. People living in unprepared or vulnerable situations is the concern.
Landslide	P	L	Low	Developing along rivers and streams. To be addressed under Fluvial Erosion
Wildfire	P	L	Very Low	Structures in and near wooded areas
Earthquake	U	L	Very Low	Town wide
Hail	P	L	Very Low	Town wide

Climate change is a widely recognized hazard and it was discussed in the Plan process as to an overarching reason why some hazards appear to be becoming more severe. Climate change will be addressed in an overarching way as it impacts all hazards and in turn community assets. The effects of climate change on the natural hazards addressed in this Plan will be discussed in the hazard profiles.

The community survey, administered in the summer of 2022, with 33 responses, highlighted four out of the five top hazards identified in the public meetings. The top hazards experienced by residents who filled out the survey were ice storms, wind storms, and fluvial erosion and heavy snow. The community survey confirmed the conversation and identification of moderate and high-ranking hazards.

Community Survey: Hazards Experienced While Living or Doing Business in Newfane



The community survey also asked what the top three hazards are likely to most affect Newfane in the next five years. The hazards that ranked the highest were:

- Inundation Flooding
- Fluvial Erosion
- Ice Storm
- Drought
- Invasive Species

Three of the five top hazards identified as affecting the town in the next five years are currently addressed in this Hazard Mitigation Plan. Two of the top five hazards, drought and invasive species, are not ranked with a high or moderate vulnerability rating in this plan. When the Town of Newfane next updates their Hazard Mitigation Plan in 2028, they will want to look at how drought and invasive species have continued to affect the town to see if those hazards might need to be addressed.

Hazard Profiles

The following sections include a narrative with a Description, Impact, Extent, Probability, and discussion of Past Occurrences of the three high vulnerability natural hazards affecting the Town of Newfane. It was deemed by the planning group that these events were likely to occur all throughout town and are not unique to the Village of Newfane. Therefore, all addressed hazards are based on a look at the whole town.

Inundation Flooding and Fluvial Erosion

Description

Flooding is the most widespread and destructive hazard in the United States. Flooding can occur anytime of the year as a result of heavy rains, thunderstorms, tropical storms, hurricanes or Nor’easters. 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. There is a 26 percent chance of experiencing a flood during the life of a 30-year mortgage compared to a 4 percent chance of a fire.

SFHAs are subject to inundation by the 1% annual chance flood (100-year flood). River Corridors are subject to fluvial erosion and are defined and mapped by the Vermont Agency of Natural Resources (ANR). River Corridor mapping delineates fluvial erosion hazard areas and includes a 50-foot buffer beyond those designated areas. For small streams, a 50-foot buffer from top-of-bank on either side of the waterway constitutes the River Corridor. Maps of these areas can be found at the Town Office or online at the FEMA Map Service Center² (SFHAs only) or on the VT ANR Natural Resources Atlas³ (SFHAs and River Corridors).

Much of the destruction from high rain events in Newfane is due to fluvial erosion. Fluvial erosion is the destruction of river banks caused by the movement of rivers and streams, when stream power overcomes resistance of bed and bank material. 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.

Gravity and water power are the forces driving fluvial erosion. Factors that allow the force of gravity to overcome the resistance of earth material to erosion include: saturation by water, steepening of slopes by erosion or construction, alternate freezing or thawing, removal of trees and other vegetation and earthquake shaking. 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.

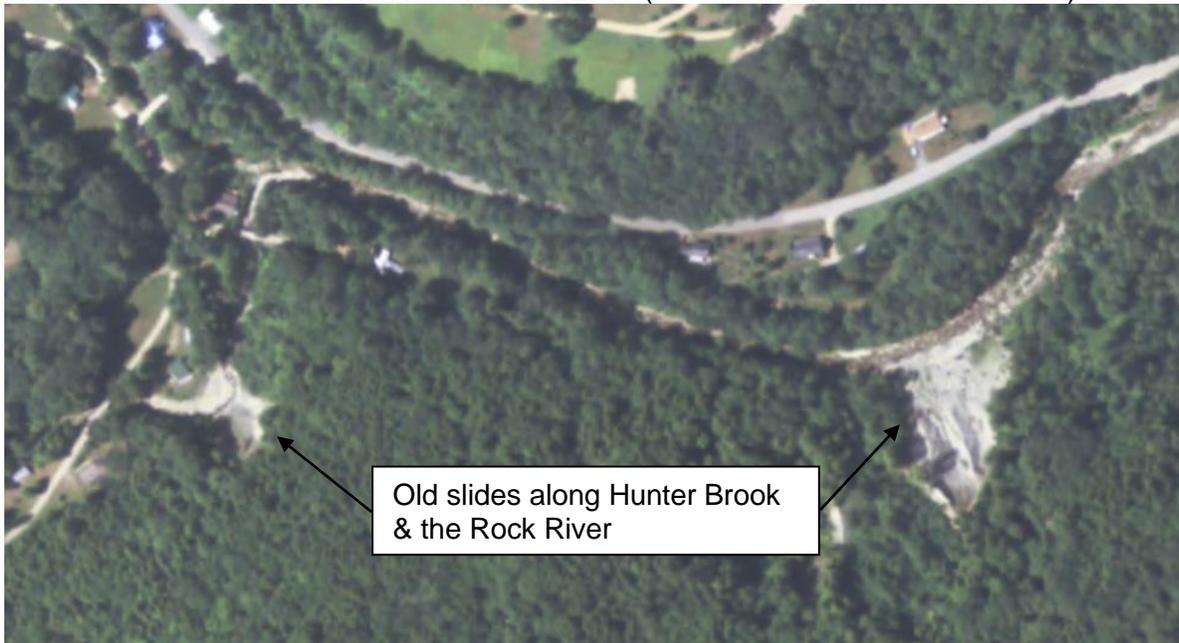
Bends in the river are prone to movement as part of natural river processes, and their movements can be even more dramatic when manmade impacts and development upstream impinges on these natural stabilizing forces. The interaction of the natural and unnaturally dramatic forces of river movement, combined with the stationary location of the closely located roads is what leads to road damages during heavy weather events. Property owners outside of the FEMA floodplain can purchase flood insurance at a lesser expense, and it still covers damages resulting from fluvial erosion in events that damage multiple properties.

Fluvial erosion has led to some significant bank slides along several rivers in Newfane. With the dynamic nature of rivers, there have been large river slides for quite some time along river banks throughout town. After Tropical Storm Irene, in 2011, these slides, which were stripped of any growth, became more exacerbated and became more visually prominent.

² <https://msc.fema.gov/portal>

³ <https://anrmaps.vermont.gov/websites/anra5/>

Arial of Hunter Brook and the Rock River in 2011 (about a month before T.S. Irene)



Arial of Hunter Brook and the Rock River in 2014



Impact

The historic road network of many Vermont towns and villages typically follows waterways, and this is true in Newfane. This historic settlement pattern creates vulnerability for the road network, infrastructure and development within and along River Corridors.

There are no mapped ice jams in Newfane.⁴

⁴ US Army Corps of Engineers Ice Jam Text Query < <https://icejam.sec.usace.army.mil/ords/f?p=101:2>>

Vermont Statewide Highway Flood Vulnerability and Risk Mapping

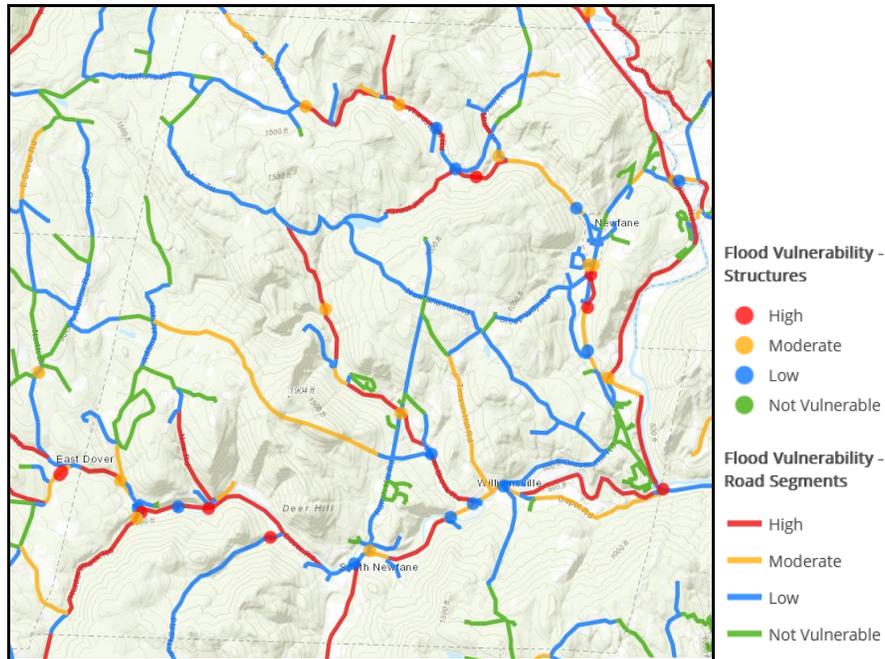
As part of the scope of work for the Transportation Resilience Planning Tool, the Vermont Department of Transportation has developed metrics to quantify the flood vulnerability and risk of bridges, culverts, and road embankments throughout the state.⁵ Vulnerability assessments were completed for the 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

This analysis provides an estimate that can be used for hazard mitigation planning, supporting emergency preparedness, and for capital programming. The analysis was done for three different categories: vulnerability, criticality, and flood risk.

⁵ VTrans Statewide Highway Flood Vulnerability and Risk Website: <https://vtrans.vermont.gov/planning/transportation-resilience/statewide>

Vtrans Flood Vulnerability Map for Road Segments and Structures



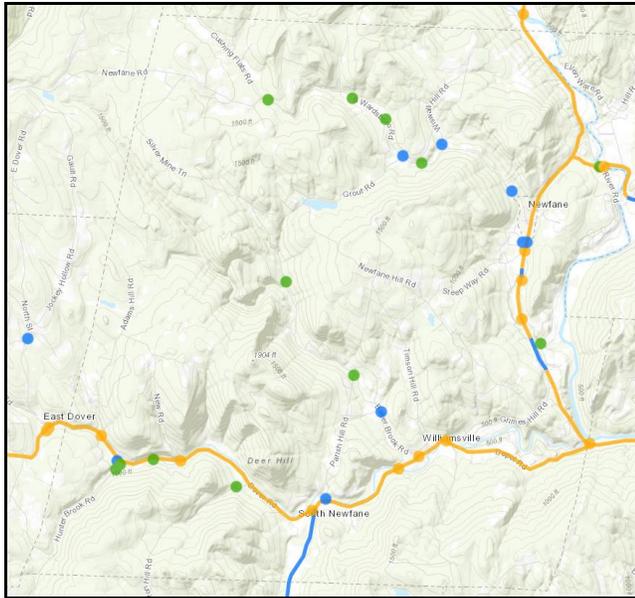
The vulnerability map shown here provides an analysis of the probability of inundation, erosion, or deposition and the potential severity of the damage to road segments and structures.

The map identifies sections of River Road, South Wardsboro Road, Baker Brook Road, Auger Hole Road and Duke Road as being highly vulnerable road segments.

The following structures are identified as highly vulnerable in:

- Eastern Newfane - 3 bridges on Route 30 (one on the border with Dummerston and two just south of the Village of Newfane).
- Southern Newfane - 1 bridge on Stratton Hill Road (near the intersection of Beech Tree Lane), 1 on the Dover Road where the bridge crosses the Rock River, 1 on Hickey Road as it crosses Hunter Brook.
- Northern Newfane – 1 bridge on the South Wardsboro Road as it crosses the Wardsboro Brook.

Vtrans Flood Criticality Map for Road Segments and Structures



Criticality - Structures

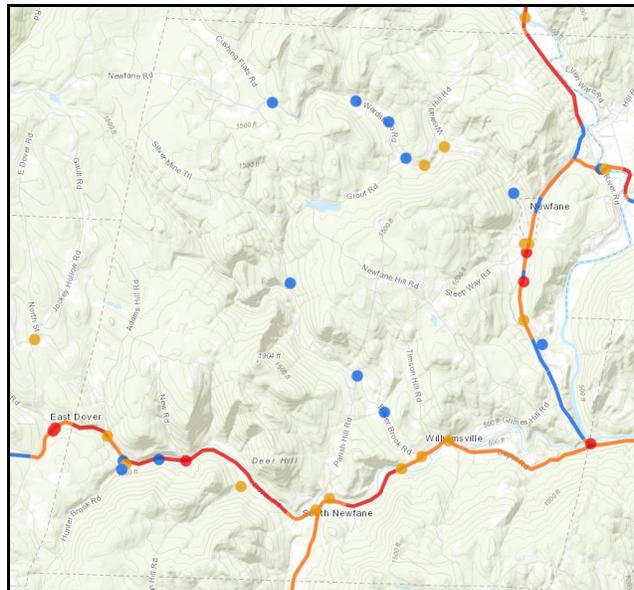
- High
- Moderate
- Low
- Not Vulnerable

Criticality - Road Segments

- High
- Moderate
- Low
- Not Vulnerable

The transportation criticality map shown here to the left provides an analysis of the importance of a road segment in the network related to general travel and emergency services accessibility. No road segments are deemed highly critical within Newfane, but Route 30 and the Dover Road are listed as moderate. For structures, several along the Dover Road and Route 30 are also listed as moderate.

Vtrans Flood Risk Map for Road Segments and Structures



Flood Risk - Structures

- High
- Moderate
- Low
- No Risk

Flood Risk - Road Segments

- High
- Moderate
- Low
- No Risk

The flood risk map shown here provides an analysis based on the average of generalized vulnerability and criticality. There are portions of the Dover Road and Route 30 that show a high flood risk. The structures at high flood risk correspond to the road segments along the Dover Road and Route 30.

Extent of Flooding

The extent of a flood event can vary from a minor event due to a typical rain event or could be a major event as a result of rapid snow melt in spring, rain on frozen ground, or as a result of a tropical depression or storm. It's important to note that this Plan is looking at flooding data for this section in the light that flooding is the cause of fluvial erosion.

The highest recorded measurement at the stream gauge along the West River in Newfane was 23 feet, which was measured on November 3, 1927, during the Great Flood. The seven highest stream flow events (above 20,000cfs) happened before 1953. Since that time, stream flows have scaled downwards and have been more uniformly stable. Since 1960, stream flows have been below 10,300cfs. This is due to the construction of the Ball Mountain Dam, upstream on the West River, between 1957 and 1961. The moderating effects on the stream flows along the West River from the Dams upstream, collaborate local observations that the most significant impacts from fluvial erosion and flooding in Newfane come from the smaller brooks, streams, and rivers that run throughout Town.

When looking at precipitation data, the "Precipitation Frequency Estimates" table below allows one to determine the event frequency based on the rainfall amount. This table puts the July 29-30, 2021 declaration rain event with a .95 precipitation amount at less than a 1-year event (on the 24-hour value) specifically for Newfane. The rainfall event would be between a 1 and 2-year event on the 1-hour value.

The table below is specific for Newfane, and has the values associated with the size of an event in order to determine the storm frequency⁶. This is for reference. Newfane should consider what size event is reasonable to set standards to build to, for both infrastructure and buildings. Some experts advise that towns should be using the 10-year one hour or two-hour frequency estimates to reflect the monsoon type storms that are seen in the region. Infrastructure built for 24 hour events often can't keep up with high intensity storms leading to erosion and street flooding. This should be a consideration in the future. The current Zoning Administrator is recommending that infrastructure be elevated by two feet, which would put elevations above the 50 year one-hour frequency estimate.

<i>PRECIPITATION FREQUENCY ESTIMATES</i>										
by duration for ARI (years):	1	2	5	10	25	50	100	200	500	1000
5-min	0.286	0.336	0.418	0.487	0.582	0.654	0.728	0.808	0.919	1.01
10-min	0.405	0.477	0.594	0.691	0.825	0.926	1.03	1.14	1.30	1.43
15-min	0.476	0.561	0.699	0.814	0.971	1.09	1.21	1.35	1.53	1.68
30-min	0.671	0.790	0.984	1.15	1.37	1.54	1.71	1.90	2.15	2.36
60-min	0.866	1.02	1.27	1.48	1.76	1.96	2.20	2.44	2.78	3.05
2-hr	1.12	1.32	1.64	1.91	2.27	2.55	2.84	3.15	3.60	3.95
3-hr	1.30	1.52	1.89	2.19	2.62	2.93	3.26	3.63	4.15	4.57
6-hr	1.65	1.93	2.39	2.77	3.3	3.69	4.11	4.57	5.24	5.79
12-hr	2.06	2.4	2.98	3.45	4.11	4.60	5.11	5.70	6.55	7.25
24-hr	2.46	2.90	3.61	4.20	5.01	5.62	6.27	7.01	8.10	9.00
2-day	2.84	3.38	4.26	4.99	6.00	6.75	7.55	8.49	9.87	11.0
3-day	3.10	3.71	4.69	5.50	6.62	7.46	8.35	9.40	11.0	12.3
4-day	3.34	3.98	5.03	5.90	7.09	7.98	8.94	10.1	11.7	13.1

⁶ NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: Newfane, VT
https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=vt accessed 4/15/2023.

7-day	4.00	4.71	5.87	6.8	8.15	9.14	10.2	11.4	13.2	14.7
10-day	4.66	5.41	6.62	7.63	9.02	10.1	11.2	12.4	14.2	15.8
20-day	6.71	7.52	8.84	9.94	11.5	12.6	13.8	15	16.7	18.0
30-day	8.42	9.28	10.7	11.9	13.5	14.7	15.9	17.1	18.7	19.9
45-day	10.5	11.5	13.0	14.3	16.0	17.4	18.7	19.9	21.4	22.4
60-day	12.3	13.3	14.9	16.3	18.2	19.7	21.1	22.3	23.8	24.8

Ball Mountain Dam, located on the West River, is located upstream of the Town of Newfane. Since the dam was put in in 1961 it has helped with flood control along the West River. The Town of Newfane experiences most of its flooding and fluvial erosion on the tributaries that feed into the West River. These tributaries can rise very quickly, causing fluvial erosion along the stream banks and inundation flooding in the low-lying lands.

Extent for Fluvial Erosion

The extent for fluvial erosion is unavailable as fluvial erosion loss has not historically been collected after flooding events. Many of the tributaries of the West River that run through Newfane experience fluvial erosion during heavy rain events. High water events cause rivers and brooks to erode along its banks, sedimentation in the lower floodplains, and damage to human infrastructure such as roads and homes.

In South Newfane, the Rock River has large slides along large portions of the river. These slides have become so large that there are no easy stabilization efforts that can be used. They will likely keep eroding until they cut back the bank enough to reach a natural stabilization level. This will take many years.

The Smith Brook, which runs behind the Village of Newfane, has stream banks that are eroding in spots. During large rain events, the brook has jumped its banks, and will eventually get closer to homes nearby. Another issue along the brook is that downed trees will build up behind the bridge and will back up water all the way to Loop Road.



Bank slide along Hunter Brook. Picture from 2014.

Hunter Brook, which is located in the southern portion of town, has slides along long portions of the brook. The slides are more prominent as the brook gets closer to the South Newfane Village.

Other areas that are of perpetual concern include Eddy Road, the four corners at Wiswall Hill Road, and the Adams Hill area. Eddy Road is a steep road with a culvert at the top has a weird bend in it. After any heavy rain, water misses the bend and can take out the road. The four corners area at Wiswall Hill Road has a stone culvert that is not sufficiently sized for the amount of water produced in large rain events. Often there is water on the edge of the road. In the Adams Hill area there is much water coming off of the hillside from Dover Road to the top of the hill, that there are a lot of road issues after heavy rains.

Extent for Inundation Flooding

In recent years, the Smith Brook, which runs behind the Village of Newfane, overflowed its banks and flooded both public and private infrastructure. The Town Hall parking lot was underwater and affected the leech field mound system behind the building. W.W. Building Supply, which is next to the Town Offices, had their warehouse flooded. During the same storm, Loop Road Bridge along the Smith Brook went around the bridge and stranded about 25 homes.



Flooding behind the WW Lumber Yard during the July 29, 2021 storm.

Probability

Planning participants in this planning process deemed flooding and fluvial erosion as highly likely hazards in Newfane. With rain storms likely to become more intense in future years due to the changing climate, Newfane will likely experience higher water events in between more droughty periods. These heavy rain events will likely lead to more inundation flooding as soils can not absorb heavy rains fast enough. It will likely also further exacerbate streambank erosion as water levels in streambeds will rise quickly.

Past Occurrences

There have been 20 Presidential Disaster Declarations in Windham County since 1953, with 4 of those occurring since the last Plan update. Of these, 7 were severe storms, 6 were floods, 3 hurricanes, 1 snow event, 1 severe ice storm, and 2 are biological events (both relate to Covid-19 pandemic).⁷ Looking at the spread of these incidents, of the 20 disasters, 14 have occurred since the year 2000, showing an increase in severe weather.

Disaster Number	Incident Begin Date	Incident End Date	Declaration Date	Incident Type	Title	Disaster Close Out Date
4621	7/29/2021	7/30/2021	9/29/2021	Flood	Vermont Severe Storm and Flooding	
3567	8/22/2021		8/22/2021	Hurricane	Tropical Storm Henri	

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 4/16/2023

Disaster Number	Incident Begin Date	Incident End Date	Declaration Date	Incident Type	Title	Disaster Close Out Date
4532/3437	01/20/2020		04/08/2020	Biological	Covid-19 Pandemic	
4356	10/29/2017	10/30/2017	01/02/2018	Severe Storm and Flooding	SEVERE STORMS AND FLOODING	
4043	5/20/2011	5/20/2011	11/8/2011	Severe Storm(s)	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(s)	SEVERE STORMS AND FLOODING	3/13/2013
1559	8/12/2004	9/12/2004	9/23/2004	Severe Storm(s)	SEVERE STORMS AND FLOODING	1/4/2011
1488	7/21/2003	8/18/2003	9/12/2003	Severe Storm(s)	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(s)	SEVERE STORMS AND FLOODING	6/30/2008
1307	9/16/1999	9/21/1999	11/10/1999	Severe Storm(s)	TROPICAL STORM FLOYD	6/30/2008
1124	6/12/1996	6/14/1996	6/27/1996	Flood	EXTREME RAINFALL AND FLOODING	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
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 & FLOODING	5/26/1972

Detail on Specific Flooding Events that have Affected Newfane and Windham County⁸

Since 1996, when National Climatic Data Center detailed records start, there have been 45 flood events in Windham County, Vermont. There have been 10 events added to the detailed records since the last plan update in 2015 and August 2021, with several notable events discussed below⁹. In addition to these recorded events Newfane experiences routine spring flooding and fluvial erosion, but this is not always documented.

December 23, 2022 - Two separate frontal systems merged to form a powerful winter storm over the Great Lakes from December 22 to December 24 bringing multiple hazards to the region including heavy rain, snow, strong winds and a very cold air mass in its wake.

In Newfane, this led to some areas of fluvial erosion and some brooks to overflow their banks. There were a lot of power outages across the Town due to the heavy rain and snow.

July 29, 2021 - Bands of moderate to heavy rainfall set up across areas southern Vermont during the afternoon and evening hours on Thursday, July 29, 2021 north of a warm front and area of low pressure. Between 2 and 5 inches of rain fell across most areas which resulted in several reports of flash flooding. This rainfall ended a very wet month of July in which most areas picked up between 12

⁸ Local town knowledge and town records, National Climatic Data Center storm events database, FEMA's Presidential Disaster Declarations search page

⁹ NCDC data provided on 8/18/2021 by NOAA's National Centers for Environmental Information (NCEI) Center for Weather & Climate (CWC).

and 18 inches of rain.

This storm hit Newfane particularly hard. It wasn't the large rivers that rose but the small brooks and streams all throughout the Town. There were significant road washouts where culverts couldn't handle the amount of water, along South Wardsboro Road, Adams Hill Road, Wiswall Hill Road, Newfane Hill Road, and Grout Road. This storm also plugged up a private culvert and water backed up behind it in a ravine. When the pressure behind the culvert caused the culvert to give way, the water raced through the woods, along Route 30 and then back to the Smith Brook causing a lot of damage along the way. One resident along Grout Road reported that she "lost an agricultural crop during that storm, and my water heater (in the basement) was destroyed.

We were out of power for 24 hrs and the road was not fixed until October (we had to use Newfane Hill or Baker Brook Road). New culverts were installed, as the road was undermined and had 8 ft drops - it was crazy"¹⁰



Flood waters in front of a Newfane business during the July 29, 2021 storm.

President Biden approved a formal request for a Major Disaster declaration for Bennington and Windham counties as a result of the storms. Over \$5 million in damages to public infrastructure was identified by Vermont officials, including costs to repair public roads and bridges as well as debris removal.

December 25, 2020 – Known as the Christmas Storm, Newfane experienced washed out roads and blown out culverts all around Town. This storm was mostly a problem on the smaller streams and brooks that are tributaries to the larger rivers in Town. The Town received a State Emergency Grant to help with damage experienced across the Town.

An area of low pressure tracking from the Great Lakes to Hudson Bay brought in an unseasonably warm air mass into the region from Thursday, December 24 to Friday, December 25, 2020. Rain gradually overspread the region from west to east during the day on December 24 with the steadiest, heaviest rainfall during the overnight hours and early morning hours of December 25. Rain showers continued through the day on December 25 and changed to snow showers during the evening and overnight hours of December 25-26 as colder air returned. The region still dealt with nearly the entire snowpack from the blockbuster winter storm from December 16-17 which dropped 9 inches of snow. While the snow compacted over time, very little water was lost from the snow. Observations concluded that between 1.50 to 3.00 inches of water was in the snowpack prior to this event and most if not all of this snow melted. The combination of warm air, rainfall and melting snowpack led to areas flooding across the region. Roads were closed across portions of southern Vermont as a result of flooding with one road being washed out. A tree was also downed onto Interstate 91 in eastern Windham County.

October 29, 2017 - Damaging winds, power outages, heavy rainfall and flooding in the region. As the system departed, strong winds ensued and caused thousands of power outages and trees down across southern Vermont. Total rainfall amounts reported across southern Vermont ranged from 1.07 inches in Bennington to 7.01 inches near Wilmington.

In Newfane, the Dover Road and the larger rivers were the hardest hit.

¹⁰ Quote from an email sent by Newfane Resident Erica Walch sent on April 18, 2023.

June 19, 2017 - A cold front tracked east across southern Vermont during the afternoon hours of Monday, June 19th, 2017. With a warm and unstable air mass in place, the frontal passage sparked numerous showers and thunderstorms across the area. Some of these thunderstorms were severe, knocking down trees. In addition, very heavy rainfall fell across Windham County, as repeated rounds of thunderstorms produced up to four inches of rain. This led to flash flooding in Brattleboro, with several roads washed out and mudslides impacting the area. Nearly 2,000 people in Windham County lost power as a result of the thunderstorms.

August 28, 2011 - Rains from Tropical Storm Irene caused an extreme flash flooding and fluvial erosion hazard event in Southeast Vermont on August 28, 2011.

This event was Presidential Disaster Declaration DR 4022.

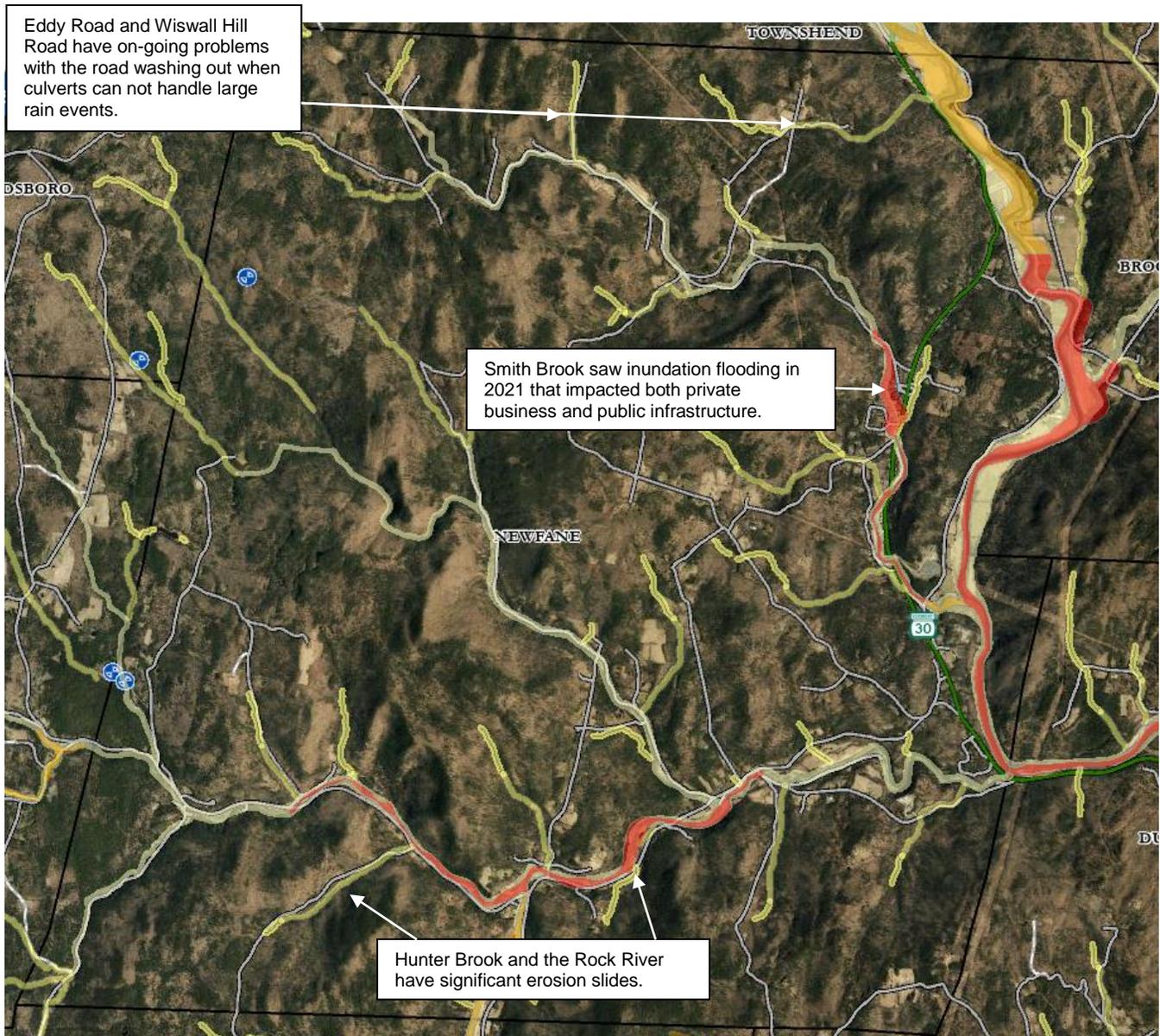
In Newfane, the Dover Road was heavily damaged and several houses were damaged or taken out by flood waters. The covered bridge to the Dover line was also impassable.

Flooding and Fluvial Erosion Mapping

The map following this section was created using the Vermont Agency of Natural Resources 'Natural Resources Atlas' which is an online mapping tool¹¹. The map shows all of the special flood hazard areas (SFHAs) that FEMA has designated in Newfane. The SFHAs are shown in orange shading, and the floodways are red shaded. The floodplains shown in these maps are based on the FEMA Flood Insurance Rate Map (FIRM) maps available through the FEMA Map Service Center. The map effective date for the latest FIRM for Windham County is 9/28/2007.

The cream shaded areas on the maps are the Vermont Agency of Natural Resources (ANR) defined River Corridor which lie along streams with watersheds above .5 square miles (there are River Corridors defined for watersheds above .25 square miles, but they are not locally regulated). This area is subject to fluvial erosion. The orange shaded areas are FEMA SFHA designated A-zones, which are mapped floodplains where base flood elevations have not been determined. Red shaded areas are FEMA SFHA designated AE-zones which do have base flood elevations determined. Floodway is shown in red hatch, and is subject to moving flood waters.

¹¹ <https://anrmaps.vermont.gov/websites/anra5/>



This map of Newfane shows that the primary location for inundation flooding is along the West River, Smith Brook, and the Rock River. For fluvial erosion, there are large erosion slides along Smith Brook, Hunter Brook, and the Rock River. However, fluvial erosion can occur in the river corridor along any of Newfane's rivers or streams. Newfane waterways tend to be "flashy," meaning that streams and rivers tend to rise quickly and either erode banks or access their natural floodplains.

HIGH WIND

Windstorms are high-wind events that are sufficient enough to cause damage to property and can occur at any time during a year. These include high winds in conjunction with a thunderstorm and high

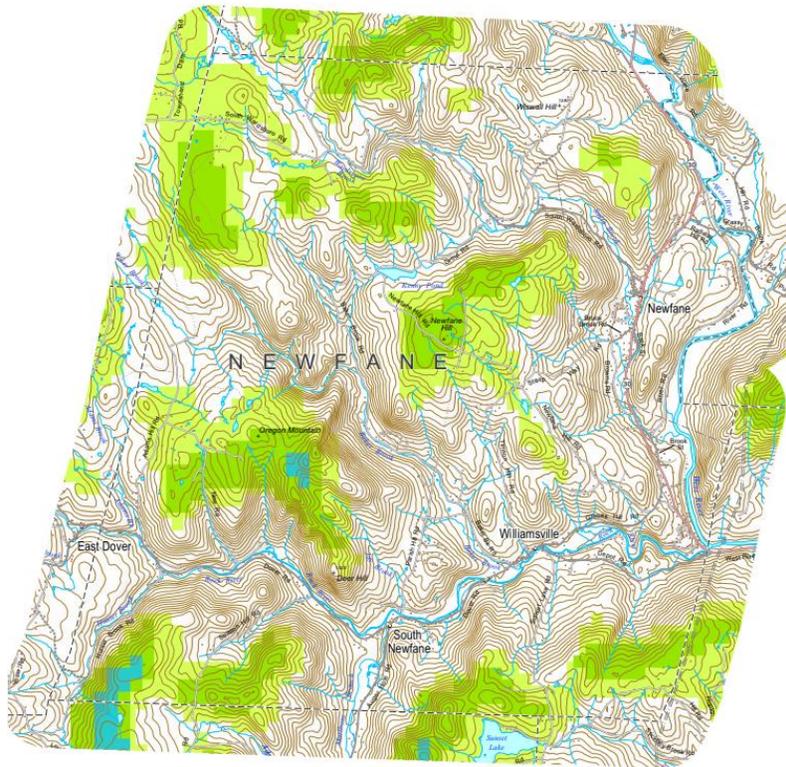
winds that sweep through the region after the passage of a weather front. During the past forty-six (46) years, the region has had seventy (70) windstorms that have caused significant damages.

Description and Geographic Area of Hazard

High wind events are likely in Newfane, with the potential for limited resulting damage. Wind speeds are highest in the higher elevation, more forested portions of town. These areas are located throughout the town, and not just concentrated in one portion.

The most likely local threats for high winds are from nor'easters, hurricanes, downbursts or wind shear. Trees downed by high winds can block roads and down power and communications lines. Mobile home parks and houses on ridge lines are at greater risk from wind damage. Most high winds events in Newfane have resulted in damage from downed trees and power lines.

For a localized look at wind speed, the following map shows wind power opportunity correlated only to wind speed¹². The areas outside of the river corridors are the most likely to experience damage from higher wind speeds. This corresponds to local experience with where wind damage occurs.



-  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

¹² This map was developed in March 2017 by the Windham Regional Commission for use by the Town and Region in energy planning efforts.

Impact

Power outages and blocked roads are the primary risks caused by high winds. Heavy wind tends to cause more branches and downed trees on wires than ice, although ice does weaken or weigh down trees. Heavy wind following accumulating ice causes significant damage. Power outages due to high winds are just as likely to affect community assets as residences and businesses. Having community warming shelters or device charging locations will be important in some community buildings where residents can gather during extended outages.

A Newfane resident commented that “I have lived here since July 2017 and have had two five-day outages (both during winter storms where I also couldn't leave the house because plows couldn't clear the roads due to live power lines being on the ground). I have had frequent 36hr outages and between Dec 15 2022 and March 15 2023, my power has been out for 200+ hours - this is a widespread issue in the town.”¹³

Green Mountain Power (GMP) finds that most people are more tolerant with power outages than with a road being closed. In an attempt to get out, residents will go out and start cutting downed trees blocking the roads, which can be dangerous with downed electrical lines. GMP has made the call in Newfane several times to first get the roads open from fallen trees then went to work on lines.

Extent

Extent/magnitudes of Hurricanes and Tropical Storms are ranked using the Saffir-Simpson Scale in the Western Hemisphere, as follows: CAT1=74-95 mph winds, CAT2=96-110 mph winds, CAT3=111-130 mph winds, CAT4=131-155 mph winds, Tropical Storm=39-73 mph winds, Tropical Depression=0-38 mph winds.

During Tropical Storm Irene in August 2011, strong winds occurred across southern Vermont, with frequent wind gusts of 35 to 55 mph, along with locally stronger wind gusts exceeding 60 mph. The strongest winds occurred from the north to northeast during the morning hours, then from the west to northwest during Sunday evening.

In February, 2006 widespread wind gusts in excess of 60 miles an hour resulted in loss of electricity to about 5,000 homes and businesses across southern Vermont.

Newfane experiences a variety of wind events, not simply hurricanes, so the Beaufort scale is also included here for reference: (NCDC: Beaufort Scale for Land.
<https://www.ncdc.noaa.gov/sites/default/files/attachments/Land_Beaufort_Scale.pdf>

¹³ Quote from an email sent by Newfane Resident Erica Walch sent on April 18, 2023.

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

Power failure is a common event in Newfane and can occur anywhere in town. Power failures are typically a condition of High Winds and Winter Storm because power lines become damaged or are brought down by wind. Power failures may also result from disruptions in the New England or national power grid, as indicated by the widespread power outages in 2003. Dead or dying trees in close proximity to power lines pose a particular threat for power failure.

Probability

The Hazard Mitigation Plan participants ranked wind as being highly likely within any given year. Wind storms of varying degrees are experienced every year and with weather systems intensifying with climate change, it is predicted that there will be more wind events in the future.

Past Occurrences¹⁴

The Town of Newfane does not keep a record of wind damage as it occurs across town. This is because of the frequency of downed lines and power outages during high wind events. In NOAA's Storm Events Database, the following are high wind and thunderstorm winds that affected Newfane, VT since the previous Newfane LHMP was adopted on May 22, 2015.

December 23, 2022 - Two separate frontal systems merged to form a powerful winter storm over the Great Lakes from December 22 to December 24 bringing multiple hazards to the region including heavy rain, snow, strong winds and a very cold air mass in its wake.

¹⁴ Local knowledge
<http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~ShowEvent~642313>
<http://gis.ncdc.noaa.gov/maps/snowfall.map?view=daily>

A widespread 1 to 3 inches of rain fell across the region. This led to some areas of minor flooding and some creeks/brooks to overflow their banks.

Strong pre-frontal and post-frontal winds occurred across the region. A few gusts topped out in Newfane at 40kts. Numerous power outages were reported across southern Vermont.

March 7, 2022 - A line of severe thunderstorms with damaging winds pushed through southern Vermont during the evening hours of March 7, 2022 resulting in numerous reports of downed trees and powerlines. Behind the storms, high winds continued during the late evening of the 7th into the early morning hours of the 8th, which resulted in additional downed trees and power lines. Around 8,000 customers lost power across southern Vermont.

December 11, 2021 - A strong cold front pushed across southern Vermont during the evening hours. Seasonably mild air ahead of this front resulted in the development of a line of showers and embedded thunderstorms which pushed eastward bringing locally damaging winds across the region. Widespread wind gusts in the wake of these showers and thunderstorms were between 40 and 55 mph.

In Newfane, there were a significant number of downed trees all across Town. The downed trees blocked roads and took down power lines.

December 6, 2021 - A cold front pushed across southern Vermont during the evening hours on Monday, December 6, 2021. Strong southerly winds between 35 and 50 mph ahead of the front shifted to the west in its wake at the same speeds. A 46 mph wind gust was observed at the Bennington State Airport during the afternoon. A 45 mph wind gust was recorded at Rockingham during the evening. No significant damage was observed as a result of these winds.

April 30, 2021 - Strong winds developed in the wake of a deepening low-pressure system. These strong winds resulted in wind gusts ranging from 30 to 55 mph across southern Vermont, along with isolated power outages.

March 1, 2021 - A strong cold front moved across the region on Monday, March 1 bringing in a much colder air mass along with a prolonged period of strong to locally damaging winds which continued into the early part of Tuesday, March 2. Wind gusts between 40 and 60 mph were common across the region, which led to reports of downed trees and power lines along with some power outages.

December 25, 2020 - An area of low pressure tracking from the Great Lakes to Hudson Bay advected in an unseasonably warm air mass into the region from Thursday, December 24 to Friday, December 25, 2020. Rain gradually overspread the region from west to east during the day on December 24 with the steadiest, heaviest rainfall during the overnight hours and early morning hours of December 25. Rain showers continued through the day on December 25 and changed to snow showers during the evening and overnight hours of December 25-26 as colder air returned. Strong winds of up to 45kts. Were reported in the area.

January 12, 2020 - After an unseasonably warm spell, strong westerly winds developed behind a cold frontal passage during the morning and afternoon of January 12th. The winds gusted as high as 48 miles per hour and resulted in a few reports of downed branches and trees.

December 15, 2019 - Strong winds developed as a strengthening low-pressure system lifted out of the area. These strong winds resulted in power outages across portions of western New England.

November 1, 2019 - A strengthening low pressure system moving from Ohio to Lake Ontario drew anomalous warmth and moisture northward on Halloween, with temperatures surging into the 60s and

70s over western New England. Moderate rainfall and strong winds developed across the region as a result of this low pressure system. Winds gusted as high as 53 miles per hour and up to two inches of rain fell in southern Vermont.

October 31, 2019 – Intense Halloween wind event left many trees and limbs down, taking down many power lines and snapping a couple of poles. Power outage lasted a couple of days in some places, as restoration efforts were needed region-wide.

October 16, 2019 - A strengthening low pressure system and cold front brought a widespread soaking rainfall to the region from the afternoon hours of Wednesday, October 16th through the morning of Thursday, October 17th, 2019. Prior to the cold frontal passage, winds became strong, resulting in an isolated report of trees down. Fortunately, only minor flooding occurred due to dry antecedent conditions.

August 21, 2019 - The National Weather Service storm survey team confirmed a high-end EF1 tornado in Windham, VT. The team found a swath of almost continuous damage in a 3/4 mile by 350-yard area. There was shingle and siding damage to several homes. Many dozens of trees were violently snapped or uprooted. Outdoor furniture, shingles and siding were tossed hundreds of yards. Based on the degree of damage, the estimated wind speed of 105 to 110 mph was determined, which is a high-end EF1 tornado.

April 3, 2019 - Strong westerly winds developed behind a cold frontal boundary, with wind gusts ranging from 35 to 55 mph during the afternoon and evening hours of Wednesday, April 3rd, 2019. These strong wind gusts resulted in a few reports of fallen trees and power outages across the region.

February 24, 2019 - Strong to damaging westerly winds developed over eastern New York and western New England on Sunday, February 24th into Monday, February 25th, in association with a deep low-pressure system over the Canadian Maritimes. Gusts in excess of 50 mph were common across the area. The strongest gusts occurred during the afternoon of the 25th. Numerous power outages and downed trees occurred as a result of the winds.

February 8, 2019 - Widespread rainfall fell across the region on Friday, February 8th, 2019 as a low-pressure system and cold front moved through New York and western New England. Strong winds developed behind the cold front, resulting in scattered power outages into the morning of Saturday, February 9th, 2019. Peak wind gusts up to around 50 mph were recorded, resulting in approximately 1,000 customers without power.

January 1, 2019 - Strong westerly to northwesterly winds developed during the morning of the 1st behind a cold front. Wind gusts in the 40 to 50 mph range were recorded. The winds brought down trees and wires and resulted in scattered power outages.

July 28, 2018 - Scattered thunderstorms developed during the afternoon of July 28th ahead of a weak frontal boundary. Thunderstorm winds of 50kts were reported in the Town of Newfane.

June 18, 2018 - A hot and humid air mass was in place across the region with temperatures in the 90s and dew points in the 60s and 70s. This resulted in heat index values reaching 100 to 110 degrees during the afternoon hours in valley areas. This air mass also resulted in an unstable environment for strong to severe thunderstorms to form ahead of a cold front passage during the afternoon and evening hours of June 18th. The storms caused numerous trees and power lines to be knocked down, resulting in over 80,000 customers without power throughout the state of Vermont.

May 4, 2018 - A powerful low-pressure system formed on May 4th, pushing a strong cold front across New York and New England. A line of thunderstorms developed along this front and pushed into southern Vermont in the evening, resulting in dozens of downed trees and wires. Over 2,500 customers lost power as a result of the storms. Thunderstorm winds were reported at 50kts in Newfane.

April 4, 2018 - A powerful low-pressure system and a trailing cold front passed through the region on Wednesday, April 4th. Strong, damaging winds occurred both with the frontal passage but also behind it as northwest flow ensued. Wind gusts in the 40 to 50 mph range occurred across the region. This resulted in multiple reports of trees and wires down across southern Vermont.

November 19, 2017 - A strengthening low pressure system dragged a strong cold front through western New England after sunrise on November 19. Strong southerly winds just ahead of the front turned westerly and remained strong during the day behind the front. Seventeen hundred people lost power in Windham County with a few reports of trees and wires down.

November 10, 2017 - Strong westerly to northwesterly winds developed along and behind an Arctic cold front as it tracked through western New England during the early morning hours of November 10th. These winds continued into the day before diminishing in the late afternoon.

October 30, 2017 - A low pressure system developed off the southeast coast and rapidly intensified as it tracked northward tapping into tropical moisture. The powerful low moved across eastern New York and western New England Sunday night into early Monday morning bringing damaging winds, power outages, heavy rainfall and flooding to the region. As the system departed, strong winds ensued and caused thousands of power outages and trees down across southern Vermont. Total rainfall amounts reported across southern Vermont ranged from 1.07 inches in Bennington to 7.01 inches near Wilmington.

March 1, 2017 - A cold front passed through the region Wednesday, March 1st. Winds became strong and gusty behind the front Wednesday evening into Thursday. Multiple trees and power lines were down across the region as a result of the high winds. Wind gusts of 30 to 45 mph were common across the region. Power companies reported a few hundred people were without power for a period of time.

October 22, 2016 - Behind a departing cold front, a strong pressure gradient in place allowed for gusty winds across the entire region between the evening on Saturday, October 22nd and through the entire day on Sunday, October 23rd. West to northwest winds gusted up to 50 MPH at times, resulting in downed trees and power lines over parts of southern Vermont. Some isolated power outages occurred as a result of the downed wires.

March 1, 2016 - A cold front moved through the region during the late evening on Monday, February 29th and into the early morning hours on Tuesday, March 1st. Gusty west to northwest winds accompanied the passage of this boundary across the region, with some gusts recorded over 40 MPH during the overnight hours.

Ice Storm/ Significant Snow

Description and Geographic Area of Hazard

The Region has a long history of severe winter storms and ice storms and usually experiences at least one or two Nor'easters each year with varying degrees of severity. There have been approximately 90 winter/ice storms in Windham County since 1996.¹⁵ A typical event begins as a low-pressure system that moves up the Atlantic Coast, into the Canadian Maritimes, dumping heavy snow across parts of Vermont. Snowfall accumulations are generally three to six inches in the valleys and 6 to 12 inches in the mountains. With increasing frequency, storms are now containing mixed precipitation (sleet, freezing rain, and heavy wet snows) that are the largest cause of power lines failing and trees uprooting, which impedes access to stores, homes and businesses. Snow events and Ice Storms affect the entire Town. Where differences affect certain areas, they are noted.

Impact

The mixed precipitation (sleet, freezing rain, ice and heavy wet snows) of early fall and late spring often result in loss of electric power, leaving people without adequate heating capability. The other threat from icy storms is downed trees, resulting in power failures and impassable roads or driveways. An ice storm crossed the region in December of 2008 and caused widespread downed trees and power outages in Windham County. The total cost of damages across the state surpassed the million-dollar threshold triggering Presidential Disaster Declaration DR-1816. Damage across the region consisted of roads being blocked for short periods of time due to downed trees and utility lines. Thousands lost power for varying lengths of time and several shelters were opened in Windham County.

It is also fairly easy for the town's transportation network to get cutoff due to downed trees and power lines across roads. Green Mountain Power (GMP) finds that most people are more tolerant with power outages than with a road being closed. Residents are likely going to go out and cut downed trees blocking the roads, which can be dangerous because of downed electrical lines.

Damage from heavy wet snow and ice storms can vary depending upon wind speeds, snow or ice accumulation, storm duration, and structural conditions (such heavy snow and ice accumulation on large, flat roofed structures). The primary concerns with winter weather events are power failure, damage to roofs, trees and power lines, and dangerous or impossible travel conditions.

As weather systems intensify with the changing climate, climate change will be addressed in an overarching way as it impacts all hazards and in turn community assets.

Extent

The severity or magnitude of mixed precipitation storms to occur in southeast Vermont can range from moderate to very severe. The southeastern region of VT typically receives over 60 inches of snowfall per year, and most Vermonters are prepared to handle large amounts of snowfall. Newfane experiences significant snow storms every year but according to the town the "regular" snow storms are most often manageable.

Newfane encounters problems mostly arising from mixed precipitation winter and ice storms that bring ice accumulations or drops heavy, wet snow. These conditions are most likely to down power lines and block roads with downed trees all over the Town. The most severe ice storm in recent history was the 1998 Ice Storm that brought up to 2 inches of ice accumulation and impacted the entire town. While this

¹⁵ 1996-2021 storm events detailed data provided by National Climatic Data Center via email, Oct 2021.

storm was an extraordinary ice storm, even mixed precipitation storms that account for even a little ice accumulations on trees, can weigh down branches, take out power lines and leave residents stranded or without power for days.

Probability

The plan participants in Newfane deem mixed precipitation storms / ice storms to be highly likely in any given year. With the weather increasingly becoming warmer in the winter, there are more days of mixed precipitation and increased ice storms are predicted.

Past Occurrences

The Region has a long history of severe winter storms and blizzards and usually experiences at least one or two Nor'easters each year with varying degrees of severity. There have been 105 winter/ice storms in the Region since 1996.¹⁶ There have been three winter storms in recent history in Windham County that were Disaster Declarations:

- Ice Storm (DR-1201) – January 6-16, 1998
- Snowstorm (EM-1358) – December 16-18, 2001
- Winter Storm (DR-1816) – December 11-18, 2008

Events¹⁷

November 15, 2022 - A winter weather system produced a combination of snow, sleet, and freezing rain across the area Tuesday evening November 15 into Wednesday November 16.

February 3, 2022 - A prolonged winter storm began on Thursday, February 3 and continued into Friday, February 4. Precipitation began as rain on February 3. Colder air gradually pushed southward into the overnight and early morning hours of February 4 resulting in a changeover to a wintry mix of sleet, freezing rain and snow. Most locations picked up 1 to 2 inches of liquid equivalent precipitation from this event with the majority of it falling as one or multiple types of frozen precipitation. Precipitation ended during the afternoon hours on February 4.

January 9, 2022 - An area of low pressure pushed across the region resulting in primarily freezing rain across southern Vermont. Freezing rain began in the early morning hours and continued into the afternoon hours before tapering off. Some sleet and snowflakes mixed in across some areas but was rather brief. Overall flat ice accumulations of 0.10 to 0.25 of an inch were common. This resulted in slippery travel and the Chain-Up law to be activated along State Route 9.

December 18, 2021 - A storm system passing south of the region brought a wintry mix of snow, sleet and freezing rain to southern Vermont on Saturday, December 18, 2021, tapering off during the overnight hours. Snow and sleet amounts ranged from 1 to 3 inches across the southern half of Bennington and Windham counties to 3 to 5 inches across the northern half. Flat ice accumulations were less than one tenth of an inch.

¹⁶ National Climatic Data Center, 1996-2014 storm events database < <http://www.ncdc.noaa.gov/stormevents/>>

¹⁷ Local town knowledge and records, FEMA's Presidential Disaster Declarations search page, Albany National Weather Service – major winter storms page

December 2020 – A smaller ice storm had heavy impacts for the Town of Newfane. The ice accumulated all across Town and weighed heavily on trees, eventually causing branches, or even the whole tree itself to come down. Downed trees caused widespread power outages in Town and blocked roads.

December 29, 2019 - A complex winter storm brought a mix of rain, snow, sleet and freezing rain to the region from the evening of Sunday, December 29th, lingering through the morning of Tuesday, December 31st, 2019. Moderate accumulations of ice impacted portions of southern Vermont during this time frame. There were approximately 3,500 people without power across the state due to a combination of icy conditions and strong winds bringing down trees and power lines.

November 24, 2019 - Widespread precipitation developed in association with a coastal low-pressure system during the early morning hours of the 24th. In some portions of southern Vermont, the precipitation came as a wintry mix of sleet and freezing rain changing to snow. Accumulations were generally light, but the wintry precipitation resulted in slippery travel conditions with some accidents reported. The wintry precipitation ended in the evening of the 24th.

February 13, 2019 - A winter storm brought widespread wintry precipitation to southern Vermont on Tuesday, February 12th through Wednesday, February 13th, 2019. Precipitation started out as snow but then quickly transitioned to a period of sleet and then freezing rain throughout the event. This mix of wintry precipitation resulted in hundreds of closings and delays. Strong winds followed, especially across the southern Green Mountains, which led to power outages across the region.

November 15, 2018 - A strengthening coastal low-pressure system moved along the Atlantic shoreline November 15th and 16th, bringing accumulating snow and mixed precipitation to southern Vermont. The snow spread in during the evening before changing to sleet and freezing rain overnight with minimal ice accretion. It changed back to snow during the morning hours of the 16th before ending. Overall, 3 to 8 inches of snow were recorded with the heaviest amounts over the higher terrain. The snow allowed many area ski hills to open earlier than normal for the season.

February 7, 2018 - A winter storm brought mixed wintry precipitation to the region. Precipitation began as snow during the morning hours but changed to a mix of sleet, freezing rain and snow during the afternoon hours. Precipitation transitioned back to snow during the evening hours before exiting the region to the east. Snowfall and sleet totals ranged from 5 inches to 10 inches.

March 31, 2017 – A low pressure system over Ohio moved eastward on March 31 and intensified as a coastal storm on April 1. This system transported a good deal of moisture northward, resulting in a wintry mixture of snow and sleet. The precipitation was moderate to heavy at times during the afternoon and evening of March 31, and lingered into the early afternoon hours of April 1. Storm total reports of snow and sleet ranged from mainly 6 to 12 inches, with lower totals below 1500 feet.

February 7, 2017 - An area of low pressure moved from the Midwest towards the Great Lakes during the morning hours on Tuesday, February 7th. As a warm front approached the region, a mixture of snow and sleet developed across the region. Snow and sleet became steadier throughout the afternoon hours and continued into the evening.

The precipitation tapered off during the early morning hours on Wednesday, February 8th, as the storm's cold front moved across the area. By that time, about 3 to 6 inches of snow and sleet occurred.

January 23, 2017 - On Monday, January 23rd, an area of low pressure formed along the mid-Atlantic coast and began to slowly lift northward. Light precipitation in the form of snow began in the early evening hours. As some warmer air moved into the region aloft, the precipitation mixed with sleet,

especially for southern areas.

During the overnight hours, the precipitation fell moderate at times and primarily fell in the form of sleet. The combination of wet snow and sleet made for slow travel and many vehicle accidents. Many schools were cancelled on Tuesday, January 24th. Also, the heavy wet snow downed some trees and power lines, causing isolated power outages as well.

January 17, 2017 - A storm system approached the region from the Great Lakes during the day on Tuesday, January 17th. A light and spotty wintry mix began during the afternoon hours across southern Vermont, but precipitation generally become snow as its became steadier towards the evening hours. As the storm system moves eastward across the region, period of light to moderate snowfall continued during the overnight hours.

December 17, 2016 - With a cold air mass in place over all of southern Vermont, a weak warm front approached from the southwest during the early morning hours on Saturday, December 17th. At same time, another weak wave of low pressure developed along the mid-Atlantic coast and lifted northeast towards New England. Steady snow developed during the early morning hours and continued until about the early afternoon before changing over to a wintry mix or snow, sleet and freezing rain. Eventually, precipitation tapered off by the late afternoon hours.

December 28, 2015 – A warm front approached the region from the south during the late evening hours on Monday, December 28th. Initially, precipitation began as a quick burst of snow, but with warmer air moving into the region aloft, the precipitation quickly changed to a wintry mix of sleet and freezing rain for much of the overnight hours. After sunrise, the precipitation became light in intensity and fell mainly as freezing rain through much of the day on Tuesday, December 29th. The precipitation gradually ended by the evening hours as temperatures finally warmed above freezing by late in the day. Most areas saw 2 to 4 inches of snow and sleet with a light glaze of ice on top. As a result of the wintry precipitation, slippery travel resulted in many car accidents throughout the region, especially during the morning commute on Tuesday, December 29th. In addition, the ice accretion and gusty winds caused a 75 foot radio transmitter tower for WEQX (102.7 FM) on the top of Mount Equinox near Manchester to topple over. The station was off-air for several days and the repairs were estimated to cost \$10,000 plus labor costs

ASSESSING VULNERABILITY

National Flood Insurance Program (NFIP) Participation and Compliance

The National Flood Insurance Program (NFIP) is a voluntary program organized by FEMA that includes participation from 20,000 communities nationwide and 247 Vermont towns and cities. Combined with floodplain mapping and floodplain management at the municipal level, the NFIP participation makes affordable flood insurance available to all homeowners, renters, and businesses, regardless of whether they are located in a floodplain.

The NFIP was instituted in 1968 to make flood insurance available in those communities agreeing to regulate future floodplain development. As a participant in the NFIP, a community must adopt regulations that: 1) require any new residential construction within the FEMA designated floodplain to have the lowest floor, including the basement, elevated above the 100-year flood elevation; 2) allow non-residential structures to be elevated or dry flood proofed (the flood proofing must be certified by a registered professional engineer or architect); 3) require anchoring of manufactured homes in flood

prone areas. The community must also maintain a record of all lowest floor elevations or the elevations to which buildings in flood hazard areas have been flood proofed.

In return for adopting floodplain management regulations, the federal government makes flood insurance available to the citizens of the community. In 1973, the NFIP was amended to mandate the purchase of flood insurance as a condition of any federally regulated, supervised or insured loan on any construction or building within the FEMA designated floodplain. In 2012, Congress passed the Biggert-Waters Flood Insurance Reform Act to reduce subsidies for structures built before the NFIP was instituted (called pre-FIRM structures). Over 50 percent of Vermont's NFIP policies are pre-FIRM, which means that flood insurance premiums for many will increase over the ensuing years.

While the NFIP floodplain management criteria are administered by states and communities through their floodplain management regulations, FEMA's role is to provide technical assistance and to monitor communities for compliance with the minimum NFIP criteria. Newfane joined the NFIP on June 28, 1974 and is a member in good standing. The latest Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS) referred to in the development of this plan have an effective date of September 28, 2007.

The latest record indicates that there are 29 active NFIP policies in Town of Newfane. These policies have a total value of \$7,158,900¹⁸. There have been 20 NFIP claims filed in since 1978, with a total payout of \$616,207.

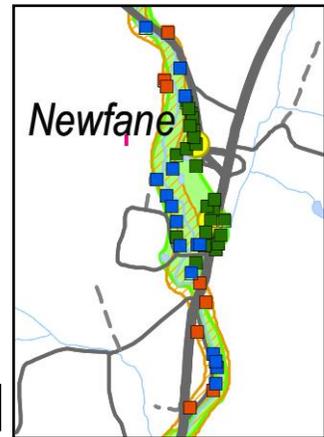
In the Town of Newfane, there are 1147 major structures in town, as per the E911 data. Of those structures, 60 are located within the Special Flood Hazard Area (100-year floodplain). These include both the Town Library and the Town Offices, which are considered critical facilities. There are 147 major structures in the mapped River Corridor, including the Williamsville Hall, which is a gathering place. There are 28 major structures located both within the Special Flood Hazard Areas and the mapped River Corridor.

The Floodplain 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 proposed to be adhered to and does any needed inspections before working with the Development Review Board or issuing a permit. 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. The town administers the NFIP minimum requirements related to substantial damage and substantial improvement thresholds.

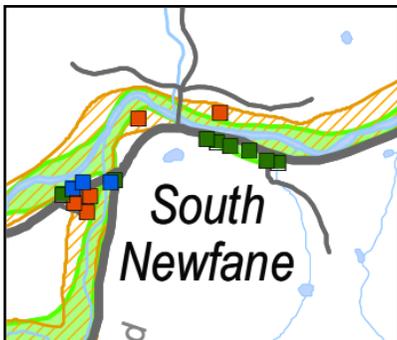
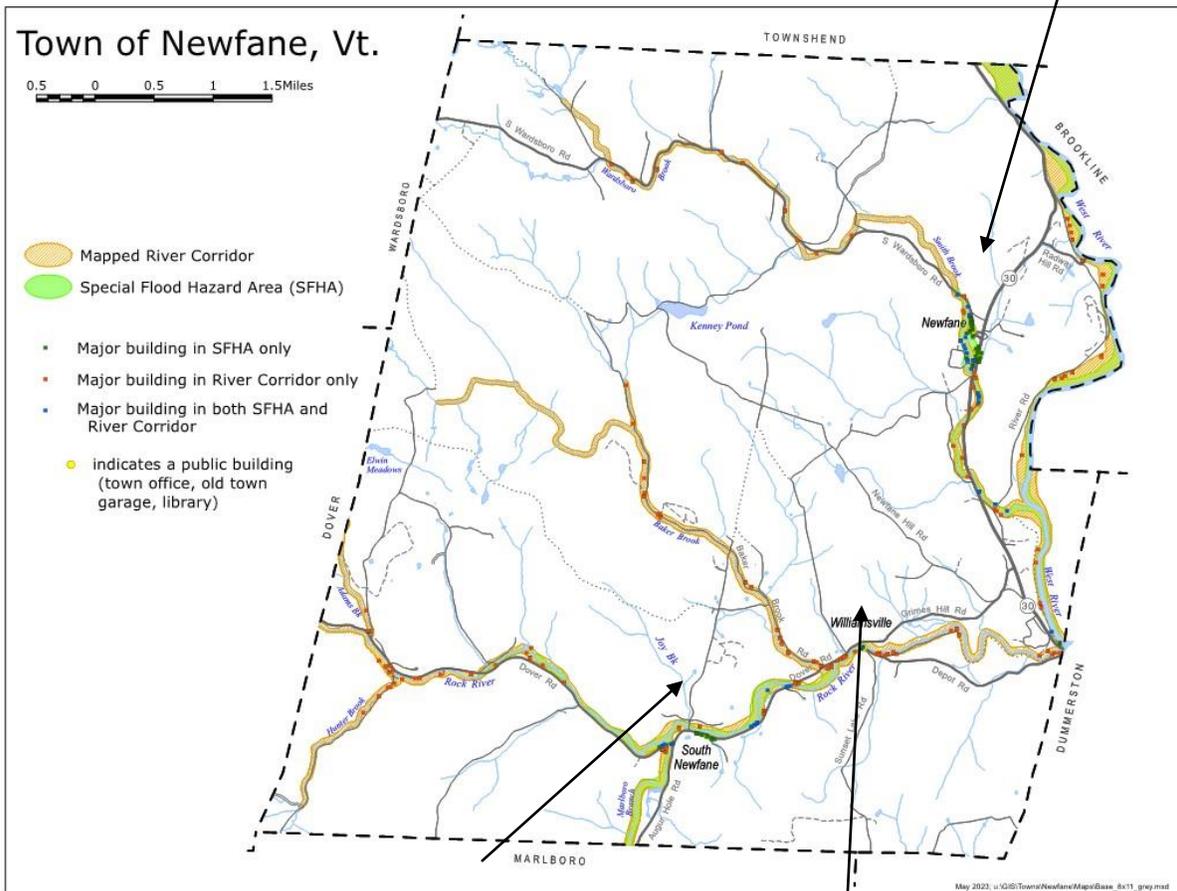
The Town works with the elected officials, Windham Regional Commission, the state and FEMA to correct existing compliance issues and prevent any further NFIP compliance issues through continuous communications, training and education. The NFIP is administered locally by the Zoning Administrator, who also fulfills the role of Floodplain Administrator.

¹⁸ NFIP policy report, updated June 26, 2018: https://floodready.vermont.gov/sites/floodready/files/documents/cisrpt_NFIP%206.26.18.PDF

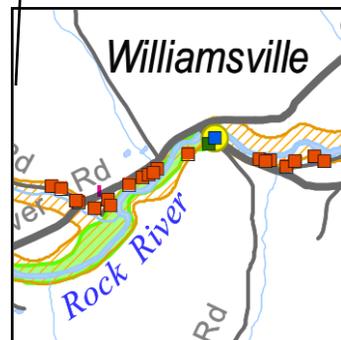
Town of Newfane, VT Major Structures in the Mapped River Corridor & Special Flood Hazard Areas



Enlargement of the Village of Newfane



Enlargement of the Village of South Newfane



Enlargement of the Village of Williamsville

Repetitive Loss Properties

According to the State Hazard Mitigation Officer, the Town of Newfane and the Village of Newfane have no repetitive loss properties.

The definition of severe repetitive loss as applied to this program was established in section 1361A of the National Flood Insurance Act, as amended, 42 U.S.C. 4102a. An SRL property is defined as a **residential property** that is covered under an NFIP flood insurance policy and:

- (a) That has at least four NFIP claim payments (including building and contents) over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or
- (b) For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

For both (a) and (b) above, at least two of the referenced claims must have occurred within any ten-year period, and must be greater than 10 days apart. <http://www.fema.gov/severe-repetitive-loss-program>

Community Assets/Facilities

From the 2019 Grand List, there are 374 homesteads on the Grand List in the Town of Newfane.

Critical Facilities	Community Gathering Places
<ol style="list-style-type: none"> 1. Newfane Town Office- 555 Route 30 2. Newfane Town Garage – 269 Depot Road 3. NewBrook Fire Department- 698 Route 30 4. NewBrook Fire Station 2 – 24 Dover Road 5. NewBrook Elementary School – 14 School Street 6. Kindle Farm School – Central – 708 Route 30 7. Kindle Farm High School Campus – 1 Route 30 8. Windham County Courthouse 9. Historical Society of Windham County 10. Newfane Market 11. Newfane Country Store 12. Post Offices: Newfane Village and Williamsville 	<ol style="list-style-type: none"> 1. Williamsville Hall – Dover Road 2. Union Hall - Newfane Village Common 3. The Moore Free Library & Crowell Gallery- West Street, Newfane Village 4. South Newfane “Old Schoolhouse”- Dover Road, South Newfane 5. First Congregational Church 6. NewBrook Fire Department (designated Warming Shelter)
Other Community Assets	Other Community Assets Continued
<ol style="list-style-type: none"> 1. Betterly Cemetery- Dummerston Town Line 2. Wheeler Cemetery- Sunset Lake Road 3. Newfane Hill Cemetery- Newfane Hill Road 4. Perry Family Cemetery- Near Brookline Bridge 5. Parish Cemetery – Parish Hill Road 6. Wardsboro Road Cemetery- Wardsboro Road 	<ol style="list-style-type: none"> 13. Timson Hill School 14. WW Building Supply 15. Old Newfane Inn and Restaurant 16. Four Columns Inn 17. Dutton Farms 18. Dutton Greenhouse

7. Wiswall Hill Road Cemetery- Wiswall Hill Road	
8. Holland Cemetery- Route 30	
9. Williamsville Covered Bridge	
10. Concrete Arch Bridge (Bridge #12)- Rock River	
11. Steel Truss Bridge (Bridge #49)- Rock River	
12. Newfane Railroad Station	

* Items in orange are susceptible to flooding

Development Trends

There has been very little development in Newfane in the past ten years. The primary development has been in new single-family homes. Prior to the Covid-19 Pandemic, there were on average about 1 to 2 new housing permits issued each year. During 2020, the start of the Pandemic, the number of new housing permits jumped to 10 per year. Since the Pandemic, the number of new housing permits has gone back down to about an average of 2-3 per year. There have been no large housing developments in Town. There have been some blocks of land sold, and it is anticipated in the future that there may be some subdivision of the larger parcels.

For commercial development, the largest facility to be constructed is the new WW Building Supply store now located on Route 30 in the Village of Newfane. The business used to be in a smaller building on Loop Road. When it came time to expand their facilities, they moved and replaced a small building across from the Town Office with their new, much larger storefront.

There has been no new development of any kind in the floodplain. If someone is requesting an addition or accessory building to their home that is currently in the floodplain, the Town is requesting that the new accessory building comply with the higher building standards of rising the structure by 2 feet for the first floor. The Town is working on incorporating these new standards into the By-laws.¹⁹

With little pressure for new residential and commercial development in Newfane in the next five years, any new development in Newfane does not likely change the overall vulnerability/resilience of the Town. For any structures in the floodplain that will be undergoing changes and will be required to follow building standards in the By-Laws, these changes will help reduce the overall vulnerability/resilience of the Town by making these structures in the floodplain less vulnerable during future natural hazard events.

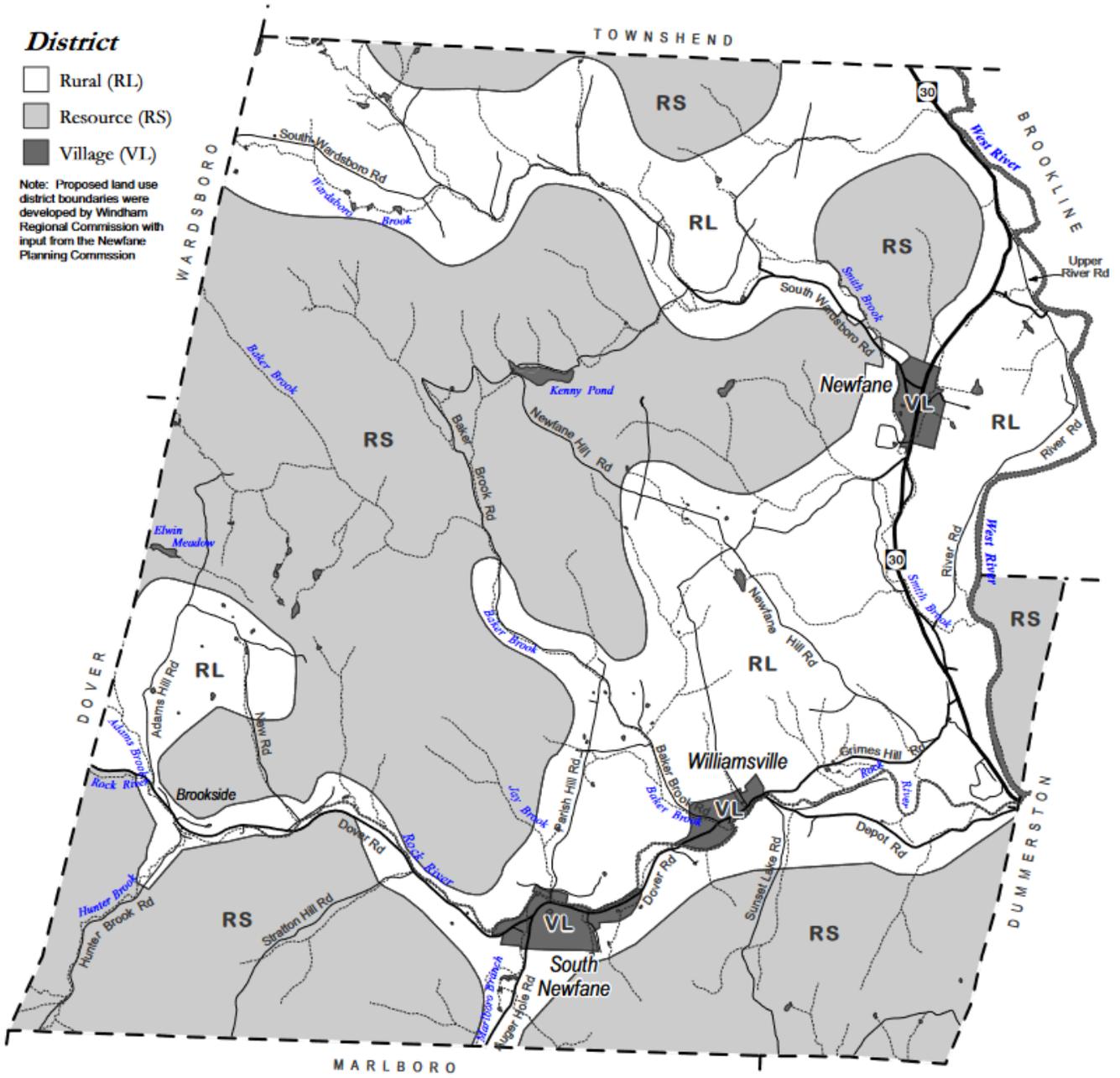
¹⁹ Information provided by Zoning Administrator Merle Tessier by phone on 5/23/2023.

Proposed Land Use

District

- Rural (RL)
- Resource (RS)
- Village (VL)

Note: Proposed land use district boundaries were developed by Windham Regional Commission with input from the Newfane Planning Commission



MITIGATION STRATEGY

The Hazard Mitigation Goals from the prior plan were reviewed by the Hazard Mitigation Planning participants during meeting for the development of this plan. In the public meetings, the planning group reconfirmed the goals as continued areas to address.

The 2015 plan listed a problem statement with a goal and action items. These items, reviewed by the planning group, were reconfirmed and were added, as appropriate into the goals and mitigation actions addressed in this plan.

Goals

- 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.
- Encourage hazard mitigation planning to be incorporated into other community planning projects, such as the Town Plan, Capital Improvement Plan, and Town Basic Emergency Operation Plan.
- Encourage that members of the general public continue to be part of the hazard mitigation planning process.
- Stay current in relations with neighboring towns so we have their contact information; and stay current in training elected town officials in hazard mitigation planning and emergency planning.

Relevant Town Policies and Recommended Actions that Support Mitigation

The most recent Newfane Town Plan was adopted on July 16, 2018. It was considered in the development of this plan because it reflects the goals and policies of the Town of Newfane. The below policies that support mitigation were taken directly from the Newfane Town Plan.

Community Facilities, Services Policies

7. Design buildings and site development so as to minimize the risks of fire and to maximize the fire departments' ability to combat fires. Designs shall be in conformance with the manpower and equipment capabilities of the fire departments.
8. Prepare for and respond effectively to an emergency situation through the appropriate use of community resources.

Groundwater Policies

1. Protect areas that are identified as having high groundwater potential by limiting development.
4. The underground and above ground storage of fuels, chemical substances and other toxic or

hazardous materials shall only be permitted in full compliance with all applicable state regulations (Vermont Department of Environmental Conservation and Department of Labor and Industry) and local/zoning.

6. Prohibit road salt storage areas from locating within the 100-year flood hazard area, well head protection areas, or shoreland areas of surface waters and wetlands.

Surface Water Policies

2. Prohibit the removal of mature trees and activities which kill or injure vegetation so as to cause destabilization and/or erosion of stream banks.

3. Require that new development within or adjacent to shoreland areas be designed to result in stable river and stream banks and cause minimal disturbance to the riparian environment.

4. Require that development or construction activity not result in increased rates of storm water runoff to Newfane's surface waters or cause surface waters to become silted, contaminated or otherwise degraded.

5. Prohibit the construction of private in-stream ponds and dams

Flood Resilience Policies & Recommendations

- It is the policy of the town to foster the protection and restoration of river corridors, floodplains, wetlands, and upland forested areas that attenuate and moderate flooding and fluvial erosion.
 - The Town of Newfane should adopt and administer River Corridor protection standards as part of its flood hazard area regulations.
 - The Town will be familiar with Flood Insurance Rate Maps (FIRMs) that delineate areas that could be inundated by water during flooding. (Selectboard, Development Review Board, Zoning Administrator)
 - The Town will be familiar with ANR River Corridor maps that delineate the land area adjacent to streams and rivers that are required to accommodate a stable channel. (Selectboard, Development Review Board, Zoning Administrator)
- It is the policy of the Town to protect floodplains, river corridors, land adjacent to streams, wetlands, and upland forests through adoption and administration of flood hazard area regulations governing development in designated Special Flood Hazard Areas and River Corridors, in order to reduce the risk of flood damage to infrastructure, improved property, people, and the environment.
 - The Town will pursue a flood resilience management approach whose essential components are to identify and map flood and fluvial erosion hazard areas based on studies and maps provided by the Vermont ANR Rivers Program, and designate those areas for protection to reduce the risk of flood damage to infrastructure and private property. (Selectboard, Planning Commission)
 - The Town will update the Flood Hazard Areas Regulations to include regulation of river corridors, and include provisions for advance notification of and specific limits on new development activities in identified flood hazard areas, fluvial erosion areas, and/or River Corridors, based on regulatory templates developed by the ANR DEC Rivers Program. (Selectboard, Planning Commission)
- New development in identified flood hazard, fluvial erosion, and river corridor protection areas should be avoided. If new development is to be built in such areas, it should not exacerbate flooding and fluvial erosion.
 - The Town will regulate any new development in identified flood hazard areas, fluvial erosion hazard areas, and/or River Corridors to ensure that development does not exacerbate flooding and fluvial erosion, and extend these provisions to development activities that might increase the amount and/or rate of runoff and soil erosion from upland areas. (Zoning Administrator, Development Review Board)

- The protection and restoration of geomorphic equilibrium, floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion should be encouraged.
 - The Town will further pursue a flood resilience management approach by implementing their Local Hazard Mitigation Plan and other strategies for restoring the stream geomorphic equilibrium conditions and enhancing the emergency preparedness that will mitigate the risks to public safety, critical infrastructure, historic structures, and municipal investments. (Selectboard)
- Flood emergency preparedness and response planning are encouraged.
 - The Town will include flood emergency and preparedness and response planning in the Local Emergency Response Plan. (Selectboard)
 - The Town will educate property owners regarding what they can do to reduce the risk of flood damage to infrastructure, improved property, people, and the environment. (Selectboard, Zoning Administrator, Development Review Board)

Mitigation Progress since the 2015 Plan

The following table lists the mitigation actions in the 2015 Hazard Mitigation Plan, and the updated status on each one.

	Hazard	Mitigation Action	Responsible Party	Funding Source	Project Priority	Current Status
1	Flood	Upgrades for two culverts on Wiswall Hill Road	Road Foreman	HMPG – Pending	High	Not Finalized. Include one culvert as action in 2023 plan. The culvert is being replaced on 5/11/23 with a 5' plastic culvert until a grant can be obtained for a cement box culvert.
2	Flood	Stone lines embankment stabilization – needs to be properly rip-rapped	Selectboard	Town funding, Grant funding	High	Not Completed. Unknown location. Do not include in 2023 plan.
3	Winter Storm/Ice Storm	Purchase generator for Town Offices and Newbrook School	Selectboard	Federal Grant	High	Not Complete. Add to new plan. Newbrook school is no longer a Town building. Should get one for the town office. A generator for the garage was ordered in the summer of 2022 and should be arriving in June 2023. (Due to the length of time in generating this plan, the generator for the Town Offices were ordered in 2023 and paid for with ARPA funds.)

	Hazard	Mitigation Action	Responsible Party	Funding Source	Project Priority	Current Status
4	Winter Storm/Ice Storm	Adams Hill Road – Re-do catch basin due to damage / embankment stabilization and debris removal due to ice storms	Road Foreman	Vtrans grant	High	Completed. Approximately 5 years ago.
5	Landslide	Deer Hill road and Depot Road embankment stabilization	Road Foreman	HMGP or Vtrans grant	High	Completed. Approximately 5 years ago.
6	Landslide	Hunter Brook Road Embankment Stabilization	Road Foreman	406 Mitigation	High	Completed – became two projects and finished 2 and 3 years ago in 2 different spots. This road will likely need work in the future due to huge steep hill next to road
7	Flood	Update floodplain ordinance to include fluvial erosion bylaw	Zoning Administrator / technical assistance from WRC	Town Dues to WRC	High	Not Complete. Add to 2023 Plan. (Note that due to the length of time in completing this plan, this action was completed in 2023.)
8	Flood	Kenny Pond – build retaining wall for bank to hold the road up.	Road Foreman	Private funding and Grant funding	Medium	Partially Complete. Fill in work done. Dam inspectors came up with plan, and town would need to find further funding. Conflict between land owner and town about ownership and who needs to pitch in.
9	Wildfire	Educate community about Firewise communities and creating buffer zones free of trees and brush around structures	Fire Department	Fire Dept. Budget, as allows	Medium	Not Complete. Add to 2023 Plan.
10	Wildfire/ Structure Fire	Community Education on burning permits	Fire Department	Fire Dept. Budget, as allows	Medium	Complete. Town Report had information about burn permits.
11	High Winds	Community education on new building codes to require connectors and brackets on new construction.	Selectboard	Town Budget	Medium	Not Complete

	Hazard	Mitigation Action	Responsible Party	Funding Source	Project Priority	Current Status
12	High Winds	Tree Inventory and cutting of dead trees along power lines.	Selectboard	Town Highway Budget	Medium	Partially Complete. Town Road Crew know where dead trees are remove as needed, Ash Tree Inventory complete. Add to 2023 Plan update with Conservation Committee hopefully taking the lead on EAB work.

Development of Mitigation Actions and Projects

The Newfane hazard mitigation stakeholder group carried a few actions from the 2015 table to the new hazard mitigation table. The priority of these past actions has carried through.

The planning group identified new hazard mitigation activities based on an evaluation of hazard event vulnerability not addressed by existing hazard mitigation initiatives and the feasibility of new activities.

In the Mitigation Action Table, mitigation actions are listed in priority order by hazard. Actions were prioritized by the plan participants. These are new actions so any shifts in prioritization of actions came out through the multi-year plan development process. The ranking of these criteria is largely based on the best available information and best judgement as many projects are not fully scoped at this time.

Prioritization was done during the meetings for the plan development in discussion among participants and guided by WRC.

Cost-Benefit Analysis

As part of public involvement discussions, there was a rough cost/benefit analysis done for each action listed in the table and those results are shown in the table. The below cost and benefits tables address the priorities for the mitigation strategies that are stated in the Mitigation Actions Table. This was how the mitigation actions were assessed by the Hazard Mitigation Planning participants. Priority was assessed somewhat independently of cost/benefit and was based more on the perceived need of each action and availability of funding, verses what the action costs.

At the time of applying for FEMA’s PDM-C or HMGP grant programs, each projected listed in the Mitigations Actions Table will undergo full benefit-cost analysis (BCA) methodology, version 5/1 or higher to maximize savings. Whenever possible, Newfane will utilize 406 mitigation funding.

Cost Estimates

High	= > \$100,000
Medium	= \$25,000 - \$100,000
Low	< \$25,000

Benefit Estimates

High	Public Safety
Medium	Infrastructure/Functionality
Low	Aesthetics/General Maintenance

Mitigation Action Table

Hazard Addressed	Issue Detail	Action	Lead Party	Start/Complete Timeline	Potential Funding Source	Mitigation (M) or Preparedness (P)	Project Priority	Action for Town, Village, or Both
Fluvial Erosion	Culvert on Wiswall Hill Road is undersized and stones have moved to narrow culvert even further	Upsize culvert on Wiswall Hill Road The culvert was replaced with a 5' plastic culvert on 5/15/23. It needs to be replaced with a Cement Box Culvert when funds are available.	Road Foreman	Spring 2023 – Apply for Funding for Box Culvert in Fall 2023.	<ul style="list-style-type: none"> • HMPG • Hazard Mitigation Grant 	M	High	Town
Fluvial Erosion	Culvert on Depot Road is undersized.	Upsize culvert on Depot Road	Road Foreman	Pre-Construction meeting in Spring 2023. Construction ending by Spring 2024.	<ul style="list-style-type: none"> • Transportation Alternative Grant 	M	High	Town
Fluvial Erosion		French Cabin Road: Very large culvert or box culvert needed near the beginning near Cushing Flats Road	Road Foreman	2026-2028	<ul style="list-style-type: none"> • VTrans Hazard Mitigation Grant • Hazard Mitigation Grant 	M	Medium	Town
Fluvial Erosion	Kenny Pond – Dam inspectors have come up with a plan. Funding will need to be addressed. There is a conflict between land owner and town	Build a retaining wall for the bank to hold the road up.	Road Foreman	2024 - 2025	<ul style="list-style-type: none"> • Private Funding • VTrans Hazard Mitigation Grant 	M	Medium	Town

Hazard Addressed	Issue Detail	Action	Lead Party	Start/Complete Timeline	Potential Funding Source	Mitigation (M) or Preparedness (P)	Project Priority	Action for Town, Village, or Both
	about ownership and who needs to pitch in.							
Fluvial Erosion/Inundation Flooding		Update Floodplain ordinances to include fluvial erosion bylaws	Zoning Administrator WRC	River Corridor Bylaw passed in 2023	• WRC (through Tactical Basin Contract)	M	High	Both
Fluvial Erosion/Inundation Flooding	Floodplains along river corridors have been lost over the years.	When feasible, review potential properties in floodplains that might be eligible for FEMA buyouts.	Selectboard	On-Going	• VEM BRIC or Flood Resilient Communities Fund	M	Medium	Both
Inundation Flooding	WW Building Supply - stream rising up and floods old building and yard.	Discuss with VT DEC River Engineers site issue	Road Foreman VT DEC, WRC, WW Building Supply, VTrans	On-Going	• Hazard Mitigation Grant • Clean Water/Hazard Mitigation Funding	M	Medium	Village
High Winds & Ice Storms	Critical facilities in Town during emergencies need back-up power.	Purchase generator for Town Offices and Town Garage	Selectboard	Completed in 2023 during the completion of this plan.	• ARPA	P	High	Both
High Winds & Ice Storms	High number of power outages and hours off per year.	Support the efforts of Green Mountain Power to plan to bring storm hardened power line construction to the Route 30 corridor and also to the feed from East	Selectboard	On-Going	• Green Mountain Power	M	High	Both

Hazard Addressed	Issue Detail	Action	Lead Party	Start/ Complete Timeline	Potential Funding Source	Mitigation (M) or Preparedness (P)	Project Priority	Action for Town, Village, or Both
		Jamaica into the northwest corner of Newfane.						
High Winds & Ice Storms		Keep trees around municipal building trimmed and removed as needed	Selectboard	On-Going	• Town Budget	M	Medium	Both
High Winds & Ice Storms	Dead and dying trees along roadways come down on roads during high winds. With Emerald Ash Borer, there is greater likelihood of hazardous trees along roads.	Tree Inventory and cutting of dead trees along roadways.	Conservation Commission Road Foreman	On-Going	• Town Budget	M	Medium	Both
Wildfire		Education on campfires to residents and campers, social media and town website - what is a safe structure for campfires, height of fire, whether or not you need a permit	Town Fire Department	On-Going	• Town Budget	M	Medium	Both
Wildfire		Education in schools on fire safety	Fire Department	On-Going	• Fire Department Budget as Allows	M	Medium	Both

Hazard Addressed	Issue Detail	Action	Lead Party	Start/Complete Timeline	Potential Funding Source	Mitigation (M) or Preparedness (P)	Project Priority	Action for Town, Village, or Both
Wildfire		Educate community about Firewise Communities and creating buffer zones free of trees and brush around structures	Fire Department		• Fire Department Budget as Allows	M	Medium	Both
All Hazards	Employees and elected town officials potentially change every year, therefore institutional knowledge on hazard mitigation and emergency planning can be lost.	Generate agreements with Dover and Dummerston to borrow equipment, use each other's shelters, etc. Maintain a list of current contact phone numbers from neighboring towns.	Emergency Management Director	2024	• Town Budget for Employee Time	P	High	Both
All Hazards	Elected officials change over time, but someone should be trained.	Require training of at least one Newfane elected official in ICS management.	Selectboard Emergency Management Director	On-Going	• Town Budget	P	Medium	Both

Implementation of Mitigation Actions / Capabilities

Every town has both barriers and capabilities that will affect how they are able to carry out mitigation actions.

Barriers to Implementation:

1. Financial constraints of Town Budget.
2. Emergency staff in Newfane is all volunteer.
3. Seasonal storms appear to be intensifying and there are new emergency fixes needing to be done, leaving little time to address long term mitigation efforts.
4. Transportation projects can get drawn out for multiple years between getting an engineering study, getting engineering design work completed, and getting funded. This has been especially true in recent years with rising costs and contractors' schedules being very tight.

Capabilities to Build Upon for Implementation:

1. Committed Town employees: 5 road crew staff (4 full time and 1 part time) and 7 Town Hall staff other than road crew (3 full time and 4 part time).
2. The Selectboard has lots of local knowledge.
3. The Windham Regional Commission provides assistance when needed.
4. With the assistance of Windham Regional Commission, Newfane updates its Emergency Management Plan annually.
5. Newfane has an engaged citizenry.
6. There has been a full culvert assessment in Town and the Town has been updating the state map as upgrades are made.

Recognizing that there is no place that doesn't have barriers to overcome in project implementation, Newfane should focus on engaging around emergency management at the town level. There are a limited number of committed volunteers and staff who make this town function well. They are heavily invested and plan to remain in the area. The Town can have a hard time recruiting new volunteers. Newfane residents are primarily located along smaller roads that can be difficult to access during certain times of the year. This lends to a "do it yourself" mentality that serves Newfane positively.

The town works closely with the Windham Regional Commission to identify resources and funding to help implement mitigation actions. They look to the Regional Plan policies for guidance on land use decisions which influence their town plan policies and goals. The town works closely with VT Department of Environmental Conservation Agency of Natural Resources and the Army Corps of Engineers when mitigating any work in streams or rivers. Additionally, the town adopts the latest VTrans Road Standards for road/culvert/bridge improvement projects. With the support of these agencies and the Commission, Newfane is capable of carrying out all of the mitigation actions outlined in this plan.

Incorporating into Existing Planning Mechanisms

The following policies, programs and activities related to hazard mitigation are currently in place and/or being implemented in the town of Newfane.

- The Town Plan directs visions and goals that include Natural Resources and Land-Use.
- The Town has completed an Emergency Management Plan and updates that regularly.

- Road Standards are followed by the town.
- A culvert and bridge inventory have been completed and was mapped by the WRC. These inventories are updated as needed.
- The Town is compliant with the NFIP.
- The Town administers the NFIP minimum requirements related to substantial damage and substantial improvement thresholds.

Mitigation actions from the previous Newfane Hazard Mitigation Plan were incorporated into previous Newfane Town Budgets and guided priorities in the community for grant applications to VTrans. Several mitigation projects were either completed or started due to the incorporation of Hazard Mitigation Actions recommended in the plan and then budgeted for in the annual Town Budget.

A committee analyzed these programs and plans for their effectiveness and noted improvements as needed. Newfane uses all of the tools listed below to help plan for current and future activities with the town.

For all functional purposes the Town is responsible for all relevant hazard mitigation services for the Village of Newfane. Therefore, all mentioned plans and resources are relevant to both the Town and the Village.

As Newfane goes through the update process for the planning mechanisms outlined in the table below, they will look to the Hazard Mitigation Plan's Table of Actions and Risk and Vulnerability Assessments to help guide land use district decisions, and guide goals and policies for those districts. There is no timeframe 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 included in the Town Plan, with particular attention to including the projects in the Mitigation Actions Table. This will assist with ensuring that this plan is utilized and project follow-through occurs.

Where improvements have been identified, such as the Town working on and eventually trying to adopt River Corridor By-laws (which has since been adopted in 2023 during the final drafting of this plan), work has been done to identify a lead who works with a team to fill that gap. The mitigation planning process is continual and as new issues arise Newfane is committed to incorporating new information into Town documents as deemed necessary. Town documents and their status are outlined in the below table.

Plans and Studies

Capability	Description	Improvement Opportunity
Town Plan	Plan for coordinated town-wide planning for land use, municipal facilities, etc.	<p>Town Plan was adopted in 2018 and does address flood resilience. For the next update, a recommendation is to incorporate high priority hazards in the plan and include actions that can be taken to mitigate the hazards.</p> <p>A new mitigation action is to look at adopting River Corridor By-laws. The Town adopted By-laws in 2023 during the final drafting of this plan.</p>

Capability	Description	Improvement Opportunity
Local Hazard Mitigation Plan (LHMP)	Plan that identifies hazards in the community and proposes actions to reduce or eliminate risk to people, property, and the natural environment.	None identified.
Local Emergency Management Plan (LEMP)	Municipal procedures for emergency response	Keep list of local residents that have equipment and have helped the Town out in emergencies up to date.
Stormwater Master Plan (SMP)	Plan that identifies stormwater improvements for municipal roads.	The town does not currently have a Stormwater Master Plan and should consider having one completed.
Invasives Species Management Plan	Plan that provides guidance on effective management of invasive species.	The town does not currently have an invasive species management plan and should consider completing a basic one for the most threatening/hazard potential ones (such as Emerald Ash Borer).
Culvert Inventory	An inventory of the size, material, condition and location of culverts. Updated annually by the Public Works Department.	The town last completed a full culvert inventory in 2019. A recommendation is for the Town Highway Department to keep it fully up to date when they have completed drainage work.
School Emergency Response Protocol	There are two schools in Newfane: NewBrook, and Kindle Farm (Central and Farm location)	The EMD will work with Windham Central Supervisory Union for the NewBrook School and will expand that plan to the private Kindle Farm. Schools maintain and update their own Emergency Response Plans per state regulations. The Town's LEMP states this.

Administrative Capacity and Capability

Capability	Description	Improvement Opportunity
Emergency Management Director	Prepares plans and procedures for responding to natural disasters other emergencies and leads response efforts.	None identified
Planning Commission	Municipal body responsible for planning for the community, including maintaining the town plan, zoning bylaws, and subdivision regulations.	None identified.
Development Review Board	Municipal body responsible for evaluating and deciding on proposed development.	None identified.
Zoning Administrator	Administrative officer responsible for administering zoning bylaws.	Zoning By-laws should be upgraded to reflect higher standards. This process is already in progress.

Capability	Description	Improvement Opportunity
Tree Warden	Responsible for trees on public property, including town properties, schools, and within public right-of-way.	Monitor ash trees on municipal properties for signs of Emerald Ash Borer.
Selectboard	Legislative body of the town for all purposes required by the state.	None identified.
Mutual Aid Agreements – Emergency Services	Agreement for regional coordinated emergency services.	None identified.
Mutual Aid Agreements – Public Works	Agreement for regional coordinated emergency highway maintenance services.	A mitigation action is to formalize agreements with the adjacent towns of Dover and Dummerston.
VEM Training	Training provided by state to ensure emergency responders are adequately prepared to respond to emergency incidents.	None identified.
Highway Department	Municipal department responsible for overseeing all aspects of municipal road network, including maintenance and construction.	None identified.
Town Clerk and Treasurer	Responsible for receiving and recording town archives, recording deeds, filing vital statistics information, running treasury.	None identified.

Financial Resources

Capability	Description	Improvement Opportunity
Town Budget	Annual municipal operating budget, approved at Town Meeting.	Ensure adequate emergency management funding is included in each annual budget, guided by recommendation of EMD.
Taxing Authority	Ability to assess and collect property taxes.	None identified

Zoning and Regulations

Capability	Description	Improvement Opportunity
National Flood Insurance Program (NFIP)	Provides ability for residents to acquire flood insurance.	None identified. Member in good standing.
Road Standards	Design and construction standards for roads and drainage systems	None identified
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 and Electrical Safety for buildings	None identified
Sewage Regulations	The Town does not have a municipal sewer system.	None identified
SFHA bylaws	Regulates development in FEMA identified SFHAs.	A new mitigation action is to look at adopting River Corridor By-laws. The Town completed this mitigation action and adopted By-laws in 2023.
Site Plan Review (SPR)	Site development standards for conditional use development	None Identified
Zoning Regulations	Regulates the development and division of land, standards for site access and utilities.	None identified
Wetland Protections	Protection of environment, water resources, wildlife, biota. Protected by 1990 Vermont Wetland rules.	None identified

Outreach and Education

Capability	Description	Improvement Opportunity
Town Website	Municipal website providing relevant information to residents and businesses about public meetings, resources, etc.	Provide additional information on emergency management and preparedness on town website.

PLAN MAINTENANCE PROCESS

Monitoring, Evaluating, and Updating the Plan – Yearly Review

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 before Town Meeting Day at a Selectboard meeting along 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 that can help mitigate future hazardous events; e.g., bridge and culvert replacements, road replacements and grading, as well as buying out any repetitive loss structures that may be in the Special Flood Hazard Area, and revise the plan as needed. In addition to tracking process 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. 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.

Plan Maintenance – 5 Year Update and Evaluation 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 a thorough 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 2 ½ 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^[1]:

1. The Emergency Management Director (EMD) will gather a team to serve as a Hazard Mitigation Planning Committee (‘Committee’). Members should include such roles as: 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 Committee through the update process. This update process will include advertised public meetings. In addition to tracking process in implementing the plan, the Consultant will assist in evaluating the effectiveness of the plan in meeting plan goals and reducing vulnerability. 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.
 - Progress in implementation of plan actions and goals.
 - Incorporation of new mitigation 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.
 - 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.

^[1] Towns can also choose to use funding in-house to develop their LHMP without outside assistance.

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 Plan will be developed.
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 by the to VEM and FEMA. FEMA will issue notice of 'final approval' and set the date that an updated LHMP needs to be final approved by in order to maintain having a compliant Plan in place.

For the next Local Hazard Mitigation Plan, the Town of Newfane should consider looking more closely at the hazards of drought and invasives to see if they had become higher priority hazard in the Town. In the public survey, in addition to inundation flooding, fluvial erosion and ice storms, the respondents identified drought and invasives as top hazards that will impact the Town in the next five years.

Post-Disaster Review/Update Procedure

Should a significant disaster event occur, a special review by the town's Committee should occur in regards to the LHMP and 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 Committee. The Report should note whether the Plan needs to be amended. If the committee determines that NO modification of the plan is needed, then the report is distributed to local communities. If the Committee determines that modification of the plan IS needed, then the Committee 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 stated above.

On-Going Public Participation

Maintenance of this Plan and support of 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 Committee members that helped in Plan development.
- Post the Plan on the town website for public access and share pertinent hazard related information on the official Town posting boards.

This Plan is a tool to promote hazard mitigation discussions with the goal of improving promoting action to increase the overall resiliency of Newfane.

APPENDICES

- A. Certificate of Adoption
- B. Email from Newfane Village Trustee Richard Marek (from 2015 Plan) detailing Town/Village Relationship
- C. Flyer for the Plan Development Public Meetings
- D. Town of Newfane website screenshot announcing public meeting for development of the LHMP
- E. Planning with Adjacent Towns Documentation
- F. Email sent to town officials and plan participants for comment on the draft plan
- G. Email sent to adjacent towns for comment on the draft plan
- H. Flyer posted at various location around Newfane and a screenshot of Newfane's Webpage asking for comment on the draft plan
- I. Public Survey Community Participation Request
- J. Public Survey questions and responses related to hazards in the community.

Appendix A: Certificate of Adoption

Certificate of Adoption
Town and Village of Newfane, VT
Newfane Selectboard & Newfane Village Trustees

**A Resolution Adopting the 2023 update of the Local Hazard Mitigation Plan
for the Town of Newfane, VT, including the Village of Newfane**

WHEREAS, the Town and Village of Newfane, 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 and Village of Newfane, VT Local Hazard Mitigation Plan analyzes natural hazards and assesses risks within the community; and

WHEREAS, the Town and Village of Newfane, VT 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 and Village of Newfane, 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 and Village of Newfane, VT will follow the Plan Maintenance Process outlined in this plan to assure that the plan stays up to date and compliant; and

NOW, THEREFORE BE IT RESOLVED that the Town and Village of Newfane, VT adopts the Newfane Hazard Mitigation Plan of December 11, 2023. While content related to Town and Village of Newfane may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the Town and Village of Newfane to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Newfane Selectboard Duly adopted this 4th day of January, 2024
Angela Sanborn Chair
Ann Golob Vice Chair
Mike Fitzpatrick
Katy Johnson-Aplin
Jeff Chevalier

Newfane Village Trustees Duly adopted this 16th day of January 2024
Andy Wilson, Trustee
David Lucido, Trustee
Bob Litchfield, Trustee

ATTEST
Wannetta Powling
Wannetta Powling, Administrative Assistant to the Selectboard

Ann Golob
Ann Golob, Vice Chair

Appendix B: Email from Newfane Village Trustee Richard Marek (from 2015 Plan) detailing Town/Village Relationship

From: Richard Marek [mareknewfanevt@aol.com] Sent: Wed 2/25/2015 11:21 AM
To: asabetto@windhamregional.org
Cc:
Subject: Re: Newfane Village information for Hazard Mitigation Plan

Hi Alyssa -

As often is the case in Vermont, our Village and the Town have somewhat intertwined responsibilities. This actually makes sense, since voters in the Village of Newfane also are voters in the Town of Newfane, and property owners in the Village are uniquely privileged to pay both a Village tax and the usual Town taxes.

As a result, Town ordinances, zoning, emergency planning, and similar broader aspects of governance and services such as road maintenance and emergency response, cover the Village as well as the Town. The Village covers certain services and functions particular to itself, such as building and maintaining sidewalks, paying for lighting and spring street sweeping, and maintaining its Village Hall (the Union Hall). It also has adopted its own Village Traffic Ordinance - which cloned those aspects of the Town Ordinance applicable within the Village - in order to permit the Village to contract with the County Sheriff for additional speed enforcement on Route 30 where excessive speeding was a particular problem.

This intertwining authority seems to have served us well over the last century, and I now have had the opportunity to see it do so both as a former Chair of the Town Select Board and as a current Village Trustee.

Marek
Village Trustee

Richard
Newfane

Update of the Newfane Local Hazard Mitigation Plan Public Meeting Announcement



2 Meeting Dates: April 12th and April 21st, 2021

Time: 6:00-7:30 PM

Via Zoom

See Newfane Town website for meeting details

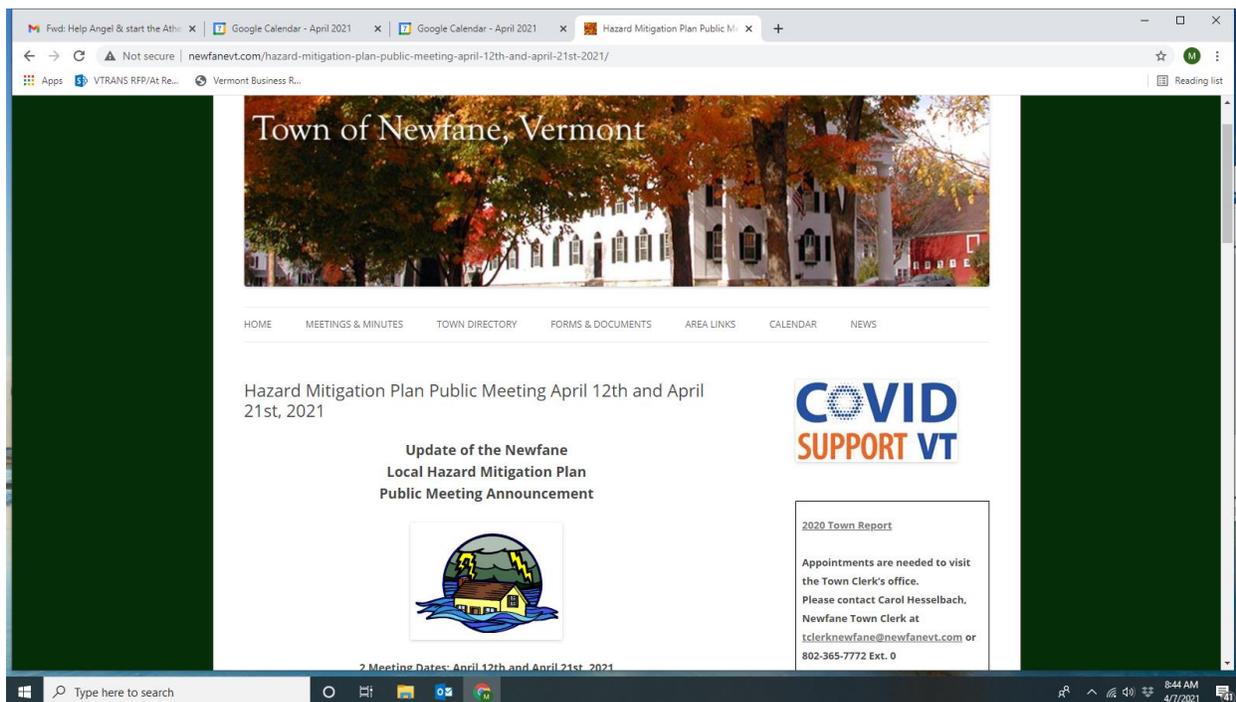
Come learn about and help to update Newfane's Local Hazard Mitigation Plan! What hazards does the town face? What actions can the Town take now to lower vulnerability before the next natural hazard strikes?

For more information, contact:

Margo Ghia at 802-257-4547 x116 or mghia@windhamregional.org



Appendix D: Town of Newfane website screenshot announcing public meeting for development of the LHMP



Appendix E: Planning with Adjacent Towns Documentation

Newfane Neighboring Towns & Contacts

- Dummerston: selectboard@dummerston.org; wdrail36@comcast.net,
- Brookline: dmaggio.brooklinevt@gmail.com,
- Townshend: slakejr89@gmail.com,
- Wardsboro: wmanzke@msn.com,
- Dover: rjw@wbmvt.com

6/7/2021 Copy of Email sent to neighboring town EMD's (and town managers if they have one)

Reply Reply All Forward

MG Margo Ghia <mghia@windhamregional.org> | 'selectboard@dummerston.org'; 'wdrail36@comcast.net'; 'dmaggio.brooklinevt@gmail.com'; 'slakejr89@gmail.com'; 'wmanzke@msn.com'; + 1 • 6/7/2021

Newfane Hazard Mitigation Plan Update Request for Input

You forwarded this message on 6/7/2021 3:11 PM.

Hello Towns adjacent to Newfane,

The Town of Newfane is working with Windham Regional Commission on updating its Local Hazard Mitigation Plan. We are in the early stages of the update process and, as we are developing the plan update, we wanted to reach out to you to see if you might have any input or suggestions for the Town of Newfane to consider as they develop new hazard mitigation actions.

We wanted to give you the opportunity to provide input early in the development of the plan update. Once a draft of the updated Newfane Hazard Mitigation Plan is available, we will also be reaching out to you to see if you want to provide feedback on the draft plan at that time.

If you have any questions or want to provide input, please contact Margo Ghia, Planner at Windham Regional Commission. The contact information is below.

Thank you,
Margo Ghia

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

Appendix F: Email sent to town officials and plan participants for comment on the draft plan



Mon 4/17/2023 1:58 PM

Margo Ghia <mghia@windhamregional.org>

For Review: Draft Newfane Local Hazard Mitigation Plan

To: 'newfanegarage (newfanegarage@newfanevt.com)'; 'AngelaLSanbornNewfaneSB@gmail.com'; 'dranngotob@gmail.com'; 'newfane@newfanevt.com'

You forwarded this message on 4/17/2023 1:59 PM.



Newfane_HazMitPlan_Draft 04172023Copy.doc
4 MB

Hello,

Thank you for participating in the LONG process of updating the Newfane Hazard Mitigation Plan. From our initial meetings in 2021, this plan has seen many unforeseen delays, but we are getting close to the finishing steps. Attached is a copy of the Draft Newfane LHMP. **I would appreciate all feedback, editing, and updates that need to be incorporated into the plan.** The plan is locked for editing, so please use the comment feature to make notes, comments, etc.

How to Insert a comment

1. Select the text you want to comment on, or click at the end of the text.
2. On the Review tab at the top of the page, click New Comment.
3. Type your comment. Word shows your comment in a balloon in the document's margin.

Please note that there are sections of the plan that are **highlighted in blue**. The blue means that I am either waiting for information to come in or that section of the plan will change once I have finished editing it after I receive feedback.

If you have any questions, please let me know.

Please have feedback back to me no later than Friday, April 28.

I don't have email addresses for all of the people who attended the first public meetings. It would be wonderful if you could pass this draft along to them and to any town officials that you would like to review the draft.

- Merle Tessier, Zoning Administrator, Flood Hazard Administrator, E,911 Coordinator
- Jane Douglass: Newfane Planning Commission
- Merle Tessier: Zoning Administrator, Flood Hazard Administrator, E911 Coordinator
- Pete VanLoon: DRB, has served on many Town Committees of the years
- Ken Estey: Chair of Planning Commission

This email was sent to Jay Wilson, Wanetta Powling, Angela Sanborn and Ann Goleb.

Thank you,
Margo

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

Appendix G: Email sent to adjacent towns for comment on the draft plan

Newfane Neighboring Towns & Emergency Director & Town Manager Contacts

- Dummerston: selectboard@dummerston.org; forrett.service@gmail.com
- Brookline: dmaggio.brooklinevt@gmail.com,
- Townshend: slakejr89@gmail.com,
- Wardsboro: duane.wardsboro@outlook.com
- Dover: rjw@wbmvt.com
- Marlboro: marlboroemergencymanagment22@gmail.com, townadmin@marlborovt.us



Hello Towns Adjacent to Newfane,

The Town of Newfane has recently updated their Local Hazard Mitigation Plan. They would appreciate any feedback you may have on their Draft Plan.

The Windham Regional Commission has recently worked with the Town on updating this plan. It is now being sent to you in its draft form as an opportunity for review and comment per FEMA requirements. Please share this draft with your Town Planning Commission and Selectboard. Please provide any comments back to the Windham Regional Commission by Wednesday, June 28, 2023. Please use the contact information in my 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

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

Appendix H: Public Comment Opportunities for the Draft Plan.

Newfane Hazard Mitigation Plan
PUBLIC COMMENT PERIOD

The draft Newfane Hazard Mitigation Plan is now available for public review on the town website: <https://newfanevt.com/>.
 A hard copy is also available at the Town Office.



The Plan will be available for comment until **June 29, 2023**.

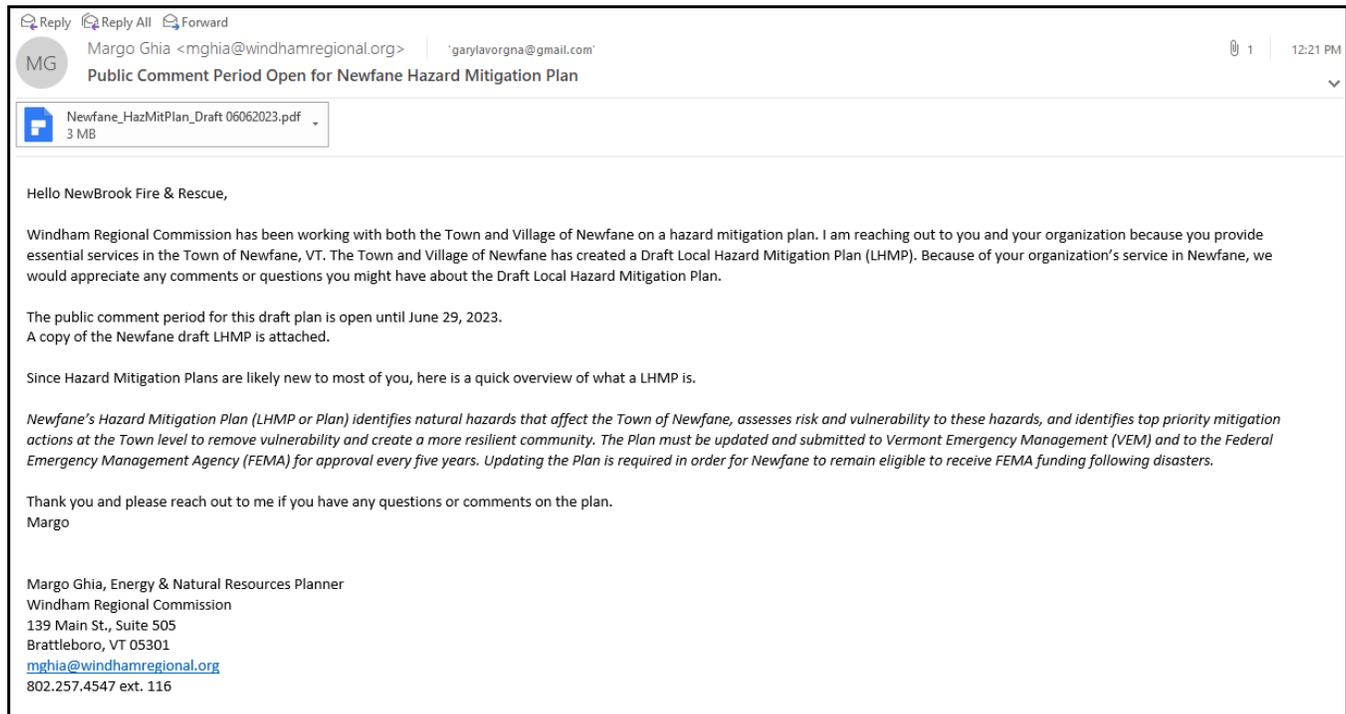
Anyone who would like to comment on the plan should contact Margo Ghia at the Windham Regional Commission. She can be reached via phone at 802-257-4547 x116 or email at mghia@windhamregional.org.

We encourage your review and participation!



The screenshot shows the Town of Newfane, Vermont website. The main content area features the same public comment period announcement as the flyer, including the title, URL, and contact information. The website header includes navigation links like HOME, MEETINGS & MINUTES, and TOWN DIRECTORY. A sidebar on the right lists 'LATEST NEWS' with various town meeting agendas and minutes.

Flyer posted at municipally recognized locations for public notices Screenshot of Newfane’s Webpage



The screenshot shows an email from Margo Ghia to NewBrook Fire & Rescue. The email subject is 'Public Comment Period Open for Newfane Hazard Mitigation Plan'. It includes an attached PDF file named 'Newfane_HazMitPlan_Draft 06062023.pdf'. The body of the email explains the purpose of the Hazard Mitigation Plan (LHMP) and provides a quick overview of what it is. It states that the public comment period is open until June 29, 2023, and that a copy of the draft LHMP is attached. The email concludes with contact information for Margo Ghia, Energy & Natural Resources Planner at the Windham Regional Commission.

Example of email sent to Newfane bsaed organizations providing essential services in Newfane.

Appendix I: Public Survey Community Participation Request

Town of Newfane – Public Survey Opportunity on Website Screenshot from February 9, 2023

Welcome to Newfane, Vermont

Town Meeting Day is March 7, 2023

Australian Ballot voting for Town Offices will be held 8 AM to 7 PM that day.

The following offices will be voted on for 1 year terms:
Constable, Collector of Delinquent Taxes, Town Moderator, Town Treasurer, Town Clerk, and 2 Selectboard Members.

The following will be voted on for 3 year terms:
1 Selectboard Member, 1 Lister, 1 West River Modified Union Education District Board Member for Newfane.

There will also be a Lister position open with a term of 2 years left of a 3 year term.

Petitions signed by 15 Newfane Registered Voters and Consent of Candidate forms must be submitted to the Town Clerk by 5 PM on January 30. Forms can be obtained at the Town Clerk's office.

- [Power Outage Updates](#)
- [2023 Town Meeting Warning](#)
- [2023 Annual Town Meeting Sample Ballot](#)



SURVEYS

- [Newfane Local Hazard Mitigation Plan Update Survey](#)
- [How Can We Make Newfane Village Safer And More Walkable?](#)

Appendix J: Public Survey questions and responses related to hazards in the community. (Starts on next page.)

Newfane Local Hazard Mitigation Plan Update Survey

The Town of Newfane and the Windham Regional Commission (WRC) are working together to update the Local Hazard Mitigation Plan and would like your input. This short survey will allow the working group to find out what you think the biggest natural hazards are to the town. Your answers will help the working group identify, analyze and develop mitigation strategies to potential hazards and to lessen the impacts of these hazards in the future.

* Required

1. 1. How long have you lived in or owned a business or property in Newfane? *

Mark only one oval.

- Less than a year
 One to five years
 More than five years

2. 2. What is your age?

Mark only one oval.

- Under 18
 18-30
 31-40
 41-50
 51-60
 61-70
 71 and older

3. 3. If you live in Newfane, do you own or rent the home you live in?

Mark only one oval.

- Rent
- Own
- Not applicable

4. 4. Is your home or business property located in a designated floodplain? *

Mark only one oval.

- Yes (Go to question 5)
- No (Go to question 7)
- I don't know (Go to question 7)

5. 5. Do you have flood insurance? *

Mark only one oval.

- Yes (Go to question 6)
- No (Go to question 7)
- I don't know (Go to question 7)

6. 6. What is the primary reason you do not have flood insurance?

Mark only one oval.

- Too expensive
- I do not know how to purchase flood insurance
- I have tried to purchase it, but was unsuccessful
- Other: _____

68

7. 7. Which of the following natural hazards have you or someone you know experienced while living or doing business in Newfane? (select all that apply)

Check all that apply.

- Drought
- Fluvial Erosion (bank erosion along rivers and streams)
- Inundation Flooding (when water sits on the land)
- Ice
- Deep/Heavy Snow
- Strong Wind
- Severe Cold
- Severe Heat
- Landslides
- Wildfire
- Invasive Species (Emerald Ash Borer, Woolly Adelgid, etc.)
- Earthquake
- Infectious Disease Outbreak
- Hail

8. 8. Which of the following man-made hazards have you or someone you know experienced while living or doing business in Newfane? (select all that apply)

Check all that apply.

- Hazardous materials incident
- Structural fire
- School safety incident
- Dam Failure
- Other: _____

9. What are the top three hazards that you feel will impact you in the next five years? *

10. What actions have you taken to reduce risk for your house / apartment / property / business for potential disasters? (Select all that apply) *

Check all that apply.

- Purchased homeowners / renters insurance policies
- Purchased Flood Insurance
- Floodproofing (elevated furnace, water heaters, electric panels)
- Installed retrofits such as high impact windows or doors, fire resistant siding, roofing or winter screens, storm shelters, etc.
- Removed dead / dying trees or vegetation
- Obtained and placed fire extinguisher(s) in an easily accessible location
- Alternative power, heat and/or water supply
- None of the above
- Other: _____

11. If you have not taken action to reduce risk, what are the barriers? (Skip if you have taken actions.)

Mark only one oval.

- Cost
- Don't know what I can do to reduce risks from natural hazards
- Other: _____

12. What cost effective measures should the Town take to lessen damage from disasters (natural and man-made)? (select all that apply)

Check all that apply.

- Culvert and road upgrades
- Remove structures in areas known to have frequent flooding
- Improve natural stormwater management
- Protect vegetation adjacent to surface waters (rivers, streams, ponds, etc.)
- Other: _____

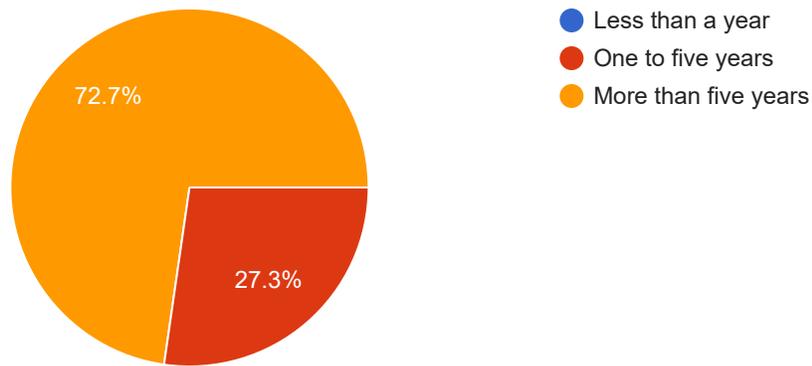
13. Thank you for taking time to fill out this survey. Is there anything else you would like to tell us about Natural Disasters in Newfane?

Newfane Local Hazard Mitigation Plan Update Survey

33 responses

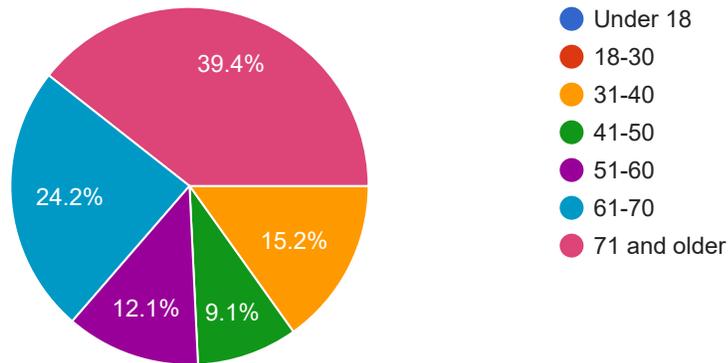
How long have you lived in or owned a business or property in Newfane?

33 responses



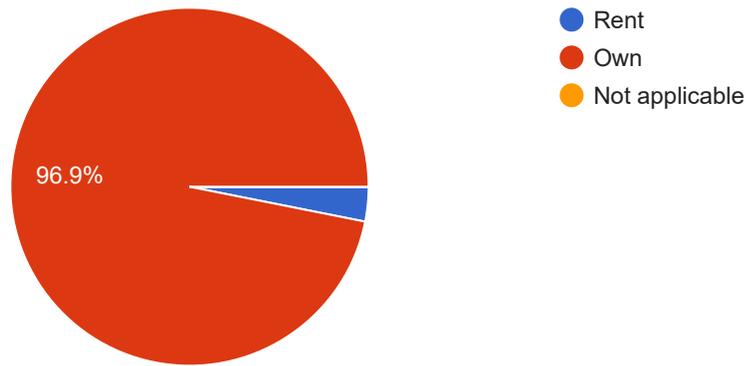
What is your age?

33 responses



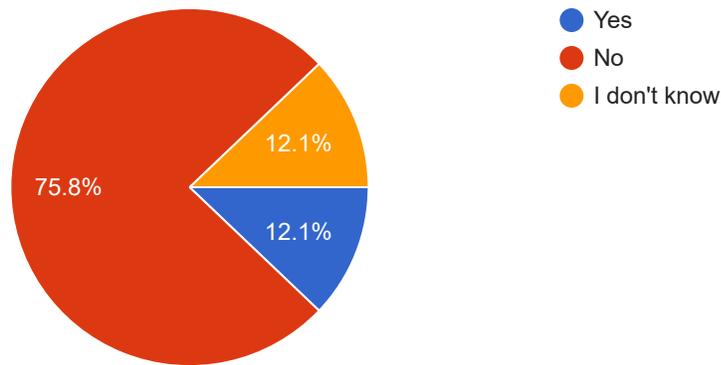
If you live in Newfane, do you own or rent the home you live in?

32 responses



Is your home or business property located in a designated floodplain?

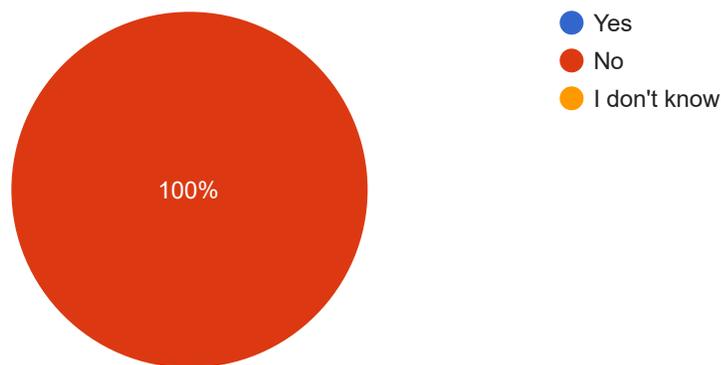
33 responses



Flood Insurance

Do you have flood insurance?

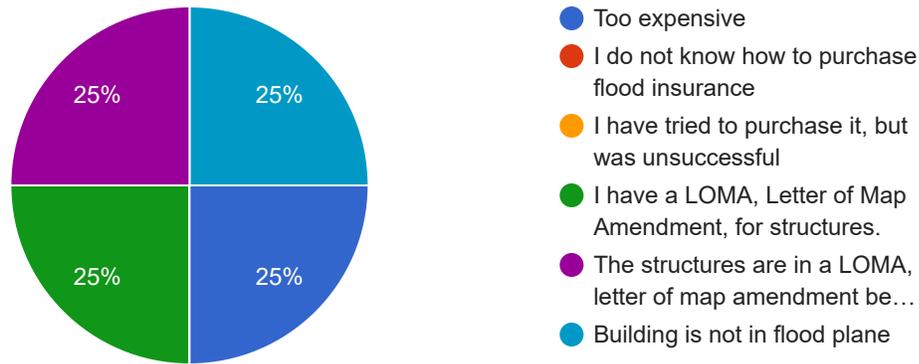
4 responses



Primary Reason for No Flood Insurance

What is the primary reason you do not have flood insurance?

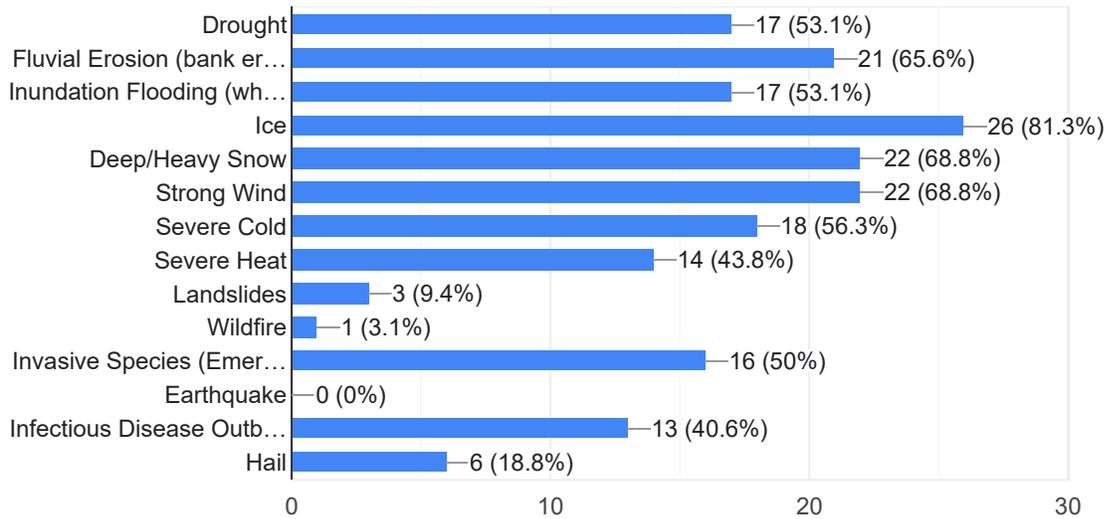
4 responses



Natural Hazards

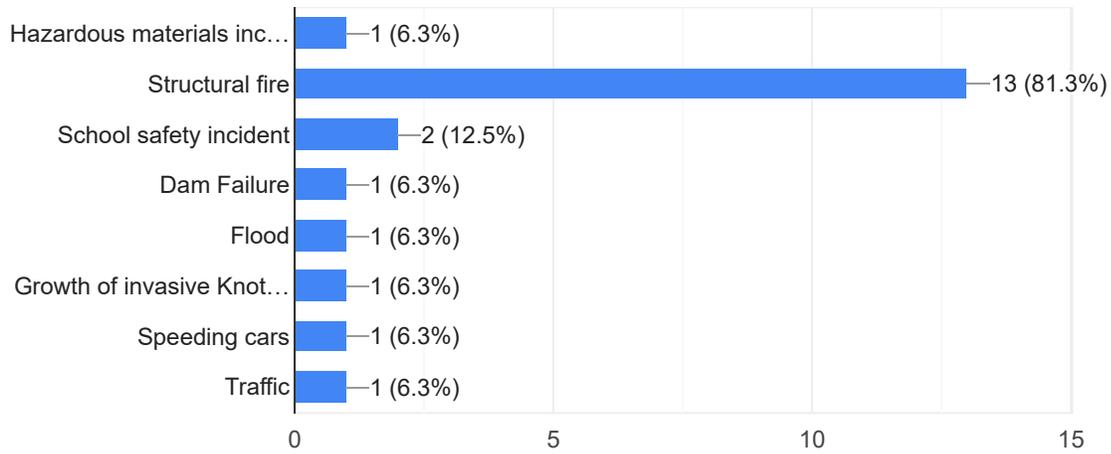
Which of the following natural hazards have you or someone you know experienced while living or doing business in Newfane? (select all that apply)

32 responses



Which of the following man-made hazards have you or someone you know experienced while living or doing business in Newfane? (select all that apply)

16 responses



What are the top three hazards that you feel will impact you in the next five years?

33 responses

Flooding, Fire, Power Outage,

unaffordable utilities, drought, flooding

Flooding, Invasive species, heavy/deep snow

drought, wildfires, flooding

Drought, extreme heat, flooding

flooding, drought, ice/snow

Drought, fire, energy supply's

Flooding, More freezing rain in the winter, and Strong Winds

Extreme weather events

Nuclear Disaster, Wind, Drought

Fluvial erosion, wild fire and Invasive species

Power failure due to wind, inundation flooding, and bank erosion.

Ice, drought, invasive insects and plants

Drought, Invasive Species (Japanese Knotweed, Emerald Ash Borer, Woolly Adelgid, etc.),
Fluvial Erosion

Flood, fraught, fire

Flood. Fire, Power disruption

Drought, flooding, excessive heat

Drought, infectious disease, invasive species (plant and pest)

wildfire flooding more wildfire



Flooding, growth of invasive Knotweed and fire risks from my next door neighbor burning his garbage in his yard.

Drought, flooding , speeding cars

Flooding, drought, wildfire

Flooding, drought, climate change

Traffic

Drinking water, road conditions, flooding

Drought, flooding, fire

Erosion of river bank (Rock River); erosion of other nearby areas not necessarily associated with waterways; maybe drought

Drought, inundation flooding,, severe cold

invasive species, other tree illnesses (white pine needle drop, beech, walnut wooly worm), roadside erosion/driveway washout
infectious disease outbreak

flood drought fire

Drought Falling trees Power outages

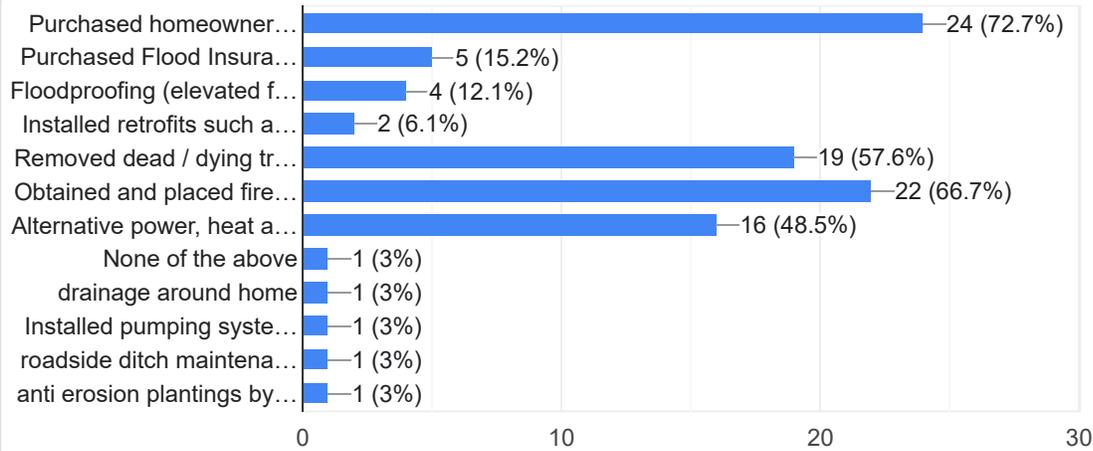
water, road safety, ice

High property taxes, Development, & lack of restaurants in the area



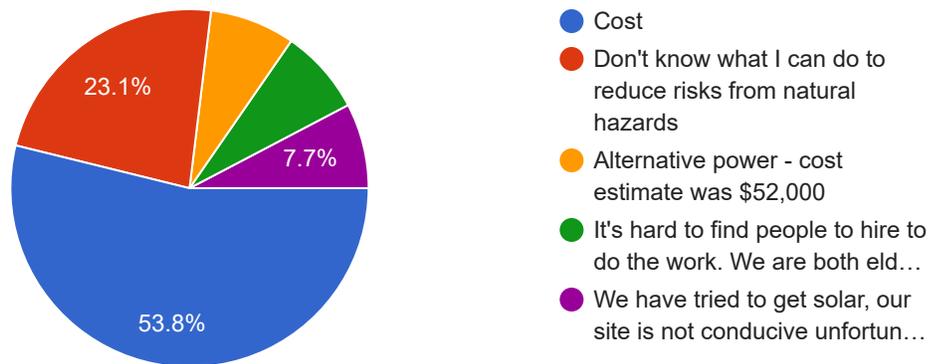
What actions have you taken to reduce risk for your house / apartment / property / business for potential disasters? (Select all that apply)

33 responses



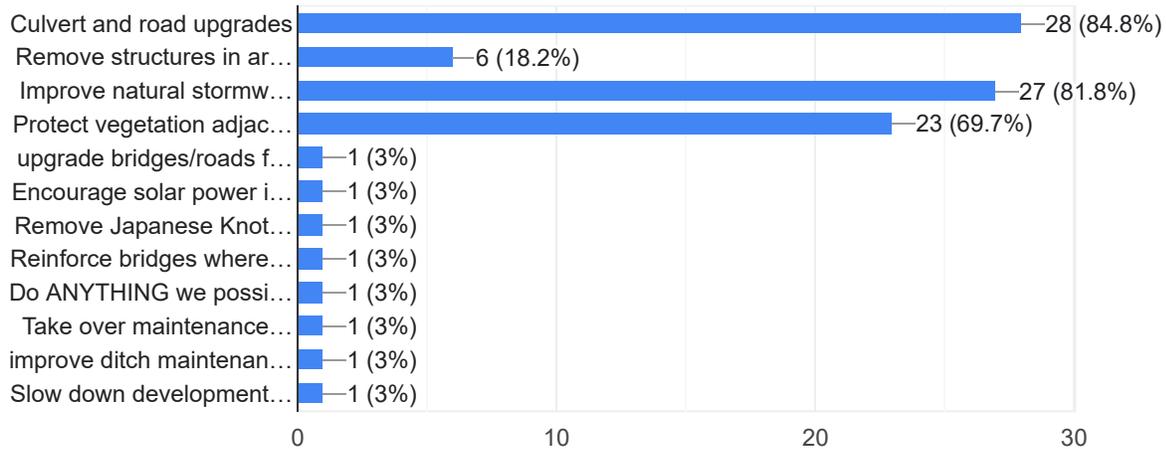
If you have not taken action to reduce risk, what are the barriers? (Skip if you have taken actions.)

13 responses



What cost effective measures should the Town take to lessen damage from disasters (natural and man-made)? (select all that apply)

33 responses



Thank you for taking time to fill out this survey. Is there anything else you would like to tell us about Natural Disasters in Newfane?

7 responses

There is still ongoing erosion caused by Hurricane Irene that will impact town roads in the near future

Add to last question: Treat denuded hillside caused by storms so they don't increase.

Thank you for doing this.

The severe storm during end of summer in 2021 destroyed our private road. The expense and time involved to recover the road was disastrous to all the homeowners on the road.

Wastewater/stormwater management is important- looking at water storage options and more resilient power generation so we can be more self sufficient as a town!

Stop spraying herbicides around roads, electric poles and trees.

Slow down development, keep some of the forests and woodland to stop erosion and flooding. High property taxes promote subdivision and development, which in turn promote hazards such as flooding, erosion, fires and more.

