Town of Stratton
Local Hazard Mitigation Plan

Top photo: Kidder Brook culvert washout during Tropical Storm Irene, 2011
Bottom photo: Enlarged structure installed following TS Irene

FEMA Approval Pending Adoption Date:

Town Adoption Date:

FEMA Final Approval Date:

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

In cooperation with

Vermont Emergency Management and the Federal Emergency Management Agency

FEMA

Certificate of Adoption
Town of Stratton, VT

A Resolution Adopting the
Town of Stratton Local Hazard Mitigation Plan

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

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

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

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

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

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

ADOPTED by a vote of ____ in favor and ____ against, and ____ abstaining, this _____ day of _____, _____.
month, year

Selectboard

_____

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ATTEST

_____

Contents

INTRODUCTION AND PURPOSE

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

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

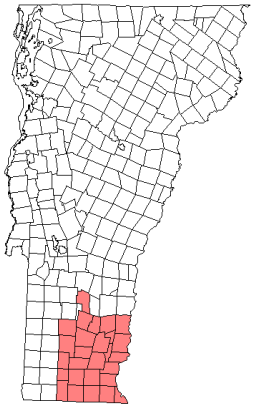
The purpose of this Plan is to assist the Town in identifying all natural hazards facing the community, ranking them according to local vulnerabilities, and developing strategies to reduce risks from those hazards. Once adopted, this Plan is not legally binding; instead, it outlines goals and actions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

The benefits of mitigation planning include:

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

Adoption and maintenance of this Hazard Mitigation Plan will:

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



WINDHAM REGION GEOGRAPHY

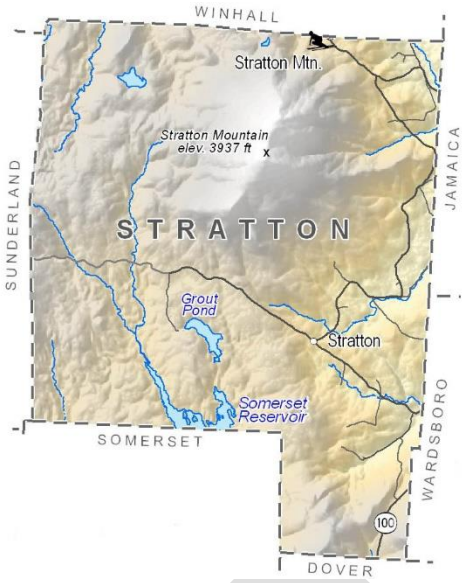
Situated in Vermont's southeastern corner, the Windham Region consists of 23 towns in Windham County, the neighboring towns of Readsboro, Searsburg, and Winhall in Bennington County, and Weston in Windsor County. The region is bordered by Massachusetts to the south and New Hampshire to the east. At over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

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

In addition to the Connecticut, other major rivers of the region are the Deerfield, Green, North, Saxtons, West, 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.

COMMUNITY PROFILE

Geography and Land Use



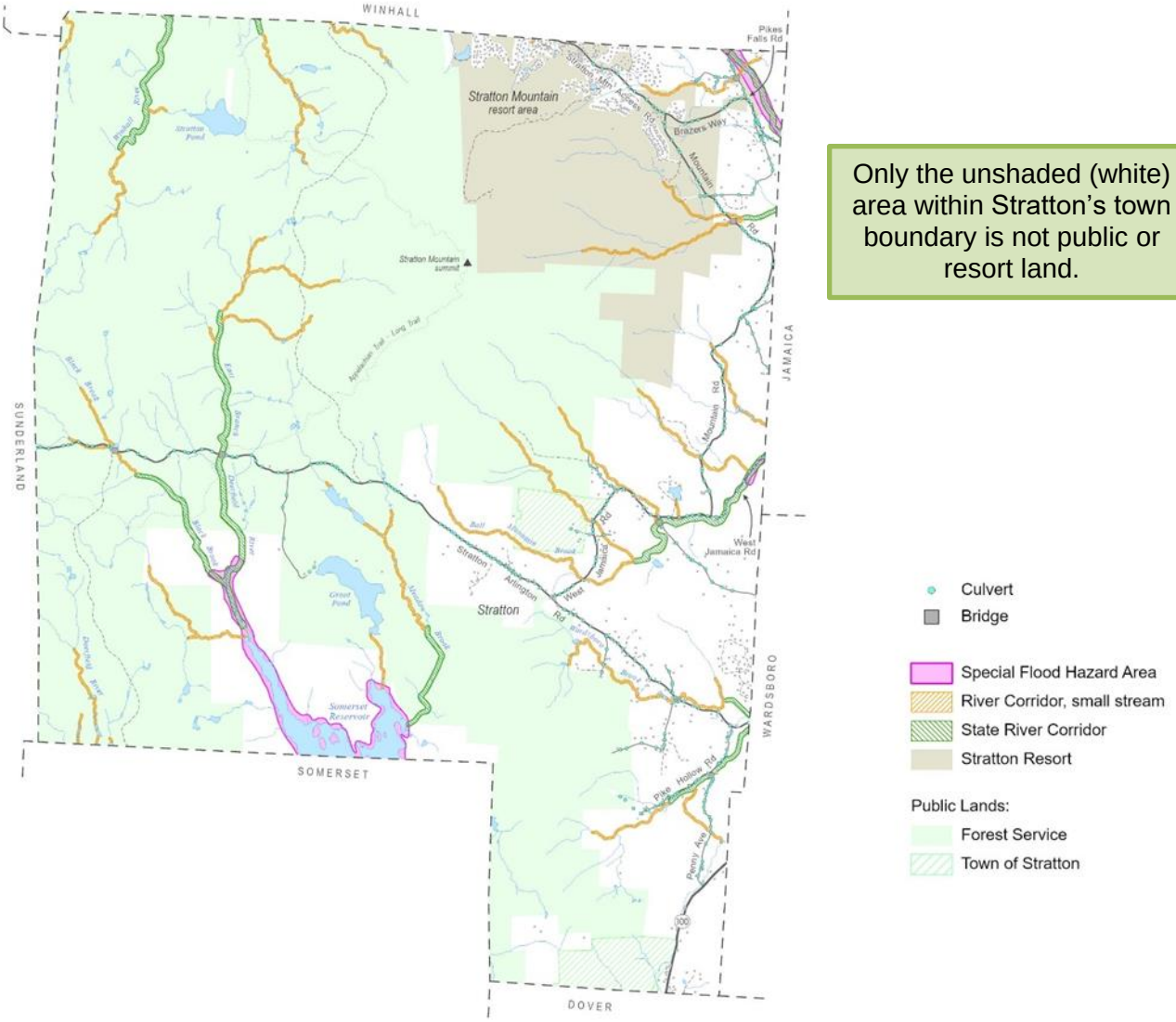
The Town of Stratton is a rural Southern Vermont hill town in the midst of the Green Mountains. Stratton is the 10th smallest incorporated town by population in the state. Stratton is known for the Stratton Mountain Ski Resort. The Town is composed of 46.9 square miles (30,016 acres) on the north-western edge of Windham County. Stratton is bordered to the north by Winhall, to the west by Sunderland, Somerset and Dover to the south, and Jamaica and Wardsboro to the east.

The mixed softwood and hardwood forest-covered terrain is mountainous with much of the northern part of the Town at an elevation of 2500 feet or more. Developable land in Stratton is limited. Approximately 79% of the land is in public or semi-public ownership including the lands of the Green Mountain National Forest, TransCanada Flow Easement area, the Lye Brook Wilderness Area, and the Stratton Town Forest. Stratton Resort's privately held land holding occupies approximately 2,881 acres in the northeastern portion of the Town, none of which is the in the National Forest. The only land not in forest cover is at the Stratton Resort and around the scattered homes in the Town. Together the public or semi-public lands combined with the privately held Stratton Resort lands take up 88.6% of the Town. Only 3,422 acres, or 11.4% of the town, are not in public or resort land and would be available for town mitigation efforts. This 11.4% lies in a narrow strip on the eastern boundary of Stratton. Within this boundary the Town has a very small village area. Stratton Mountain Resort has a concentrated commercial area at Resort complex. There is a substation of the Londonderry Post Office in the resort area. Industry, other than recreation and limited logging, is not present. Stratton is a residential town.

Fun Fact: Stratton Mountain is the highest point in the Windham Region at an elevation of 3,937 feet. Its historic fire tower is on the National Register.

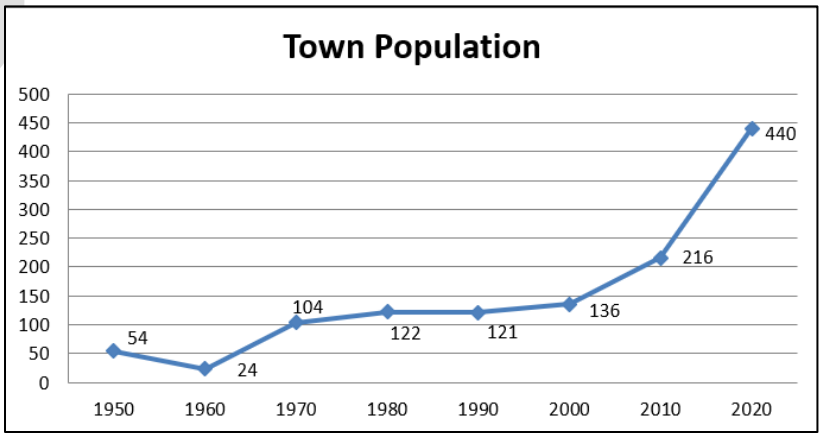
The Appalachian and Long Trails cross the Town in a north-south direction. Within the Town are several ponds, many wetlands and the northern part of Somerset Reservoir.

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



Only the unshaded (white) area within Stratton's town boundary is not public or resort land.

Population and Development Trends



The population of Stratton rose between 2010 and 2020 from 216 to 440 people, an increase of 49%. Percentage wise this is much higher than surrounding towns, but population overall remains low. Seasonal housing has long been the majority of the total housing in Stratton. The significant population increase in 2020 may be related to Covid which caused many people, including second homeowners to relocate from more populated areas. Some of this increase has proved temporary with the end of Covid. Stratton has a seasonal variation of population with second

homeowners and visitors primarily present in the summer and winter, with the population level being about 20% higher versus in the shoulder seasons.

The historic development pattern of putting roads next to waterways means that a number of structures are in areas vulnerable to flooding. Development in Stratton is characterized by homes and located along rural roadways, with one higher density and high elevation housing development that is accessed via Wardsboro. Within the Resort lands, development density is high with homes in high elevation areas and with mountain streams interspersed. Stratton Mountain Resort is located not far from Townshend in the adjacent town of Jamaica and is the primary reason for the seasonal population shift.

Stratton does have zoning. The development pattern has not changed appreciably over the years, outside of the resort lands; development has merely extended along the road frontages in all sections of town. The Town gets approximately ten building permit applications per year. Because there is no sewer system, lots have a required 2-acre minimum size. This keeps development relatively spread out. Residential development is occurring primarily along the town's rural roads. Stratton is fortunate not to have a historic pattern of locating roads along waterways, which means there are less vulnerable road miles than in some other towns in the region.

There is very little commercial development in Stratton. There is also no public school.
Stratton Mountain Resort has a master plan that allows for more development, including residential development, that has yet to be built. Stratton Resort has their own sewage treatment facility, and a much denser development pattern than is seen outside the Resort. Stratton Resort also has a core, which includes a commercial area with shops and restaurants. Unless you're working for yourself of the resort, most people commute outside of the town for work. Manchester is one of the closer larger towns for employment.

Overall, while there have not been appreciable changes in Stratton since the last Plan update, change has occurred in that the older/higher risk population has expanded with age, and the impacts and weather patterns linked to climate change have become more evident. Because of the large amount of conserved land in Stratton, there is not much new growth expected outside of the resort.

Emergency Services and Resources

The Emergency Management Director (EMD), who is appointed by the Selectboard, coordinates emergency preparedness and response for the Town, working with a small team to staff the local Emergency Operations Center (EOC) located at the Town Office. The EOC has a backup generator. The Town has a strong relationship with the Resort and this is evidenced in the Resort serving some of the emergency service needs for the Town. The Stratton Mountain School is the backup EOC, as one example. Stratton has emergency shelters at the Town Hall, Stratton Mountain School, Stratton Mountain Resort, Stratton Mountain Volunteer Fire Company, and the Stratton Town Garage. Some of these locations accept crated pets.

Stratton is served by the Stratton Mountain Volunteer Fire Company which is composed of approximately 16 volunteer crew members and the Chief. The Fire Company serves the entire town and Resort and has mutual aid agreements with surrounding towns. Keene Mutual Aid serves as dispatch. As with many small-town fire departments in Vermont, getting volunteer firefighters is difficult. The Stratton Mountain Volunteer Fire Company makes all efforts to recruit volunteer fire-fighting personnel. Members attend training courses sponsored by Vermont Fire Academy

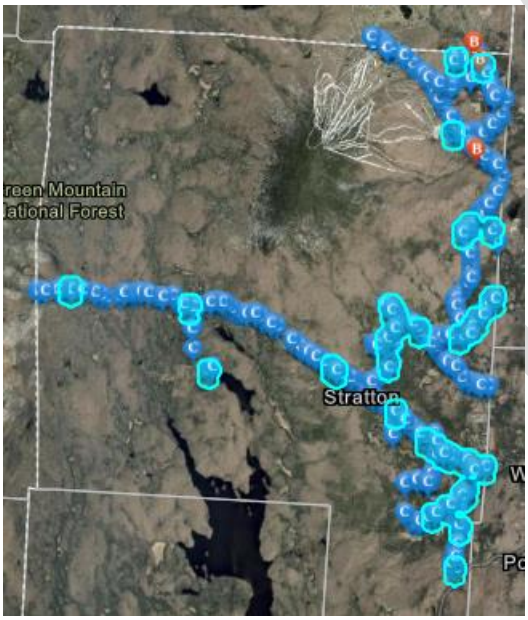
and the various mutual aid associations. There is a firehouse on Stratton Mountain Access Road. The Resort has contributed to the equipment costs and the funding of the construction of the fire house. There is no contract between the Resort and the Town Fire Department but the Fire Company services the Resort. There are some resort employees that volunteer with the Fire Company.

Emergency medical services are provided primarily by Rescue Inc. operating out of their West Townshend facility. Stratton Mountain Rescue serves the mountain area. Rescue Inc. is a non-profit organization funded through subscriptions and donations. Rescue Inc. provides numerous towns in the region with ambulance service, medical care, transport to and from area hospitals and large regional hospitals. Grace Cottage is the closest hospital, followed by Brattleboro Memorial Hospital. The largest large hospital is Dartmouth-Hitchcock Medical Center in Lebanon, NH. Rescue Inc. is primarily staffed by trained volunteers; however, three full-time personnel are employed. The statewide 911 locatable address system provides dispatch service for fire, emergency and ambulance calls.

Stratton has a contract with the Windham County Sheriff's Department for police services for the majority of the town. Stratton Mountain Resort has an independent contract with the Winhall Police Department for the Resort lands. Fire Department, Town Garage, Town Office and the Road Crew all have interoperable radios. They are interoperable throughout the state with other fire departments and police.

Transportation Infrastructure and Act 64

Route 100 runs through the southeast portion of Stratton and serves as the largest connector road to the Town. Stratton Arlington Road runs east-west through Stratton; West Jamaica Road is a major north-south connector; both of these roads are dirt in portions, which gives a scale to the rural and remote nature of Stratton.



There are 362 culverts in Stratton, of which 30 are in poor condition, 0 are in critical condition, 5 are in closed condition, and 15 are in unknown condition. There are 6 town owned bridges. Poor condition culverts are highlighted in the VTCulverts generated map to the left.

There are approximately 1 mile of state highway and 30 miles of town roadway in Stratton. Approximately 12.84 or 47% of total town road miles (excluding class 4) are hydrologically connected, which means the road is within 100 feet of a water resource (i.e., perennial/intermittent streams, wetlands, lakes or pond). Proximity to water resources can make these sections of road more vulnerable to flooding and fluvial erosion.

Act 64, the Vermont Clean Water Act, requires the state to develop a new Municipal Roads General Permit (MRGP). The MRGP requires Stratton to conduct Road Erosion Inventories (REIs) for hydrologically connected municipal road segments. The ANR Natural Resources Atlas shows hundreds of road segments in the town that will be included in this regulation. Stratton will also be required to develop Road Stormwater Management Plans for all hydrologically connected road segments not meeting MRGP standards. Stratton would then be required to implement the Road Stormwater Management Plans over time, reaching full compliance by 2035. Road improvements, which generally consist of gravel resurfacing and stone-lined ditching, also can make the roads more resilient in conveying excess water. Roads that were brought up to standard generally fared well in the most recent flood. Ongoing compliance with MGRP will improve the flood resilience of our roads, which are most likely to be damaged in flooding.

Communication Coverage

Access to high-speed internet and cell service coverage are important parts of emergency communication capabilities in a town. The Windham Region, as in many rural areas, has a patchwork of coverage levels with some areas not having coverage. In Stratton, Fairpoint Communications provides landline phone service as well as high-speed internet in some areas. High-speed internet and voice-over-internet phone service is also offered by cable companies. However, there are still residences in Stratton that do not have access to high-speed internet service. The Town Office offers a wireless internet hotspot, and the Resort has wireless service throughout the resort lands. Cell phone coverage fluctuates throughout the town, with some areas getting better reception and some getting none. The Vermont Department of Public Service has mapped voice and data coverage on their "Mobile Wireless Drive Test" map available online[1].

PLANNING PROCESS

Plan Developers

Each core Planning Team member serves the community in a number of capacities, creating a balanced perspective:

- Victor Rivas, Emergency Management Director
- Chris Liller, Road Foreman and Selectboard Member
- Matt Underwood, Fire Chief
- Jeff Cavagnino, Stratton Mountain Resort representative

Alyssa Sabetto, Senior Planner with the Windham Regional Commission, assisted the Town with this update to meet the standards and guidelines of the latest FEMA *Local Mitigation Plan Review Tool*. FEMA Building Resilient Infrastructure and Communities funding supported this process.

Update Process

This Local Hazard Mitigation Plan ('LHMP' or 'Plan') is an update to a single jurisdiction Plan approved for the Town Stratton by the Federal Emergency Management Agency (FEMA) effective 6/11/2019 and expired on 6/10/2024. The below table lists the stakeholders that were provided an opportunity for engagement in this Plan update and how that opportunity was provided:

Stakeholder involvement	The above listed Planning Team represents a significant range of stakeholders in this small community.
General public involvement	An online survey was conducted for several weeks in June and July 2025 to gather input on lived experience of natural hazards in Stratton and ideas for mitigation actions that the town could consider. Survey results are contained in this plan. Advertisement of the survey and public meetings was posted on the town website and the town Facebook page. Two public meetings were held, and the draft was discussed at a Selectboard meeting.
Businesses, academia, and other private and non-profit interests	The following entities were personally invited to the public meetings and the draft plan was provided to them for review and comment via email (see appendix): • Green Mountain Power – Electric Utility. Consulted via email on loss of power statistics. • Stratton Resort – Ski resort in Stratton and owning a significant amount of land in town.

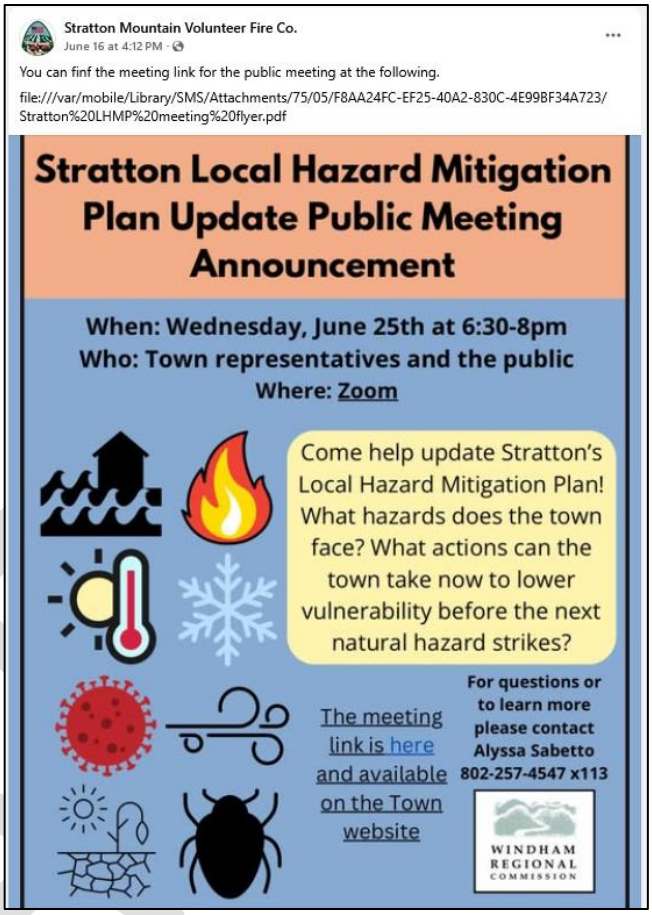
[1] https://publicservice.vermont.gov/telecommunications-and-connectivity/mobile-wireless-drive-test

	• US Forest Service operating out of the Manchester Ranger Station – significant landowner in Stratton
Neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development	The draft plan was provided via email for review and comment to: • The Planning Commissions and Emergency Management Directors of the adjacent towns of: Winhall, Jamaica, Wardsboro, Dover, Somerset, and Sunderland, as well as the adjacent Bennington County Regional Commission. • Basin Planner for the Agency of Natural Resources Department of Environmental Conservation. • The plan was also sent to VEM for initial review, so the comments and input from all of the above-mentioned contacts and outreach strategies continued to be incorporated into the plan.
Representatives of nonprofit organizations, including community-based organizations that work directly with or provide support to vulnerable populations or frontline communities	While this list is not exhaustive, here are a number of groups that serve vulnerable residents that received the draft plan for review and input (see appendix for outreach email): • Deerfield Valley Community Partnership – substance abuse prevention support group • Senior Solutions – resource for aging Vermonters • MOOver – Provides regional bus and shared ride transport service. • The Gathering Place – Safe space for people with physical or cognitive impairments. • Groundworks Collaborative – Based in Brattleboro. Serves people who are facing housing and food insecurity. • 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 – Based in Brattleboro and working to end physical, sexual and emotional violence against women. • VT211 – non-emergency information resource for those facing crisis or are in need of guidance on available resources.

The planning process overview is bulleted here and items relating to that process are in the appendix:

- May 2025 – Kick-off call to set up the public meetings and develop the Planning Team. Victor Rivas, Stratton's Emergency Management Director, was the local lead and invited team members.
- June 25, 2025 - The Planning Team reviewed the prior plan, completed the hazard assessment and reviewed hazard mapping at a public meeting.
- June-July 2025 – A public survey was posted on Facebook, discussed at the public meetings for the LHMP.
- July 23, 2025 – A second public meeting of the Planning Team that focused on development of mitigation actions.
- The draft was presented for internal town review by the Committee and other town personnel and appointees on October 24, 2025. This internal town review period was from October 24 – November 10. The draft was discussed with the Emergency Management Director during this time.
- Alyssa then finalized the draft for public comment.

- A draft of the Plan was posted from July 7-21 on the town website for public comment.
- Physical copies of the draft Plan were available at the Town Office.
- Flyers were put up around town for public comment on the draft.
- The draft plan was distributed to all adjacent towns for comment during a two-week period.
- The draft plan was sent to identified entities serving vulnerable residents or providing community lifeline connections.
- Several minor public comments were received and are were incorporated into the draft.



Advertisements for all public meetings were sent to local stakeholders directly via email from Victor Rivas, and were publicly shown on the town website, the town Facebook page, and at the three designated physical posting locations in town as required by State statute for all public documents. Each meeting lasted for a couple of hours and over the course of both meetings the group completed and discussed:

- **Update of the 2019 Stratton Local Hazard Mitigation Plan**
  - Purpose
  - Process

- **Hazard assessment included:**
  - Discussion of hazard events that have occurred since the last Plan
  - Discussion of online public survey results
  - Review and update of hazard assessment
  - Marking up of the physical map and/or the online Vermont Natural Resources Atlas with local hazard notes

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

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

Data Sources

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

- Surveys and warned, public meetings collecting public comment (issues raised were addressed in plan and the public meeting)
- 2025 Local Emergency Management Plan – local emergency resources
- Local knowledge of Planning Team members and other stakeholders – community impacts, priorities, trends, and overall plan guidance
- 2019 Stratton Local Hazard Mitigation Plan – prior actions, goals, hazard assessment, and hazard profile information
- Flood Ready Vermont Community reports – NFIP participation data
- Flood Insurance Study (most recent is 2007) – FEMA flood hazard location information
- 2020 Stratton Town Plan – community profile, mitigation related actions and goals
- US Drought Monitor to quantify historic periods of drought in Windham County
- Stratton Zoning/Flood Hazard Regulations
- US Center for Disease Control – understanding of the risk of heat-related illness
- National Weather Services, including NOAA Events Data, NOW Data, and Climate at a Glance - climate trends, climate records, and special weather events
- 2020 US Census and American Community Survey 5-Year Estimates - population data
- VTrans Town Highway Bridge Inspection Reports – transportation infrastructure statistics
- Vermont Statewide Highway Flood Vulnerability and Risk Map
- Green Mountain Power - outage data and information on the power infrastructure
- 2023 State of Vermont Hazard Mitigation Plan – hazard profile information, state goals, and hazard extent data
- FEMA Disaster Declarations for Vermont – county level declared disasters
- VT ANR Atlas – location of River Corridors and Special Flood Hazard Areas
- FEMA Flood Insurance Rate Maps - location of Special Flood Hazard Area, draft maps were also available for ongoing update
- U.S. Geological Survey National Water Information System - flood extent data
- WRC Local Liaison Reports of Storm Damage – local event impacts
- CRREL Ice Jam Database – mapped ice jams
- Review and input from Dover Conservation Commission Chair (from recent adjacent plan) – invasive species section
- Local invasive plant list from Peter Bergstom of the Rockingham Conservation Commission, sent 8/21/2021 (from recent nearby plan)

- Communication with VT State Forester, Jim Esden, and Windham County Forester, Sam Schneski, on 2/21/20 – invasive species information specific to Windham region
- VT Fish and Wildlife website – invasive species section
- VTinvasives.org – invasive plant and forest pest data
- Vermont Department of Health – Heat data
- 2025 Upper West River Corridor Plan
- Wildfire risk data provided by US Forest Service Wildland Urban Interface: 2020 Geospatial Data online and event data shared by the Vermont Department of Forest, Parks and Recreation

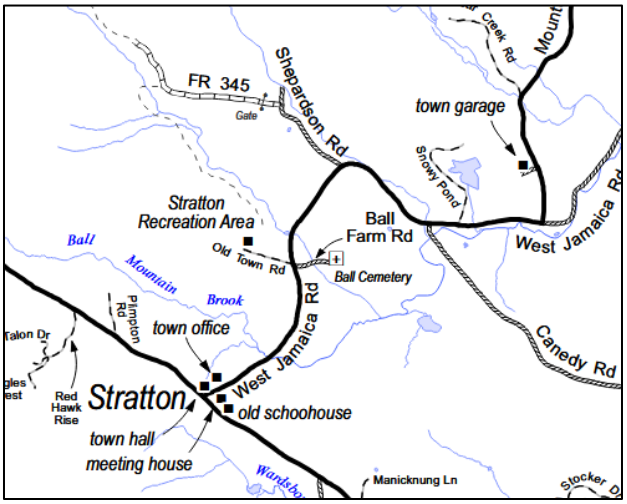
HAZARD IDENTIFICATION AND RISK ASSESSMENT

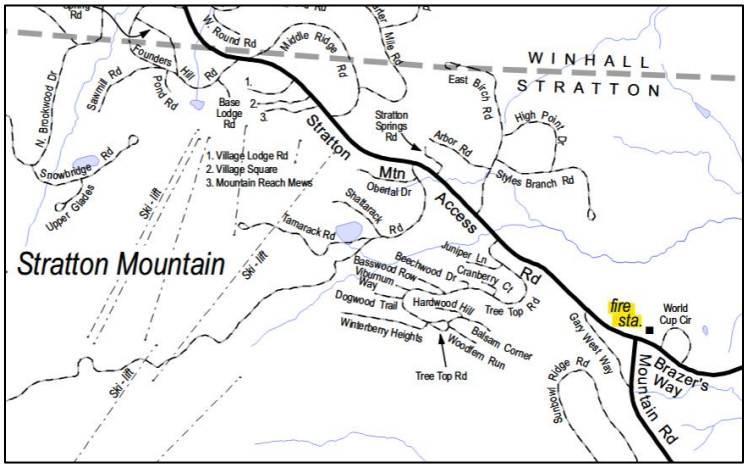
Community Assets

In addition to people, community assets relate to town owned buildings and infrastructure. The municipal buildings are all located on high ground that hasn't experienced flooding. The primary assets are:

Stratton Town:
- Town Garage
- Town Office
- Town Hall
- Meeting House
- Old Schoolhouse
- Stratton Recreation Area

At Stratton Resort:
- Fire Station



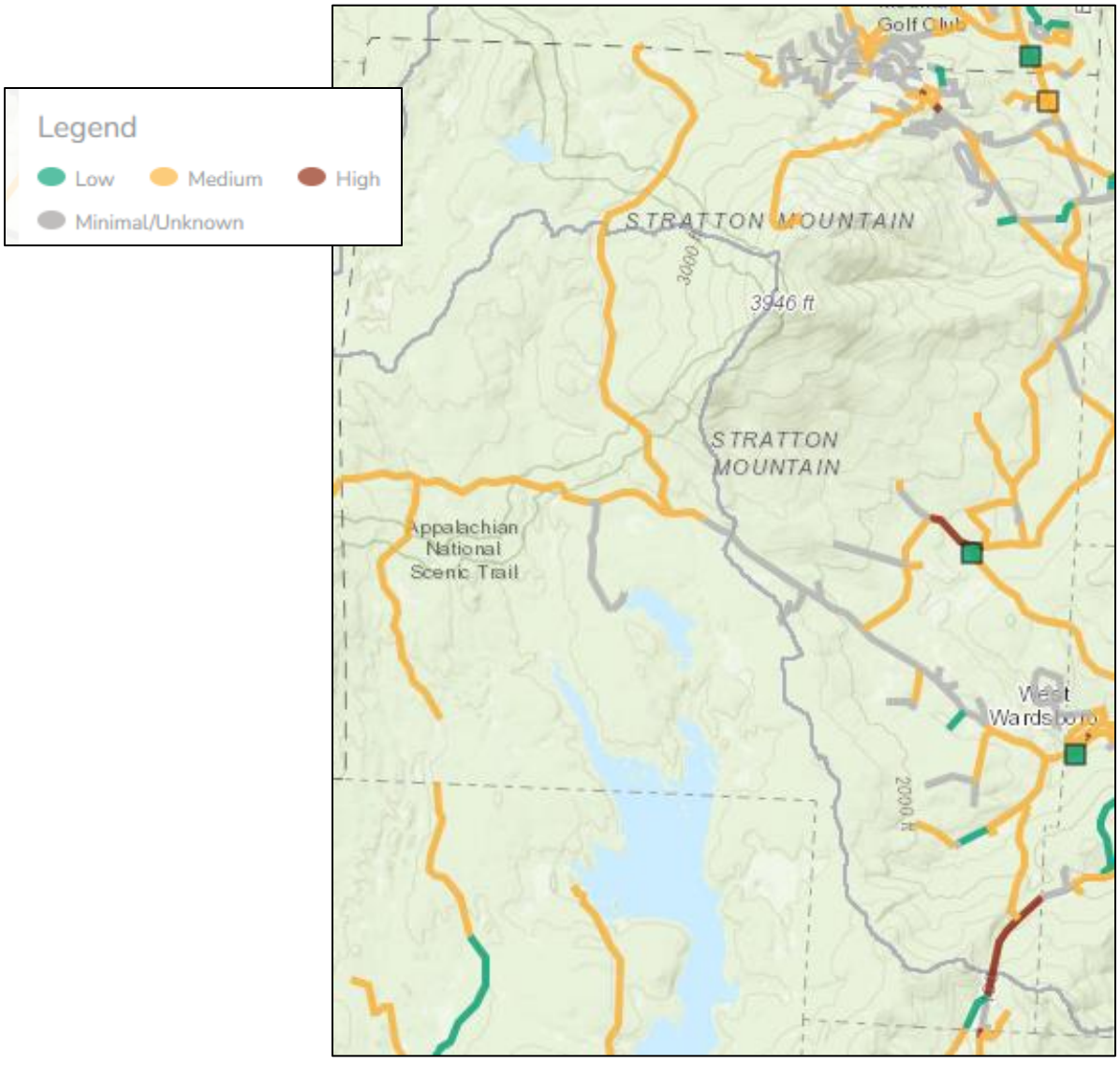


VTrans Transportation Infrastructure Vulnerability Mapping

The Vermont Department of Transportation has developed a 'Transportation Resilience Planning Tool' to quantify the flood vulnerability and risk of bridges, culverts, and road embankments throughout the state.[2] Vulnerability assessments were completed for the following infrastructure:

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

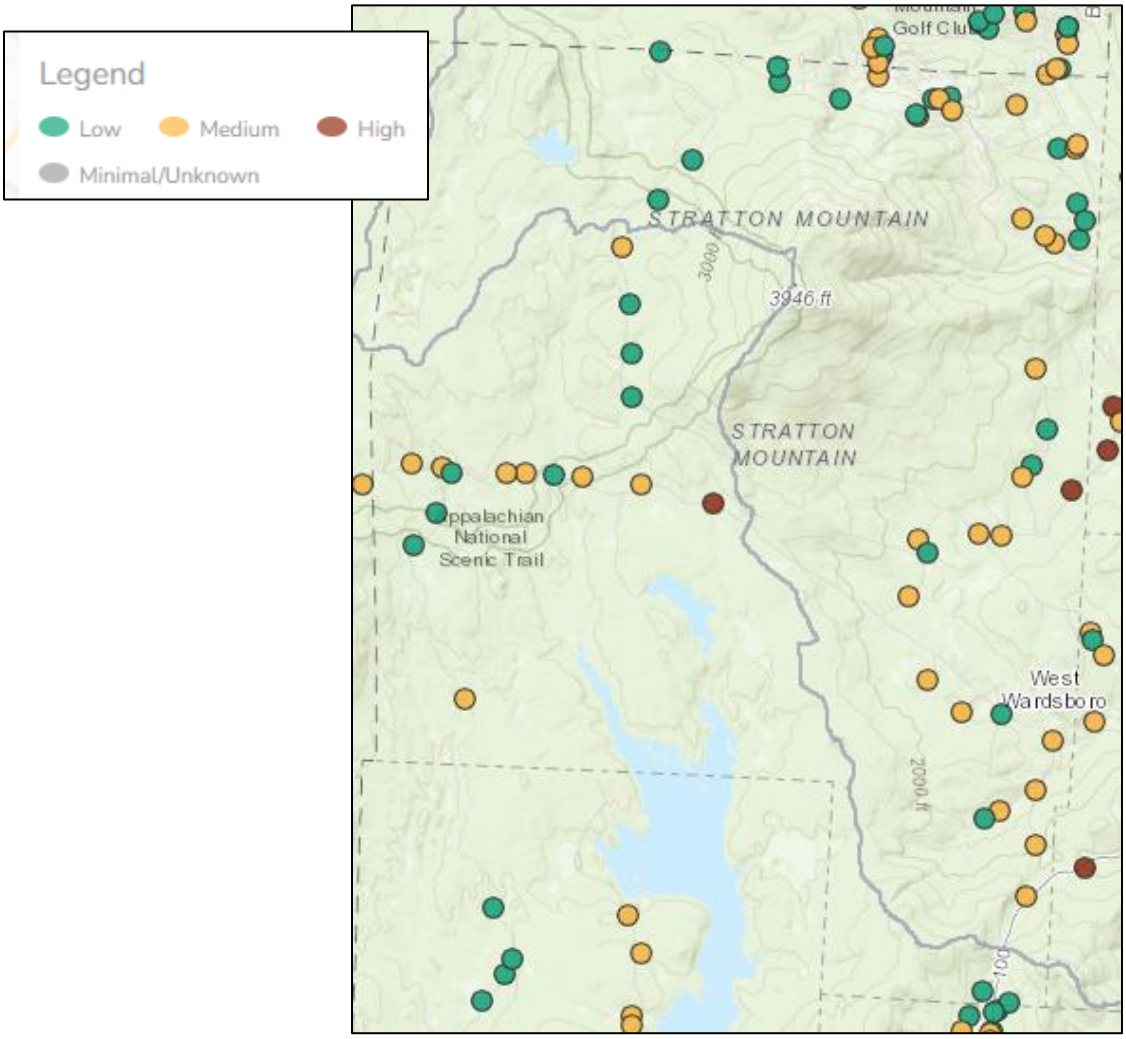
The map shown here provides a vulnerability analysis of roads and bridges that are at risk of inundation, erosion, or deposition related to a 100-year flood event. The Tool combines river science, hydraulics and transportation planning methods and is applied at a watershed scale. This data can be used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



The map above identifies sections of Route 100, West Jamaica Road and Stratton Mountain Road as being highly vulnerable road segments, particularly due to erosion. The bridge at North Road and Pikes Falls Road is the only bridge that is ranked as medium vulnerability, no high vulnerability bridges were identified.

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

The below map is the same data, but showing culverts. There are only two highly vulnerable culverts, one on Stratton Arlington Road and the other on West Jamaica Road.



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

Federal Disaster Declarations for Windham County

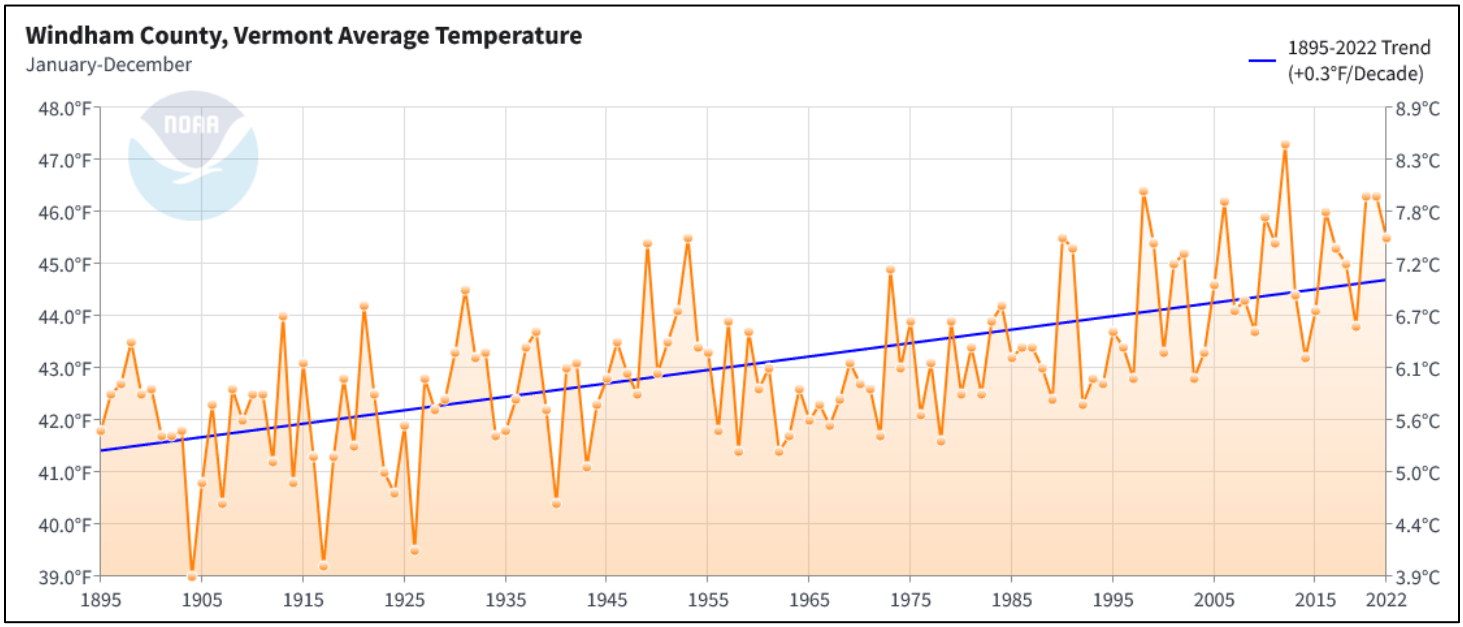
There have been 24 Presidential Disaster Declarations in Windham County since 1953: 8 Floods, 9 Severe Storms, 3 Hurricanes, 2 Biological Incidents (both Covid-19 related), 1 Snowstorm, 1 Tropical Storm and 1 Severe Ice Storm.[3] July, August and September are the months that historically have seen the highest number of declarations.

Disaster Declarations for Windham County, VT						
Disaster Number	Incident Begin Date	Incident End Date	Declaration Date	Incident Type	Title	Disaster Close Out Date
3609	8/8/24	8/10/24	8/8/24	Severe Storm	Tropical Depression Debby	
4762	12/18/23	12/19/23	3/2/24	Severe Storm	SEVERE STORM AND FLOODING	
4720	7/7/2023	7/21/2023	7/14/2023	Severe Storms, Flooding, Landslides, and Mudslides	July 2023 Flooding	
4621	7/29/2021	7/30/2021	9/29/2021	Severe Storm and Flooding	SEVERE STORMS AND FLOODING	
3567	8/22/2021		8/22/2021	Hurricane	Tropical Storm Henri	
4532/ 3437	01/20/202 0	5/11/2023	04/08/2020	Biological	Covid-19 Pandemic	
4356	10/29/201 7	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	12/11/200 8	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

[3] 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 12/12/2024

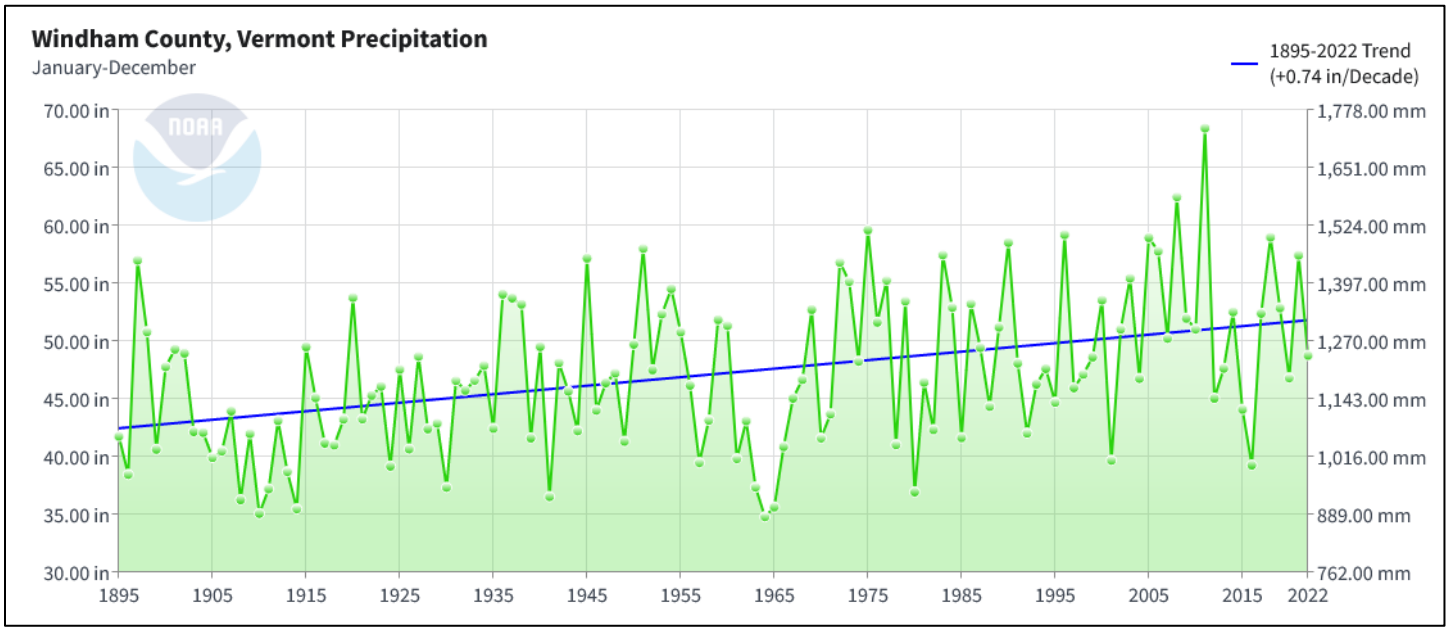
Climate Trends

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



Data source: NOAA Climate at a Glance

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



Data source: NOAA Climate at a Glance

Power Outage Statistics[4]

Green Mountain Power (GMP) provided power outage statistics for the last 5 full years. Power outages present a vulnerability for those without backup power or that rely exclusively on electric for their heating or cooling. The data shows an upward trend over time in the 'number of times a customer was without power per year'.

	Avg Length of Outages in Hours	Avg # of Times per year a Customer was Without Power	# of Hours the Typical Customer was Without Power Per Year
2024	2.40	3.05	7.32
2023	3.68	3.04	11.19
2022	3.97	1.85	7.36
2021	2.83	1.05	2.97
2020	2.65	1.10	2.91
Annual Average 2019-2023	3.15	2.02	6.35

GMP serves 1,577 meters in Stratton: The primary sources of power for the town of Stratton are the following (% of customers served by the feeder):

1. GMP's Stratton G33 feeder (SO-G33) – 75%
2. GMP's East Jamacia G7 feeder (EJ-G7) - 12%
3. GMP's Stratton G34 feeder (SO-G34) - 7%
4. Several other GMP feeders serve the balance of Stratton each in small percentages.

GMP's Stratton and East Jamaica substations are sourced from GMP's southern Vermont 46 kV sub-transmission system.

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

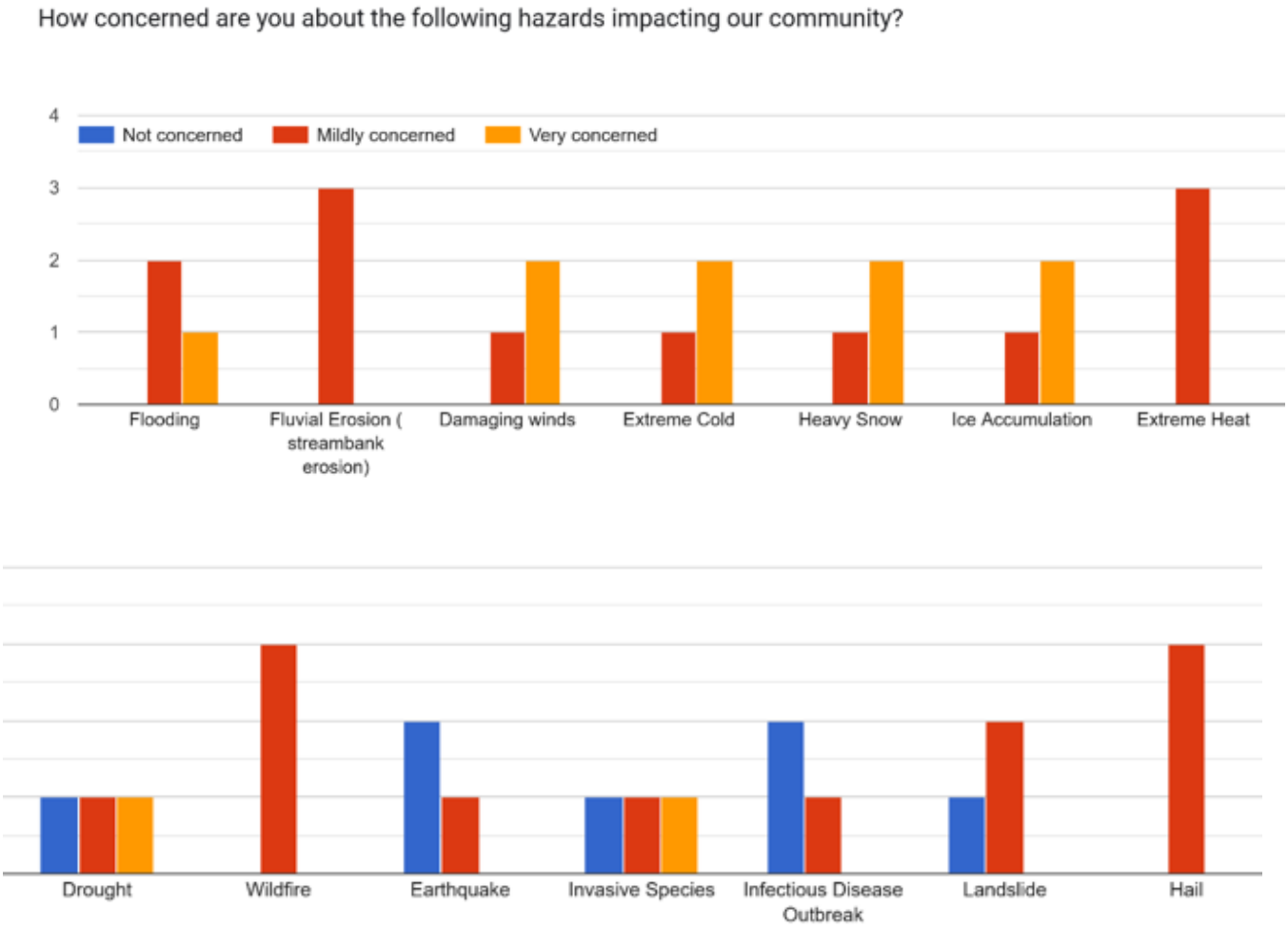
To mitigate the impacts of power outages, the following public buildings/critical facilities have been equipped with back-up power or generator hook-up: Town Hall, Town Office, Fire Department, and the Town Garage. The buildings that would serve as community shelters do not have generators, and getting them is a mitigation action in this plan.

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

Hazard Ranking Process

A public survey was conducted to understand what natural hazards are of concern to people in Stratton. The survey was on the Town website for a few months. There were only 3 responses to the survey, which is a low response rate. The hazards of highest concern are high winds, extreme cold, heavy snow and ice accumulation.

[4] Data provided by Ken Couture of Green Mountain Power via email 7/28/2025.



The hazard ranking process has been revised since the 2019 plan was developed. The hazards considered now only include natural hazards and align with what is contained in the State Hazard Mitigation Plan. The rankings below are based on data in terms of previous occurrences, probability of future events, and links to climate change. Community input is provided for measuring vulnerability specific to assets and residents. The combination of these factors in a quantified measure produces a score. **Hazards receiving a score of 9 or higher considered medium or high and are profiled in this Plan. For Stratton this includes: Wind (including tropical storms), Ice, Snow and Cold (combined), Fluvial Erosion and Inundation Flooding (combined, and including ice jams), Invasive Species, Drought, Heat and Wildfire.** These hazards are inclusive of the hazards of concern to respondents of the public survey, shown above, of which the most "very concerned" responses were for high winds, extreme cold, heavy snow and ice accumulation.

Possible Hazard	Previous Occurrences	Probability of Future Occurrences	Linked to climate change (add 1 point)	Vulnerable Assets	Vulnerable Residents	Score:
Wind	4	4	1	4	4	17
Ice	3	4	1	4	4	16
Snow	3	4	1	4	4	16
Cold	3	4	1	4	4	16
Fluvial Erosion	4	4	1	3	3	15

Possible Hazard	Previous Occurrences	Probability of Future Occurrences	Linked to climate change (add 1 point)	Vulnerable Assets	Vulnerable Residents	Score:
Inundation Flooding	3	4	1	3	3	14
Invasive Species	2	4	1	4	2	13
Drought	3	3	1	1	4	12
Heat	2	3	1	0	4	10
Wildfire	1	3	1	2	2	9
Hail	3	3		1	1	8
Infectious Disease Outbreak	1	2	1	0	4	8
Landslides	3	3		0	1	7
Earthquake	0	1		0	4	5

The rankings are based on this scoring break down:

Previous Occurrences (data driven):

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

Probability of Future Occurrences (data driven):

Score	Meaning
1	Unlikely
2	Possible
3	Probable
4	Highly Likely

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

Vulnerable assets (Community information):

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

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

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

Hazards with a ranking below 9 are considered low risk either because of rare occurrence or lack of community exposure. For hazards not profiled in this Plan, the reader can refer to the State of Vermont Hazard Mitigation Plan.

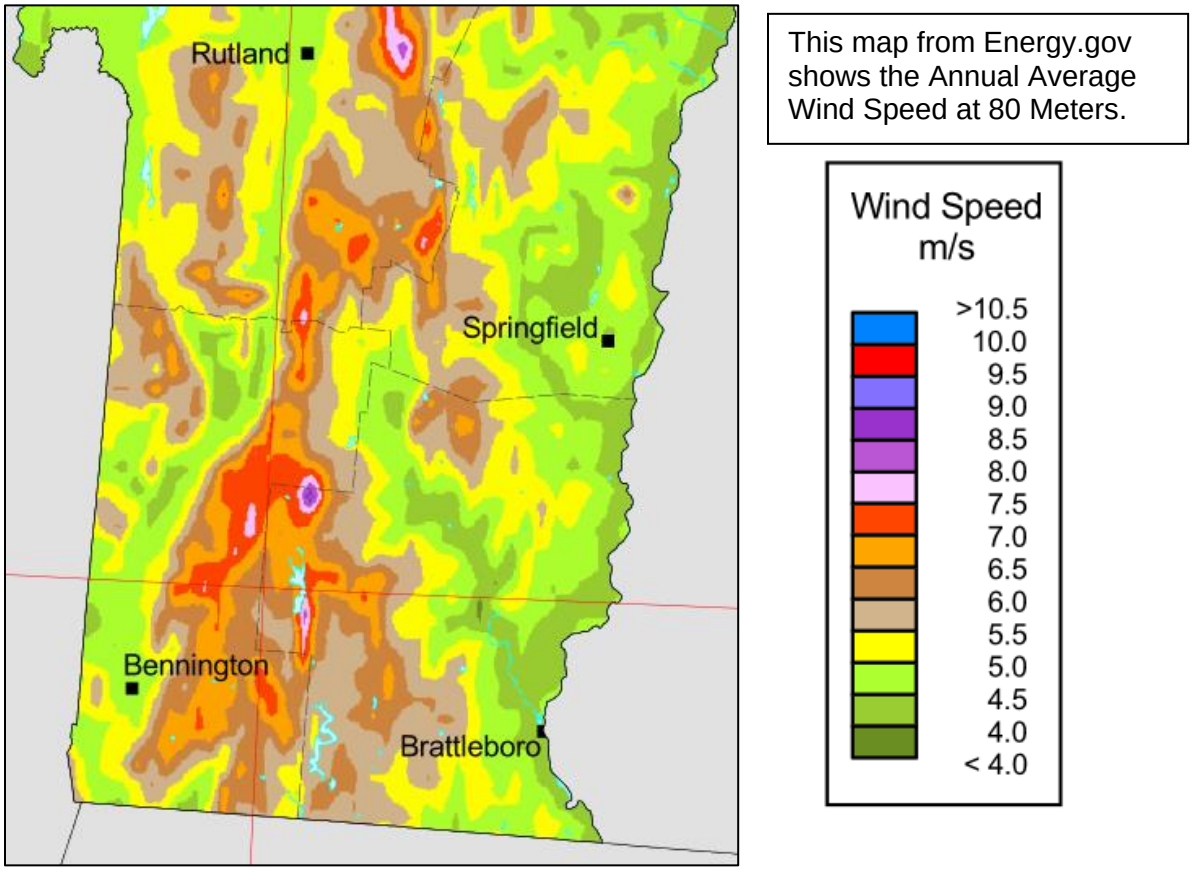
Highest Risk Hazard Profiles

High Winds

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

There are many trees in close proximity to roads, buildings and power lines. GMP trims trees near their lines only. There are areas where power lines go through the forest, so tree trimming is not as practical. Consolidated Communications does no tree maintenance. Town road crews generally do tree and limb cleanup, but there is not a lot of *preventative* tree maintenance at the town level.

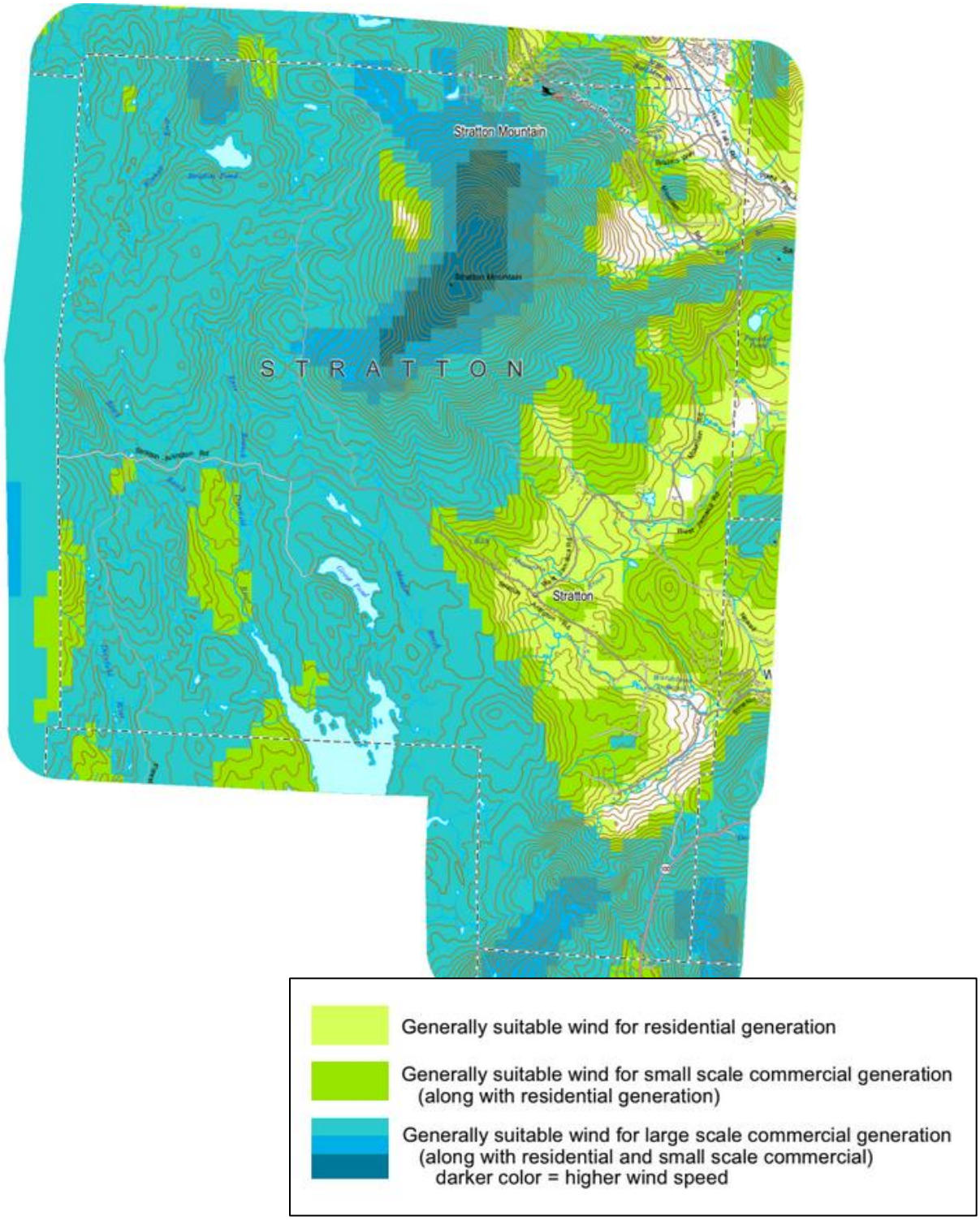
High winds can affect any location, though higher elevations are at more risk. The below map shows annual average wind speeds for southern Vermont, and the spine of the Green Mountains predictably has the highest speeds. The purple area to the north of the highlighted square is Stratton Mountain, which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



For a more localized look at wind speed, the below map shows wind power opportunity correlated only to wind speed[5]. The majority of the Town is higher elevation so in general has higher wind speeds are

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

throughout the town with Stratton Mountain having the highest wind speeds. Mountain Road has a higher probability of downed trees because it has more trees along it than other roads. Mountain Road also has very few homes along it and there are no power lines on a portion of Mountain Road which means less of an issue when a tree falls in that stretch of the road. Stratton-Arlington Road also has no power lines from about ¾ of a mile east of Grout Pond Road, so downed trees past that point are not an issue on power lines. That being said, otherwise in Stratton trees on power lines is an issue at times during and after wind events or ice and snow events, meaning power outages are a secondary effect and a hazard to vulnerable populations.



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

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

The Enhanced Fujita Scale or EF Scale is used to assign a tornado a 'rating' based on estimated wind speeds and related damage. When tornado-related damage is surveyed, it is compared to a list of Damage Indicators and Degrees of Damage which help estimate better the range of wind speeds the tornado likely produced. From that, a rating (from EF0 to EF5) is assigned[6]. There have been 2 EF1 tornadoes and 1 EF2 tornado in Windham County since 1990.

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

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

5/16/2022	Wardsboro	70 mph	Thunderstorm winds
3/7/2022	Region-wide	40-50 mph	Thunderstorm winds
5/15/2020	West Dummerston	50 mph	Thunderstorm winds
8/21/2019	Windham	EF1	Tornado
7/28/2018	Regionwide	50-60 mph	Thunderstorm winds
11/10/2017	Region-wide	40-50 mph winds	High winds
9/5/2017	Region-wide	50-60 mph winds	Thunderstorm winds
6/8/2011	Northern Windham C.	50 mph	Thunderstorm winds
7/20/2008	Region-wide	50 mph	Thunderstorm winds
2/17/2006	Region-wide	60 mph generally; Stratton Mtn measured 143 mph gusts	High winds, likely snow storm

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

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

Wind Hazard Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide	Downed trees, downed power lines, extended power outages; potential for injuries from falling debris or power lines; disruption to services and businesses	High winds in large storms are typically in the 40-60 mph range and in 1938 there was an extreme 100 mph event.	Windham Road, Deer Valley Road and East Hill Road are in areas of higher average winds; trees get knocked down in large storms; Overall trees lost, roads blocked, power outages, structural damage to houses	Score of 4; Highly Likely

Ice, Snow, and Extreme Cold

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

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

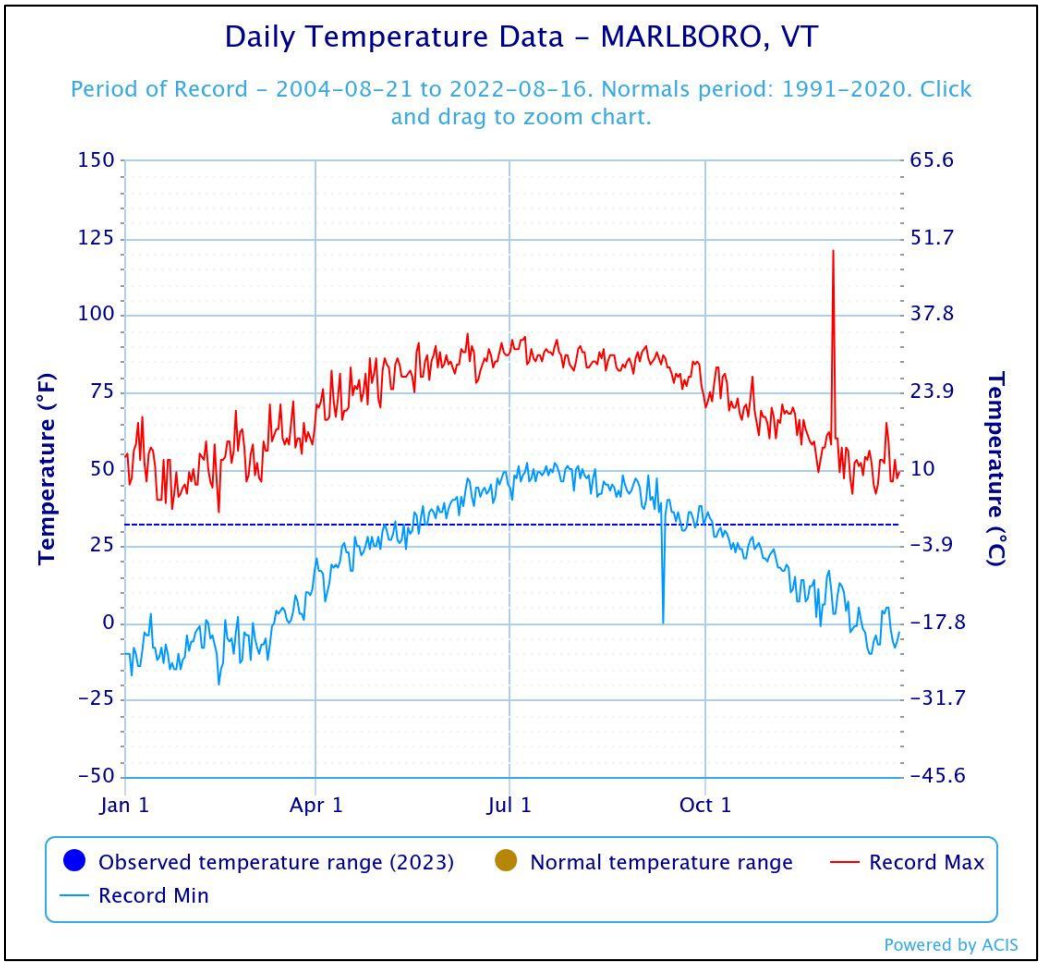
Severe winter weather affects the entire planning area, though higher elevations generally experience more extremes. An ice storm crossed the region in December of 2008 causing widespread downed trees and power outages in the region. The total cost of damages across the region triggered a Presidential Disaster Declaration DR-1816. Damage consisted of roads being blocked due to downed trees and utility lines. Thousands lost power for varying lengths of time and several shelters were opened. An event in

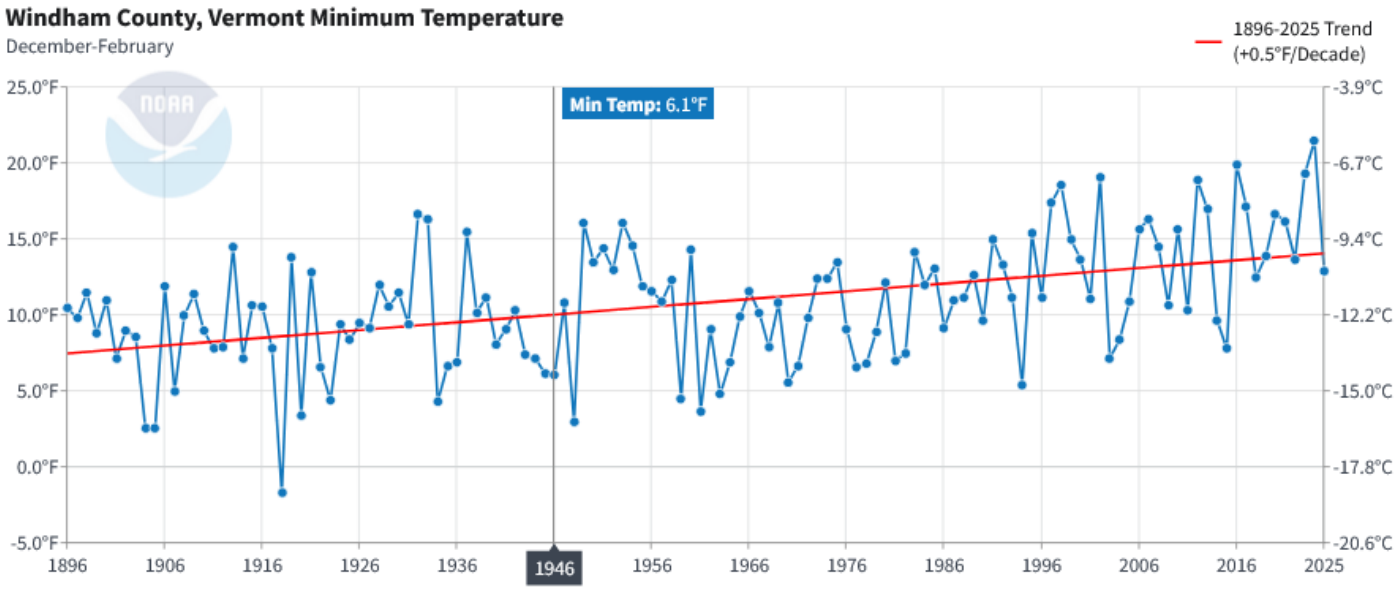
March 2023 had similar results and 1-to-5-day power outages varying throughout the region, but did not trigger a federal declaration.

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

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

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





The above chart shows the minimum temperature between December-February from 1896 to 2025 for Windham County. Over that span of time, the minimum has risen .5 degrees Fahrenheit per decade.

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

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

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

Ice, Snow, and Extreme Cold Summary Table

	Location	Vulnerability	Extent	Observed Impact	Probability
Ice	Town-wide, with higher elevations being at greater risk of extremes	Road accidents, power outages, damage to property, docks, shorelines	Worst ice storm in recent history was in December 2008 (DR1816); Snow and sleet amounts of 1-3 inches fell, along with ice accretion of ½ - ¾ of an inch	Extended power outages; road accidents; carbon monoxide from improper use of generators	Score of 4; Highly Likely

Snow	Town-wide, with higher elevations being at greater risk of extremes	Roofs prone to collapse from weight; Power lines and trees; impassable roads due to snow drifts; indirect injuries from overexertion; Unsafe travel, especially for school buses and ambulances	Extreme snowfall records are 36” in one day measured in West Wardsboro on December 19, 1986; the multi-day extreme recorded snow event was 41.6” measured in Marlboro on March 15, 2023.	Roof collapse on at risk structures; road accidents; power outages from downed trees and wires; school cancellations and delays; outdoor recreation events cancelled;	Score of 4; Highly Likely
Cold	Town-wide, with higher elevations being at greater risk of extremes	People living in older structures; energy burdened households Structure fires Damage to water pipes Damage to agricultural crops	The coldest temperature on record is -15° on February 15, 2016 in Marlboro	Burst water pipes and flooding; school cancellations and delays; outdoor recreation events cancelled;	Score of 4; Highly Likely

Fluvial Erosion and Inundation Flooding

Flooding is the most widespread and destructive hazard in the United States and in the Windham Region. Flooding can occur anytime of the year as a result of heavy rains, thunderstorms, tropical storms, hurricanes, snow melt, or rain on snow. It can result from the overflow of major rivers and their smaller tributaries, or inadequate local drainage. Historically, floods have been a factor in over 80 percent of all federally declared disasters. People living in close proximity to bodies of water such as rivers, lakes, and streams are at greater risk from flooding than those not living in the floodplain. Municipal membership in the National Flood Insurance (NFIP) and having a compliant floodplain ordinance in place gives residents access to discount flood insurance and enables towns to regulate development within their regulated flood hazard area.

Much of the destruction from flooding in Vermont is due to fluvial erosion, which is the is the destruction of river banks caused by the movement of rivers and streams. This can range from gradual bank erosion to catastrophic changes in river channel location and dimension during flood events. This occurs when the stream has more energy than is needed to transport its sediment load, due to channel alterations or runoff events that increase water speed in the channel, leading to erosion. Major erosion events are typically associated with periods of heavy rainfall or rapid snow melt and tend to worsen the effects of

flooding that often accompany these events. The historic road network of many Vermont towns and villages typically follows waterways. This historic settlement pattern creates vulnerability for the road network, infrastructure and development in these areas. Climate change is leading to larger storms and larger flood and fluvial erosion events, putting more development at risk. This trend is discussed in the Climate Change section earlier in this Plan.

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

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

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

DR #	Date of Declaration	Event Type	Applicant	Awarded Amount
1307	1999-11-10	Severe Storm	Town of Stratton	$ 10,700.94
1336	2000-07-27	Severe Storm	Town of Stratton	$ 19,174.88
1698	2007-05-04	Severe Storm	Town of Stratton	$ 56,108.21
1816	2009-01-14	Severe Ice Storm	Town of Stratton	$ 13,067.55
3167	2001-04-10	Snowstorm	Town of Stratton	$ 3,124.64
4022	2011-09-01	Hurricane	Town of Stratton	$ 927,449.20
4532	2020-04-08	Biological	Stratton Mtn School and Ski Found.	$ 203,698.52
4621	2021-09-29	Flood	Town of Stratton	$ 282,605.68

Local Flooding Concerns and Experience

There is very limited FEMA designated floodplain throughout the whole of Stratton, due to the hilly and mountainous terrain.

[7] OpenFEMA Dataset: Public Assistance Grant Project Summaries

There are two areas that the Road Foreman is concerned about with future fluvial erosion risk. The first area of concern is on Pike Hollow Road where the Brook currently is very close to the Road. There is a drop-off where the elevation from the road to the Brook is approximately 40' and this would affect approximately 200-300' of the Road, if there was a slope failure from fluvial erosion.

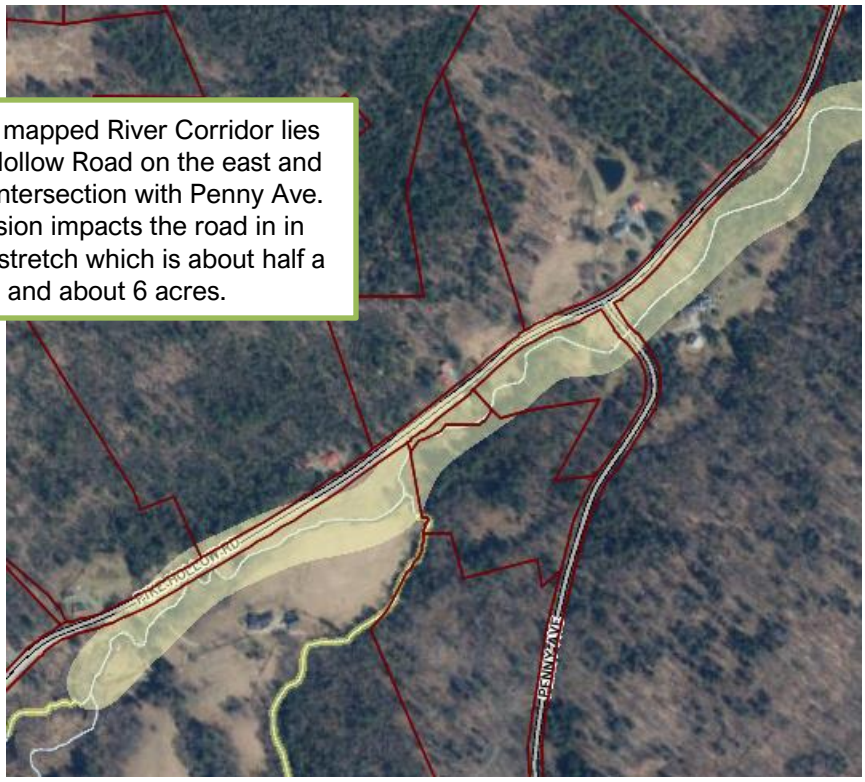
Area of concern for active fluvial erosion on Pike Hollow Road. Note the proximity of river and road. July 2025. Photo courtesy of Chris Liller, Stratton Road Foreman.

Pictured here are two problem culverts on Mountain Road. Each photo is a separate culvert and both are undersized and in need of replacement. These are mitigation actions in this Plan. These areas experience erosion damage, which puts roadway nearby at risk of washout during large rain events.

Flash floods typically occur in high elevation drainage areas as a result of summer thunderstorm activity. Drainage ditches and culverts are the biggest concern for local flash flooding events. Trees plugging culverts is also an issue especially on improperly sized culverts. Other areas of concern during flooding events are homes located along small brooks throughout town that are subject to rise during quick flash flooding events. Plan participants noted that there has been an increase in flash floods in recent years that cause washouts of road shoulders, but generally nothing too serious. They attribute the rise in larger bursts of rain events to climate change.

Culvert 14A over Styles Brook at Stratton Mountain Resort is a problem culvert and currently is in the scoping stage of getting an upsized fix.

Fluvial erosion is an issue in many of the same places that flooding is an issue—particularly along stretches of Pike Hollow Road and Stratton Arlington Road. The primary cause of the fluvial erosion in Stratton is road cuts into stream valleys, which tend to incise—taking the road and the trees with them. The roads were put in these valleys, along the streams, because it was easier to locate roads there historically, but those choices lead to erosion concerns with today's larger events.



This area of mapped River Corridor lies along Pike Hollow Road on the east and west of the intersection with Penny Ave. Fluvial erosion impacts the road in in parts of this stretch which is about half a mile and about 6 acres.

The second area of concern for fluvial erosion is in the small stream setback (unmapped River Corridor) along the Wardsboro Brook nearby Stratton Arlington Road. The area of concern is approximately 10.5 acres along a couple of properties and primarily is a risk to two homes. The property to the east on the screen shot below had the stream channel hardened to protect their yard from further erosion after a large event.

Another area of concern is West Jamaica Road from the Jamaica town line to Canedy Road (shown below). The mapped River Corridor, shown in cream color, encompasses the road in many portions of this approximately 1.25 mile stretch which closely follows the Wardsboro Brook.

An issue for Stratton's vulnerability for residents is that they heavily rely on roads in neighboring towns that are vulnerable, such as Mountain Road, Access Road and Pikes Falls Road. These roads experience damage frequently during large events, and Stratton must rely on neighboring towns for repairs that can impact access in and out of Stratton.

Ice jam flooding is fairly common in Vermont in the early springtime, generally around March. The heavy rainfall, combined with runoff from snowmelt due to the mild temperatures, results in flooding of rivers, streams and creeks, mainly from the formation of ice jams. Stratton doesn't have mapped current or historic ice jams according to the CRREL Ice Jam Database. There are also no locally known problem

spots for ice jams. This may be because of Stratton's higher elevation, whereas ice jams form more in lower elevation floodplain areas where waterways and debris have been able to collect and build up.

Events of the largest magnitude at the nearest recording station:

Highest Precipitation By Day: Marlboro, VT	
Date	**Amount (inches)**
10/30/2017 (DR 4356)	4.11
7/11/2023 (DR 3595/4720)	4.04
12/18/2023	2.99
6/27/2023	2.92
8/5/2020	2.89
9/19/2012	2.56
1/24/2024	2.53
3/14/2023	2.18
4/8/2022	2.17
5/1/2023	2.09
2/4/2022	1.85
11/3/2018	1.83
Period of record: 8/13/2003 to 5/12/2025	

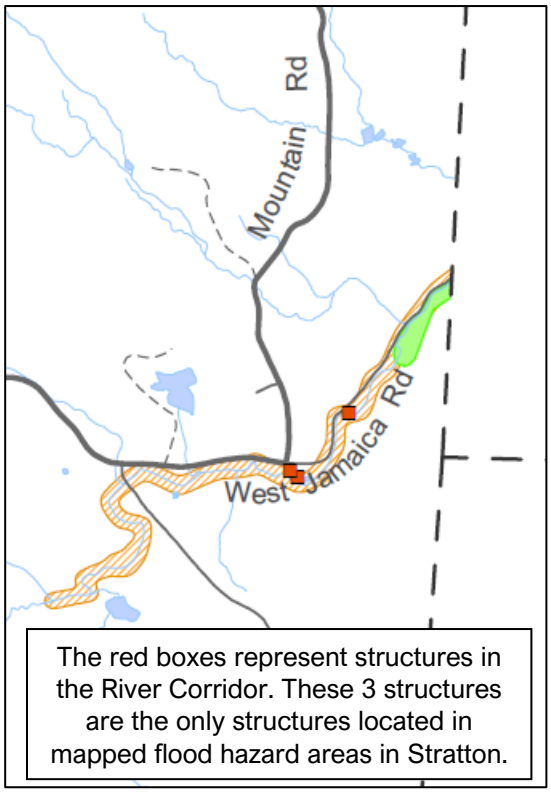
Structures in Mapped Flood Hazard Areas

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

Three structures are in a mapped river corridor, and none in the FEMA SFHA. No publicly owned facilities are located in mapped flood hazard areas.

There are 4 flood insurance policies in effect in Stratton.

There are 0 repetitive loss properties.



The red boxes represent structures in the River Corridor. These 3 structures are the only structures located in mapped flood hazard areas in Stratton.

Property owners with a federally backed mortgage on a building in the SFHA are required to purchase flood insurance. A town being a member of the National Flood Insurance Program (NFIP) provides residents with access to flood insurance through the NFIP. If a

town is not a member of the NFIP, residents must buy the required insurance on the private market. Properties outside of the FEMA floodplain can optionally purchase flood insurance at a lesser expense, and it still covers damages resulting from fluvial erosion in events that damage multiple properties. Structures outside of mapped flood hazard areas can still be vulnerable to flooding as the mapping is imperfect to the reality of the hazard, it is simply the best data available.

Flood Hazard Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
FEMA SFHA, FEMA 500-year floodplain, VT ANR mapped River Corridors	Culverts, bridges, dams; properties near rivers and streams; septic systems. 3 buildings are located in mapped flood hazard areas.	The largest rain event was 4.11 inches on 10/30/2017 (DR 4356). The largest area of fluvial erosion is along Pike Hollow Road (39.4 acres)	Flooding generally: Damage and debris to roads; flooding to residential properties; some stream bank collapse; streambank erosion.	Score of 4; Highly Likely

Invasive Species: Plants and Forest Pests

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

Invasive plant species are a region-wide hazard; however, each location will be confronted with a distinct mix of invasive species that thrive under the particular ecological conditions of that place. Each invasive species has a different potential to spread to other areas based on the rate at which it spreads and the ecological suitability of the ecosystem that it is expanding into.

An invasive species can be defined as **an exotic species whose introduction into an ecosystem in which the species is not native and causes or is likely to cause environmental or economic harm or harm to human healt**h[8].

Invasive Plant Species

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

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

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

Japanese knotweed, vtinvasives.org

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

Particular invasive plant concerns in the Windham region are listed in two groups based on their estimated threats to natural and hard infrastructure. All (except spindle tree) are quarantined, Class B Noxious Weeds in Vermont[9].

Group A—Higher threats to infrastructure:

1. There are heavy infestations of Japanese Knotweed (*Fallopia japonica*) along the North Branch of the Deerfield River and the Rock River, as well as the lower reaches of several brooks. It leaves shorelines susceptible to erosion because there is no other vegetation stabilizing the stream bank (Basin 11 Management Plan, Preliminary Draft 2007). TS Irene both (1) eroded stream and river banks, removing many riparian trees, and (2) moved fragments of knotweed to new areas, thus allowing knotweed to flourish on the bare soil left in its wake.
2. Asiatic (Oriental) bittersweet (*Celastrus orbiculatus*), an aggressive climbing vine that can smother trees, utility poles, and buildings.
3. Amur, Morrow's, Tartarian, and Bell's honeysuckle (*Lonicera mackii, morrowii, tatarica, x bella)*

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

4. Japanese & Common barberry (*Berberis thunbergii & B. vulgaris)*, which promote Lyme disease by harboring high populations of deer mice, one of the intermediate hosts of deer ticks.
5. common and glossy (European) buckthorn(*Rhamnus cathartica & R. frangula*), which slow forest regrowth.
6. Burningbush (*Euonymus alatus*)—still a common ornamental in yards, spreading to woods via birds that eat the low-value fruit, little wildlife value, should be excavated.


Burning Bush, vtinvasives.org

Group B—Lesser threats to infrastructure:

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

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

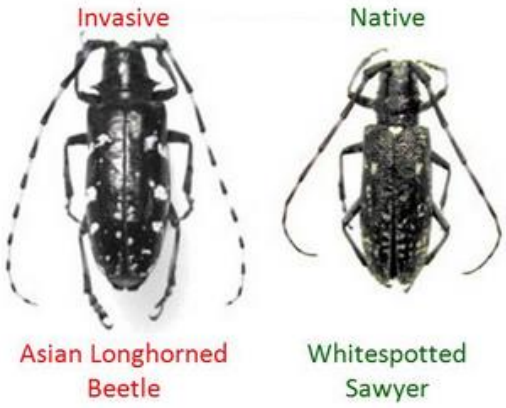
Common name	Latin name	Locations	Threats	Control
Japanese Knotweed	*Fallopia japonica*	Banks of all rivers and many brooks	Can grow through asphalt, into basements, and block trails; more likely to wash out than natives	Mowing (endless), repeated cutting & digging (3-10 years), mesh?
common and glossy (European) buckthorn	*Rhamnus cathartica & R. frangula*	Clearcuts, woodland edges	Prevents regrowth of native trees	Excavation including roots
Japanese &	*Berberis thunbergii & B.*	Planted shrub,	Increases deer mice which harbor	Excavation

Common barberry	*vulgaris*	escapes to woods	deer ticks with Lyme disease	including roots
Burningbush	*Euonymus alatus*	Planted as ornamental, birds spread seeds to woods	Displaces native shrubs	Excavation including roots
Amur, Morrow's, Tartarian, and Bell's honeysuckle	*Lonicera mackii, morrowii, tatarica, x bella*	Planted as ornamental, birds spread seeds to woods	Displaces native shrubs	Excavation including roots

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

Invasive Forest pests

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



- Ash yellows – present throughout VT
- Asian longhorned beetle – not confirmed in VT; closest area to the Windham region that has the pest is Worchester County, Massachusetts in 2008; this insect will have a major impact if it becomes established in Vermont.
- Balsam wooly adelgid - present throughout VT
- Beech bark disease - present throughout VT
- Beech leaf disease - confirmed in southeastern Vermont
- Butternut canker - present throughout VT
- Chestnut blight - present throughout VT
- Dutch elm disease – has spread throughout VT
- Elm zigzag sawfly – not yet confirmed in VT
- Elongate Hemlock scale – confirmed in parts of VT
- Emerald Ash borer – confirmed and spreading in VT
- Hemlock wooly adelgid – confirmed in southern VT
- Jumping worms (3 species found in VT) - confirmed in all Vermont counties with the exception of Essex and Orleans
- Oak wilt – not yet detected in VT, but has recently been found in in multiple locations in New York state.
- Pear thrips - present throughout VT
- Red pine scale – not confirmed yet in VT
- Sirex woodwasp – confirmed in parts of VT
- Spongy moth – established in VT
- Spotted lanternfly - been found in several states, including Pennsylvania, Connecticut, Delaware, Maryland, New Jersey, New York, Virginia, and West Virginia and Ohio; not yet established in VT, but an interception of truck cargo in VT did find 3 adults of the species

- Thousand cankers disease – never been detected in VT
- Wandering broadhead planarian - distribution is currently unknown. This species was recorded for the first time in Montréal, Canada in 2019
- White pine blister rust - present throughout VT
- Winter moth - never been detected in Vermont.

Between emerald ash borer (EAB), Asian longhorned beetle (ALB) and hemlock wooly adelgid (HWA) alone, more than 14 different species of trees in Vermont are threatened including: maple, elm, horse chestnut, willow, ash, poplar, European mountain ash, hackberry, and hemlock. EAB is spreading fast; within the Windham region, as of this writing EAB has been confirmed in these towns, though it is suspected to be in every town in the region.

1. Brattleboro 2023
2. Dover 2025
3. Dummerston 2025
4. Grafton 2025
5. Guilford 2023
6. Halifax 2023
7. Londonderry 2019
8. Marlboro 2024
9. Newfane 2024
10. Putney 2023
11. Readsboro 2020
12. Rockingham 2024
13. Searsburg 2025
14. Somerset 2024
15. **Stratton 2024**
16. Townshend 2022
17. Vernon 2021
18. Wardsboro 2024
19. Westminster 2021
20. Weston 2025
21. Whitingham 2023
22. Wilmington 2021
23. Winhall 2025

Emerald Ash borer insect

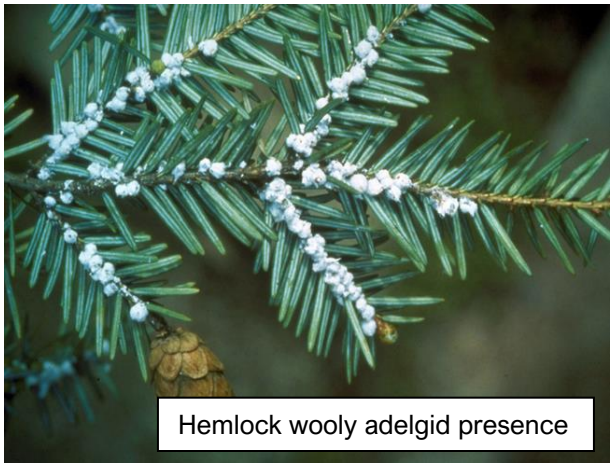
Blonding with pecked holes on ash trees is a sign of EAB infestation.

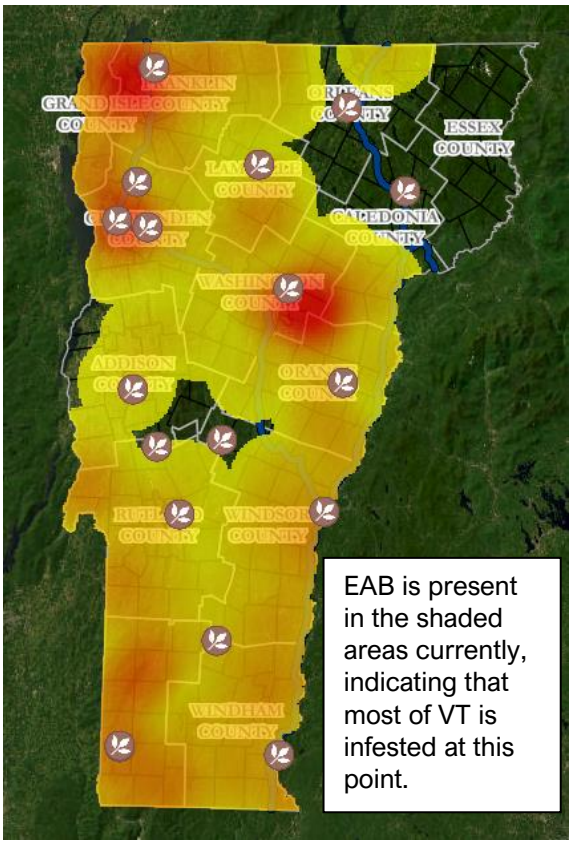
EAB only feeds on Ash trees, but that is 7% of Vermont's tree species. EAB is often moved around on firewood that people transport. Eradicating the insect on wood requires heating it to at least 140 degrees or higher for greater than 60 minutes.

EAB essentially girdles the ash trees, killing them. It lives between the inner bark and the wood, so it isn't that deep. Woodpeckers like feeding on EAB, but the woodpecker population isn't large enough to significantly impact the EAB population. Also the woodpeckers don't generally detect the insects in the trees until they have been present for about two years, which is too late to save the tree. One of the best diagnostic methods for detecting EAB is called "blonding". "Blonding" is a clear symptom of EAB infestation. It occurs when woodpeckers, while foraging for the succulent EAB larvae, flake off outer layers of bark, revealing the lighter or blond-colored inner layers of bark.[10]

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

The hemlock woolly adelgid (HWA), *Adelges tsugae*, is a tiny insect from east Asia that attacks forest and ornamental hemlock trees. It feeds on young twigs, causing needles to dry out and drop prematurely. Trees may die in four to six years. Some survive, but with sparse foliage, losing value as shelter for wildlife and their ability to shade streams. Sustained cold leads to kill off of the adelgid insects. Mortality rates of even 91%, however, can still lead to population growth through the warm season because they reproduce asexually so it only takes one for the population to expand. The HWA mortality rate shifts each year based on temperature patterns throughout the year, especially cold winter temperatures cause die off.


Hemlock wooly adelgid presence



EAB is present in the shaded areas currently, indicating that most of VT is infested at this point.

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

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

Invasive Species Summary Table

	Location	Vulnerability	Extent	Observed Impact	Probability
Plants	Elevations generally below 1,500 feet are most susceptible to invasive species, although any land with some sort of major disturbance (from wind, water, logging, or land clearing and	Areas at particular risk are road sides, newly cleared areas, disturbed land, riparian buffers, especially eroded buffers; power line right of ways	There are heavy infestations of Japanese Knotweed along the West River banks and West Hill Road. Japanese barberry, yellow flag iris, and common and glossy buckthorn have become well	Dead and dying trees along roadways and powerlines, and near buildings; invasive plants along roadways and waterways; Compromised soil stability along waterways. Overgrowth in shallow waters that kill off other	Score of 4; Highly Likely

	development) could potentially host them.		established in many locations.	plants and block sunlight.	
Forest pests	Town-wide; areas where firewood is transported into the area from away, like campsites, are at higher risk	Forests, agriculture, waterways, native species; risk of downed trees in public rights of way from EAB and other pests.	EAB is present in many Windham region towns and spreading; HWA is ubiquitously present in Stratton. Over half of the trees in Vermont are host species of one of these three main pests, so the potential impact is great.	Dead and dying trees along roadways and powerlines, and near buildings; threats real and potential to local forest economy related to maple syrup industry, fall tourism, and logging	Score of 4; Highly Likely

Drought

Drought is defined as a shortage of water relative to need. According to the Vermont 2018 Hazard Mitigation Plan, drought is a complex phenomenon for several reasons:

- It is difficult to monitor and assess because it develops slowly and covers extensive areas, as opposed to other disasters that have rapid onsets and obvious destruction.
- The effects of drought can linger long after the drought has ended.
- Drought is an inherent, cyclical component of natural climatic variability and can occur at any place at any time, making it difficult to determine the onset, duration, intensity, and severity, all of which affect the consequences and corresponding mitigation techniques.

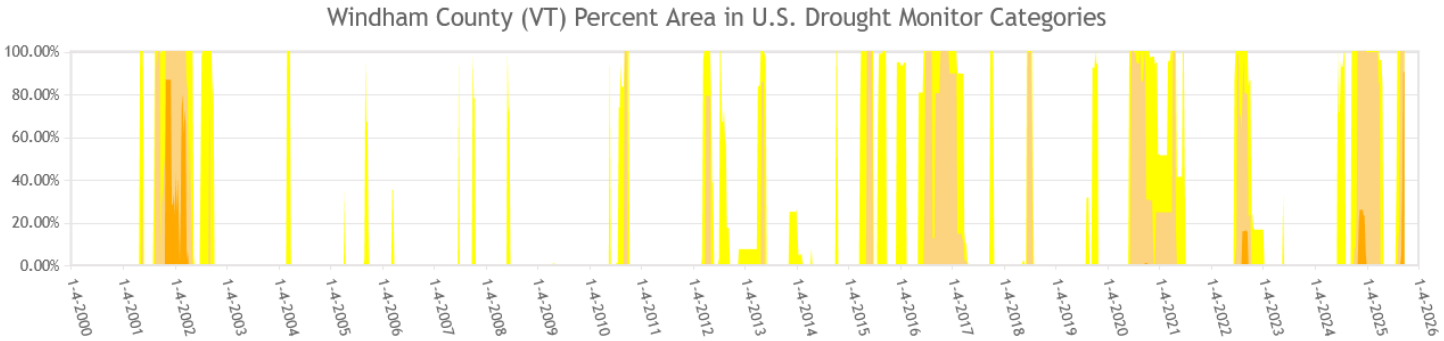
Extended periods of drought during a Vermont growing season can be devastating for agriculture. USDA data show occasional payouts from crop insurance due to drought damage, but this data is at the county level. Furthermore, not all local growers carry crop insurance. Forestry operations are susceptible to drought as well, because extended warm and dry seasons can increase risk of disease. Drought also weakens or kills wildlife, and the dieback of vegetation and increased risk of wildfire destroys habitat.

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

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

It seems paradoxical that while climate change is generally bringing increased levels of precipitation that Vermonters should experience drought. However, climate change also is linked to climate instability and extremes. Due to climate change the increasing frequency and duration of droughts will also increase impacts to town assets. According to the US Drought Monitor, Windham County has experienced some level of drought every year since 2012, with 2023 being the lowest level since that time. Minor portions of the county experienced severe drought (D2) in August 2022 and summer 2025 (as of this writing). We

are currently in the worst period of drought since 2001. The worst period of drought on record was between November 2001 until March 2002.[11]



The Agency of Natural Resources maintains a crowd-sourced database called the ANR Drinking Water Drought Reporter. https://anrmaps.vermont.gov/websites/droughtreporter/. As of this writing, 538 private wells are showing water shortages or outages in the state.

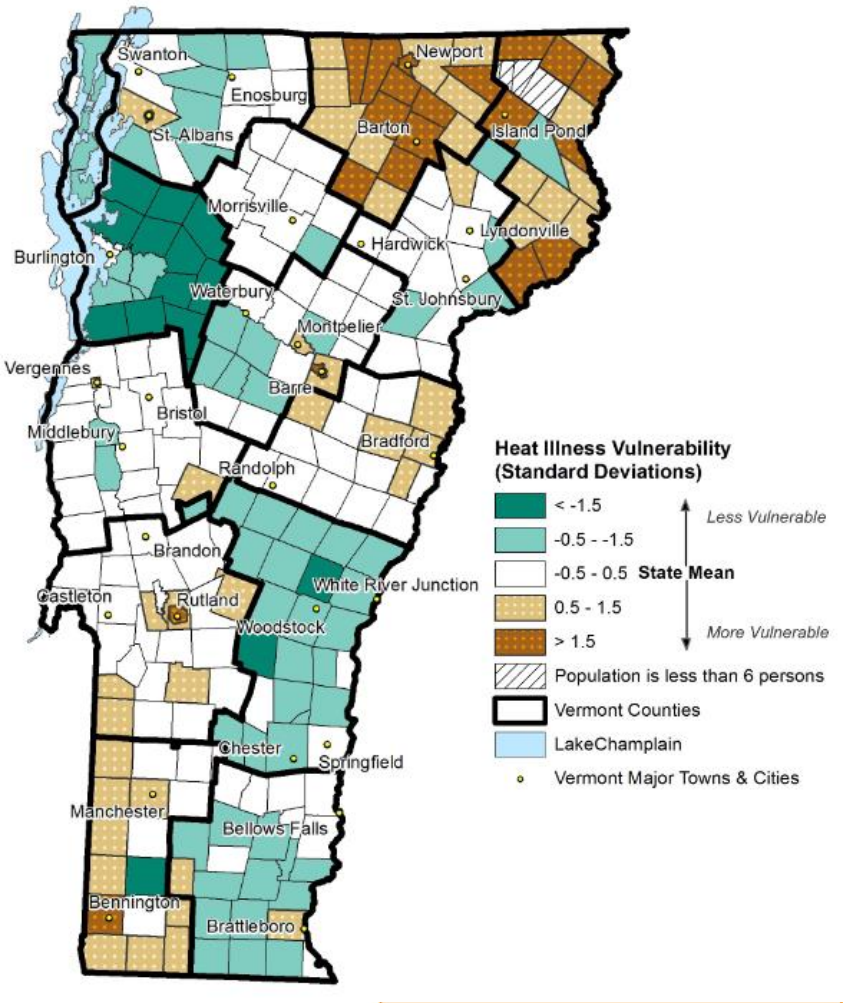
Drought Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide	Crop loss, loss of drinking water, higher occurrence of algae blooms; increased risk of wildfire	Worst drought was Nov 2001 to March 2002; some level of drought experienced yearly since 2012	Loss of drinking water	Score of 3; Probable

[11] US Drought Monitor website: https://droughtmonitor.unl.edu/DmData/TimeSeries.aspx, accessed 1/17/2024

Heat

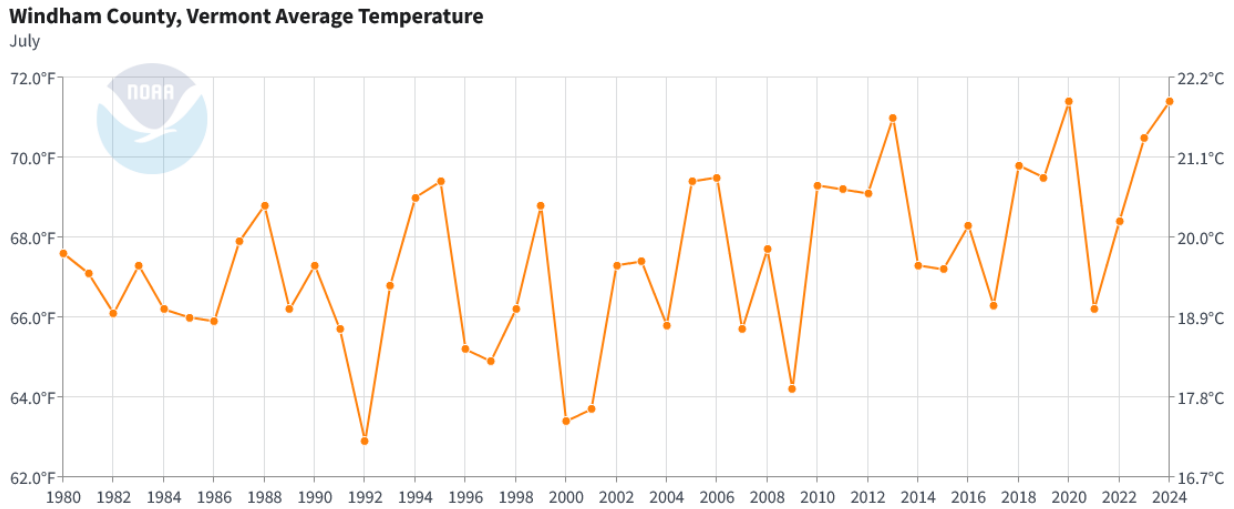
The Centers for Disease Control reports that more people die from heat than other weather-related events. The actual number of deaths are most likely underreported because heat can exacerbate other underlying conditions such as heart and respiratory disease, leading to death[12]. The impacts of extreme heat can be particularly challenging in areas like the Windham Region where residents are not accustomed to high temperatures and are less likely to live in air-conditioned structures.



As a rule, the National Weather Service considers "excessive heat" to be an event when the maximum heat index is expected to be 105° or higher for at least two days and nighttime air temperatures will not drop below 75°. The primary impact of extreme heat or prolonged periods of hot weather is to human life. Hot conditions, especially when combined with sun and high humidity, can limit the body's ability to thermoregulate properly. Prolonged exposure to hot conditions can lead to heat cramps, heat exhaustion, heat stroke, or exacerbate other pre-existing medical conditions. Some of these impacts require medical attention and can be fatal if left untreated. Children and the elderly are especially vulnerable to heat-related illnesses. The map to the left is a Heat Vulnerability Index developed by the Vermont Department of Health. The Vermont Heat Vulnerability Index draws together 17 different measures of vulnerability in 6 different themes: population, socioeconomic, health, environmental, climate, and heat illness. These measures are combined to measure the overall vulnerability of Vermont towns to heat-related events.

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

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



Heat Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide	Children, elders, people with underlying conditions, people below the poverty line; water supplies and water bodies; livestock	2018 has the highest number of excess heat days, 18 in all counties in the region	Increased hospitalizations due to heat-related illness (VT Dept. of Health data), five heat-related deaths reported statewide in the summer of 2018	Score of 3; Probable

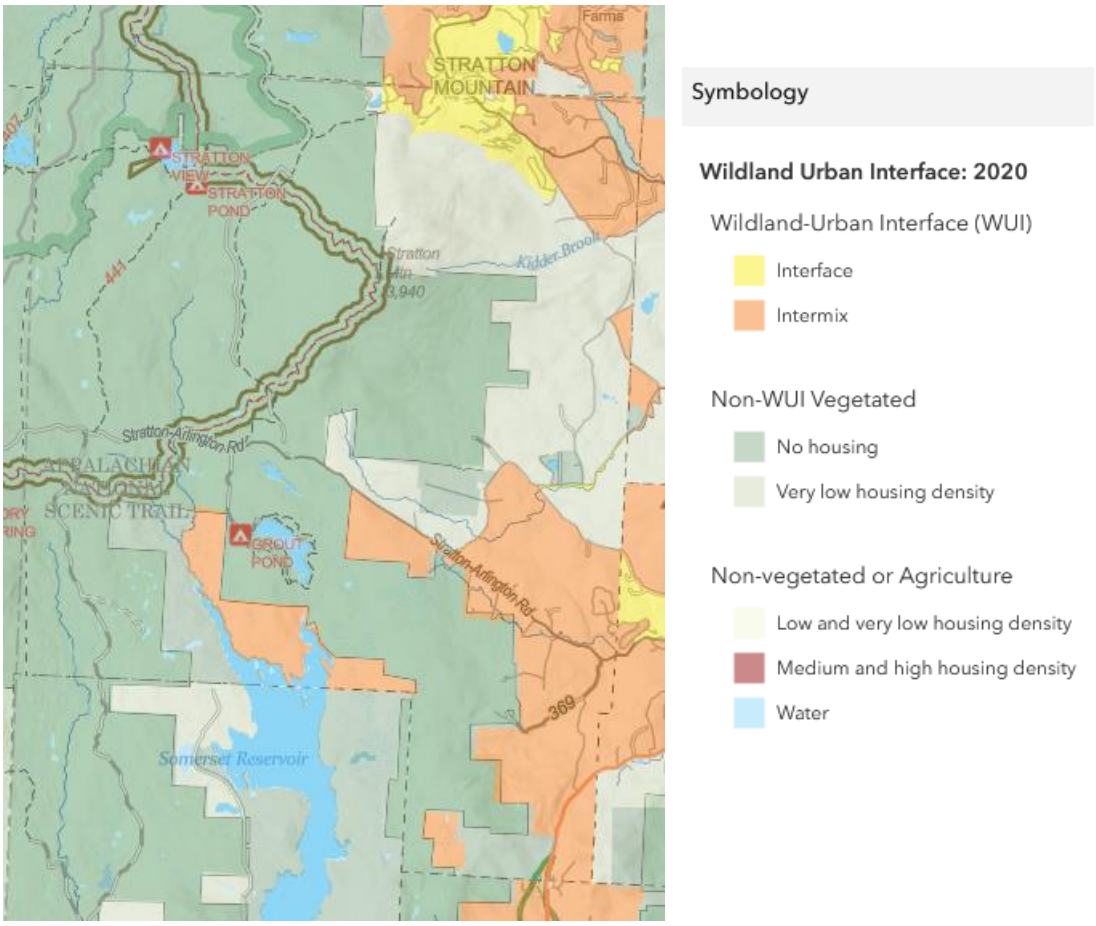
Wildfire

Wildfires pose a unique danger to communities and individuals. Wildfire conditions are typically most dangerous in spring when dead grass and fallen leaves from the previous year are dry and in the late summer and early fall. Drought conditions and high winds also increase the risk of wildfire. The most common cause of wildfires in Vermont is humans through burning refuse, or untended or improperly extinguished campfires. Lightning strikes are also a less common cause of fires.

FEMA has the following four categories for wildfires:

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

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



The US Forest Service maps the Wildland-Urban Interface (WUI) which is the area where houses meet or intermingle with undeveloped wildland vegetation. This makes the WUI a focal area for human-environment conflicts such as wildland fires, habitat fragmentation, invasive species, and biodiversity decline. Because a large portion of Stratton is forested, the geographic area of the hazard covers the majority of the community. Areas prone to wildfires are described as “interface” (yellow shaded) or “intermix” (orange shaded). Interface areas can be found along the divide between urban scale development and natural areas. Stratton is characterized by the western half being primarily vegetated and the easter half being “intermix” areas where residential dwellings are interspersed within very low-density housing areas. These red and yellow shaded areas are more vulnerable to wildfire.

Wildfires have a low occurrence in Vermont, so risk is considered low. However, risk changes constantly. Wildfire risk potential models are generated routinely to account for changing conditions. Models take into account availability of fuel (forest cover), precipitation and soil moisture anomalies, drought, and snow depth data in order to give a general prediction for the season or month, though wildfire risk changes daily. These natural risk factors are important, but 95% of wildfires are started by humans (debris burning being the most frequent cause). Risk is often also based on how much damage to the built environment wildfires can do, so settlement density impacts risk in terms of damage potential. The Department of Forest, Parks and Recreation keep records of wildfires and their database shows no reported wildfires in Stratton since 1979. There may have been some smaller fires but they were not reported to the state. The Fire Chief sees the largest wildfire risk in Stratton being the limited access and tough to navigate topography of the vast amount of Forest Service land in Stratton. A difficult to access wildfire could become large because fire fighters couldn’t get to it quickly[13].

The largest 10 wildfires since 2008 in the Windham Region are:

[13] 10/10/2025 email from Stratton Fire Chief, Matt Underwood.

	Town	Date of Discovery	Total acres	Cause
1	Brattleboro	05/04/2015	47	Other causes
2	Londonderry	04/19/2016	14.6	Other causes
3	Brattleboro	05/13/2010	13.7	Campfire
4	Brattleboro	11/08/2024	10.5	Powerline
5	Rockingham	11/07/2022	9.1	Debris Burning
6	Brookline	04/17/2009	8	Equipment use
7	Brattleboro	11/13/2024	6.6	Undetermined (Human or Natural)
8	Wilmington	11/04/2015	6	Other causes
9	Putney	04/28/2016	5	Debris Burning
10	Vernon	04/24/2014	4.7	Debris Burning

Year	# of Wildfires	Total acreage burned
2025 (to date)	8	3.922
2024	12	19.93
2023	4	3.51
2022	13	14.486
2021	11	2.347
2020	10	8.06
2019	1	0.2
2018	2	1.12
2017	6	4.5
2016	22	38.015
2015	12	59.427
2014	8	11.15
2013	5	3.87
2012	6	1.88
2011	1	0.06
2010	12	15.78
2009	8	11.47
2008	14	10.185
Total	**155**	**209.912**

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

Wildfire Summary Table

Location	Vulnerability	Extent	Observed Impact	Probability
Town-wide	Damage to public infrastructure, utilities, private residences and businesses	The extent of wildfire risk can be hard to predict because it is so dependent on soil moisture, drought, and current weather conditions. The U.S. Forest Service maintains	Uphill areas without roads intersecting, are vulnerable areas.	Score of 2: Possible

		the Wildland Fire Assessment System, which provides national fire danger ratings and is updated daily. Danger level is ranked as low, moderate, high, very high, or severe. Wildfire conditions are typically most dangerous in spring when dead grass and fallen leaves from the previous year are dry and in the late summer and early fall.		

Mitigation Strategy

Goals of Mitigation

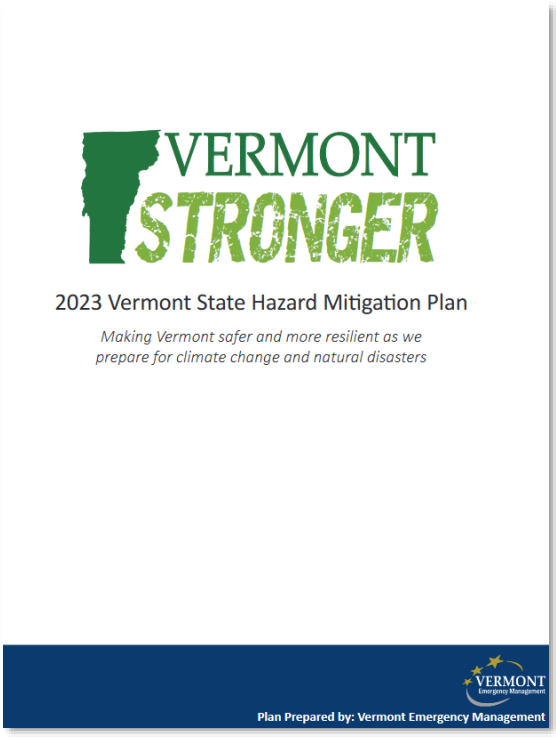
The Goals listed here were reviewed in this update. The Town's overall goals of this Plan remain the same since the last update.

- Reduce the loss of life and injury resulting from all hazards.
- Reduce the impact of hazards on the town's water bodies, natural resources, and historic resources.
- Reduce the economic impacts from hazard events.
    - Minimize disruption to the road network and maintain access;
    - Mitigate financial losses incurred by municipal, residential, industrial, agricultural and commercial establishments due to disasters;
    - Ensure that community infrastructure is not significantly damaged by a hazard event; and
    - Be 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 resources, such as the Town Plan and the Local Emergency Management Plan.
- Ensure that members of the general public continue to be part of the hazard mitigation planning process.

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

Goals shown in the 2023 Vermont State Hazard Mitigation Plan:

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



Community Capabilities

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

➢ Administrative and Technical

In addition to the Emergency Management Services described in the Community Profile section, municipal staff that can be used for mitigation planning and to implement specific mitigation actions include: Town Clerk, Assistant Clerk/Lister, Treasurer, Road Foreman, 3-member Highway Department, and an appointed Town Health Officer who is also the Zoning Administrator.

In addition to paid staff, there is a 5-member Selectboard, 5-member Planning Commission, Zoning Board of Adjustment, a 911 coordinator, a Tree Warden, a Fire Warden, and the volunteer Fire Department.

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

➢ Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Examples of planning capabilities that can either enable or inhibit mitigation include land use plans, capital budgeting programs, transportation plans, stormwater management plans, disaster recovery and reconstruction plans, and emergency preparedness and response plans. Examples of regulatory capabilities include the enforcement of zoning ordinances, subdivision regulations, and building codes that regulate how and where land is developed, and structures are built.

Town Plan: Adopted December 2020
Description: A framework and guide for how future growth and development should proceed.
Relationship to Natural Hazard Mitigation Planning: Includes goals, policies, and action steps related to flood resilience. While this may not have been done in past updates, going forward there should be a distinct consideration of natural hazards in choosing sustainable areas intended for growth and expansion.

Flood Hazard Area Bylaw: adopted in 2016 zoning, based on 2007 model standards
Description: Provides for orderly community growth promoting the health, safety, and general welfare of the community.
Relationship to Natural Hazard Mitigation Planning: Establish site plan review requirements and zoning districts, including Flood Hazard and Riparian Area Overlay Districts, with specific standards for proposed development. Requirements are designed to prevent overdevelopment; to mitigate negative impacts to the natural and human environment; minimize effects to the historical and aesthetic character of the community; and ensure design and construction of development in flood and other hazard areas are accomplished in a manner that minimizes or eliminates the potential for flood loss or damage to life and property.

Road and Bridge Standards: Adopted March 2025
Description: Provide minimum codes and standards for construction, repair, maintenance of town roads and bridges.
Relationship to Natural Hazard Mitigation Planning: Standards include management practices and are designed to ensure safety of the traveling public, minimize damage to road infrastructure during flood events, and enhance water quality protections.

Road Erosion Inventory Report: last completed 2017. Update in progress as of this writing.
Description: Prioritizes those infrastructure projects necessary to improve transportation network resiliency and water quality.
Relationship to Natural Hazard Mitigation Planning: Improvements are designed to minimize or eliminate flood impacts on hydrologically connected road segments.

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

➢ Financial

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

Stratton's current annual town general fund budget is $1,080,047. The Highway Department FY26 budget is $1,583,600. Stratton has not received FEMA grant funding other than the update of this Plan. The Stratton Volunteer Fire Department operates one fire house. The town funds the fire department based on an annual appropriation that accounts for about 75% of the Department's funding, and the Department does annual fundraisers and receives Post Office rental income to help offset the difference. Stratton Resort currently provides fuel for the fire trucks.

➢ Education and Outreach

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

- Town website
- Stratton Fire Department Facebook Page
- Brattleboro Reformer (local newspaper)
- Physical public posting locations

NFIP Compliance

The Town of Stratton joined the National Flood Insurance Program (NFIP) in 1975. The effective date of the current Flood Insurance Rate Map (FIRM) is September 28, 2007, with new draft maps currently available. The Floodplain Administrator enforces NFIP compliance through permit review requirements in the Flood Hazard Area regulations. 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.

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

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

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

State Incentives for Flood Mitigation

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

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

1. NFIP participation
2. Town Road and Bridge Standards
3. Local Emergency Management Plan
4. Local Hazard Mitigation Plan (expired currently)

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

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

Stratton's current ERAF rate is 7.5% because they do not have in place all four base mitigation measures.

Identification of Mitigation Actions

The Planning Team discussed the mitigation strategy, reviewed projects from the 2015 Plan, and identified possible new actions from the following categories for each of the high scoring natural hazards identified in the Risk Assessment.

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

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

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

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

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

MITIGATION IN ACTION								
Local Plans and Regulations								
	HAZARD(S) ADDRESS-ED	**ISSUE/ CONCERN**	**ACTION DESCRIPTION / CURRENT STATUS**	**RESPON-SIBLE ENTITIES (Lead party in bold)**	**TIME-FRAME**	**POTENTIAL FUNDING**	**Community Lifeline Connection Y/N**	**MITIGATION / PREPARED-NESS / PREVENTION / MAINTENANCE**
1	Flood / Fluvial Erosion	The bylaw needs to be updated in conjunction with new FEMA mapping becoming effective and should be considered in light of coming River Corridor requirements from VT ANR.	Update the current Floodplain regulations to include River Corridors	**Planning Comm.** with assistance from WRC and ANR	by 2028	WRC has funding to assist	N	Mitigation / Prevention
2	All Hazards	Town and Resort coordination are pivotal in Stratton.	Stratton Resort sharing Continuity of Operations Plan with the Town for coordination	**Stratton Resort** / EMD	2026	Resort funds	Y	Preparedness
3	All Hazards	The Stratton LEMP does not have any annexes currently, but it is the long form template.	Town to develop more of the Annex materials for the LEMP	EMD	by end of 2027	Town funds	N	Preparedness / Maintenance
4	All Hazards	There are facilities available to host Team Rubicon, which would be a regional asset for recovery.	Develop agreement for hosting Team Rubicon. Stratton Resort has agreed to host them at one of their numerous facilities when needed.	EMD	by the end of 2026	Team Rubicon funds / Stratton Resort as host	Y	Preparedness
5	Invasive Species		Planning Commission to develop language for land use permits and permit applications to require applicant to address seed spread prevention for invasive species control	Planning Comm.	2027	Town funds	N	Mitigation / Prevention

6	All Hazards	Town is currently developing a sheltering agreement with Red Cross, the town and Stratton Mountain School	Complete Red Cross sheltering agreement	EMD	by mid-2026	Town funds	Y	Preparedness

	Structure and Infrastructure Projects							
	HAZARD(S) ADDRESS-ED	**ISSUE/ CONCERN**	**ACTION DESCRIPTION / CURRENT STATUS**	**RESPON-SIBLE ENTITIES (Lead party in bold)**	**TIME-FRAME**	**POTENTIAL FUNDING**	**Community Lifeline Connection Y/N**	**MITIGATION / PREPARED-NESS / PREVENTION / MAINTENANCE**
7	Flood / Fluvial Erosion	This project has a hydraulic study and would likely need to be upsized to a box culvert. This project was identified in 2019 plan and remains a priority. Need to get an engineer's cost estimate so the town can start budgeting for it.	Upgrade culvert on Mountain Road at the intersection of Mountain Road and Bear Creek Road. This is the replacement of two failing steel culverts that were installed side by side; also possibly includes road straightening.	Road Foreman	Dependent on grant award timeframe, possibly start spring or summer 2028 and complete within that season	VTrans Structures Grant	N	Mitigation / Maintenance
8	Fluvial Erosion	During Irene trees fell off the bank along Pike Hollow Road. Now there is a potential bank failure that could impact the roadway; ANR will need to recommend the stabilization strategy, most likely a wall of some type.	Bank stabilization of 150' along Pike Hollow Road is the needed action. The issue is that this area will eventually fall into the stream if no action is taken, and this will likely occur during another big rain and fluvial erosion event. This section of needed stabilization is on private land.	**Road Foreman** would hire private contractors to do work, but he would oversee the job.	Hope to do this project in 2028 or 2029, start spring and complete late spring of one year	VTrans or FEMA grants	N	Mitigation

	Structure and Infrastructure Projects							
	HAZARD(S) ADDRESS-ED	**ISSUE/ CONCERN**	**ACTION DESCRIPTION / CURRENT STATUS**	**RESPON-SIBLE ENTITIES (Lead party in bold)**	**TIME-FRAME**	**POTENTIAL FUNDING**	**Community Lifeline Connection Y/N**	**MITIGATION / PREPARED-NESS / PREVENTION / MAINTENANCE**
9	Flood / Fluvial Erosion	Severely undersized culvert leading to a lot of problems for the waterway; nearby infrastructure complicates this project; highest priority project in Stratton right now; Failure would severely limit access in the area.	Upgrade of culvert on Styles Brook at Stratton Resort. A grant was just received to do a scoping study for this project. This is a large project and involves maintenance facility from ski area for a period of time.	**Road Foreman; Resort;** Selectboard; WRC for grant support	2026 scoping; 2027 construction	Water quality grants and VTrans grants in partnership; town match as needed	Y	Mitigation / Maintenance
10	Flood / Fluvial Erosion	If these culverts wash out, the detour is long and also risky, and leads to longer access times during emergencies.	Mountain Road and Forester Road culvert upgrade (two side by side culverts). A hydraulic study has been done showing likely need to upsize to a larger pipe culvert.	**Road Foreman**; Road crew with contractor support	2028 or 2029	VTrans or FEMA grants	Y	Mitigation
11	Heat / Ice / Snow / Cold / Wind / Flooding / Fluvial Erosion	There is no generator at the Sun Bowl Lodge, Main Base Lodge, or the Stratton Mountain School, all of which are emergency shelters.	Install generators at Resort locations that act as shelters.	Resort staff and EMD	2027	Town, Resort and/ or grant funding	Y	Mitigation / Preparedness
12	Wildfire	Fire Department needs a 4x4 truck to help with access of rough terrain	Purchase of 4x4 truck for the Fire Department	Fire Chief	2026	Fire Department grant and/ or town funds	Y	Preparedness / Mitigation

	Natural Systems Protection and Nature-based Solutions							
	HAZARD(S) ADDRESS-ED	**ISSUE/ CONCERN**	**ACTION DESCRIPTION / CURRENT STATUS**	**RESPON-SIBLE ENTITIES (Lead party in bold)**	**TIME-FRAME**	**POTENTIAL FUNDING**	**Community Lifeline Connection Y/N**	**MITIGATION / PREPARED-NESS / PREVENTION / MAINTENANCE**
13	Flooding / Fluvial Erosion	Stratton Resort is required to have a Buffer Management Plan due to other permit requirements; Every HOA has a stormwater system and the resort manages them together.	Stratton Resort will carry out their Buffer Management Plan and their Stormwater Management Plan	Stratton Resort	Ongoing	Resort funds	N	Prevention / Maintenance
14	Flooding / Fluvial Erosion	Stone line ditching has helped a lot with road washouts; the town is prioritizing the worst spots. This also helps keep sediment out of streams and in this way improves water quality.	Complete stone line ditching	Road Crew	Ongoing process that is underway; complete in 2026	Grants in Aid	Y	Preparedness / Prevention / Maintenance
15	Flooding / Fluvial Erosion	A River Corridor Plan with specific actions would help to understand project needs and prioritize projects.	Seek VT DEC support in pursuing a Corridor Plan that covers Stratton	Select board	Ideally 2030	DEC grant funds	N	Mitigation

	Education and Awareness Programs							
	HAZARD(S) ADDRESS-ED	**ISSUE/ CONCERN**	**ACTION DESCRIPTION / CURRENT STATUS**	**RESPON-SIBLE ENTITIES (Lead party in bold)**	**TIME-FRAME**	**POTENTIAL FUNDING**	**Community Lifeline Connection Y/N**	**MITIGATION / PREPARED-NESS / PREVENTION / MAINTENANCE**
16	All Hazards	Non-digital radios have difficulty in the mountainous areas, such as Stratton.	Purchase of digital radios for the Fire Department, to align with new radios that the Highway Department recently purchased.	**Highway Dept, Select board and Fire Dept**.	2026	Town funding	Y	Preparedness

	Education and Awareness Programs							
	HAZARD(S) ADDRESS-ED	**ISSUE/ CONCERN**	**ACTION DESCRIPTION / CURRENT STATUS**	**RESPON-SIBLE ENTITIES (Lead party in bold)**	**TIME-FRAME**	**POTENTIAL FUNDING**	**Community Lifeline Connection Y/N**	**MITIGATION / PREPARED-NESS / PREVENTION / MAINTENANCE**
17	All Hazards	CARE is a self-identification to E911 of medical needs so that prioritization and needs can be known during power outages and other hazard events	Promote CARE program to vulnerable residents.	**EMD** / VT Dept. of Health	TMD yearly	VT Dept of Health funds	Y	Preparedness / Mitigation
18	All Hazards	The Town would like residents to sign up for VTAlert	EMD will work with VEM to understand VTAlert sign-up rate in town and make flyers available on TMD.	EMD	TMD 2026	Town funds	Y	Preparedness
19	All Hazards	Town has a few folks that they'd like permissions and training to be able to send alerts	Town will get training for appropriate positions to be able to send VTAlerts	EMD	TMD 2026	Town funds	Y	Preparedness / Mitigation
20	Invasive Species	Educating residents about invasive species is one way to help control the spread	Work with State Forester and US Forest Service to get invasive information for the town website	**Fire Chief** and State Forester; Planning Comm; US Forest Service	2026	Town funds	N	Mitigation / Prevention

Mitigation Action Evaluation

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

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

Action Evaluation Criteria:

- Life Safety – How effective will the action be at protecting lives and preventing injuries?
- Property Protection – How effective will the action be at eliminating or reducing damage to structures and infrastructure?
- Technical – Is the mitigation action a long-term, technically feasible solution?

- Political – Is there overall public support/political will for the action?
- Administrative – Does the community have the administrative capacity to implement the action?
- Other Community Objectives – Does the action advance other community objectives, such as capital improvements, economic development, environmental quality, or open space preservation?

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

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

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

MITIGATION ACTION EVALUATION AND PRIORITIZATION										
	Local Plans and Regulations									
ID	**ACTION DESCRIPTION**	**Life Safety**	**Prop Protect**	**Tech**	**Political**	**Admin**	**Other Obj**	**Benefit Score**	**Est Cost**	**C/B**
1	Update the current Floodplain regulations to include River Corridors	0	1	1	1	0	1	**4**	1	Yes
2	Stratton Resort sharing Continuity of Operations Plan with the Town for coordination	0	0	1	1	1	1	**4**	1	Yes
3	Town to develop more of the Annex materials for the LEMP	1	0	1	1	1	1	**5**	1	Yes
4	Develop agreement for hosting Team Rubicon. Stratton Resort has agreed to host them at one of their numerous facilities when needed.	1	1	0	1	0	1	**4**	1	Yes
5	Planning Commission to develop language for land use permits and permit applications to require applicant to address seed spread prevention for invasive species control	0	1	0	0	1	1	**3**	1	Yes
6	Complete Red Cross sheltering agreement	1	0	1	1	1	0	**4**	1	Yes

	Structure and Infrastructure Projects									
	ACTION DESCRIPTION	**Life Safety**	**Prop Protect**	**Tech**	**Political**	**Admin**	**Other Obj**	**Benefit Score**	**Est Cost**	**C/B**
7	Upgrade culvert on Mountain Road at the intersection of Mountain Road and Bear Creek Road. This is the replacement of two failing steel culverts that were installed side by side; also possibly includes road straightening.	1	1	1	1	0	1	**5**	3	Yes
8	Bank stabilization of 150' along Pike Hollow Road is the needed action. The issue is that this area will eventually fall into the stream if no action is taken, and this will likely occur during another big rain and fluvial erosion event. This section of needed stabilization is on private land.	0	1	1	1	0	1	**4**	3	Yes
9	Upgrade of culvert on Styles Brook at Stratton Resort. A grant was just received to do a scoping study for this project. This is a large project and involves maintenance facility from ski area for a period of time.	1	1	1	1	0	1	**5**	3	Yes
10	Mountain Road and Forester Road culvert upgrade (two side by side culverts). A hydraulic study has been done showing likely need to upsize to a larger pipe culvert.	1	1	1	1	0	1	**5**	3	Yes
11	Install generators at Resort locations that act as shelters.	1	1	1	0	0	1	**4**	3	Yes
12	Purchase of 4x4 truck for the Fire Department	1	1	1	0	0	1	**4**	3	Yes

	Natural Systems Protection and Nature-based Solutions									
	ACTION DESCRIPTION	**Life Safety**	**Prop Protect**	**Tech**	**Political**	**Admin**	**Other Obj**	**Benefit Score**	**Est Cost**	**C/B**
13	Stratton Resort will carry out their Buffer Management Plan and their Stormwater Management Plan	0	1	1	1	0	1	**4**	3	Yes
14	Complete stone line ditching	0	1	0	0	1	1	**3**	3	Yes

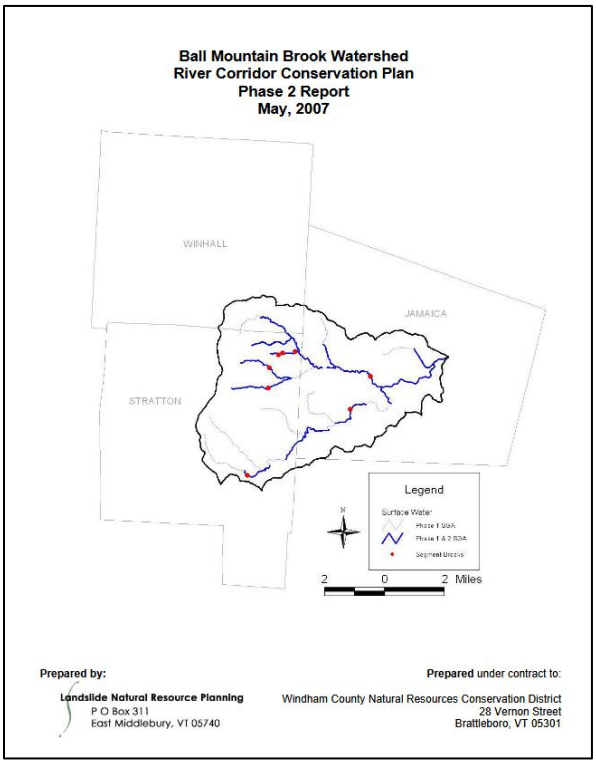
15	Seek VT DEC support in pursuing a Corridor Plan that covers Stratton	0	1	1	1	0	1	**4**	1	Yes

	Education and Awareness Programs									
	ACTION DESCRIPTION	**Life Safety**	**Prop Protect**	**Tech**	**Political**	**Admin**	**Other Obj**	**Benefit Score**	**Est Cost**	**C/B**
16	Purchase of digital radios for the Fire Department, to align with new radios that the Highway Department recently purchased.	1	1	0	0	1	1	**4**	3	Yes
17	Promote CARE program to vulnerable residents.	1	0	1	0	0		**2**	1	Yes
18	EMD will work with VEM to understand VTAlert sign-up rate in town and make flyers available on TMD.	1	0	1	0	1	0	**3**	1	Yes
19	Town will get training for appropriate positions to be able to send VTAlerts	1	0	1	1	0		**3**	1	Yes
20	Work with State Forester and US Forest Service to get invasive information for the town website	0	1	0	1	0	1	**3**	1	Yes

Ball Mountain Brook Corridor Plan

The plan is located on the Basin 11 page of the DEC's Watershed Planning Program website[14]. The *Ball Mountain Brook Watershed River Corridor Conservation Plan Phase 2 Report* was completed in May 2007. The *Report* identifies specific areas with improvement projects, but is not highly specific about the projects. Because of the complexity of the information contained, it is recommended that the reader consult the *Report* directly to understand recommended projects. It is also recommended that the Town pursue available opportunities for an updated study.

Additionally, the *Wardsboro River Corridor Plan* completed in 2014 only studied and identified projects within the reaches in Wardsboro and Jamaica.



Incorporating Mitigation into Other Local Planning Mechanisms

As part of the planning process, local planning mechanisms were reviewed for how well they consider and incorporate the mitigation goals of the town. Areas of

[14] https://dec.vermont.gov/water-investment/watershed-planning/basins-and-planners/basin11

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

Plans and Studies

Capability	Description	Improvement Opportunity
Town Plan	Plan for coordinated town-wide planning for land use, municipal facilities, etc.	Town Plan was adopted in 2020. A comprehensive integration of the Local Hazard Mitigation Plan should occur with updates of the Town Plan.
Local Hazard Mitigation Plan (LHMP)	Plan that identifies hazards in community and proposes actions to reduce or eliminate risk to people, property, and the natural environment.	Plan has a 5-year lifespan. Maintaining an up-to-date plan keeps the town eligible for FEMA mitigation grant funding. Review yearly and reference when updating Town Plan.
Stormwater Plan	Plan that identifies stormwater improvements for municipal roads.	Town received a General Permit to discharge stormwater from municipal roads
Local Emergency Management Plan (LEMP)	Municipal procedures for emergency response.	Updated yearly. The goal is to complete all LEMP appendices.
Invasive Species Management Plan	Plan that provides guidance on effective management of invasive species.	This has not been done. Only 11% of the town is not owned by National Forest, Great River Hydro or Stratton Resort.
Culvert Inventory	An inventory of the size, material, condition and location of culverts. Updated annually by Public Works Department.	The culverts on connected segments would have been updated in 2017 during the Road Erosion Inventory (currently being update), but there are culverts that have not been updated yet with dates that go back as far as 2002. A complete inventory has not been done.
School Emergency Response Protocol	School procedures for emergency response. Stratton children attend 'Mountain School' a public school located in Winhall and the town has school choice for middle and high school. 'Stratton Mountain School' is located in Stratton and is a private educational institution for kids that are seriously focused on winter mountain sports.	Town EMD is an adviser to the Stratton Mountain School on emergency planning.

Administrative Capacity and Capability

Capability	Description	Improvement Opportunity
Emergency Management Director	Prepares plans and procedures for responding to natural disasters	None identified. EMD is certified with Vermont Emergency Management.

Capability	Description	Improvement Opportunity
	other emergencies and leads response efforts.	
Planning Commission	Municipal body responsible for planning for the community, including maintaining the town plan, zoning bylaws, and subdivision regulations.	None identified.
Floodplain Administrator (FPA)	Administrative officer responsible for administering flood hazard bylaw.	Continuing education for FPAs is always a good idea.
Tree Warden	Responsible for trees on public property, including town properties, schools, and within public right-of-way.	None identified.
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. Keene Mutual Aid Dispatch for fire and rescue dispatch – written agreement/contract; State Police coverage
Mutual Aid Agreements – Public Works	Agreement for regional coordinated emergency highway maintenance services.	None identified. Recommended to formalize agreements with adjacent towns.
VEM Training	Training provided by state to ensure emergency responders are adequately prepared to respond to emergency incidents.	EMD, the Fire Chief and the Road Foreman/Selectboard member have ICS training. Maintain training.
Highway Department	Municipal department responsible for overseeing all aspects of municipal road network, including maintenance and construction.	None identified.
Town Clerk & Treasurer	Responsible for receiving and recording town archives, recording deeds, filing vital statistics information, running treasury.	None identified.

Financial Resources

Capability	Description	Improvement Opportunity
Town Budget	Annual municipal operating budget, approved at Town Meeting	Town annually contributes to a savings account to pay for grant match or equipment needs, but there is no set annual commitment or specific fund for mitigation. There is no identified problem with financial viability of the town.
Taxing Authority	Ability to assess and collect property taxes.	None identified. The town has a 1% tax.

Zoning and Regulations

Capability	Description	Improvement Opportunity
National Flood Insurance Program (NFIP)	Provides ability for residents to acquire flood insurance.	NFIP member in good standing.

Capability	Description	Improvement Opportunity
SFHA bylaws	Regulates development in FEMA identified SFHAs.	Adopted in 2016 zoning update, but the regulations should be reviewed and updated in concurrence with new draft FIRMs becoming effective. Consider including River Corridor regulations in next update as they are statewide mandatory starting in 2028.
Zoning	Regulates the development and division of land, standards for site access and utilities	Town does not currently have Zoning, other than SFHA bylaw. Adoption of zoning should be considered.
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.
Road Standards	Design and construction standards for roads and drainage systems.	None identified. State road and bridge standards adopted.
Wetland Protections	Protection of environment, water resources, wildlife, biota. Protected by 1990 Vermont Wetland Rules	None identified.
River Corridor bylaws	Regulates development in River Corridors as identified by Vermont ANR.	Consider including River Corridor bylaws in updated SFHA bylaw.
Sewage Regulations	Regulates on-site sewage systems.	None identified. Governed by state sewage regulations.

Outreach and Education

Capability	Description	Improvement Opportunity
Town Website	Municipal website providing relevant information to residents and businesses about public meetings, resources, etc.	Town should consider including more information for residents about local shelter location(s) and where to access information during an event.

PLAN MAINTENANCE PROCESS

Yearly Review and Plan Monitoring

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

- Progress in implementation of plan actions and goals.
- Discuss the effect of completed mitigation actions and their impact on vulnerability.

- Evaluation of unanticipated challenges or opportunities and their effect on capabilities of the town.
- Evaluation of hazard-related public policies, initiatives and projects.
- How mitigation strategy has been incorporated into other planning mechanisms
- The effectiveness of public and private sector coordination and cooperation.

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

Five-Year Update Process

Hazard mitigation planning is dynamic with changes in land use, changes caused by events, and the effects of climate change. To ensure that the Town maintains a current and relevant LHMP, it is important that it undergo a major update periodically as required in 44 CFR § 201.6(c)(4)(i). This update process will be thorough and occur at least every five years, and will include an evaluation, incorporate any new requirements that FEMA has set, and account for changes in the Town. To ensure funding for this comprehensive update, the Town should be applying for FEMA funding at the 2½ year point. Awarded grants can be put out to bid using the Town's procurement rules and a Consultant hired to assist with the following procedure[15]:

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

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

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

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

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

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

7. Once VEM designates the Plan 'approved pending adoption' the Consultant will inform the Town that the Plan is ready for adoption. The adopted Plan will be submitted to VEM and FEMA. FEMA

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

will issue notice of 'final approval' and set the date that an updated LHMP needs to be complete in order to maintain having a compliant plan in place.

Post-Disaster Review/Update Procedure

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

Ongoing Public Participation

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

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

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

APPENDIX

1. Mitigation Action Tracker
2. Update on Mitigation Actions identified in the prior Hazard Mitigation Plan
3. June 25, 2025 Meeting flyer and agenda
4. July 23, 2025 Meeting flyer and agenda
5. Email sent to adjacent towns for comment on the draft plan
6. Flyer and website notice advertising availability of Draft Hazard Mitigation Plan for public comment
7. Public and Town comments received

1. Mitigation Action Tracker

	MITIGATION ACTION TRACKER					
	Action	Information in Hazard Mitigation Plan			Current Status	
		Responsible Party	Timeframe for Completion	Funding Source	Date Began	Current Status
1	Update the current Floodplain regulations to include River Corridors	**Planning Comm.** with assistance from WRC and ANR	by 2028	WRC has funding to assist		
2	Stratton Resort sharing Continuity of Operations Plan with the Town for coordination	**Stratton Resort** / EMD	2026	Resort funds		
3	Town to develop more of the Annex materials for the LEMP	EMD	by end of 2027	Town funds		
4	Develop agreement for hosting Team Rubicon. Stratton Resort has agreed to host them at one of their numerous facilities when needed.	EMD	by the end of 2026	Team Rubicon funds / Stratton Resort as host		
5	Planning Commission to develop language for land use permits and permit applications to require applicant to address seed spread prevention for invasive species control	Planning Comm.	2027	Town funds		
6	Complete Red Cross sheltering agreement	EMD	by mid-2026	Town funds		
7	Upgrade culvert on Mountain Road at the intersection of Mountain Road and Bear Creek Road. This is the replacement of two failing steel culverts that were installed side by side; also possibly includes road straightening.	Road Foreman	Dependent on grant award timeframe, possibly start spring or summer 2028 and complete within that season	VTrans Structures Grant		
8	Bank stabilization of 150' along Pike Hollow Road is the needed action. The issue is that this area will eventually fall into the stream if no action is taken, and this will likely occur during another big rain and fluvial erosion event. This section of needed stabilization is on private land.	**Road Foreman** would hire private contractors to do work, but he would oversee the job.	Hope to do this project in 2028 or 2029, start spring and complete late spring of one year	VTrans or FEMA grants		

	MITIGATION ACTION TRACKER						
	Action	Information in Hazard Mitigation Plan			Current Status		
		Responsible Party	Timeframe for Completion	Funding Source	Date Began	Current Status	
9	Upgrade of culvert on Styles Brook at Stratton Resort. A grant was just received to do a scoping study for this project. This is a large project and involves maintenance facility from ski area for a period of time.	**Road Foreman; Resort;** Selectboard; WRC for grant support	2026 scoping; 2027 construction	Water quality grants and VTrans grants in partnership; town match as needed			
10	Mountain Road and Forester Road culvert upgrade (two side by side culverts). A hydraulic study has been done showing likely need to upsize to a larger pipe culvert.	**Road Foreman**; Road crew with contractor support	2028 or 2029	VTrans or FEMA grants			
11	Install generators at Resort locations that act as shelters.	Resort staff and EMD	2027	Town, Resort and/ or grant funding			
12	Purchase of 4x4 truck for the Fire Department	Fire Chief	2026	Fire Department grant and/ or town funds			
13	Stratton Resort will carry out their Buffer Management Plan and their Stormwater Management Plan	Stratton Resort	Ongoing	Resort funds			
14	Complete stone line ditching	Road Crew	Ongoing process that is underway; complete in 2026	Grants in Aid			
15	Seek VT DEC support in pursuing a Corridor Plan that covers Stratton	Select board	Ideally 2030	DEC grant funds			
16	Purchase of digital radios for the Fire Department, to align with new radios that the Highway Department recently purchased.	**Highway Dept, Select board and Fire Dept**.	2026	Town funding			
17	Promote CARE program to vulnerable residents.	**EMD** / VT Dept. of Health	TMD yearly	VT Dept of Health funds			
18	EMD will work with VEM to understand VTAlert sign-up rate in town and make flyers available on TMD.	EMD	TMD 2026	Town funds			
19	Town will get training for appropriate positions to be able to send VTAlerts	EMD	TMD 2026	Town funds			
20	Work with State Forester and US Forest Service to get invasive information for the town website	**Fire Chief** and State Forester; Planning Comm; US Forest Service	2026	Town funds			

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

Below is an update on mitigation actions listed in the 2019 Stratton Local Hazard Mitigation Plan. The planning participants reviewed these actions and provided an update to WRC at the outset of the Plan update process. Current status is listed here in the last column, and prioritization changes are called out where applicable. Changes in priority are reflected throughout the Plan and in the prioritization of new actions identified.

	Action	Responsible Party	Project Priority	Current Status
1	Upgrade culvert on Mountain Road at Little Kidder Brook. This will be a box culvert that will replace a steel culvert that is in bad shape. This is a hard site because the culvert is so deep.	Road Foreman	High	Completed; A box culvert was installed in the summer of 2020.
2	Upgrade culvert on Mountain Road at the intersection of Mountain Road and Bear Creek Road. This is the replacement of two steel culverts that were installed side by side and are also failing, and also possibly includes road straightening.	Road Foreman	High	Still a priority and carried forward with LHMP update; A hydraulic study has been completed but no design plans yet. Possible road straightening in this area when the culvert is replaced.
3	Bank stabilization of 150' along Pike Hollow Road is the needed action. The issue is that this area will eventually fall into the stream if no action is taken, and this will likely occur during another big rain and fluvial erosion event. This section of needed stabilization is on private land.	Town Road Foreman would hire private contractors to do work, but he would oversee the job.	Medium	Carried forward with 2025 LHMP update
4	Update the current Floodplain regulations to include River Corridors	Town with assistance from WRC and ANR	Medium	Not completed and still a priority action; Carried forward with 2025 LHMP update
5	Install 3 beaver grates to prevent beaver dams from plugging culverts: on Stratton Arlington Road (1), on Stone Chimney Road (1) and on Pikes Falls Road (1). The problem is that the water is encroaching the roads as the beavers dam the area. Culverts could also get plugged during a large rain event.	Town Road Crew	Medium	No Actual beaver grates have been installed and this is no longer a town priority because the beaver population is not substantial.
6	Bury power lines to future Town Recreation Center	Town to subcontract for electrical work	Medium	The Rec Area already has Underground Power. Action no longer needed.

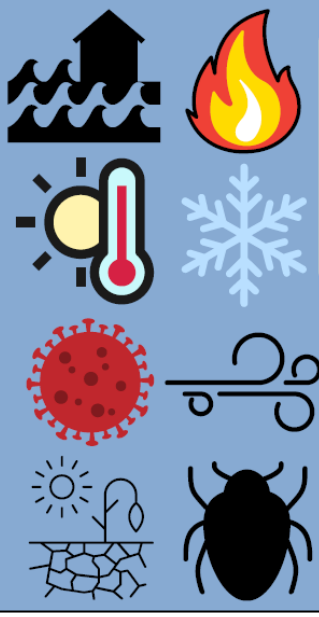
	Action	Responsible Party	Project Priority	Current Status
7	Take down some vulnerable White Pines near the town garage, and possibly some close to the town office.	Town and possibly contract those out that are near power lines	Medium	There are some Pine trees by the garage some of which can't be cut due to the greenbelt. Action no longer needed.
8	Establish and maintain a vulnerable populations list	Town Clerk and EMD	Medium	This action was not completed and the town now wishes to pursue instead through promotion of the self-identifying CARES program.
9	Coordinate with Consolidated Communications (land line phone service provider) to provide permanent backup power to the phone switching box for landline service in Stratton. Most residents must have landline phone service because the cell service is sporadic in Stratton. With a power outage, the phones don't work and people are cut off.	Town Clerk / Selectboard and Consolidated Communications	Medium	The town offered to provide this free of charge and Consolidated Communications said they would not allow it. Action not completed and not deemed possible.

Additionally, the Town utilized American Response and Protection Act (ARPA) funds to mitigate intelligence security risks for the town by paying their IT vendor to upgrade their cybersecurity measures. This included equipment upgrades as well as contractual costs with the vendor.

3. June 25, 2025 Meeting flyer and agenda

Stratton Local Hazard Mitigation Plan Update Public Meeting Announcement

When: Wednesday, June 25th at 6:30-8pm
Who: Town representatives and the public
Where: Zoom



Come help update Stratton'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?

The meeting link is here and available on the Town website

For questions or to learn more please contact Alyssa Sabetto 802-257-4547 x113

WINDHAM REGIONAL COMMISSION

AGENDA FOR TODAY'S MEETING

1. **Update of the Stratton Local Hazard Mitigation Plan**
   - Purpose
   - Process
2. **Hazards**
   - Brief review of existing Stratton Local Hazard Mitigation Plan
   - Discuss hazard events that have occurred since the last Plan and particular locations of concern from attendees
   - Discuss survey results so far
   - Hazard prioritization on table
3. **Mitigation Goals and Actions**
   - Review Mitigation Goals
   - Brief review of the current Mitigation Actions Table that the Town updated
   - Create an updated Mitigation Actions Table for the updated Plan
   - Identify gaps and capabilities with implementation
4. **Other Updates**
   - Discuss recent mitigation work completed by the town
   - Discuss development trends – new developments, upcoming developments
   - Overall resiliency concerns or ideas
   - Review of other elements and address questions that weren't discussed
5. **Next Steps**

4. July 23, 2025 Meeting flyer and agenda

AGENDA FOR TODAY

1. **Brief review of discussion at the June 25th meeting regarding hazards and their impact in Stratton**

2. **Mitigation Actions**
   - Brief review of the current Mitigation Actions Table that the Town updated
   - Create an updated Mitigation Actions Table for the updated Plan
   - Identify gaps and capabilities with implementation

3. **Other Updates**
   - Discuss recent mitigation work completed by the town
   - Discuss development trends – new developments, upcoming developments
   - Overall resiliency concerns or ideas
   - Review of other elements and address questions that weren't discussed

4. **Next Steps**

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

6. Flyer and website notice advertising availability of Draft Hazard Mitigation Plan for public comment

Stratton Local Hazard Mitigation Plan

PUBLIC COMMENT PERIOD

The draft Stratton Local Hazard Mitigation Plan is now available for public review on the town website: www.townofstrattonvt.com. Hard copy can be made available at the Town Office.

The Plan is open for comment until

December 8, 2025.

Anyone who would like to comment on the plan should contact Alyssa Sabetto at the Windham Regional Commission. She can be reached via phone at 802-257-4547 x113 or email at asabetto@windhamregional.org. We encourage your review and participation!

8. Public and Town comments received