

Mount Holly, Vermont Local Hazard Mitigation Plan



Debris Jam at Bridge (B1-2) on VT Route 155 – Tropical Storm Irene

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Other Key Partners

Rutland Natural Resources Conservation District
Western Vermont Floodplain Manager

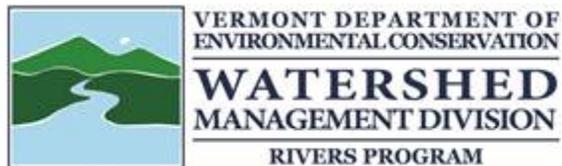


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1 INTRODUCTION

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 Mount Holly (the Town) more disaster resistant and more resilient after disaster has struck.

Hazard Mitigation is any sustained policy or action that reduces or eliminates long-term risk to people and property from natural hazards and their effects. FEMA and state agencies have come to recognize that it is less expensive to prevent disasters than to repeatedly repair damage after a disaster has struck. This Plan recognizes that communities have opportunities to identify mitigation strategies and measures during all the other phases of Emergency Management – Preparedness, Response and Recovery. Hazards cannot be eliminated, but it is possible to determine what the hazards are, where the hazards are most severe, and identify local actions and policies that can be implemented to reduce the severity of the hazard.

2 PURPOSE

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 reduce the degree of injury and inconvenience to the townspeople and their private and municipal 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.
- Communicating priorities to State and Federal officials.
- Aligning risk reduction with other community objectives.

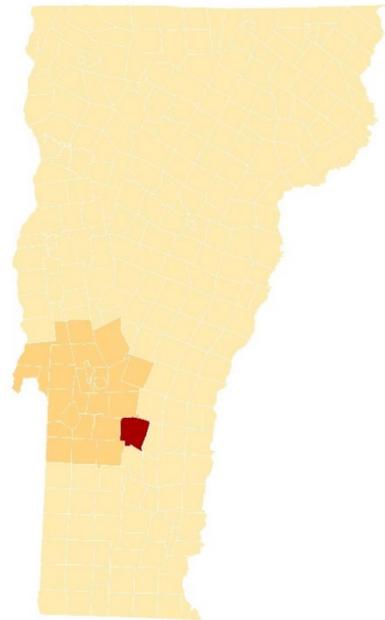
Furthermore, the Town seeks to be in accordance with the 2018 State Hazard Mitigation Plan.

3 COMMUNITY PROFILE

Land Use and Development Patterns

Mount Holly is largely rural with scattered residential development, active agricultural uses, and some areas of concentrated commercial development primarily in the village of Belmont and to a lesser degree in Healdville.

This includes the Crowley Cheese Factory, which is still in operation and is also on the National Register of Historic Places. A portion of the Okemo ski area is also located within Mount Holly's borders.



Land Features

Mount Holly is located on a hilly plateau on the central ridge of the Green Mountains. The Town of Mount Holly is composed of a series of hills and low mountains which are separated by mountain streams and brooks. Its elevation ranges from about 1,200 feet above sea level to 3,343 feet at the summit of Okemo Mountain.

In total land area, Mount Holly is one of the larger towns in Rutland County with 29,338 acres. About one-fifth of the town consists of publicly owned land within Okemo State Forest on the Town's eastern border, Green Mountain National Forest on the southwestern border, and about 92 acres on the northeast side of Star Lake that is owned by the State of Vermont.

The Town's woodlands are an important resource for aquifer recharge, plant and wildlife habitat, and recreation, as well as timber production, maple sugaring operations, and carbon sequestration.

Demographics and Growth Potential

The 2018 American Community Survey Five-Year Estimates prepared by the U.S. Census Bureau shows an estimated population of 1,168, and 988 housing units. Between 2010 and 2018, the population has held relatively steady. The median age of Mount Holly residents is 52.2 years old, which is 22% higher than the Vermont median age of 42.8. The portion of the population over 60 is 34%, compared to 25% in Vermont and 20.9% in the country.

Due to the influence of the Okemo ski area, a large percentage (41.7%) of the housing units in Mount Holly are seasonal. Therefore, the total population may be close to double during certain times of year.

Currently, the Town has limited regulations in place to control development and growth. A rise in population may cause development that is not aligned with the stated goals of the Mount Holly Town Plan – to “preserve the town’s rural lifestyle and appearance” and maintain a “compact village center within a rural setting, surrounded by undeveloped areas”.

Precipitation and Water Features

Average annual precipitation is 48 inches of rain; with October being the wettest month. Average annual snowfall is 96 inches making Mount Holly snowier than most places in Vermont, with January being the snowiest month.

There are three lakes in the Town: Star Lake in Belmont; Lake Ninevah in the north near the Town's boundary with Plymouth; and Tiny Pond, which the Town shares with Ludlow in the northeastern corner. There are several rivers and streams that flow through Mount Holly, Mill River being the largest, and three important watershed sub-basins: Otter Creek, Black-Ottauquechee, and West.

Another important water feature is the Winslows' Flats Wetlands. This extensive area of wetlands, marsh and alder swamp extends along the south side of Vermont Route 103. Vermont Department of Fish and Wildlife has identified this as a significant natural community.

Drinking Water and Sanitary Sewer

Aside from a spring fed water system that supplies some buildings in Belmont, the rest of the Town depends on drilled wells or natural springs.

A significant aquifer recharge area exists on the summit of Hedgehog Hill. A seasonal pond and permanent wetland mark the location covering approximately one acre. This area provides water to numerous springs on the flanks of the hill in addition to providing the water to spring systems feeding the village of Belmont.

Sewer service in Mount Holly is provided entirely by individual, on-site septic systems.

Transportation

The present network of ±69 miles of roads in Mount Holly serves the needs of current residents. Vermont State Routes 103, 140, and 155 provide primary access into and out of Mount Holly. In addition to these State Routes, there are several other roads that have been identified as locally important for use as through-ways, detours, short-cuts, and access to critical facilities such as the fire stations, town garage, town office, and school. These routes are shown in orange on the map in **Figure 1**.

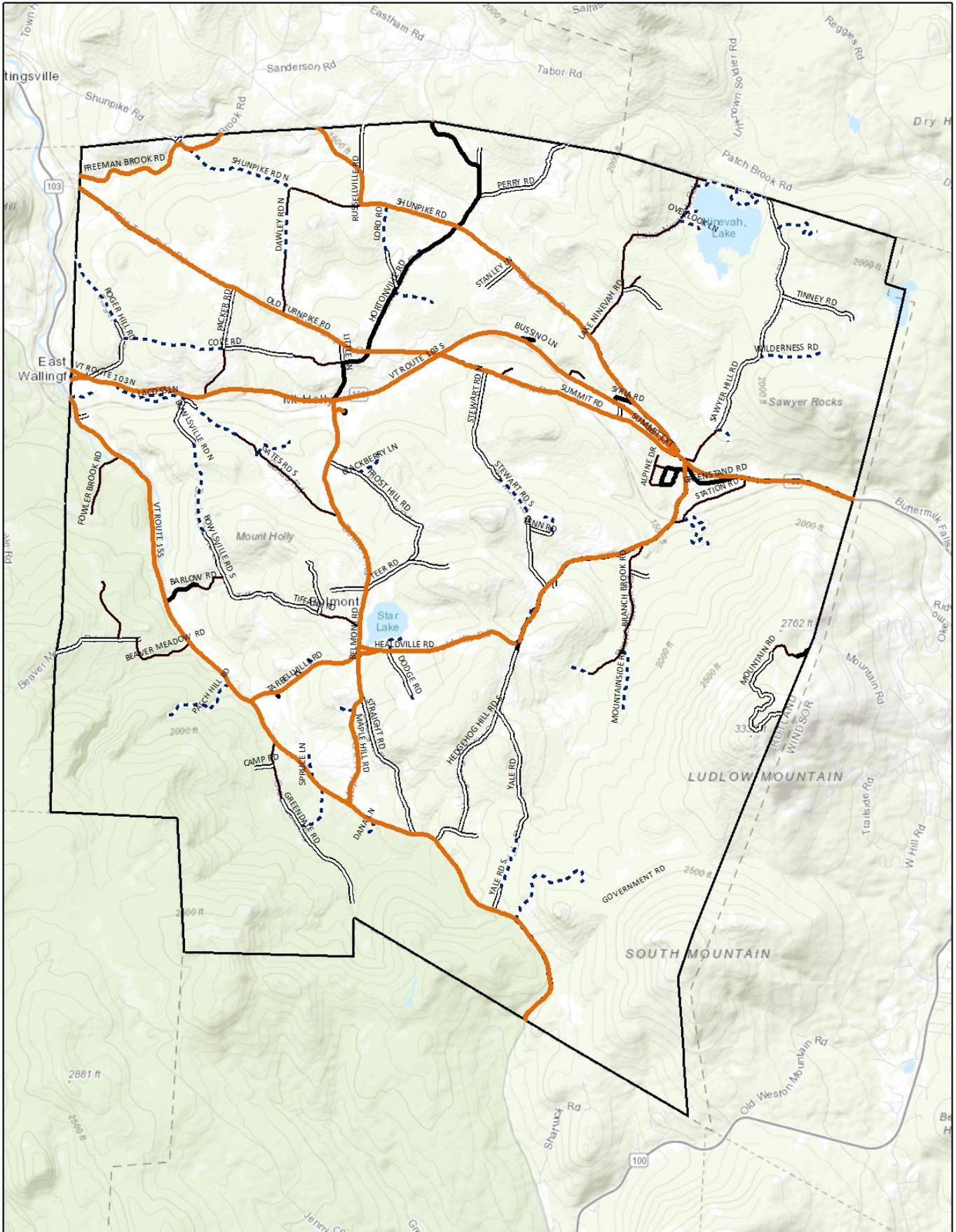


Figure 1: Locally Important Routes for Through-Ways, Detours, Short-Cuts, and Access to Critical Facilities
Shown in orange on Figure 1

According to the Town's Road Erosion Inventory Report, nearly 87% of the Town's road mileage is hydrologically connected - meaning it is within 100-feet of a water resource (i.e., perennial/intermittent stream, wetland, lake, or pond). Proximity to water resources can make these sections more vulnerable to flooding and fluvial erosion.

Mount Holly has a total of 9 town-owned bridges and ±460 culverts. Seven of the bridges have a span of over 20 feet. The local transportation network is maintained by the Town Highway Maintenance crew, whose garage is located on School Street.

A rail line runs through Mount Holly, crossing several roads including Healdville Road and Belmont Road. In addition, there is a rail siding off Summit Road with freight storage and a significant rock cut at the height of land.

Electric Utility Distribution System

Electric service to approximately 1,170 customers is provided by Green Mountain Power via one circuit. Average annual outage statistics between 2015 and 2019 are summarized in **Table 1**.

Table 1: Power Outage Summary

| 5-Year Average (2015-2019) | |
|---|-------|
| Avg # of times a customer was without power | 3.77 |
| Avg length of an outage in hours | 5.47 |
| # of hours the typical customer was without power | 20.63 |
| 2019 only | |
| Avg # of times a customer was without power | 2.43 |
| Avg length of an outage in hours | 5.09 |
| # of hours the typical customer was without power | 12.34 |

The longest power outage affecting the greatest number of customers between 2015 and 2019 was 84.61 hours long and impacted 14 customers.

Public Safety

Mount Holly has a volunteer fire department, with two stations – the main station on School Street and a substation in Belmont Village. Both stations are operated by a 21-member, volunteer department.

Law Enforcement in Mount Holly is provided by the one part-time Town Constable, who is certified as a full-time Vermont law enforcement officer, with assistance from the Rutland County Sheriff's Department and Vermont State Police as needed.

Mount Holly has a Volunteer Rescue Squad that provides treatment to residents and visitors on an emergency call basis. The nearest hospital is the Rutland Regional Medical Center, but Springfield Hospital is also within a reasonable distance and there is a medical clinic in Ludlow that is staffed and operated by Springfield Hospital. Ambulance service is provided by the Rescue Squad.

Emergency Management

The Town has an appointed Emergency Management Director (EMD) and Emergency Management Coordinator (EMC) who work with others in town to keep the Local Emergency Plan up-to-date as well as to coordinate with nearby towns and regional emergency planning efforts.

4 PLANNING PROCESS

Plan Developers

Steffanie Bourque, an Emergency Management Planner at the Rutland Regional Planning Commission (RRPC), assisted the Town with updating its Local Hazard Mitigation Plan. Hazard Mitigation Grant Program funds from FEMA supported this process.

The Hazard Mitigation Planning Team members who assisted with the update include the EMD / Selectboard member, EMC, Planning Commission member, and Road Foreman.

Plan Development Process

The 2020 Mount Holly Local Hazard Mitigation Plan is the first single jurisdiction mitigation plan drafted for the Town. Previously, the Town had a town-specific Annex in the 2009 Rutland County, VT Hazard Mitigation Plan.

This Plan has been reconstructed as a single jurisdiction, stand-alone Mount Holly Local Hazard Mitigation Plan that will be submitted for individual approval to FEMA. As such, several sections have been added or updated to include all necessary information. A summary of the process taken to develop this Plan is provided in **Table 2**.

Table 2: Plan Development Process

June 23, 2020: Hazard Mitigation Planning Team kick-off meeting. Planning Team members were confirmed. Discussed what a LHMP is; the benefits of hazard mitigation planning; current plan status; the planning process; outreach strategy; and plan sections. Planning Team meetings were not open to the public.

June 25 – June 29, 2020: Public notice posted on RRPC and Town social media (website, Facebook page, and email newsletter) that the Town is engaged in hazard mitigation planning and updating their LHMP. Notice also posted at the Town Post Office and submitted for inclusion in the August edition of the monthly town newsletter, the *Mount Holly Chit Chat* – see Appendix D. No public comments received. Emailed notice to officials in neighboring towns of Shrewsbury, Wallingford, and Mount Tabor. Name and contact information provided in notices for more information. No comments received from neighboring towns.

July 13, 2020: Planning Team meeting – confirmed the plan purpose and completed work on the community profile and hazard risk assessment. Began work on storm history and identifying assets vulnerable to the highest risk natural hazards.

August 12, 2020: Planning Team meeting – completed work on the storm history and assets vulnerable to the highest risk natural hazards. Completion of the hazard identification and risk assessment is a critical milestone in the plan update process. Draft readied for public meeting on September 8.

September 2020: Article in the *Mount Holly Chit Chat* regarding LHMP update on plan development process and September 8 public meeting – see Appendix D.

September 8, 2020: Working draft LHMP shared with Vermont Hazard Mitigation Officer and Rutland Natural Resource Conservation District for review and comment. No comments received. Working draft LHMP presented at joint public meeting of the Mount Holly Selectboard and Planning Commission to encourage input from local government and the public that could affect the plan’s conclusions and better integrate with Town initiatives. Members of the public were present at this meeting. No comments received. Plan posted on RRPC and Town websites. Comments on the draft plan were accepted until September 22. Minor comments on the High Wind Hazard Profile received from the Selectboard.

September 23, 2020: Planning Team meeting – incorporated comments received on the High Wind Hazard Profile into the working draft; completed work on hazard identification and risk assessment. Began work on hazard mitigation strategy – confirmed mitigation goals, identified community capabilities; and began to evaluate a range of mitigation actions.

October 21, 2020: Planning Team meeting – completed work on community capabilities and continued work evaluating, prioritizing, and selecting mitigation actions for implementation.

November 30, 2020: Planning Team completed work on the mitigation strategy; plan maintenance; and changes since the 2009 annex. Draft LHMP finalized for presentation to local officials and the public at the December 8, 2020 Selectboard meeting.

November 2020: LHMP update on plan development process and December 8, 2020 public meeting articles in the *Mount Holly Chit Chat* – see Appendix D.

December 8, 2020: Final draft LHMP emailed to local officials in neighboring towns and Rutland Natural Resource Conservation District for review and comment. Also posted on RRPC and Town websites. Final draft LHMP presented at joint public meeting of the Mount Holly Selectboard and Planning Commission for review and comment. Members of the public were present at this meeting. Public notice of the comment period included in the community email listserv – “Newsflash”. Notice included instructions to email comments on the draft plan to Jeff Chase. Comments on the draft plan were accepted until December 22, 2020. No comments were received.

January 6, 2021: Final draft LHMP submitted to VEM for Approval Pending Adoption.

In addition to the local knowledge of Planning Team members and other relevant parties, several existing plans, studies, reports, and technical information were utilized in the preparation of this Plan. A summary of these is provided in **Table 3**.

Table 3: Existing Plans, Studies, Reports & Technical Information

| |
|---|
| 2020 Local Emergency Management Plan |
| 2020 FEMA NFIP Insurance Reports |
| 2019 Transportation Resiliency Planning Tool |
| 2019 <i>Falling Dominoes: A Planner's Guide to Drought and Cascading Impacts</i> |
| 2019-2015 Green Mountain Power Outage Data |
| 2018 Mount Holly Town Plan |
| 2018 Road Erosion Inventory and Report |
| 2018 State of Vermont Hazard Mitigation Plan |
| 2018 American Community Survey Five-Year Estimate |
| 2017 Stormwater Infrastructure Mapping Project |
| 2009 Mill River Corridor Management Plan |
| 2008 Flood Hazard Area Regulations |
| RRPC Local Liaison Reports of Storm Damage |
| National Oceanic and Atmospheric (NOAA) National Climatic Data Center's Storm Events Database |
| FEMA Disaster Declarations for Vermont |
| OpenFEMA Dataset: Public Assistance Funded Project Summaries for Vermont |
| United States Drought Monitor |
| U.S. Geological Survey National Water Information System- Stream Gage Data |
| FEMA Flood Insurance Rate Maps |

Changes Since the 2009 Annex

Mount Holly's 2018 Town Plan aims to preserve the town's rural lifestyle and appearance, while providing community services, as well as recreational and cultural opportunities.

Several of the Town Plan objectives also help make the community more resilient to the impacts of natural hazards. For example, consider the objective – “To assure that any project for increasing the capacity of any existing highway or any new highways will be consistent with the general character of the town, and to require that, where possible, public utilities and transmission facilities share the use of corridors to minimize the impact on the environment and to foster desired development patterns.” This objective helps mitigate against power outages by encouraging the co-location of power lines within the road right-of-way as opposed to cross-country runs.

In addition, the Flood Resilience section of the Town Plan contains two goals:

- 1) Avoid new development in flood hazard, fluvial erosion, and river protection areas. Any new development in such areas should not exacerbate flooding and fluvial erosion.
- 2) Encourage the protection and restoration of floodplains and upland forested areas that constrict and reduce flooding and fluvial erosion.

As described in the Community Profile section of this Plan, the Town's population has held relatively steady since 2010. However, a high percentage of homes are seasonal so the total population may be close to double during certain times of year.

Although Mount Holly does not have local zoning to regulate development in the community, they have adopted Special Flood Hazard Area regulations to regulate development in flood-prone areas. Between 2010 and 2020, there were 118 new E911 sites added in Mount Holly, which equates to an approximate 1% growth rate.

Development in Mount Holly since 2009 has not made the community more vulnerable to natural hazards.

The Town's mitigation priorities shifted a bit. In 2009, the Mount Holly Annex in the Rutland County, VT Hazard Mitigation Plan addressed all-hazards (natural, manmade, and technological). Winds, floods, and power outages were the most likely and costly hazards for Mount Holly.

The 2020 Local Hazard Mitigation Plan update focused exclusively on natural hazards. Severe thunderstorms (with associated flooding, fluvial erosion, high winds); severe winter storms (with associated extreme cold, snow, ice); and drought (with associated water shortage) were ranked as the community's highest risk natural hazards.

In 2020, the Town did not formally assess the risk associated with invasive species; however, they did discuss the potential hazards and risks associated with the Emerald Ash Borer (EAB) given the confirmed detection in Rutland County in October 2020. Invasive species were not included in the 2009 Annex.

Spurred by new legislation passed in October 2020 to modernize Vermont's tree warden statutes, the role of the local Tree Warden as a partner in hazard mitigation is also a change reflected in the 2020 update.

Mount Holly has made some progress in completing the mitigation projects identified in the 2009 Annex – see **Appendix C**. A significant accomplishment was repair to the Star Lake dam. These repairs are instrumental to protecting the village of Belmont, located downstream of Star Lake, during a flood event. In addition, the Town continues to make significant progress bringing their roadside ditches up to current Road Standards with work completed in 2020 on Roger Hill, Cole Road, Packer Road, and Bowlsville Road North.

Actions taken by Mount Holly since 2009 and following Tropical Storm Irene have made the community more prepared and less vulnerable to future natural hazard impacts.

Nonetheless, due to an increase in the frequency and intensity of weather events, the Town remains vulnerable to flash flooding, fluvial erosion, high winds, severe winter storms, drought, as well as invasive species (particularly the Emerald Ash Borer).

As a result, the Town has identified three new mitigation actions to address severe winter storm and high wind impacts; three new actions to address drought impacts; one new action to address invasive species, and several actions to address remaining flood hazards – see **Table 6**.

5 HAZARD IDENTIFICATION AND RISK ASSESSMENT

After engaging in discussions, the Town identified the following “highest risk hazards” that they believe their community is most vulnerable to:

Local Vulnerabilities and Risk Assessment

One of the most significant changes from the 2009 Annex is the way hazards are assessed. To be consistent with the approach to hazard assessment in the 2018 State Hazard Mitigation Plan, the Hazard Mitigation Planning Team conducted an initial analysis of known natural hazard events¹ to determine their probability of occurring in the future.

The Planning Team then ranked the hazard impacts associated with the known natural hazard events based on the probability of occurrence and potential impact to life, the economy, infrastructure, and the environment. The ranking results are presented in **Table 4**.

- *Thunder and Tropical Storms with associated flash flooding, fluvial erosion, and high winds – and to a lesser extent inundation flooding and hail.*
- *Winter Storms with associated extreme cold, snow, ice, and high winds.*
- *Drought with associated water shortage, high winds – and to a lesser extent extreme heat.*

Each of these “highest risk hazards” (**orange** in **Table 4**) are further discussed in this section and depicted in the Local Natural Hazards and Vulnerabilities Map in **Appendix B**.

The “lower risk hazards” that are considered to have a low probability of occurrence and low potential impact are not discussed. For information on these hazards, consult the State Hazard Mitigation Plan.

Table 4: Community Hazard Risk Assessment

| Hazard Event | Hazard Impacts | Probability | Potential Impact | | | | | Score |
|---------------------------------|--|-------------|------------------|----------|----------------|-------------|-------------|--------------|
| | | | Life | Economy | Infrastructure | Environment | Average | |
| Thunderstorm | Flash Flooding/ Fluvial Erosion | 4 | 2 | 2 | 4 | 4 | 3.00 | 12.00 |
| Tropical Storm/Hurricane | | | | | | | | |
| Landslide | Inundation Flooding | 3 | 2 | 1 | 1 | 1 | 1.50 | 4.50 |
| Ice Jam | High Winds | 4 | 2 | 2 | 2 | 1 | 2.00 | 8.00 |
| Tornado | Hail | 4 | 1 | 1 | 2 | 1 | 1.25 | 5.00 |
| Winter Storm | Cold/Snow /Ice/Wind | 4 | 3 | 3 | 3 | 3 | 3.00 | 12.00 |
| Drought | Heat | 3 | 2 | 1 | 1 | 3 | 1.75 | 5.25 |
| | Drought | 3 | 1 | 2 | 2 | 3 | 2.00 | 6.00 |
| Wildfire | Wildfire | 2 | 2 | 1 | 2 | 1 | 1.5 | 3.00 |
| Earthquake | Earthquake | 2 | 1 | 1 | 1 | 1 | 1.00 | 2.00 |

*Score = Probability x Average Potential Impact

| | Frequency of Occurrence: Probability of a plausibly significant event | Potential Impact: Severity and extent of damage and disruption to population, property, environment, and the economy |
|---|---|---|
| 1 | Unlikely: <1% probability of occurrence per year | Negligible: isolated occurrences of minor property and environmental damage, potential for minor injuries, no to minimal economic disruption |
| 2 | Occasionally: 1–10% probability of occurrence per year, or at least one chance in next 100 years | Minor: isolated occurrences of moderate to severe property and environmental damage, potential for injuries, minor economic disruption |
| 3 | Likely: >10% but <75% probability per year, at least 1 chance in next 10 years | Moderate: severe property and environmental damage on a community scale, injuries or fatalities, short-term economic impact |
| 4 | Highly Likely: >75% probability in a year | Major: severe property and environmental damage on a community or regional scale, - multiple injuries or fatalities, significant economic impact |

¹ This Plan defines natural hazards as atmospheric, hydrologic, geologic, and wildfire phenomena. Hazards not necessarily related to the physical environment, such as infectious disease, were excluded from consideration by the Planning Team.

Invasive Species

The Planning Team did not formally assess the risk associated with invasive species; however, they did discuss the potential hazards and risks associated with the Emerald Ash Borer (EAB) specifically. Vermont's EAB infestation was first detected in 2018 in northern Orange County. In October 2020, a new detection of EAB in West Rutland was confirmed. This is the first confirmed detection in Rutland County. The Town will work with the Vermont Urban & Community Forestry Program to develop a *Rural Road Resilient Right-of-Way Vegetation Assessment*, which will include recommendations regard EAB management and roadsides with plentiful or prominent Ash trees. The Wilderness Community members around Lake Ninevah have begun to treat hundreds of their Ash trees.

While inundation-related flood loss is a significant component of flood disasters, the more common mode of damage in Vermont is associated with fluvial erosion, often associated with physical adjustment of stream channel dimensions and location during flood events. These dynamic and oftentimes catastrophic adjustments are due to bed and bank erosion, debris and ice jams, or structural failure of or flow diversion by human-made structures. An ice jam occurs when the ice layer on top of a river breaks into large chunks which float downstream and cause obstructions (State HMP 2018). The Town does not have a high incidence or probability of ice jams.

Several major flooding events have affected the state in recent years, resulting in multiple Presidential Disaster Declarations. From 2003 to 2010, Rutland County experienced roughly \$1.4 million in property damages due to flood events.

Highest Risk Hazard Profiles

Inundation/Flash Flooding/Fluvial Erosion

Floods can damage or destroy public and private property, disable utilities, make roads and bridges impassable, destroy crops and agricultural lands, cause disruption to emergency services, and result in fatalities. People may be stranded in their homes for a time without power or heat or they may be unable to reach their homes. Long-term collateral dangers include the outbreak of disease, loss of livestock, broken sewer lines or wash out of septic systems causing water supply pollution, downed power lines, loss of fuel storage tanks, fires and release of hazardous materials.

As noted in the State Hazard Mitigation Plan, "Flooding is the most common recurring hazard event in Vermont" (2018: 55). There are two types of flooding that impact communities in Vermont: inundation and flash flooding. Inundation is when water rises onto low lying land. Flash flooding is a sudden, violent flood which often entails fluvial erosion.

Inundation flooding of land adjoining the normal course of a stream or river is a natural occurrence. If these floodplain areas were left in their natural state, floods likely would not cause significant damage.

The worst flooding event in recent years came in August of 2011 from Tropical Storm Irene (DR4022), which dropped up to 10-11 inches of rain in some areas of Rutland County. Irene caused 2 deaths and \$55,000,000 in reported property damages and \$2.5 million in crop damages in Rutland County. Although the storm was technically a tropical storm, the effects of the storms are profiled in this flooding section, since the storm brought only large rainfall and flooding to the Town, not the high winds typically associated with tropical storms. This caused most streams and rivers to flood in addition to severe fluvial erosion.

From 2012 to 2019, Rutland County experienced approximately \$3.5 million in property damages; with \$1.9 million due to a flash flood event in July 2017 (DR4330) and \$1 million due to a flash flood event in April 2019 (DR4445).

In Mount Holly, flooding is a risk. Damages from Tropical Storm Irene were significant, resulting in approximately \$500,000 in impacts (\$46,834 in Individual Assistance; \$443,275 in Public Assistance; \$9,917 in National Flood Insurance). In Mount Holly, damage due to flooding usually consists of impacts to roads, culverts, and bridges.

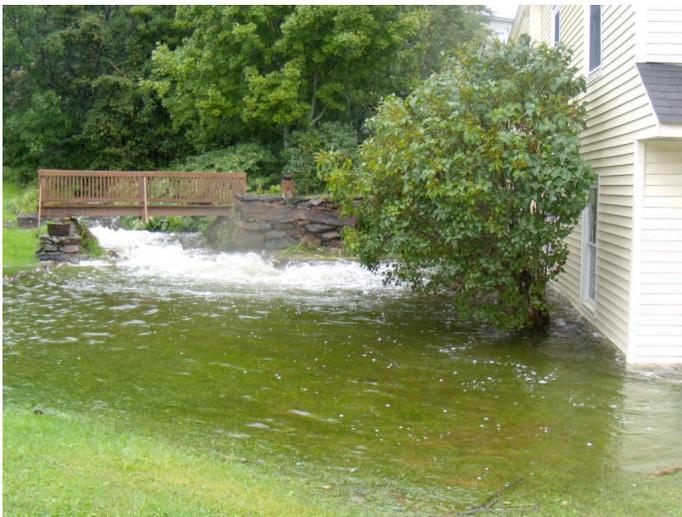
As shown on the Local Natural Hazards and Vulnerabilities Map in **Appendix B**, Mount Holly is not particularly vulnerable to inundation flooding, except for the following locations:

- Perry Road (in the vicinity of bridges B54 and B50 - historic flooding has not overtopped the road) along a tributary to Cold Brook.
- Belmont Road (near the VT Route 103 intersection at bridge B14) along Mill Brook.
- Fowler Brook Road (near the VT Route 155 intersection at bridge B60) along Mill River.
- VT Route 155 (near the intersection with Beaver Meadow Road) along Mill River.
- Belmont Road/Lake Street intersection (at the spillway for Star Lake – tributary to Mill River)



Flash Flooding Impacts on Belmont Road

In 2018, the Town completed an inventory of hydrologically-connected roads for the Municipal Roads General Permit. This inventory identified areas vulnerable to flash flooding and recommended corrective actions to make these areas more resilient.



Star Lake Spillway Breach – Tropical Storm Irene



Flash Flooding Impacts on Station Road

26 structures are in the Special Flood Hazard Area (2% of community structures); including residential, commercial, and governmental properties. According to FEMA, 9% of these properties have flood insurance. In total, these 8 policies cover \$2,068,600 in value.

There are no repetitive loss properties.

In 2009, a river corridor plan was prepared for the Mill River watershed. Of the approximate 45,610 acre watershed that drains through Mount Holly, 19,167 acres (42%) is in Mount Holly. That plan summarized information about the physical condition of the Mill River watershed; identified factors that are influencing the stability of the system; and synthesized the information to identify restoration and management priorities.

Flash flooding can impact areas in Town that are located outside of designated floodplains, including along streams confined by narrow valleys. Gravel roads with steep slopes, such as Packer, Roger Hill, Sawyer Hill, are especially vulnerable to wash outs due to flash flooding.

The Mill River corridor plan includes six locations in Mount Holly with projects to protect the river corridor, restore incised reaches, and restore riparian buffers.

Additional locations vulnerable to fluvial erosion include: Freeman Brook Road, including bridge B65; Old Turnpike Road; and Beaver Meadow Road.



Effects of Fluvial Erosion on Freeman Brook Road



Effects of Fluvial Erosion on Lushas Acres Lane and Bridge B65 along Freeman Brook

High Wind

Severe thunderstorms can produce high winds, lightning, flooding, rains, large hail, and even tornadoes. Thunderstorm winds are generally short in duration, involving straight-line winds and/or gusts more than 50 mph. Thunderstorm winds can cause power outages, transportation and economic disruptions, significant property damage, and pose a high risk of injuries and loss of life.

From 2004 to 2010, for thunderstorms that caused more than \$200,000 in damage, Rutland County experienced nearly \$2 million in property damage.

From 2011 to 2019, thunderstorms resulted in just under \$2.2 million in property damage in Rutland County, with \$525,000 due to a high wind event in May 2017.

Hail is a form of precipitation composed of spherical lumps of ice. Known as hailstones, these ice balls typically range from ¼ - 2” diameter on average, with much larger hailstones forming in severe thunderstorms. The size of hailstones is a direct function of the severity and size of the thunderstorm that produces it.

Much of the hail activity in Rutland County is scattered and varies in intensity, and the resulting damage usually takes form in uprooted trees, downed power lines, damage to automobiles and crops.

Violent windstorms are possible here; Mount Holly is susceptible to high directional winds, particularly north of VT Route 103. Many storms with high winds result in downed trees, damaged phone and power lines, buildings, and other property. Mount Holly is vulnerable to power outages and they present a potentially significant risk to many residents.

Much of the Town is served by a land line phone service that has converted from copper wire to fiber service. When the power goes out, an in-home battery provides the electricity necessary to make a call. The battery life is about eight hours, whether the phone is used or not.

Due to the natural terrain in Mount Holly, most areas cannot receive cell phone service. In the event of an emergency during a power outage many cannot contact the fire department, police, or ambulance service. This is of concern given Mount Holly's aging demographics and many remote and isolated homes.

To mitigate the impacts of power outages, the following public buildings/critical facilities have been equipped with backup power: Church Street Fire Station (alternate local emergency operations center and shelter), School Street Fire Station, and Town Garage.

The Elementary School (primary local shelter) and Town Office (primary local emergency operations center) do not have backup power. If a power outage coincided with a large scale sheltering event, the Town could be faced with a serious situation.

Extreme Cold/Snow/Ice/Wind

In the Rutland Region, most winter weather events occur between the months of December and March. Throughout the season, winter weather events can include snowstorms, mixed precipitation events of sleet and freezing rain, blizzards, glaze, extreme cold, the occasional ice storm, or a combination of any of the above. Events can also be associated with high winds or flooding, increasing the potential hazard.

The costs of these storms come in the form of power outages, damaged trees, school closings and traffic accidents.

From 2002 to 2010, Rutland County experienced \$1.1 million in property and crop damages from winter storms. From 2011 to 2019, Rutland County experienced \$1.5 million in property damage, with \$300,000 due to a 10"-20" heavy, wet snowfall across the county on December 9, 2014.

There have been four winter storm-related federally declared disasters in the county (the ice storm of January 1998 – DR 1201; severe winter storms in December 2000 and 2014 – DR 1358 and DR 4207, respectively; and severe storm and flooding in April 2007 – DR 1698).

Typically, towns' vulnerability to snow and ice storms are power outages and loss of road accessibility. As previously described, the Town is somewhat prepared for a power outage. However, if the outage coincided with a large scale sheltering event, the Town could be faced with a serious situation.

In general, snow accumulation has not made the Town vulnerable to loss of road accessibility. The Town's fleet of snowplows has ensured that roads are accessible, even in major snow accumulation events. Areas prone to drifting (Lake Ninevah Rd, Sawyer Hill Rd, Healdville Rd) are maintained accordingly.

Drought

Drought, in the most general sense, is a period of lower-than-average precipitation that results in a water shortage.

It is typically a slow-onset natural hazard that can last for months or years. Drought is a natural part of the climate cycle. Higher temperatures, water demands that exceed availability, low winter snowpack and lack of rainfall are all causes that can lead to a significant drought.

The USDA rates droughts from D0-D4, depending on the severity of the drought, the amount of time it will take for vegetation to return to normal levels, and the possible effects of the drought on vegetation and water supply:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

Drought is a natural phenomenon that has unique characteristics that make it different from other hazards. Reference the 2018 State Hazard Mitigation Plan for a full discussion of how drought differs from other natural hazards.

In addition to the obvious effects on the quantity and quality of drinking water, drought can compromise food and nutrition; increase incidents of illness and disease; and diminish the ability of water ecosystems to properly function.

Municipal water supply and delivery, municipal wastewater, transportation systems, and parks and recreational facilities can all be adversely impacted by drought.

There may be situations where water-intensive industries and agricultural production shift to different locations due to lack of water. Other industries directly affected include energy, tourism, and fisheries. The wide-ranging impacts of drought can include job losses, business failures, and lost investments.

When different natural hazards overlap, such as drought and flood, it can lead to cascading hazards, with one event compounding the other. Drought is particularly likely to be part of a cascading hazard because it can cover a large area and go on for a long time.

In the Rutland region, there have been several instances of moderate drought (D1) and one instance in the last 20 years of severe drought (D2). The region is in a moderate drought at the time of this writing.

Drought impacts of concern in Mount Holly include the following:

- Loss of snow cover with moderate to severe impacts on ski and snowmobile recreation, tourism, and the local economy.
- Reduced fall foliage with moderate impacts on the local tourism economy.
- Increased occurrences of wildland fires with minor to moderate impacts on human life, built infrastructure, and the natural environment (particularly for spruce/fir forests and deer wintering areas).
- Interruption of water supply with minor to moderate impacts on drinking water supplies and surface waters for fire suppression.

- Crop and agricultural losses with minor to moderate impacts on maple syrup production and minor impacts on hay production, perennial fruit and orchards, and livestock.
- Low water level and poor water quality in local water bodies – Lake Ninevah, Star Lake, and Buttermilk Falls – with minor impacts on water recreation.
- Increases in human/wildlife conflict with minor impacts due to shift from natural food systems (mast crops, etc.) to human food sources and habituation.

Highest Risk Hazard History

Note: These are the most up to date significant events impacting Mount Holly. Federal declarations are depicted in **bold**.

Inundation/Flash Flooding/Fluvial Erosion

6/20/2019: ±6” rain: no reported damage

4/15/2019: DR4445 1-2” rain with significant snow melt:
\$59,800 local damage

7/1/2017: DR4330 3-4” rain the previous 3-4 days with flash flooding on 7/1/17: **\$39,110 local damage**

6/25-7/11/2013: DR4140 heavy rain over multiple days:
\$20,300 local damage

8/28/2011: DR4022 Tropical Storm Irene +/-5” rain:
\$500,026 local damage (\$46,834 Individual / \$443,275 Public / \$9,917 NFIP)

7/16/2000: DR1336 heavy rainfall: **\$8,875 local damage**

High Wind

2/24/2019: 48 mph winds: \$25,000 regional damage

4/1/2018: 55 mph winds: \$50,000 regional damage

10/30/2017: 40 mph wind: \$100,000 regional damage

5/5/2017: 40 mph winds: \$25,000 regional damage

6/2/2013: 50 mph winds: \$5,000 local damage

12/9/2009: 55 mph winds: \$25,000 regional damage

3/5/2008: 43 mph winds: \$25,000 regional damage

12/16/2007: 50 mph wind: \$25,000 regional damage

2/17/2006: 37 mph winds: \$50,000 regional damage

9/29/2005: 35 mph winds: \$50,000 regional damage

Extreme Cold/Snow/Ice/Wind

2/1/2015: Record cold month with 15 to 20+ days below zero: no reported impact

1/7/2015: 0 to 10 degrees with winds of 15-30 mph creating wind chills colder than 20 to 30 below zero: no reported impact

12/9/2014: DR4207 24-36” snow: **\$27,150 local damage**

11/26/2014: 8-12” snow: \$25,000 regional damage

2/13/2014: 30” snow: \$10,000 regional damage

12/29/2012: 12” snow: \$10,000 regional damage

2/23/2010: 6-30” snow: \$200,000 regional damage

4/15-16/2007: DR1698 Nor’icane with 3” snow and rain with winds of 60 to 80 mph: **\$25,885 local damage**

2/14/2007: 20-35” snow with wind chills of 10 below zero or colder: \$75,000 regional damage

3/5/2001: EM3167 26” snow: **\$2,895 local damage**

Drought

11/11/2020: USDA Disaster S4869 2020 Crop Year

Jun – Aug 2020: D1 drought in 50-100% of county

Jun – Sept 2018: D1 drought in 50-100% of county

Sept 2016 – Feb 17: D1 drought in 50-100% of county

Oct – Nov 2016: D2 drought in 60% of county

Sept 2001 – Mar 02: D1 drought in 50-100% of county

Vulnerability Summary

Inundation/Flash Flooding/Fluvial Erosion

Location¹: *Inundation Flooding* – Perry Rd along tributary to Cold Brook; Belmont Rd along Mill Brook; Fowler Brook Rd and VT Route 155 along Mill River

Flash Flooding – gravel roads with steep slopes including Packer, Roger Hill, Sawyer Hill, Tarbelville Rd, Barlow Rd, Tiffany Rd, Healdville Rd, Greendale Rd

Fluvial Erosion – Freeman Brook Rd and Lushas Acres Ln, including bridge B65; Old Turnpike Rd; Beaver Meadow Rd

Vulnerable Assets¹: Roads, culverts, bridges

Extent: 5-6” rain; fluvial erosion extent data is unavailable

Impact: \$500,026 local damage

Probability: Flash flooding/fluvial erosion: >75% chance per year; Inundation flooding: >10% but <75% chance per year

High Wind

Location¹: Town-wide, especially north of VT Route 103

Vulnerable Assets¹: Phone and power lines; buildings; other property; trees

Extent: 55 mph winds

Impact: \$100,000 regional / \$5,000 local damage

Probability: >75% chance per year

Extreme Cold/Snow/Ice/Wind

Location¹: Town-wide; Drifting on Lake Ninevah Rd, Sawyer Hill Rd, Healdville Rd

Vulnerable Assets¹: Roads, culverts, bridges, trees, power and phone lines

Extent: Up to 36” of snow; 80 mph winds; 15-20+ days below zero

Impact: \$200,000 regional / \$27,150 local damage

Probability: >75% chance per year

Drought

Location¹: Town-wide

Vulnerable Assets¹: Water supplies, natural ecosystems, agriculture

Extent: D2 drought in 60% of county for 2 months

Impact: Data on financial impacts is unavailable

Probability: >10% but <75% chance per year

¹ See **Appendix B:** Local Natural Hazards and Vulnerabilities Map

6 HAZARD MITIGATION STRATEGY

The highest risk natural hazards and vulnerabilities identified in the previous section of this Plan directly inform the hazard mitigation strategy outlined below, which the community will strive to accomplish over the coming years. The mitigation strategy chosen by the Town includes the most appropriate activities to lessen vulnerabilities from potential hazards.

Mitigation Goals

The Hazard Mitigation Planning Team discussed mitigation goals and identified the following as the community's main mitigation goals:

- Reduce or avoid long-term vulnerabilities to identified hazards.
- Reduce the loss of life and injury resulting from these hazards.
- Mitigate financial losses incurred by municipal, residential, industrial, agricultural, and commercial establishments due to disasters.
- Reduce the damage to public infrastructure resulting from these hazards.
- Encourage hazard mitigation planning as a part of the municipal planning process.
- Encourage the adoption and implementation of existing mitigation resources, such as River Corridor Plans and Fluvial Erosion Hazard Maps, if available.
- Recognize the connections between land use, stormwater, road design, maintenance, and the effects from disasters.
- Ensure that mitigation measures are sympathetic to the natural features of community rivers, streams, and other surface waters; historic resources; character of neighborhoods; and the capacity of the community to implement them.

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. Mount Holly'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 staff described in Section 3, municipal staff that can be used for mitigation planning and to implement specific mitigation actions include: Town Clerk, Town Treasurer, Road Foreman, and Land Use Regulations Administrative Officer.

In addition to paid staff, there is a 3-member Selectboard, 5-member Planning Commission, 9-member Conservation Commission, and Town Health Officer.

To augment local resources, the Town has formal mutual aid agreements for emergency response - fire, EMS, and public works. Technical support is available through the RRPC 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.

Strengths: Very competent and responsive Fire and Highway Departments – they are well trained and capable

- local participation – volunteers tend to be knowledgeable with significant experience
- coordination between departments is effective
- past success securing and administering grants for public infrastructure projects

Areas for Improvement: greater emphasis on record retention and what documentation is needed right from the start, regardless of an Emergency Declaration

- maintenance programs to reduce risk could be more robust, particularly that for cleaning culverts, roadside ditches, and tree trimming within the road right-of-way
- develop an emergency communications plan because cell coverage is poor and fiber optic land line batteries last only 8-hours
- periodic tabletop and field exercises to test and strengthen operational coordination
- few staff perform multiple functions – lack of redundancy makes town's administrative and technical capabilities vulnerable

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 improvement 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.

Strengths: Road and bridge standards are adequately administered and enforced ● elements of hazard mitigation are included in other local plans

Areas for Improvement: Existing land use ordinances should be updated to be more effective at reducing hazard impacts ● protect river corridors from new encroachment through River Corridor Bylaws ● capital planning ● continuity of operations planning ● stormwater master planning

Flood Hazard Area (FHA) Regulations: Adopted June 24, 2008

Description: Apply to all areas in the Town identified as existing lots defined in the Mount Holly land records.

Relationship to Natural Hazard Mitigation Planning: Promote orderly growth in Mount Holly in conjunction with the Town Plan.

Subdivision Regulations: Adopted March 3, 1998

Description: Apply to all areas in the Town identified as areas of special flood hazard.

Relationship to Natural Hazard Mitigation Planning: Ensures the design and construction of development in flood and other hazard areas are accomplished in a manner that minimizes or eliminates the potential for flood loss or damage to life and property.

Road and Bridge Standards: Adopted on July 9, 2019

Description: Provide minimum codes and standards for the construction, repair, and maintenance of all town roads and bridges.

Relationship to Natural Hazard Mitigation Planning: Standards include management practices and are designed to ensure the safety of the traveling public, minimize damage to road infrastructure during flood events, and enhance water quality protections.

Fire Department ISO Rating: Issued in 2020

Description: The Mount Holly Fire Department's ISO rating is 9/10. This rating is a score from 1 to 10 that indicates how well-protected the community is by the local fire department.

Relationship to Natural Hazard Mitigation Planning: Everyone wants to keep family, home, and business safe from fires. The ISO rating is a measure of the effectiveness of a community's fire services.

Municipal Plan: Adopted October 9, 2018

Description: A framework for defining and attaining community aspirations through public investments, land use regulations, and other implementation programs.

Relationship to Natural Hazard Mitigation Planning: The Flood Resilience sections of the Town Plan include specific goals and policies related to natural hazards.

Local Emergency Management Plan: Last adopted on April 22, 2020

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: The LEMP 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.

Road Erosion Inventory Report: December 2018

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 regulated under the Municipal Roads General Permit.

Stormwater Infrastructure Mapping Study: February 2017

Description: Developed up to date municipal drainage system maps and established locations for BMP stormwater retrofit sites.

Relationship to Natural Hazard Mitigation Planning: Assist with emergency preparedness for large rainfall and spring snowmelt runoff events and identified several structural projects to improve stormwater drainage system capacity.

Financial

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

Mount Holly's current annual budget is approximately \$1,366,895, with \$469,900 to fund the Highway Department. Although the Town has not done so in the past, it is eligible to incur debt through general obligation bonds to fund mitigation actions.

Strengths: Dedicated reserve funds (e.g., bridge and equipment) that can be used to fund mitigation actions

- maximize grant opportunities

Areas for Improvement: Increase budget amounts going into culvert and bridge reserve funds annually

Education and Outreach

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

- Okemo Valley Television
- Mount Holly Chit Chat (monthly newsletter)
- Newsflash (community email distribution list)
- Bone Builders
- Community Guild
- Mount Holly Library
- Mount Holly Community Association
- Historical Museum
- Odd Fellows
- Friends of Star Lake
- Ninevah Foundation
- Mount Holly Conservation Trust
- Mount Holly SnoFlyers
- Mount Holly Land Trust
- Mount Holly PTSA
- Village Baptist Church

Strengths: Multiple programs/organizations are already in place in the community

- monthly community newsletter

Areas for Improvement: Better coordination with existing programs/organizations would be needed to help implement future mitigation actions

National Flood Insurance Program Compliance

The Town joined the National Flood Insurance Program (NFIP) in 1985. An Administrative Officer enforces NFIP compliance through permit review requirements in its Flood Hazard Area regulations. Mount Holly's regulations outline detailed minimum standards for development in flood hazard areas defined as FEMA Special Flood Hazard Areas and Floodway Areas.

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

- 1) Provide information to residents on safe building initiatives and the availability of flood insurance.
- 2) Adopt river corridor protection language in the flood hazard regulations bylaw.
- 3) Work with the RRPC to ensure that floodplain and river corridor maps are kept up to date.

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 (LEMP)
- 4) Local Hazard Mitigation Plan (LHMP)

17.5% funding for eligible communities that also participate in FEMA's Community Rating System OR adopt Fluvial Erosion Hazard or other river corridor protection bylaw that meets or exceeds the Vermont ANR model regulations.

Mount Holly's current ERAF rate is 7.5% because they 1) participate in the NFIP; 2) have adopted Town Road and Bridge Standards; and 3) have a current LEMP. Mount Holly's ERAF rate will increase to 12.5% with adoption of a FEMA-approved LHMP.

Mitigation Action Identification

The Hazard Mitigation Planning Team discussed the mitigation strategy, reviewed projects from the 2009 Annex, and identified possible new actions from the following categories for each of the highest risk natural hazards identified in Section 5:

- 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 and infrastructure. Many of these types of actions are projects eligible for funding through the FEMA Hazard Mitigation Assistance Program.
- 3) **Natural Systems Protection:** These are actions that minimize damage and losses and preserve or restore the functions of natural systems.
- 4) **Education and Awareness Programs:** These are actions to 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. A greater understanding and awareness of hazards and risk is more likely to lead to community support for direct actions.

Local Plans and Regulations

Integrate Mitigation into Capital Improvement Programs: Hazard mitigation can be included in capital improvement programs by incorporating risk assessment and hazard mitigation principles into the capital planning efforts.

Manage Development in Erosion Hazard Areas: The intent of River Corridor Bylaws is to 1) allow for wise use of property within river corridors that minimizes potential damage to existing structures and development from flood-related erosion, 2) discourage encroachments in undeveloped river corridors and 3) reasonably promote and encourage infill and redevelopment of designated centers that are within river corridors.

Improve Stormwater Management Planning: Rainwater and snowmelt can cause flooding and erosion in developed areas. A community-wide stormwater management plan can address stormwater runoff.

Reduce Impacts to Roadways: The leading cause of death and injury during winter storms is from automobile or other transportation accidents, so it is important to plan for and maintain adequate road and debris clearing capabilities.

Develop a Drought Contingency Plan: A strategy or combination of strategies for monitoring the progression of a drought and preparing a response to potential water supply shortages resulting from severe droughts or other water supply emergencies.

Structure and Infrastructure Projects

Remove Existing Structures from Flood Hazard Areas: FEMA policy encourages and may provide funding for the removal of structures from flood-prone areas to minimize future flood losses and preserve lands subject to repetitive flooding.

Improve Stormwater Drainage Capacity: Improving the stormwater drainage capacity can help to minimize inundation flooding and fluvial erosion by: 1) increasing drainage/absorption capacities with green stormwater management practices; 2) increasing dimensions of undersized drainage culverts in flood-prone areas; 3) stabilizing outfalls with riprap and other slope stabilization techniques; and 4) re-establishing roadside ditches.

Conduct Regular Maintenance for Drainage Systems: Regular maintenance will help drainage systems and flood control structures continue to function properly. Techniques include: 1) routinely cleaning and repairing stormwater infrastructure – culverts, catch basins, and drain lines; 2) routinely cleaning debris from support bracing underneath low-lying bridges; and 3) inspecting bridges and identifying if any repairs or retrofits are needed to maintain integrity or prevent scour.

Protect Infrastructure and Critical Facilities: Mitigation techniques can be implemented to help minimize losses to infrastructure and protect critical facilities from flood events by:

1) elevating roads above the base flood elevation to maintain dry access; 2) armoring the banks of streams near roadways to prevent washouts or 3) rerouting a stream away from a vulnerable roadway; and 4) floodproofing critical facilities.

Protect Power Lines: Power lines can be protected from the impacts of natural hazards by: 1) incorporating inspection and maintenance of hazardous trees within the road right-of-way into the drainage system maintenance process and 2) burying power lines.

Retrofit Critical Facilities: Critical facilities can be protected from the impacts of high winds and winter storms. Techniques include: 1) retrofitting critical facilities to strengthen structural frames to withstand wind and snow loads; 2) anchoring roof-mounted mechanical equipment; and 3) installing back-up generators or quick connect wiring for a portable generator.

Invest in Infrastructure to Expand Water Supplies: Improve water supply and delivery systems to ensure adequate supply for fire suppression during times of drought.

Natural Systems Protection

Protect and Restore Natural Flood Mitigation Features: Natural conditions often provide floodplain protection, riparian buffers, groundwater infiltration, and other ecosystem services that mitigate flooding. It is important to preserve such functionality. Possible projects include: 1) establishing vegetative buffers in riparian areas; 2) stabilizing stream banks; 3) removing berms; 4) minimizing impervious area development; and 5) restore incision areas.

Education and Awareness Programs

Educate Property Owners About Freezing Pipes: Extreme cold may cause water pipes to freeze and burst, which can cause flooding inside a building. Consider: 1) educating building owners on how to protect their pipes and 2) informing homeowners that keeping water within the pipes moving by letting a faucet drip during extreme cold weather may prevent freezing and the buildup of excessive pressure in the pipeline, avoiding bursting.

Assist Vulnerable Populations: Ensure vulnerable populations are adequately protected from the impacts of natural hazards, such as: 1) organize outreach and 2) establish and promote accessible heating or cooling centers in the community.

Educate Residents on Drought-related Hazards and Water Saving Techniques: Increase awareness of drought-related hazards – brush fire, diminished water quality and quantity. Encourage residents to take water-saving measures, such as 1) install low-flow water saving showerheads and toilets; 2) check for leaks in plumbing or dripping faucets; and 3) install rain-capturing devices for irrigation.

Mitigation Action Evaluation and Prioritization

For each mitigation action identified, 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 **Table 5**.

Mitigation Action Implementation

After careful evaluation and prioritization, the Planning Team agreed on a list of acceptable and practical actions for the community to implement.

Those actions without overall public support/political will were not selected for implementation. Those actions whose costs were not reasonable compared to the probable benefits were also not selected.

For the selected actions, the Planning Team then 1) assigned a responsible party to lead the implementation of each action; 2) identified potential funding mechanisms; and 3) developed a timeframe for implementing each action. This action plan is presented in **Table 6**.

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.

Table 5: Mitigation Action Evaluation and Prioritization

| Mitigation Action | Life Safety | Prop Protect | Tech | Political | Admin | Other Obj | Benefit Score | Est Cost | C/B |
|---|--|--------------|------|-----------|-------|-----------|---------------|----------|-----|
| Local Plans and Regulations | | | | | | | | | |
| Integrate Mitigation into Capital Improvement Programs | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| Improve Stormwater Management Planning by Completing a Stormwater Management Plan | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| Develop a Drought Contingency Plan | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| Plan for and Maintain Adequate Road and Debris Clearing Capabilities | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 2 | Yes |
| Update Road Erosion and Culvert Inventories | 1 | 1 | 1 | 1 | 0 | 1 | 5 | 1 | Yes |
| Manage Development in Erosion Hazard Areas by Adopting River Corridor Bylaws | 1 | 1 | 1 | 0 | 1 | 1 | 5 | 1 | Yes |
| Review VTrans Bridge Inspection Reports ¹ and Plan for Identified Repairs to Prevent Scour | 1 | 1 | 1 | 1 | 0 | 1 | 5 | 1 | Yes |
| Structure and Infrastructure Projects | | | | | | | | | |
| Install/Re-establish Roadside Ditches | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| Protect Power Lines and Roadway by Inspecting and Removing Hazardous Trees in Road ROW | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| Install Back-up Generators or Quick Connect Wiring at Critical Facilities | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| Invest in Infrastructure to Expand Water Supplies for Fire Suppression | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| Increase Dimension of Drainage Culverts in Flood-Prone Areas | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 2 | Yes |
| Routinely Clean and Repair Stormwater Infrastructure | 1 | 1 | 1 | 1 | 0 | 1 | 5 | 1 | Yes |
| Stabilize Outfalls | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| | There are currently no identified outfalls requiring stabilization, so the Planning Team did not recommend this action for implementation. Outfalls will be monitored and stabilized as needed to comply with current Road Standards and the MRGP. | | | | | | | | |
| Increase Drainage/Absorption Capacities with Green Stormwater Management Practices | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| | There are currently no identified project locations for this practice, so the Planning Team did not recommend this action for implementation. | | | | | | | | |
| Floodproof Critical Facilities | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| | There are no critical facilities that need floodproofing, so the Planning Team did not recommend this action for implementation. | | | | | | | | |
| Elevate Roads Above Base Flood Elevation to Maintain Dry Access | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 3 | No |
| Retrofit Critical Facilities to Strengthen Structural Frames to Withstand Wind and Snow Loads | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 1 | No |
| Bury Power Lines | 1 | 0 | 1 | -1 | 1 | 1 | 3 | 3 | No |
| Remove Existing Structures from Flood-Prone Areas | 1 | 1 | 1 | -1 | 0 | 1 | 3 | 3 | No |
| Anchor Roof-Mounted Mechanical Equipment on Critical Facilities | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | No |
| Routinely Clear Debris from Support Bracing Underneath Low-Lying Bridges | 0 | 0 | 1 | 0 | -1 | 0 | 0 | 1 | No |

¹ VTrans inspects all town-owned bridges in the State's Town Highway Bridge Program every two years. Bridge inspection reports are available on the VTrans website.

| Mitigation Action | Life Safety | Prop Protect | Tech | Political | Admin | Other Obj | Benefit Score | Est Cost | C/B |
|--|--|--------------|------|-----------|-------|-----------|---------------|----------|-----|
| Natural Systems Protection | | | | | | | | | |
| Establish Vegetative Buffers in Riparian Areas | 1 | 1 | 1 | 0 | 1 | 1 | 5 | 1 | Yes |
| Stabilize Stream Banks | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | Yes |
| | The banks on Freeman Brook have been stabilized in the past to mitigate fluvial erosion. There are currently no known areas requiring stabilization. | | | | | | | | |
| Restore Incision Areas | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | No |
| Remove Berms | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | No |
| Education and Awareness Programs | | | | | | | | | |
| Increase Awareness about Drought-related Hazards and Water Saving Techniques | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| Keep the Ditches Clean Campaign | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | Yes |
| Assist Vulnerable Populations | Mount Holly already has a system in place to assist vulnerable populations – see 2020 Local Emergency Management Plan. | | | | | | | | |
| Educate Property Owners about Freezing Pipes | Mount Holly already has an awareness program in place to educate property owners about freezing pipes – information is published in the <i>Chit Chat</i> . | | | | | | | | |

Table 5 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?

Rank each of the above criteria in Table 5 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

Table 6 Community Lifelines Description: A Community Lifeline enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security. The primary objective of lifelines is to ensure the delivery of critical services that alleviate immediate threats to life and property when communities are impacted by disasters. These critical services are organized into one of seven lifelines:



- 1. Law Enforcement
- 2. Fire Service
- 3. Search & Rescue
- 4. Government Service
- 5. Community Safety



- 1. Food
- 2. Water
- 3. Shelter
- 4. Agriculture



- 1. Medical Care
- 2. Public Health
- 3. Patient Movement
- 4. Medical Supply Chain
- 5. Fatality Management



- 1. Power Grid
- 2. Fuel



- 1. Infrastructure Responder
- 2. Communications
- 3. Alerts, Warnings, & Messages
- 4. Finance
- 5. 911 & Dispatch



- 1. Highway/Road/Motor Vehicle
- 2. Mass Transit
- 3. Railway
- 4. Aviation
- 5. Maritime



- 1. Facilities HAZMAT, Pollutants, Contaminants

Table 6: Mitigation Action Implementation

Develop a Stormwater Management Plan: A Stormwater Management Plan can guide the town in planning, funding, and implementing a comprehensive program for addressing current and future requirements for managing stormwater runoff, flooding problems, and the Town's natural resources. Mount Holly will explore the feasibility of developing this Plan.

ADDRESSED HAZARDS**Flooding****Lead Party**

Selectboard

Type of Project

Local Plans and Regulations

COMMUNITY LIFELINES**Safety & Security****Transportation**
Primary Lifeline**Area of Impact**

Town-wide; Star Lake, Lake Ninevah, Tiny Pond; Mill River; Winslows' Flats Wetland

FUNDING SOURCES

- Local funding

PARTNERSHIPS

- Rutland NRCD
- Conservation Commission
- Planning Commission

BENEFIT SCORE = 6**PROJECT TIMELINE**

Outreach to Rutland NRCD to explore funding and technical assistance in Jun 2021

Develop a Drought Contingency Plan: A Drought Contingency Plan is a strategy or combination of strategies for monitoring the progression of a drought and preparing a response to potential water supply shortages resulting from severe droughts or other water supply emergencies. Mount Holly will explore the feasibility of developing this Plan.

ADDRESSED HAZARDS**Drought****Lead Party**

Selectboard

Type of Project

Local Plans and Regulations

COMMUNITY LIFELINES**Safety & Security****Food, Water, Shelter**
Primary Lifeline**Area of Impact**

Town-wide; Star Lake, Lake Ninevah, Tiny Pond; Mill River; Winslows' Flats Wetland

FUNDING SOURCES

- Local funding

PARTNERSHIPS

- Rutland NRCD
- Conservation Commission
- Planning Commission
- Volunteer Fire Department

BENEFIT SCORE = 6**PROJECT TIMELINE**

Outreach to Rutland NRCD to explore funding and technical assistance Jun 2021

Plan for and Maintain Adequate Road and Debris Clearing Capabilities: This includes capital planning and funding to support the appropriate number of staff and equipment needed to maintain the transportation network in Mount Holly.

ADDRESSED HAZARDS**Winter Storm**

Primary Hazard

**High Winds****Lead Party**

Selectboard

Type of Project

Local Plans and Regulations

COMMUNITY LIFELINES TARGETED**Safety & Security****Transportation**
Primary Lifeline**Area of Impact**

Town-wide; ±69 mile road network

FUNDING SOURCES

- Local funding

PARTNERSHIPS

- Road Foreman

BENEFIT SCORE = 6**PROJECT TIMELINE**

To coincide with preparing the annual Town budget each fall

Update Road Erosion and Culvert Inventories: These inventories were completed in 2017 and serve as the basis for asset management and should be kept up-to-date annually, with a full re-assessment every 5 years. Driveway culverts should be included in the 2022 culvert inventory re-assessment.

ADDRESSED HAZARDS**Flooding****Lead Party**

Road Foreman

Type of Project

Local Plans and Regulations

COMMUNITY LIFELINES TARGETED**Safety & Security****Transportation**
Primary Lifeline**Area of Impact**

Town-wide; ±60 miles of hydrologically-connected roads and ±460 culverts

FUNDING SOURCES

- Local funding
- VTrans Better Roads

PARTNERSHIPS

- Rutland Regional Planning Commission

BENEFIT SCORE = 5**PROJECT TIMELINE**

Re-assessment summer 2022

Manage Development in Erosion Hazard Areas with River Corridor Bylaws: River Corridor Bylaws can be used in conjunction with Flood Hazard Area Regulations to manage development in areas prone to flood impacts. Mount Holly will explore the feasibility of adopting River Corridor Bylaws.

ADDRESSED HAZARDS**Flooding****Lead Party**

Planning Commission

Type of Project

Local Plans and Regulations

COMMUNITY LIFELINES TARGETED**Safety & Security****Transportation**
Primary Lifeline**Area of Impact**

Town-wide

FUNDING SOURCES

- Local funding

PARTNERSHIPS

- Selectboard
- Rutland Regional Planning Commission

BENEFIT SCORE = 5**PROJECT TIMELINE**

Gauge the public support/political will starting in Jul 2021
Submit recommendations to Selectboard by Dec 2021

Plan for Bridge Repairs: Every two years, VTrans inspects all town-owned bridges that are in the State's Town Highway Bridge Program. These inspection reports will be reviewed and used to plan for any identified flood-related bridge repairs.

ADDRESSED HAZARDS**Flooding****Lead Party**

Road Foreman

Type of Project

Local Plans and Regulations

COMMUNITY LIFELINES TARGETED**Safety & Security****Transportation**
Primary Lifeline**Area of Impact**

Seven (7) town-owned bridges: B61, B63, B64, B65, B67, B68, B69

FUNDING SOURCES

- Local funding

PARTNERSHIPS

- Selectboard
- VTrans

BENEFIT SCORE = 5**PROJECT TIMELINE**

Review reports in Nov 2020
Develop plan for bridge repairs, if needed, by Jun 2021
Follow-up with VTrans on the schedule for replacing bridge B64 through the VTrans Capital Program in Jun 2021

Re-work Roadside Ditches: Properly installed and stabilized roadside ditches are critical to protect the integrity of the road. Although Mount Holly has an extensive network of ditches, the areas noted below either need new ditches or have ditches that need to be re-worked to bring them up to current municipal Road Standards.

ADDRESSED HAZARDS**Flooding****Lead Party**

Road Foreman

Type of Project

Infrastructure

COMMUNITY LIFELINES TARGETED**Safety & Security****Transportation**
Primary Lifeline**Area of Impact**

- 1) Old Turnpike
- 2) Sawyer Hill

FUNDING SOURCES

- Local funding
- VTrans Better Roads
- Grants-In-Aid

PARTNERSHIPS

- Selectboard

BENEFIT SCORE = 6**PROJECT TIMELINE**

- 1) 2021 construction season
- 2) 2022 construction season

Remove Hazardous Trees in Road Right-of-Way: Hazardous trees in the road right-of-way can contribute to power and communication outages as well as debris in the roadway during winter storms and high wind events. Mount Holly will remove hazardous trees within their road right-of-way as they are identified and/or request removal by Green Mountain Power if also within the power line right-of-way. This work will be done in accordance with the Rural Road Resilient Right-of-Ways Vegetation Assessment, when completed.

ADDRESSED HAZARDS**Winter Storm****High Winds****Lead Party**

Road Foreman

Type of Project

Infrastructure

COMMUNITY LIFELINES TARGETED**Energy**
Primary Lifeline**Transportation****Communications****Area of Impact**

Town-wide

FUNDING SOURCES

- Local funding

PARTNERSHIPS

- Tree Warden
- Green Mountain Power
- Selectboard

BENEFIT SCORE = 6**PROJECT TIMELINE**

As needed
See Rural Road Resilient Right-of-Ways Vegetation Assessment

Install Back-up Power at Critical Facilities: Generators are emergency equipment that provide a secondary source of power to a facility. Mount Holly has identified two critical facilities in need of back-up power.

ADDRESSED HAZARDS**All Hazards****Lead Party**

Selectboard – Town Office
Schoolboard – Elementary School

Type of Project

Infrastructure

COMMUNITY LIFELINES TARGETED**Energy**
Primary Lifeline**Food, Water, Shelter****Area of Impact**

- 1) Town Office (local emergency operations center)
- 2) Elementary School (local shelter)

FUNDING SOURCES

- Local funding
- FEMA HMGP

PARTNERSHIPS

- None

BENEFIT SCORE = 6**PROJECT TIMELINE**

- 1) 2026 construction season
- 2) 2026 construction season

Expand Water Supplies for Fire Suppression: Lacking municipal drinking water infrastructure, Mount Holly relies exclusively on a system of dry hydrants for fire suppression. During times of drought, surface water sources relied upon could become compromised. To improve fire suppression for village residents as well as more rural areas, Mount Holly will install additional dry hydrants in the following locations.

ADDRESSED HAZARDS**Drought****Lead Party**

Volunteer Fire Department

Type of Project

Infrastructure

COMMUNITY LIFELINES**Safety & Security****Area of Impact**

- 1) Around Lake Ninevah
- 2) Along VT Route 155

FUNDING SOURCES

- Local funding
- Vermont Rural Fire Protection Task Force

PARTNERSHIPS

- Ninevah Foundation
- Private Landowners

BENEFIT SCORE = 6**PROJECT TIMELINE**

- 1) 2023 construction season
- 2) 2025 construction season

Adequately Size Drainage and Perennial Stream Culverts in Flood-Prone Areas: Undersized culverts can lead to road washouts and flooding. Mount Holly has identified several locations where upsized culverts are needed.

ADDRESSED HAZARDS**Flooding****Lead Party**

Road Foreman

Type of Project

Infrastructure

COMMUNITY LIFELINES**Safety & Security****Transportation**
Primary Lifeline**Area of Impact**

- 1) Summit Road (B49): 5' to 15'x7' box – this temporary culvert was permitted as temporary work by ANR.
- 2) Sawyer Hill: 3' squashed to 14'x7' box
- 3) Others, including driveway culverts, as required by MRGP

FUNDING SOURCES

- Local funding
- VTrans Better Roads
- VTrans Structures Grant
- Grants-In-Aid
- FEMA HMGP

PARTNERSHIPS

- Selectboard
- ANR Stream Engineer
- US Army Corps of Engineers

BENEFIT SCORE = 6**PROJECT TIMELINE**

- 1) 2023 construction season
- 2) 2023 construction season
- 3) See MRGP

Routinely Clean and Repair Stormwater Infrastructure: Regular maintenance is one of the most effective ways to mitigate the impacts of flooding. Routine cleaning and repairs of ditches, culverts, and catch basins will be done according to the Highway Department's maintenance schedule and the Municipal Roads General Permit (MRGP).

ADDRESSED HAZARDS**Flooding****Lead Party**

Road Foreman

Type of Project

Infrastructure

COMMUNITY LIFELINES**Safety & Security****Transportation**
Primary Lifeline**Area of Impact**

Town-wide; ±69 mile road network and ±460 culverts

FUNDING SOURCES

- Local funding
- VTrans Better Roads
- Grants-In-Aid

PARTNERSHIPS

- Selectboard

BENEFIT SCORE = 5**PROJECT TIMELINE**

See Highway Department's Maintenance Schedule and MRGP

Establish Vegetative Buffers in Riparian Areas and Stabilize Stream Banks: Mount Holly will work with the Rutland Natural Resources Conservation District to identify areas for collaboration to pursue these actions, especially those listed in the 2009 Mill River Corridor Management Plan.

ADDRESSED HAZARDS**Flooding****Lead Party**

Selectboard

Type of Project

Natural System Protection

COMMUNITY LIFELINES**Safety & Security****Transportation**
Primary Lifeline**Area of Impact**

- 1) Mill River Watershed, particularly along Mill River and Freeman Brook
- 2) Branch Brook Watershed

FUNDING SOURCES

- Local funding
- VTrans Better Roads
- VANR Water Quality Grants

PARTNERSHIPS

- Road Foreman
- Rutland Natural Resources Conservation District
- ANR Stream Engineer
- US Army Corps of Engineers

BENEFIT SCORE = 3-5**PROJECT TIMELINE**

Meet with Rutland NRCDC to review status of 2009 Mill River Corridor Plan recommended projects and begin discussing opportunities for collaboration in Jul 2021

Educate Property Owners about Drought-related Hazards; Emerald Ash Borer; and Keep the Ditches

Clean Campaign: Mount Holly will undertake education and awareness efforts on 1) drought-related hazards (e.g., brush fires, diminished water quality, water conservation); 2) the Emerald Ash Borer and the impacts of infestation; and 3) the importance of keeping the municipal ditches free of yard waste and other debris.

ADDRESSED HAZARDS**Drought****Invasive Species****Flooding****Lead Party**

Selectboard

Type of Project

Education and Awareness

COMMUNITY LIFELINES**Safety & Security**

Primary Lifeline

**Transportation****Food, Water, Shelter****Area of Impact**

Town-wide

FUNDING SOURCES

- Local funding

PARTNERSHIPS

- Tree Warden
- Chit Chat staff

BENEFIT SCORE = 6**PROJECT TIMELINE**

Spring 2021 – Emerald Ash Borer educational outreach in *Mount Holly Chit Chat*
 Summer 2021 – Drought educational outreach in *Mount Holly Chit Chat*
 Fall 2021 – Keep the Ditches Clean educational outreach in *Mount Holly Chit Chat*

Process for Incorporating Plan Requirements into Other Planning Mechanisms

For Mount Holly to succeed in reducing long-term risks, the information and recommendations of this Plan should be integrated throughout government operations.

The following are specific examples of how the Town will incorporate this Plan into other plans, programs, and procedures:

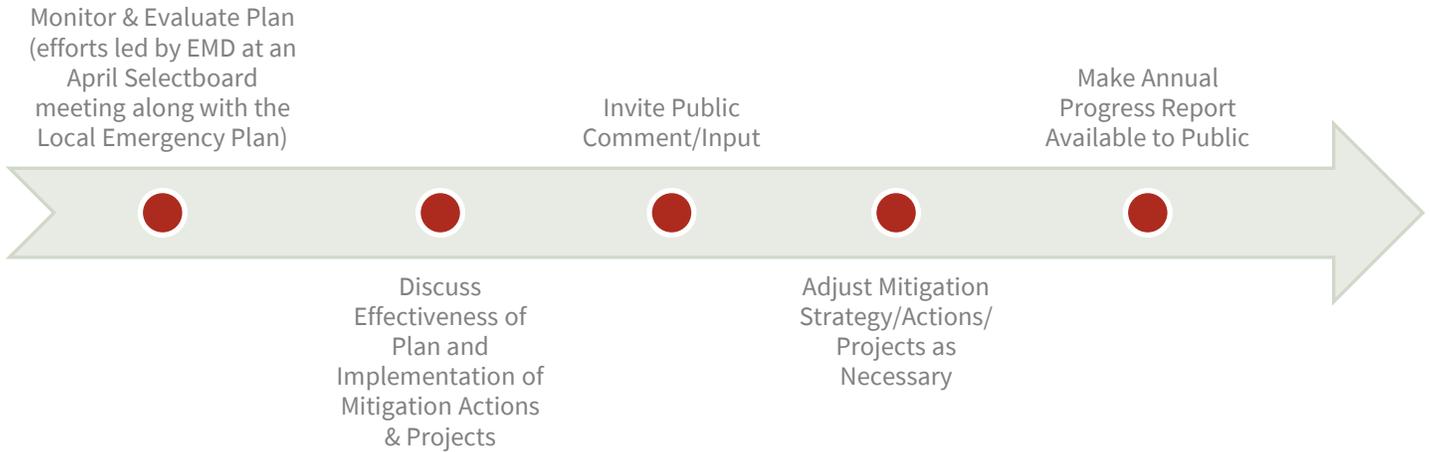
- The Selectboard will work with the Road Foreman to incorporate risk assessment and hazard mitigation goals into capital planning efforts and improvement programs.
- The Planning Commission will integrate the hazard mitigation goals for disaster resiliency into the goals and objectives of the next updates to the Town Plan and Flood Hazard Area Regulations.
- The Road Foreman will implement several mitigation infrastructure projects (e.g., upsize perennial and drainage culverts in flood-prone areas, re-work roadside ditches) through existing plans (2018 Road Erosion Inventory and Report for hydrologically-connected road segments).
- The Selectboard (or an appointed committee) will work with the Rutland Natural Resources Conservation District to identify opportunities to collaborate on addressing the hazard mitigation projects identified in the 2009 River Corridor Plan for the Mill River Watershed.

7 PLAN MAINTENANCE

This Plan is dynamic. To ensure the Plan remains current and relevant, it is important it be monitored, evaluated, and updated periodically.

Monitoring and Evaluation

This Plan will be monitored and evaluated annually starting in 2022 in accordance with the following process:



The status (e.g., in progress, complete) of each mitigation action should be recorded in **Table 7**. If the status is “in progress” note whether the action is on schedule. If not, describe any problems, delays, or adverse conditions that will impair the ability to complete the action.

Updating

This Plan will be updated at a minimum every five (5) years in accordance with the following process:



Table 7: Mitigation Action Status

| Mitigation Action | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|------|------|------|------|------|
| Local Plans and Regulations | | | | | |
| Develop a Stormwater Management Plan | | | | | |
| Develop a Drought Contingency Plan | | | | | |
| Plan for and Maintain Adequate Road and Debris Clearing Capabilities | | | | | |
| Update Road Erosion and Culvert Inventories | | | | | |
| Manage Development in Erosion Hazard Areas with River Corridor Bylaws | | | | | |
| Plan for Bridge Repairs | | | | | |
| Structure and Infrastructure Projects | | | | | |
| Re-work Roadside Ditches | | | | | |
| Remove Hazardous Trees in Road ROW | | | | | |
| Install Back-up Power at Critical Facilities | | | | | |
| Expand Water Supplies for Fire Suppression | | | | | |
| Adequately Size Drainage and Perennial Stream Culverts in Flood-Prone Areas | | | | | |
| Routinely Clean and Repair Stormwater Infrastructure | | | | | |
| Natural Systems Protection | | | | | |
| Stabilize Stream Banks | | | | | |
| Establish Vegetative Buffers in Riparian Areas | | | | | |
| Education and Awareness Programs | | | | | |
| Drought-related Hazards Educational Outreach | | | | | |
| Emerald Ash Borer Educational Outreach | | | | | |
| Keep the Ditches Clean Campaign | | | | | |

CERTIFICATE OF ADOPTION
TOWN OF Mount Holly, Vermont Selectboard
A RESOLUTION ADOPTING THE Mount Holly, Vermont 2021 Local Hazard Mitigation Plan

WHEREAS, the Town of Mount Holly has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of the hazards profiled in the **2021 Mount Holly, Vermont Local Hazard Mitigation Plan**, which result in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of Mount Holly has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its **2021 Mount Holly, Vermont Local Hazard Mitigation Plan (Plan)** under the requirements of 44 CFR 201.6; and

WHEREAS, the **Plan** specifically addresses hazard mitigation strategies, and Plan maintenance procedures for the Town of Mount Holly; and

WHEREAS, the **Plan** recommends several hazard mitigation actions (projects) that will provide mitigation for specific natural hazards that impact the Town of Mount Holly with the effect of protecting people and property from loss associated with those hazards; and

WHEREAS, adoption of this **Plan** will make the Town of Mount Holly eligible for funding to alleviate the impacts of future hazards; now therefore be it

RESOLVED by Town of Mount Holly Selectboard:

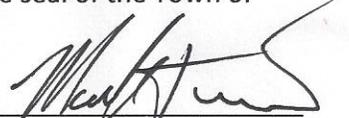
1. The **2021 Mount Holly, Vermont Local Hazard Mitigation Plan** is hereby adopted as an official plan of the Town of Mount Holly;
2. The respective officials identified in the mitigation action plan of the **Plan** are hereby directed to pursue implementation of the recommended actions assigned to them;
3. Future revisions and **Plan** maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as part of this resolution for a period of five (5) years from the date of this resolution; and
4. An annual report on the process of the implementation elements of the Plan will be presented to the Selectboard by the Emergency Management Director or Coordinator.

IN WITNESS WHEREOF, the undersigned have affixed their signature and the corporate seal of the Town of Mount Holly this 9 day of Feb. 2021.

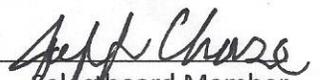
ATTEST



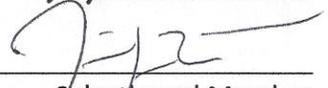
Town Clerk



Selectboard Chair

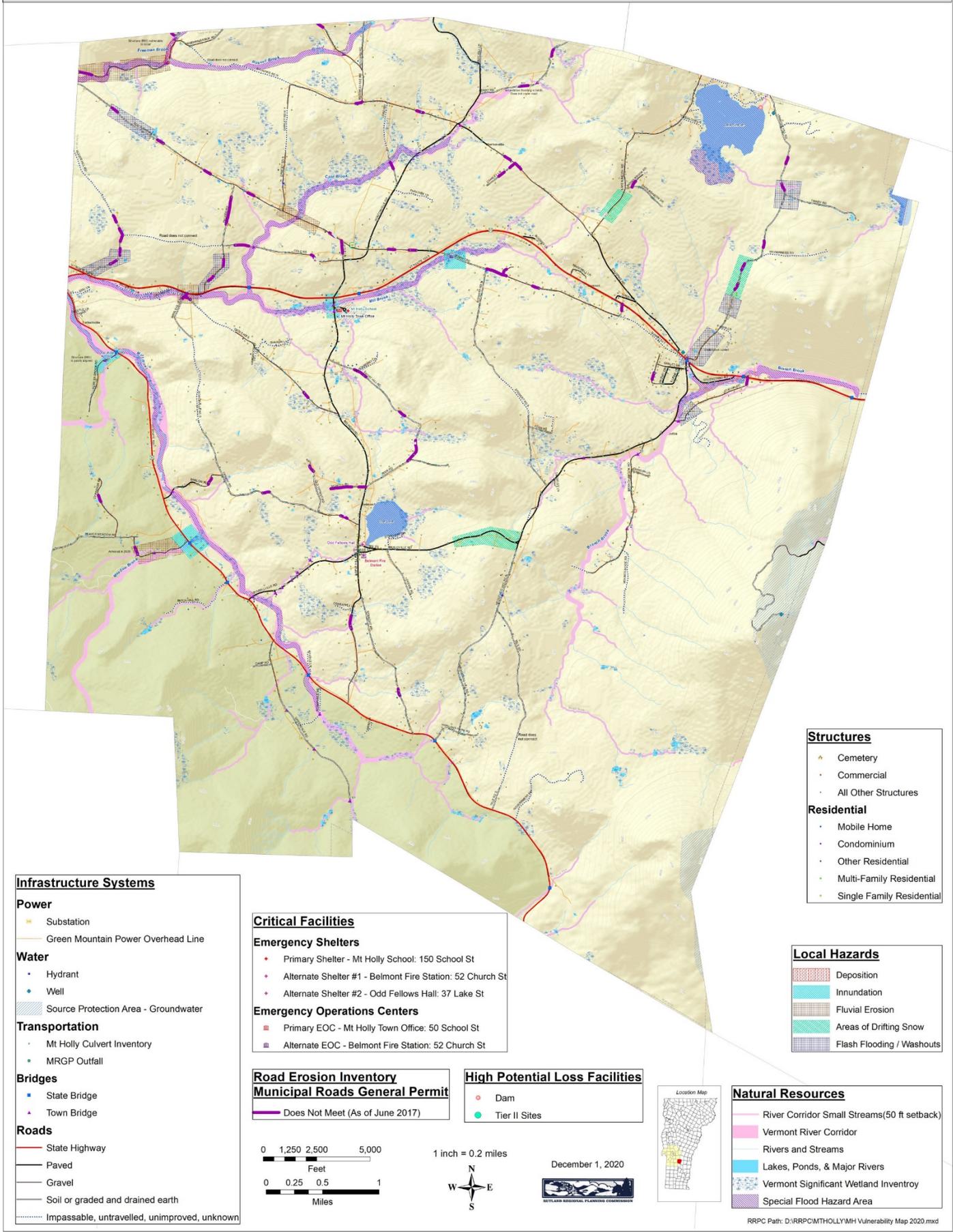


Selectboard Member



Selectboard Member

Mount Holly, Vermont: Local Natural Hazards and Vulnerabilities Map



Infrastructure Systems

Power

- Substation
- Green Mountain Power Overhead Line

Water

- Hydrant
- Well
- Source Protection Area - Groundwater

Transportation

- Mt Holly Culvert Inventory
- MRGP Outfall

Bridges

- State Bridge
- Town Bridge

Roads

- State Highway
- Paved
- Gravel
- Soil or graded and drained earth
- Impassable, untravelled, unimproved, unknown

Critical Facilities

Emergency Shelters

- Primary Shelter - Mt Holly School: 150 School St
- Alternate Shelter #1 - Belmont Fire Station: 52 Church St
- Alternate Shelter #2 - Odd Fellows Hall: 37 Lake St

Emergency Operations Centers

- Primary EOC - Mt Holly Town Office: 50 School St
- Alternate EOC - Belmont Fire Station: 52 Church St

Road Erosion Inventory

Municipal Roads General Permit

- Does Not Meet (As of June 2017)

High Potential Loss Facilities

- Dam
- Tier II Sites

Structures

- Cemetery
- Commercial
- All Other Structures

Residential

- Mobile Home
- Condominium
- Other Residential
- Multi-Family Residential
- Single Family Residential

Local Hazards

- Deposition
- Inundation
- Fluvial Erosion
- Areas of Drifting Snow
- Flash Flooding / Washouts

Natural Resources

- River Corridor Small Streams(50 ft setback)
- Vermont River Corridor
- Rivers and Streams
- Lakes, Ponds, & Major Rivers
- Vermont Significant Wetland Inventory
- Special Flood Hazard Area

0 1,250 2,500 5,000
Feet

0 0.25 0.5 1
Miles

1 inch = 0.2 miles

December 1, 2020

WETLAND REGIONAL PLANNING COMMISSION



RRPC Path: D:\RRPC\MTHOLLYMH Vulnerability Map 2020.mxd

| <i>PRIORITY SCORE</i> | MITIGATION ACTION | Who is Responsible | Approx. Time Frame & Potential Funding Sources | Initial Implementation Steps | Status | 2020 Status |
|-----------------------|--|---|--|--|---|---|
| 35 | Install back-up generators (or necessary wiring for portable generator) at the school. | Fire Department | <ul style="list-style-type: none"> • Med-term • HSU funds | Apply for funding from HSU or other equipment grants | Will occur as state/Federal funding is available. | Incomplete – remains a priority |
| 35 | Continue adding dry hydrants to more rural areas of town. Install hydrants connecting Star Lake to points in Belmont to improve fire protection for village residents. | Fire Department and local property owners | <ul style="list-style-type: none"> • Med Term • Dry Hydrant Grant | Apply for dry hydrant funding through George Aiken Resource Conservation and Development Council | Ongoing as funding allows. | Incomplete – remains a priority to add dry hydrants to more rural areas and in Belmont. No longer a priority to install hydrants connecting Star Lake to points in Belmont. |
| 34 | Incorporate proposed strategies into Annual Budget and/or Capital Improvement Plan | Selectboard | <ul style="list-style-type: none"> • Short-Term • Local Resources | Incorporated in next Budget Cycle | Ongoing annually. | Remains an ongoing priority |
| 33 | Continue upgrade, replacement and clean-out of culverts. Continue road resurfacing. | Selectboard, Town Manager and Road Crew. | On-going; local resources. | | Ongoing as funding allows. | Remains an ongoing priority |
| 33 | Repair bridges designated in 1992 State survey as needing work (bridges #61, 64, 66) | State of Vermont AOT | <ul style="list-style-type: none"> • Med-term • State and Local Funding | Incorporate into future capital budgets | Will occur as funding allows. | Repairs to Bridge #61 complete; repairs to Bridge #64 remain a priority; Bridge #66 was closed to vehicle traffic |
| 33 | Examine Town Plan, bylaws and development regulations to ensure identified hazard areas are addressed | Planning Commission/ Selectboard | <ul style="list-style-type: none"> • Med-term • Municipal Planning Grant | Incorporated in next Town Plan update | Ongoing as Plan and regulations are reviewed regularly. | Was completed in 2018; remains an ongoing priority |
| 32 | Repair dam on Star Lake. | Selectboard | <ul style="list-style-type: none"> • Long Term • State and Federal Resources | Pursue potential funding sources for repairs. | Will occur as funding allows. | Complete |
| 29 | Seek ways of increasing cell tower coverage in town as a backup communication network during a power outage. | Selectboard with support from Planning Commission | <ul style="list-style-type: none"> • Short Term • Local Resources | | State efforts are active on Route 103 corridor. | Incomplete – remains a priority |
| 29 | Follow recommendations in Mill River Corridor Plan and SGAs to address fluvial erosion hazards. Create Fluvial Erosion Hazard Zones. | Selectboard/ Agency of Natural Resources | <ul style="list-style-type: none"> • On-going • Long Term | Incorporate Fluvial Erosion Hazard zones into Town Plan and Zoning Regulations. | New in 2009. | Incomplete – remains a priority |

requirements needed for re-opening businesses. Discussion ensued on those requirements: social distancing, number of people allowed per square foot, face coverings, contact tracing logs, disinfecting procedures, and others. Mr. Turco will pull together the health and safety requirements to be followed for the town office to reopen, and he will review these with the town office staff. Mr. Turco made a motion to reopen the town office on Monday, July 20th with adherence to all health and safety guidelines, seconded by Ms. Matthews, unanimously approved. Brigid Sullivan stated that additional masks were available through Rotary, if needed.

d. **Swap Shed Reopening?** – No, will revisit the issue in August.

e. **Other** – There was no additional Old & Ongoing Business.

9. **Announcements/Other Business**

a. **VT Route 155 Closure for Bridge #7 Replacement: July 21st – August 18th**

b. **VT Statewide Primary – Tuesday, August 11th – Polls Open 10:00 am – 7:00 pm**

10. **Review & Sign Orders** – to be signed one Select Board member at a time at the town office.

11. **Executive Session: Title 1 V.S.A. § 313(a)(3) – personnel** – Not needed this evening.

12. **Adjourn** - Ms. Matthews made a motion to adjourn the meeting at 8:33 pm, seconded by Mr. Turco, unanimously approved, and the meeting was adjourned. Respectfully submitted: Jennifer Matthews



NORTHEAST CHIMNEY

SERVICE

GARY SKIDMORE

CHIMNEY CLEANING * STAINLESS STEEL
LININGS * CHIMNEY BUILDING * REPAIRING *
FACTORY BUILT INSTALLATIONS

MT. HOLLY, VT (802) 259-3622

Planning Commission Virtual Meeting Minutes - June 22, 2020

Present: Jon McCann, Nicole Lewis, Clinton Woolley, Jim Seward, Gabrielle Macklin-Bickford, Ed Bove, Mark Turco, Jeff Chase, Jennifer Matthews, David Johnson, Brigid Sullivan, Okemo Valley TV

Jim called the meeting to order at 7:02 PM.

Discussion with Ed Bove, Executive Director of the Rutland Regional Planning Commission. Town Plans carry weight with regard to Act 250, particularly when it comes to identifying specific natural features that a town wishes to protect. Town Plans have the ability to be more regulatory than they were 15 years ago (ie/ views from specific right-of-ways can be protected through the Town Plan). Jennifer Matthews raised the concern about the possible impact by Vail with regard to any potential future development of the Mount Holly side of Okemo Mountain. Other towns restrict this sort of development through zoning regulations, which Mount Holly does not have. Options instead might include

changing land use regulations, to safeguard that area. Also, much of the backside of Okemo is currently conserved land. In the Town Plan, providing a more specific definition of "Conserved Land" in the Future Land use section as well as including more specificity within the Rural Residential areas of Mount Holly would add additional protection against future unwanted development. A re-adoption of the Town Plan would "re-start" the 8-year clock of how long a Town Plan is good for. Other helpful resources could include a Viewshed Study and/or Community Value Mapping (ecological concerns) to gather more data, as well as looking at the Town Plans of towns similar in composition to Mount Holly (all Town Plans are linked on the RRPC website). At the next Planning Commission meeting on July 20th, a work plan for amending the Mount Holly Town Plan will be developed.

The meeting adjourned at 8:08 PM by motion, second and vote (5-0). Respectfully Submitted, Nicole Lewis, Planning Commission Secretary

Mount Holly Updating Hazard Mitigation Plan

The Town of Mount Holly is currently engaged in hazard mitigation planning and is updating the Mount Holly, Vermont Local Hazard Mitigation Plan. For more information on the planning process or to find out about upcoming opportunities for public input, contact Steffanie Bourque at the RRPC – sbourque@rutlandrpc.org or 802-775-0871 x206.

Thanks, Jeff Chase

Mount Holly Administrative Officer and Planning Commission Clerk Needed

The Mount Holly Planning Commission is looking for a strong candidate to serve as our Planning Commission Clerk and to nominate for the position of Administrative Officer for the Town of Mount Holly.

This position will serve the community by helping to administer permits for our land-use bylaws, manage administrative tasks, and work with the Planning Commission to provide customer service to the public. This position will perform work requiring clerical skills, public relations, email and word processing, records management, and should be able to work with minimum supervision.

The position is up to 10 hours per month (hours are flexible and can vary weekly), with the opportunity for the position to be done partially remote (a portion of the work will need to be done on location at the town office). Attendance at regularly scheduled meetings is required, which are held every third Monday of the month at 7 pm. Pay is competitive.

Do you have great organizational skills and have a desire to help your community?

Email a letter of interest and your resume to the Planning Commission at planningcomm@mounthollyvt.org

Even though right now we have...

- NO GATHERINGS OF MORE THAN ONE PERSON**
(and that person has to stand six feet away from himself or herself)
- NO PARTIES UNLESS NO ONE IS INVITED**
- NO APPEARING IN PUBLIC WITHOUT WEARING A MASK (& CLOTHES)**
- NO 2020 MOUNT HOLLY CIDER DAYS (Can you believe it!!)**
- AND NO PUBLIC VOTING FOR CALENDAR PHOTOS. But...**

...we do have Mount Holly's 2021 Calendar on sale at the Belmont Store (with curbside delivery) or send a text to mthollyphotos@gmail.com for info about mail delivery or at home delivery (in Mt. Holly) for the purchase of two or more calendars.

Or you can call Craig Tomkinson (802) 259-3947 (but he's cranky in the morning)

Local Hazard Mitigation Plan (LHMP) Update

A team of four Mount Holly Residents are currently working with the Rutland Regional Planning Commission to create a Local Hazard Mitigation Plan (LHMP). This plan is required by the State of Vermont for all communities. Its purpose is to assist the Town to understand the natural hazards facing the community, rank them according to level of risk, and develop strategies to mitigate those hazards.

The first five sections of the plan; the Introduction, Community Profile, Hazard Identification, and Risk Assessment, will be ready for public review and comment on September 2, 2020 for a 14 day period. The draft plan will be posted to the town website at <http://www.mounthollyvt.org/announcements-bulletin-board/> and at the Town Office.

The remaining sections address analysis of specific hazards and development of mitigation strategies and will be created later in September. A second public review and comment period will be provided once the plan is complete.

Public review and comment are critical to the development of the plan. Your past experiences in Mount Holly and your perspective on natural disasters and hazards will be important to this plan. We request your assistance and input.

A brief overview of the draft plan will be presented at the September 8th regular Select Board meeting. This meeting will be held remotely via Zoom, at 6:30 pm. For the meeting link and/or call-in telephone number please visit <http://www.mounthollyvt.org/150047-2/>. Time for public comments will be provided after the overview. Comments can also be communicated in writing to Jeff Chase at jeff@chasevermont.com or dropped off at the Town Office or mailed to Jeff Chase, PO Box 248, Mount Holly, VT.



due to Covid like this year's cancelled annual Summer Palooza event. We will be rolling those out soon. We would like to thank the Mt. Holly community for all the returnable can and bottle donations left in our shed at the dump. Please double-check your donations to make sure they are returnables. Don't forget to check out our website: rainbowridingcenter.org, and follow us on Facebook, Twitter @RainbowRiding and Instagram @rainbow_riding_center.

Everyone stay well and remember to social distance at least a horse length apart.

Straight from the horses mouth

Stay Safe Stay Spaced

from Rainbow Riding Center

September, where did the summer go? The current situation has definitely curtailed some of our usual summer activities, especially our therapeutic riding program, but also allowed us to work on things we rarely have time for. We are making Activity Bags for riders, recharging our engines, working on program ideas and chomping at the bit to get started again, although it looks like that won't happen until this coming Spring. Meanwhile the horses are fat and sassy and definitely enjoying the summer off.

We are also working on some fundraising ideas to help us replace some of the funding we lost

Driveway Grading / Ditching
Site Work / General Excavation
New Lawns / Ponds
House Sites / Septic Installations
Land Clearing / Driveway Installations

KEITH Hawkins
president

Mount Holly, Vermont
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HAWKINS
EXCAVATION

The Nite' Fore Deer Season



T'was the nite before Deer Season;
And cold in the shack.
The guns had been polished, and lay in the rack.
The Hunter were nestle, all snug in their beds.
With visions of "8 pointer", dancing in their heads.
I in my overcoat, gloves, boots and cap
Had just settled to a four-hour nap.
When out from the woods there arose such a clatter.
I sprang from my bedroll to see what was the matter.
Out of the door I flew like a flash;
Stumbled and fell; tripped over some trash.
The moon on the crest of the new-fallen snow
Gave the luster of mid-day to objects below.
When what to my wondering eyes should appear
But a little old man out jacking deer.
The flurries of snow made it fairly hard to see;
But he lay out a salt lick; and perched in a tree!
To the top of the tree, to the top of the limb
He seemed quite assured no deer could see him.
Back at the shack, I was turning around
When he fell from the tree, and sprawled on the ground.
He was dressed all in wool; from his head to his toe
And his clothes were all "soggy" with the water of snow.
A stock of a rifle he held in his hand.
It was then I whistled and shouted, "Get off my land!"
He said not a word, he went straight to his work.
Brushed off his clothing and turned with a jerk.
He ran like the wind right past our shack
And then he sped off in a new Cadillac.
But I heard him exclaim with a voice full of cheer
"What a miserable night to be out jacking deer!!!"
The moral is this: If you're going to jack a deer,
do it on your own land!!!

Submitted by Bob Buswell for the B.R.V. Senior Center
November Newsletter.

I received this from Gus Muguira from California in December
2007 and have kept it just for the November publication of the
Chit Chat.

The Confederate Flag

In July of this year the Chairman of the Joint Chiefs of Staff, General Mark Milley, called confederate leaders traitors. Both my husband Andy and I agree since our ancestors fought in the Civil War. On July 3, 1863 Andy's Mennonite great grandfather described the roar of the cannons at the Battle of Gettysburg and on August 14 of that year he traveled to Lancaster, Pennsylvania to receive a blanket and \$17 for service to his country. He was following the tradition of his family since earlier generations of Andy's family had furnished the American revolutionary soldiers with supplies.

My great grandfather arrived in New York State and immediately enlisted to fight the confederate soldiers. Over 4,000 Vermonters also battled the confederacy at Gettysburg and many died, yet today people fly the confederate flag in Vermont—the flag that represents traitors and their values, the willingness to enslave others. Instead of supporting the confederacy, they should be proud of the Vermonters who were crucial in turning around the battle of Gettysburg and assisted in the Union forces success.

General George Mead, commander of the Army of the Potomac said "there was no individual body of men who rendered greater service at a critical moment than the comparatively raw troops commanded by General Stannard"— the Lieutenant Colonel of the 2nd Vermont Volunteer Infantry. Major General Abner Doubleday cried out "See the Vermonters go it!" Later he wrote, "I can only say that they performed perhaps the most brilliant feat during the war for they broke the desperate charge of Pickett, saved the day and with it, the whole North from invasion and devastation." It is so important to know the history of our state and our country. Marcy Tanger

OLD SAYINGS BY VETERANS

43rd Div. Winged Victory Division Newsletter put out by the Brown family for years.

Coffin Quotes

You have a rapport that you'll never have again there's no competitiveness no money values. You trust the man on the left and your right with your life. Audie Murphy, CMB most decorated soldier of World War II.

Resistance to tyrants is obedience to God. President Thomas Jefferson

An Irish Blessing

May your pockets be heavy, your heart be light and may Good Luck pursue you each morning and night.

An Army Of One

We no longer differentiate in an ultimate sense between the Army, National Guard, Reserve forces. Every energy – is bent – to the development of the Army of the United States. Our purpose is to think only of the American Citizen who is to be a soldier in that Army and to prepare in time of peace for duties in war. General John J. Blackjack Pershing – Mexican War – WWI

The elder General Wing, Commander of the 43rd Div. said he knew General Pershing, sitting in the mess hall of Co. B Ludlow 172nd talking to Capt. Billado and Lieutenant Harold Arthur, later to be our Governor of VT and all good friends of myself – Which is a long story back to 1923-1927.

Patriotism is easy to understand in America; it means looking out for yourself by looking out for your country. President Calvin Coolidge of VT 1872-1933 30th President of the United States (1923-1929)

Local Hazard Mitigation Plan Update

The purpose of the plan is assist the town in identifying all natural hazards facing the community, ranking them according to local vulnerabilities. Having this plan puts the town in accordance with the 2018 State Hazard Mitigation Plan. A team of 4 town members are working with Steffanie Bourque, Emergency Planner at the Rutland Regional Planning Commission, to draft the plan.

In the month of November we will be working on the final section, which is Mitigation Actions. These actions mainly will revolve around improvements to road infrastructure, such as ditches and culverts. The final draft of the plan will be available for public review and comment in early December and an overview will be provided at the December Regular Selectboard Meeting. More information will be in December's Chit Chat. If you have any questions please contact Jeff Chase at jeff@chasevermont.com.

