July 2023 Flood Damage

Cabot, Vermont

2024 Local Hazard Mitigation Plan

FEMA Approval Pending Adoption Date:

Municipal Adoption Date:

FEMA Formal Approval Date:

DRAFT

Prepared by the

Cabot Hazard Mitigation Planning Team

Michael Hogan, Cabot Selectboard Chair,
Dawn Andrews, Planning Commission and Conservation committee's member,
Jenn Miner, Emergency Management Director and Cabot Emergency Ambulance President
Peg Elmer Hough, Planning commission member,
Karen Deasy, Cabot Resident
Kerri Moll, Cabot Resident

Technical Assistance by the Central Vermont Regional Planning Commission

Central Vermont Regional Planning Commission

Key Partners

Winooski Natural Resources Conservation District / Friends of the Winooski / Central Vermont Clean Water Service Provider / VT Agency of Transportation District 6 / VT Department of Health / Central VT Floodplain Manager/Green Mountain Power/

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Table of Contents

1 INTRODUCTION

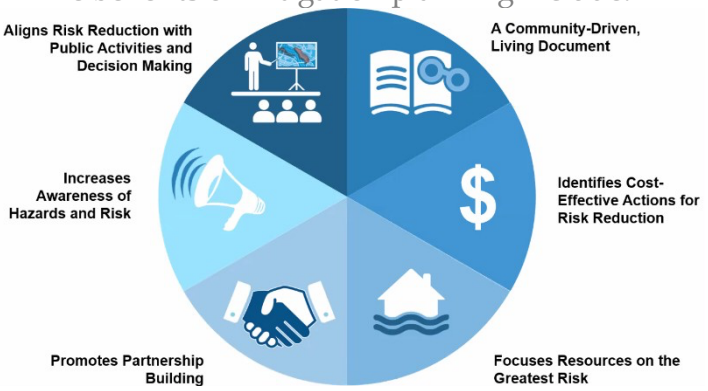
Mitigation planning provides an opportunity for local government to lessen the impact of the next natural disaster. The goal of this Plan is to advance and prioritize mitigation investment to reduce risks posed by natural hazards and to increase the Town of Cabot's resilience to damages from natural hazard impacts.

Hazard Mitigation is any sustained policy or action that reduces or eliminates long-term risk to people and property from the effects of natural hazards. FEMA and state agencies have come to recognize that it is more cost effective to prevent disasters than to repeatedly repair damage after a disaster has struck. This Plan recognizes that opportunities exist for communities to identify mitigation strategies and measures during all the other phases of Emergency Management – Preparedness, Response and Recovery. While the hazards can never be completely eliminated, it is possible to identify what the hazards are, where their impacts are most severe, and identify local actions and policies that can be implemented to reduce or eliminate the severity of the impacts.

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 prevent future loss of life and property.

The benefits of mitigation planning include:



Source: FEMA LHMP Skill Share Workshop 2021

Furthermore, the Town seeks to be in accordance with the strategies, goals, and objectives of the 2023 State Hazard Mitigation Plan.

3 COMMUNITY PROFILE

Land Use and Development Patterns

According to the 2017 Cabot Town Plan, the town charter was granted in 1781 and first surveyed in 1786. European settlers first arrived in the north east corner along the Bayley-Hazen road for farm plots. Later many water powered mills fed by the Winooski River and its tributaries fueled the early development of the village in its current location.

Cabot nestled in the Northern Piedmont is an upland plateau region at the headwaters of the Winooski River. Cabot Village, is the only state designated village center with-in the town. There are the villages of East Cabot, and Lower Cabot that are locally distinct areas.

The Town of Cabot is a small, rural residential community located in the northeastern corner of Washington County. It is bordered by Walden to the north, by Woodbury to the west, by Marshfield to the south and Peacham and Danville to the east.

Cabot Village has a mixture of residential, commercial, public, and industrial uses forming a small urban center. Many historic homes stand along Main Street, but most residences are located on side streets and the surrounding countryside. The Village also hosts one of the Cabot Creamery's production plants.

Outside of the village, residential development in Cabot has a rural character except along the shores of Joe's Pond along Cabot's north eastern boundary into the Town of Danville, which is intensively developed with both seasonal homes and year-round residences.

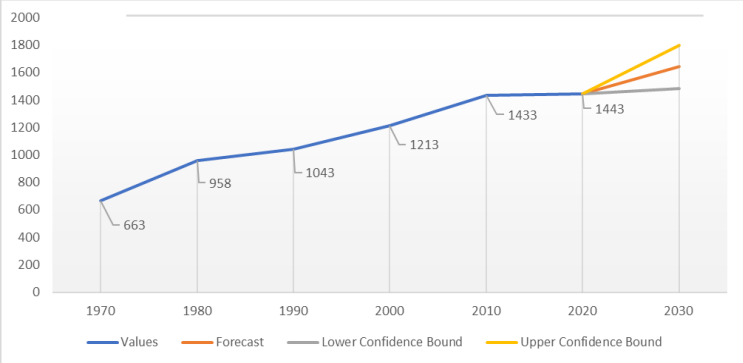
Land Features

Cabot's landscape is defined by rolling forested hills and mountains, scenic rivers, lakes, ponds, and wetlands. The Town is at the headwaters of the Upper Winooski River in the piedmont region of the foothills of the Green Mountains. The lowest point in town is found along the Winooski at the border of Cabot and Marshfield at 880 ft. in elevation. The highest elevations are found in the eastern half of town, including Danville Hill (2,201 ft.), Joe's Hill (2,198 ft), and Burbank Hill (1,980ft). The northern shoreline of Joe's Pond makes the northeast corner boundary and this area is in the Connecticut River watershed.

Molly Falls Pond State Park lies in the south east portion of the town and was created by the Marshfield#6 Green Mountain Power hydroelectric dam. The Vermont Land Trust holds easements on multiple properties throughout the town with a large grouping of adjoining parcels from Molly's Pond extending south.

Demographics and Growth Potential

The 2020 Decennial Census prepared by the U.S. Census Bureau shows an estimated population of 1,443 and 756 housing units. After 40 years of sharp growth from 1970 to 2010, Cabot's population growth has slowed since 2010 but is still expected to continue gradually upward.



Source: Census data with excel projection expected growth

The 2020 census reported the median age of Cabot residents at 45; higher than the Vermont median age of 42.9. The portion of the population over 65 is 22.4%, compared to 20.6% in Vermont and 16% in the country. The population density of the Town is 37.5 people per square mile compared to an overall state density of 68.

Cabot's growth potential is limited by a lack of developable land with public water and sewer utilities. Revitalizing existing infrastructure and properties, encouraging mixed-use development, and repurposing underutilized spaces offer the greatest opportunities for growth in Cabot.

Cabot's village center and adjoining area, has the most potential for new residential development. There is little in the way of property available for development in much of the town without subdividing agricultural or forested lands. Most of the areas outside the designated village and closely adjoining areas that are developable do not have access to municipal water or sewer and may be restricted by the required isolation distance between onsite wells and septic systems. Much of the town's land is also rated as prime agricultural soils which has protections and limitations on development.

Precipitation and Water Features

Average annual precipitation is 44 inches of rain; with June being the wettest month. Average annual snowfall is 112 inches; with February being the snowiest month.

Within Cabot the Winooski River has many tributaries (Jug Brook, Molly's Brook, among other unnamed tributaries. Molly's Pond, Molly's Falls Pond, Coit's Pond and West Hill Pond, are all sizeable lakes and ponds and round out the major water features in Cabot.

Wetlands make up 2.7% of Cabot's land area (or 670 acres) with one large area in East Cabot that is greater than 40 acres.

Drinking Water and Sanitary Sewer

Public drinking water is supplied by the Cabot Town Water system which serves ±250 units in the village center and along VT Route 215. Two wells provide the communities water.

Municipal sanitary sewer service is available to±173 connections in and adjacent to the village. Upgrades have been made to the system, include a new control panel, new pump station controls and alarms, and a SCADA (supervisory control and data acquisition) system for remote monitoring.

Transportation

Cabot is ±38.5 square miles in size with primary access via Vermont Route 215, a north-south major collector arterial route, US Route 2, running East-West connecting Montpelier to St. Johnsbury passes through the Southeast and Eastern portion of the town.

The 2023 VTrans Town Highway data indicate that Cabot has 57.91 municipal road miles: No miles of Class 1 Town Highway; 17.03 miles of Class 2 TH; 40.88 miles of Class 3 TH; 7.42 miles of Class 4 TH (or functionally Class 4). Of the total municipal road miles, ±29% are paved and 70% are gravel. In addition, there are 6.56 miles of State highway in Cabot, for a total of ±64.47 miles of traveled highways, including Class 4 roads. The town also has an additional 4.63 miles of legal trails.

According to the Town's 2023 road erosion inventory, 42% of Cabot's Road mileage is hydrologically connected - meaning it is within 100-feet of a water resource (i.e., stream, wetland, lake, or pond). Proximity to water resources can make these sections of road more vulnerable to flooding and fluvial erosion. These sections must be built to the standards created for the Municipal Roads General Permit program with a requirement of 7.5% of non-compliant segments being upgraded per year.

According to the Town's 2023 bridge inventory, Cabot has a total of 11 municipally maintained bridges – 7 short structures (6'-20' length) and 4 long structures (>20' length). The town's 4 long structures are inspected every two years by VTrans through the Town Highway Bridge Program.

Cabot has a total of 667 culverts in the municipal road right-of-way; all were inventoried in 2013 by the Central Vermont Regional Planning Commission with a partial survey done in 2017. Several culverts were listed in critical or poor condition and have be considered for replacement and/or upgrade in accordance with Town Road and Bridge Standards. The local road network is maintained by the municipal highway department, whose garage is located on South Walden Road.

Electric Utility Distribution System

Electric service to approximately 875 buildings is provided by Green Mountain Power. The rest of the town is served by Washington Electric Cooperative. Average annual outage statistics between 2017 and 2021 are summarized in **Table 1**.

Table 1: Power Outage Summary

Average Annual(2017-2019)	
Total quantity of distribution utility outages	288

The above data was from Department of Public Service created for review of energy burdened communities.

There were 20 power outages that lasted longer than 24 hours between 2017 and 2019 and 268 between 1 and 24 hours. This negatively effects the town in life safety and economics. In 2022, there was a 6-day long outage associated with DR-4695 that affected the Washington Electric Cooperative service area in the town. When combined with a storm event or extreme heat or cold, long power outages can be dangerous.

Public Safety

Fire protection is provided by the Cabot Fire Department, an all-volunteer organization. The Fire Department is a member of the Capital Fire Mutual Aid. Law enforcement is provided by the Washington County Sheriff's Department, with support from Vermont State Police. The nearest hospital is the Central Vermont Regional Medical Center.
Ambulance service is currently provided by Cabot Ambulance but is hampered by a lack of certified volunteers. East Montpelier and Calex are providing backup depending upon the location.

Emergency Management

Per the Town's Local Emergency Management Plan, both the Emergency Management Director and the Local Emergency Management Coordinator are appointed volunteers. They work with others in town to keep the LEMP up to date and coordinate with nearby towns and regional emergency planning efforts. The town has two representatives on the Regional Emergency Management Committee.

4 PLANNING PROCESS

Plan Developers

The Town assembled a Hazard Mitigation Planning Team to participate in updating the Plan. Team members included: Selectboard Chair, EMD, representatives from the Fire Department, the community and the Planning Commission.

The Central Vermont Regional Planning Commission (CVRPC) assisted the Town with this Plan update. FEMA Building Resilient Infrastructure and Communities (BRIC) funds supported this process.

Plan Development Process

The 2024 Local Hazard Mitigation Plan is an update to the 2018 single jurisdiction mitigation plan. A summary of the process taken to develop the 2024 update is provided in **Table 2**.

Table 2: Plan Development Process

Nov 29, 2023: Kick-off meeting. Discussed what an LHMP is; benefits of hazard mitigation planning; current plan status; planning process; outreach strategy; and plan sections. Planning Team working meetings were not open to the public.

Dec 2023/Jan 2024: To notify the Whole Community* of the plan update, the team emailed direct invitations in addition to posting physical and online notices. Physical notices were posted at the Town Office, Cabot Post Office, and the village store. Online notices were posted on the, Town Facebook page, and Front Porch Forum. Articles appeared in the Cabot Chronicle about both public meetings.

*Whole Community stakeholders include: 1) local and regional agencies involved in hazard mitigation; 2) entities with authority to regulate development; 3) neighboring towns; 4) representatives of business, schools/academia, and other private organizations that sustain community lifelines; and 5) representatives of nonprofit organizations that work directly with or provide support to vulnerable populations.

CVRPC posted online notices on the CVRPC website (centralvtplanning.org). CVRPC also direct emailed notice to 1) officials (Selectboard and Planning Commission chairs, Town Managers and Clerks, Emergency Management Directors) in neighboring towns of Marshfield, Woodbury, Peacham, Danville, Walden, and 2) Key Partners (GMP, Friends of the Winooski, Winooski Natural Resources Conservation District, Cabot School, Central Vermont CWSP, VDH Regional Emergency Preparedness Specialist VTrans District 6 Projects Manager, Central VTFloodplain, Manager).

Notice included CVRPC contact for information on hazards and an invitation to discuss any issues or the planning process – see **Appendix C**.

Dec 6, 2023: Planning Team working meeting – Completed hazard risk assessment (Section 5) completed work on the local vulnerabilities. This is a critical milestone in the plan development process.

Dec 2023: To solicit input from the Whole Community, the Town utilized a survey (see **Appendix D**) and hosted an in-person Community Workshop on December 11. The Town provided notice of the survey and workshop by posting physical notices at the Town Office, Cabot Library, village store and Town Post Office, online notices on the Cabot Connects, Facebook page, and Front Porch Forum. In addition to these physical and online methods, the Town also had a front-page article for the December Workshop in The Cabot Chronicle, a monthly newspaper mailed to every resident.

Jan 12, 2024: working meeting with town road crew – compiled information on assets – post flood and status – vulnerable to the highest risk natural hazard impacts

Jan 22 2024: Community Workshop public meeting to discuss mitigation activities. The Town provided notice of the workshop by posting physical notices at the Town Office, Cabot Library, village store and Town Post Office online notices on the Cabot Connects, Facebook page, and Front Porch Forum. In addition to these physical and online methods, the Town also had a front-page article for the January Workshop in The Cabot Chronicle, the newspaper of local circulation.

Feb 5 2024: Planning team meeting- reviewing draft of LHMP and completing Table 5: Mitigation Action Evaluation and Prioritization. Team submitted edits before planning commission meeting.

Feb 19 2024: Presented draft LHMP to Planning Commission for review and necessary edits, including careful review of Table 6 actions.

In addition to the local knowledge of Planning Team members and other relevant parties, several existing plans, studies, reports, and technical texts 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

2023 FEMA Local Mitigation Planning Handbook Used to ensure plan meets the Federal mitigation planning requirements, including those for addressing climate change.

2023 FEMA Hazard Mitigation Assistance Program Policy Guide Used to ensure plan meets the Federal mitigation planning requirements, including those for addressing climate change.

2023 Cabot Local Emergency Management Plan Primarily used to identify local organizations that support vulnerable populations to ensure these organizations are invited to participate in the plan update.

2017 VAPDA Structures Inventory (culverts and short structures) Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6.

2021 Vermont Climate Assessment Referenced to develop the flood risk profile in Section 5.

10/31/2023 FEMA NFIP Community Repetitive Loss Report Used to determine how many structures are insured, number of repetitive loss properties, and describe NFIP compliance in Section 6.

2021-2017 Green Mountain Power Outage Data Used to develop Table 1 in Section 3.

2019 Cabot Zoning Ordinance Referenced to develop Community Capabilities, Integrating into Existing Plans and Procedures, Mitigation Strategy Updates – Changes Since 2017 Plan in Section 6.

2020 US Census Data Used to develop the Demographics and Growth Potential information in Section 3.

2017 Cabot Town Plan Referenced to develop Community Capabilities, Integrating into Existing Plans and Procedures, Mitigation Strategy Updates

2023 State of Vermont Hazard Mitigation Plan Primarily referenced to develop the risk assessment and profiles in Section 5.

2017 FEMA Region 1 Mitigation Ideas for Natural Hazards Used to develop mitigation actions to address impacts from severe winter storms, high wind, and floods.

2017 Cabot Road Erosion Inventory Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6.

2013 FEMA Mitigation Ideas Resource for Reducing Risk to Natural Hazards Used to develop mitigation actions to address impacts from severe winter storms, high wind, and floods.

VTrans Town Highway Bridge Inspection Reports Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6.

VTrans Transportation Resilience Planning Tool Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6.

Vermont Dam Inventory (VDI) Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6.

2006 Upper Winooski River, River Corridor Management Plan Cabot, VT Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6.

National Oceanic and Atmospheric (NOAA) National Climatic Data Center's Storm Events Database Referenced to develop the risk profile and hazard history in Section 5.

FEMA Disaster Declarations for Vermont Referenced to develop the risk profile and hazard history in Section 5.

Vermont Department of Health Referenced to develop the risk profile in Section 5.

2004 Phase 2 Upper Winooski Stream Geomorphic Assessment Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6.

Vermont Agency of Natural Resources Stream Geomorphic Assessments Referenced to develop the risk profile in Section 5

Mitigation Strategy Update - Changes Since 2018

Cabot has made significant progress in completing other mitigation actions identified in the 2018 Plan – see **Appendix B**.

The Community has much to be proud of and noteworthy mitigation accomplishments are highlighted below.

The 2018 local hazard mitigation planning effort analyzed natural hazards and the risk they posed to the Town of Cabot. The risk assessment resulted in the categorization of High and Low risk level hazards. Floods and fluvial erosion; thunder and windstorms/hail; and snow and ice storms were ranked as the community's High-risk natural hazards. Actions proposed in 2018 focused on mitigating risks from flooding and power outages.

As the Town has sought to implement the 2018 mitigation strategy, they have looked for opportunities to incorporate information and recommendations from the 2018 Plan into other plans, programs, and procedures. They were successful in doing so in the 2019 Zoning Ordinance updates.

The Cabot Town Plan, adopted in 2017, serves as the Town's framework and guide for reaching community goals, including those for how future growth and development should proceed.

It along with the town Flood Hazard Regulations include flood resilience and land use policies and actions to support the goal of mitigating risks to public safety, critical infrastructure, historic structures, and municipal investments posed by flooding and fluvial erosion.

The Town Plan is the basis for local land use controls such as those in the Cabot Zoning Ordinance, adopted in 2019. Cabot's Zoning Ordinance includes Flood Hazard Area Regulations to ensure that selection, design, creation, and use of development in these hazard areas is reasonably safe and accomplished in a manner that is consistent with public wellbeing, and does not impair stream equilibrium, flood plain services, or the stream corridor.

Cabot has adopted Flood Hazard Regulations stringent enough that Vermont has granted them interim River Corridor bylaw status for regulating development in the river corridor. This is a significant accomplishment to mitigate the impacts of flooding in the community and qualifies the town for the highest Emergency Relief and Assistance Funding score.

Improvements to culverts on Danville Hill, Mac Mountain Road, White Road, West Shore Road, and Bolton Road have helped to make the town safer. In the response to the July 2023 storm many culverts were lost and were upsized during the response to this event helping to make the town more resilient to future extreme rain events. These mitigation investments have 1) strengthened the community's Transportation lifeline; 2) reduced risk to infrastructure; and 3) supported Town efforts to comply with the Municipal Roads General Stormwater Discharge Permit and protect water quality by controlling erosion and stormwater runoff from municipal roads.

Actions taken by Cabot since 2017 have made the community more prepared and less vulnerable to future natural hazard impacts.

As described in the Community Profile above, Cabot's population has grown since the 1970s but overall growth has slowed since 2010 and growth potential is believed to be limited by a lack of developable land and public water and sewer utilities and the high cost of construction post Covid-19 pandemic.

Changes in population and development since 2018 have not made Cabot more vulnerable to natural hazards and therefore are not the primary drivers for a shift in the Town's mitigation priorities in 2024. Rather changing weather conditions most influenced the Town's current mitigation strategy.

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Climate change is increasing the frequency, duration, and intensity of storms, floods, fires, and extreme temperatures across the nation. Local communities are feeling the impacts of climate change now, and these multi-hazard trends are expected to continue to increase in severity over the next century[2].

As a result, Cabot considered the effects of future conditions, like climate change, on the type, location, and range of intensities of identified hazards when they conducted the risk assessment in 2024. The highest risk hazard impacts that the Town believes they are most vulnerable to remained essentially the same as those from 2018:

- Extreme cold, snow, and ice associated with severe winter storms;
- Fluvial Erosion/flash flooding from extreme rain events
- Inundation Flooding associated with thunder and/or winter storms and ice jams.

In addition to the traditional natural hazards assessed in 2024, the Town also considered infectious disease and invasive species to align with the hazards identified in the 2018 State Hazard Mitigation Plan.

The primary mitigation goal in the 2024 Plan is to increase the Town's resilience to natural hazards by advancing mitigation investment to reduce or avoid long-term risk to people, homes, neighborhoods, the local economy, cultural and historic resources, ecosystems, and Community Lifelines.

When evaluating mitigation actions, the Town selected actions that support the mitigation goal and are acceptable and practical for the community to implement. Actions that directly benefit a vulnerable population were assigned a high prioritization score – see Table 6.

[2] FEMA Hazard Mitigation Assistance Program and Policy Guide, March 23, 2023.

5 HAZARD IDENTIFICATION AND RISK ASSESSMENT

Local Vulnerabilities and Risk Assessment

One of the most significant changes from the 2018 Plan 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 events to determine their probability of occurring in the future (high probability events are **orange** in **Table 4**).

The town of Cabot, due to its rural nature and size, has a very small vulnerable community. The Cabot School when in session and the Cabot Children's Center are the only locations that would qualify as a vulnerable community with in the town boundaries.

The Team then ranked the impacts associated with the natural hazard events based on 1) probability of occurrence and 2) potential impact to people, infrastructure, the environment, and local economy.

This assessment considered the effects of future conditions, like climate change, on the type, location, and range of intensities of identified hazards.

The ranking results are presented in Table 4 and reflect the following **highest risk hazard impacts** that the Town believes they are most vulnerable to:

Floods both Inundation and Fluvial or Flash Floods *associated with severe storms.*

Severe Storms with snow, wind and ice *associated with severe winter storms.*

Severe Storms *associated with extreme precipitation and wind.*

Infectious Disease *associated with pandemic*

Each of the **highest risk hazard impacts** is profiled in this section. Lower risk hazard impacts do not justify mitigation due to a low probability of occurrence and/or low impact and are not profiled in this Plan. See the State Hazard Mitigation Plan for information on the lower risk hazards.

*This Plan defines a natural hazard as a source of harm or difficulty created by a meteorological, environmental, or geological event.

Table 4: Community Hazard Risk Assessment

Hazard Event	Hazard Impacts	Probability	Potential Impact					Score
			Life	Infrastructure	Environment	Economy	Average	
Severe Storm	**Flash Floods/ Fluvial Erosion**	**4**	**2**	**4**	**4**	**4**	**3.5**	**14.00**
Severe Storm	**Inundation Floods**	**3.5**	**1.75**	**3.5**	**3.75**	**3.75**	**3.19**	**11.16**
	Strong Wind	3	3	4	2.25	2.25	2.875	8.625
Winter Storm	**Snow**	**4**	**2**	**4**	**2**	**2.75**	**2.69**	**10.75**
	Ice	3.25	2	3	3	3	2.75	8.94
Landslide	Landslide	2	1.25	3	1.25	1	1.5	3.0
Drought	Extreme Heat	3.5	3.25	3	2.5	1.75	2.63	8.53
	Drought	3.5	1.75	3	2.75	2	2.375	3.50
Wildfire	Wildfire	2.75	2	3	2	2	2.25	6.188
Invasive Species	Plant loss	3.25	1.75	2	2.25	2	2.0	6.5
Infectious Disease	**Disease Outbreak**	**3**	**4**	**2.5**	**3**	**3**	**3.125**	**9.375**

	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
		*Score = Probability x Average Potential Impact

Earthquakes and tornados were not reviewed in the hazard profile due to their only being one of each within the last 30 years and both had caused minimal damage, upon review they don't exhibit to have much of a risk profile for the town.

Hail was considered a low risk as well due to only 2 instances listed in damage tables for the state, with no monetary damages reported in Cabot, the larger of the two was quarter sized, minimal risk throughout entire region. With records of $87,000 in damages over 24 years for the county.

Tsunamis and volcanoes were not addressed due to the inland nature of Vermont and their being no known active volcanoes in the Northeast.

Floods can damage or destroy property; disable utilities; destroy or make impassable roads and bridges; 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, heat, or communication 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 2023 State Hazard Mitigation Plan and 2021 Vermont Climate Assessment, the most common recurring hazard event impacting Vermont communities is flooding. There are two types of flooding: inundation and flash flooding. Inundation is when water rises onto low lying land. Flash flooding is a sudden, violent flood which often entails stream bank erosion (fluvial erosion).

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

While inundation-related flood loss can be a significant component of flood disasters, the more common mode of damage in Vermont is fluvial erosion, often associated with physical adjustment of stream channel dimensions and location during flood events. These dynamic and often catastrophic adjustments are due to bed and bank erosion of naturally occurring unstable stream banks, debris and ice jams, or structural failure of or flow diversion by human-made structures.

Several major flooding events have affected the state in recent years, resulting in multiple Presidential Disaster Declarations. From 2003 to 2019, Washington County experienced roughly $17.23 million in property damage due to inundation flooding events, and over the same time period $71.85 million from flash flooding/fluvial erosion events. The total property damage from the July 2023 flood event are still being calculated at the time of this writing.

The two worst flooding events in recent years are the July 2023 storm (DR4720) which dropped 9" of rain in Cabot, recorded at the Cabot School weather station, on already saturated soils. At the time of this writing Cabot is expecting nearly $12 million in public assistance damages from this storm, which includes the complete loss of the fire station from fluvial erosion undermining the slope the station sits at the top of. The state is currently estimated at having over $500 million in damages from the July flood event. Tropical Storm Irene (DR4022) in August of 2011, which dropped 5 to 8 inches of rain in some areas of Washington County, the previous record of $239 million in damages held statewide.

The July 2023 flood was created by an atmospheric river that compounded an unseasonal weather pattern which had already saturated soils across the state. The effects of these storms are profiled in this flooding section, since the storms brought extreme rainfall and associated flooding to the Town, not the strong wind typically associated with tropical storms. This caused most streams and rivers to flood in addition to widespread and severe fluvial erosion which undermined the fire station leading to its abandonment.

In Cabot, floods are a risk. Damages from DR 4720 July 2023 Flood were significant, resulting in approximately $12,000,000 in impacts. This includes the loss of the fire station due to fluvial erosion making the structure unstable.

Cabot is primarily vulnerable to flash flooding/fluvial erosion along with inundation flooding primarily along the Winooski River and to a lesser extent on North Breton Brook. A wide range of assets are at risk from inundation flooding in these areas based on the FEMA flood maps though these only have Zone A identified and have no elevation so the data doesn't often truly represent the geography at the site. There are 30 buildings listed in the FEMA Special Flood Hazard Area; as well as roads, culverts, bridges. There is no designated FEMA floodway within the town of Cabot.

In general, the sanitary sewer utilities are not vulnerable to flooding, the town wastewater treatment plant lies in a well-positioned location

outside of the river corridor off of Sawmill Rd.

With inundation flooding, there can be cascading impacts involving infectious disease as floodwater can contain numerous types of infectious agents and host insects that transmit disease. Mosquitos, for example, breed in standing water and when their population increases, so does the risk of diseases they transmit – such as West Nile Virus.

Flash flooding can occur any time the area has heavy rain. It can impact areas that are located outside of designated floodplains, including along streams confined by narrow valleys (also known as River Corridors). Again, a wide range of assets are at risk from flash flooding. There are 50 buildings in the State-mapped River Corridors (outside of designated floodplains); as well as roads, culverts, bridges, and dams.

Cabot's village center has been heavily impacted by two small tributaries, carrying massive tree debris, overwhelming and plugging a bridge and culverts under Main Street. This results in erosive flooding devastating the town offices and commercial buildings in the village. Major damage was caused by this erosive flooding in the July 2023 event. The culverts and bridge were replaced after similar damage in 2011, but are still inadequate.

The most common type of flash flood damage is road washouts. When runoff volumes exceed the capacity of the stormwater collection system (ditching and culverts), washouts can occur.

The Town's structures and road erosion inventories as well as VTrans highway flood vulnerability and risk tools were used to help identify locations and assets at risk from flash flooding. Sections of several roads have a history of flash flooding, including – South Walden Road-215 intersection, and Ducharme Road at the Carpenter road intersection.

Culvert failures and road washouts can have a significant negative impact on the Town. Especially if they occur on roads considered locally important routes for through-traffic, short-cuts, detours, and/or access to critical facilities – such as VT Route 215, US Route 2, S Walden Road, Danville Hill Road, and Bothfeld Hill Road.

When roads are impacted by flooding, the Town coordinates with the Fire Department. Road closures can create longer commute times and longer emergency service response times.

In addition to stormwater runoff from roads. Ice jams and dam failures, could result in flash flooding in Cabot. The town is also concerned with the increase in rain on snow events due to the shifting climate. These events caused county flooding in December of 2023 and are causing mud season conditions throughout the winter season creating significant problems for gravel road maintenance.

There are six dams in Cabot listed in the Vermont Dam Inventory (a database managed by the VT Dam Safety Program containing spatial, structural, historic, and regulatory information on dams in the state). Three are classified as low or minimal hazard potential one as a breached dam and one as significant.

There is one high hazard potential dam in Cabot and it is the Marshfield #6 dam owned and operated by Green Mountain Power. It is a hydroelectric generation facility and is and Earthen dam with a length of 1,100 ft and a height of 48 ft. Its reservoir is a 411-acre lake that is home to the Molly Falls Pond State Park. Which is an undeveloped state park. The dam drains 12,160 acres and has a max storage capacity of 13,526-acre feet. It was last inspected in 2018 per Vermont Dam Inventory site and is regulated by the Vermont Public Utilities Commission (PUC). The PUC mandates that the dam be inspected every five years but no report is showing for 2023. It also has no condition rating in the ANR Vermont Dam inventory. This dam's Emergency Action Plan is up for renewal in 2024 and the town and other effected communities will be represented as part of the update planning cycle for this structure. There are three residences within the river corridor downstream of the town. Most of the inundation area of a dam failure or emergency release would be in the towns of Marshfield and other communities downstream along the Winooski. Green Mountain Power has recently completed work on making improvements to the spillway to improve dam safety. An inundation map of Cabot from the EAP is included in appendix D.

Low or minimal hazard potential dams, Milne Dam on a Molly Falls Pond tributary and the Cabot Creamery Lagoons. The Clark Sawmill Dam is listed on the ANR Vermont dam inventory but it failed during the July 2023 flood and the river is flowing

freely there now.

The one significant hazard potential dam is on West Hill Pond on Jug Brook a tributary of Winooski River. West Hill Pond Dam is listed in poor condition per its last inspection in 2013. There is no condition or inspection information listed for the Cabot Creamery Lagoons and the breached dam Cabot #6. The Milne dam was last inspected in 1979 but has no condition rating.

Flash flooding often entails stream bank or fluvial erosion. Several existing studies were used to help identify locations and assets at risk from fluvial erosion. Specifically, a 2006 Upper Winooski Corridor Management Plan.

Stream Geomorphic Assessments (SGAs) provide information about the physical condition of streams and factors that influence their stability. The 2004 Winooski River watershed SGA identifies priority locations for river corridor protection, planting stream buffers, stabilizing stream banks, removing berms, and removing/replacing human- placed structures (i.e., dams, bridges, culverts).

Floods Hazard History

These are the most up to date significant events impacting Cabot. Federal declarations are depicted in **bold**.

12/18-19/23: 2" of rain on snow event
7/11/2023: DR4720 5-9"" rain: $12,000,000 estimated local damages
7/20/2021: Heavy rain: $50,000 county damages
7/14/2020: 3-4" rain: $5,000 town damages
11/1/2019: 2-4" rain: $250,000 county damages
6/20/2019: Heavy rain: $25,000 county damages
5/20/2019: Heavy rain: $25,000 county damages
4/15/2019: DR4445 1" rain with significant snow melt:
7/1/2017: DR4330 3-4" rain the previous 3-4 days with flash flooding on 7/1/17: $240,000 county damages
7/19/2015: Heavy rain: $1,000,000 county damages
4/15-18/2014: DR 4178 heavy rain on snow event $250,000 county damages
6/25-7/10/2013: DR4140 1-3" of heavy rain over a half hour: $625,000 county damages
8/28/2011: DR4022 Tropical Storm Irene with 3-7+" rain:
$75,000,000 Public county damages
5/26-27/2011: DR4001 3-5+" rain on snow event: $5,500,000 county damages
5/20/2011: DR4043: Heavy rain: $400,000 county damages

Extreme Cold, Snow, and Ice Hazard History

These are the most up to date significant events impacting Cabot. Federal declarations are depicted in **bold**.

1/11-14/2022: 10-40 below zero with winds: no reported damages
12/18/2021: 5-7" snow $10,000 county damages
1/16/2021: 3-6" wet snow: $50,000 county damages
3/23/2020: 7-10" snow: $5,000 county damages
2/7/2020: 10-16"; ¼" ice: $20,000 county damages
1/16/2020: DR 4474 6-10" snow: $10,000 county damages
3/22/2019: 9" snow: $25,000 county damages
2/12/2019: 7-15" snow: $10,000 county damages
1/29/2019: 6-10" snow: $10,000 county damages
1/19/2019: 10-18" snow: $25,000 county damages
1/8/2019: 8-20+" snow: $25,000 county damages
11/26/2018: 6-14" heavy snow: $125,000 county damages
3/13/2018: 12-30" snow: $20,000 county damages
3/7/2018: 7-13" snow: $10,000 county damages
1/7/2015: 0-10 degrees with wind of 15-30 mph creating wind chills colder than 20-30 below zero: no reported local damage
12/9/2014: DR4207 10-20" snow: $250,000 county damages

Severe Storms with Snow, Wind and Ice events typically occur between the months of December and March in the Central Vermont Region. They can include snow, sleet, freezing rain, or a mix of these wintry forms of precipitation. Events can also be associated with Strong Wind or Floods, increasing the potential hazard.

The costs of these storms come in the form of power outages due to heavy snow or ice, damaged trees, school closings, and traffic accidents. From 2014 to 2022, Washington County experienced $585,000 in property and crop damage from winter storms.

There have been two winter storm-related federally declared Disasters in the county (the ice storm of January 2020 – DR 4474; and December 2014 DR 4207, respectively (see table at right).

Extreme cold can have impacts on public health and safety, especially if extreme temperatures coincide with power outages, which can cut off heat and communication services. Severe winter storm impacts can put vulnerable populations (e.g., older adults, children, sick individuals, pets) at even greater risk.

See the Strong Wind profile below for more information about the Town's vulnerability to power outages.

Snow accumulation typically does not result in loss of road accessibility. The Town's fleet of snowplows ensures all roads are accessible, even in major accumulation events. Roads adjacent to critical facilities are well maintained and along with connector routes, are prioritized in winter storm events.

Environmental impacts are predominantly tree damage. Extreme snow and ice events typically have a short-term impact on the local economy – fewer shopping trips and commuter delays.

Strong Wind can occur alone, such as during straight-line wind events, or it can accompany other natural hazards, including severe thunder and/or winter storms.

FEMA's National Risk Index defines Strong Wind as damaging winds that exceed 58 mph. Strong Wind poses a threat to lives, property, and vital utilities primarily because of flying debris or downed trees and power lines.

From 1996 to 2022, wind events caused more than $1.270 million in property damage in Washington County, with $450,000 due to an event in December 2022.

Strong wind is possible here; Cabot is susceptible to high directional winds town wide. Many storms with high winds result in downed trees as well as damaged phone and power lines, buildings, and other property.

Downed trees within the road right-of-way are the root cause of many power outages. Roads that pass through dense wooded areas are prone to downed trees, which can lead to fallen power lines.

Power outages are the main reason for disrupting communications, which are crucial in times of crisis. For example, the loss of phone service is of particular concern for Cabot's more remote homes, vulnerable populations, and seasonal residents. Landline phones that have been converted from copper wire to fiber rely on an in- home battery back-up. The battery life is typically less than eight hours, whether the phone is used or not. Though many residents use cell phones, service, in Cabot this is spotty, further complicating the problem of contacting emergency services during power outages.

Telecommunications are also needed for warning systems before a disaster, as well as for response during and recovery after. During a disaster, municipal response is managed by the local Emergency Operations Center (EOC), this would include all communications – from phone calls to internet browsing and 2-way radio.

To mitigate the impacts of power outages, the following public buildings/critical facilities have been equipped with backup power or generator hookup: water supply well house and wastewater plant. Other town building must rely on portable generators to continue services.

The public buildings lacking backup power are the Town Office, town garage, and School. The town would like to obtain back up power for the Willey Building to use it as a resiliency hub/shelter for all hazards planning and allow continuity of operations for town government in a disaster.

In addition to power outages, downed trees during strong wind (and heavy snow/ice) events can damage buildings and other property and in rare cases result in fatality. Sixty-six percent (66%) of Community Survey respondents reported having seen areas in the community damaged during a past severe weather event. The most common type of damage that survey respondents reported seeing was downed trees. Fifty-seven percent (57%) of Community Survey respondents reported having experienced damage during a past severe weather event. Roof and other property damage from downed trees were specifically noted by several respondents.

Environmental impacts are predominantly tree damage. Strong wind events with associated power outages can have a short-term impact on the local economy due to business closures.

Vermont's Emerald Ash Borer infestation was first detected in 2018 in northern Orange County. An inventory of trees within the road right- of-way was completed by CVRPC in 2021. A report summarizing

the results, to determine how many Ash trees are at risk, is pending. The potential risk to public and private woodlots and impacts on the local economy have not been quantified.

This can in turn have an adverse impact on local tourism and recreation. Flood events with associated road closures can also have a short-term impact on the local economy due to fewer shopping trips and commuter delays.

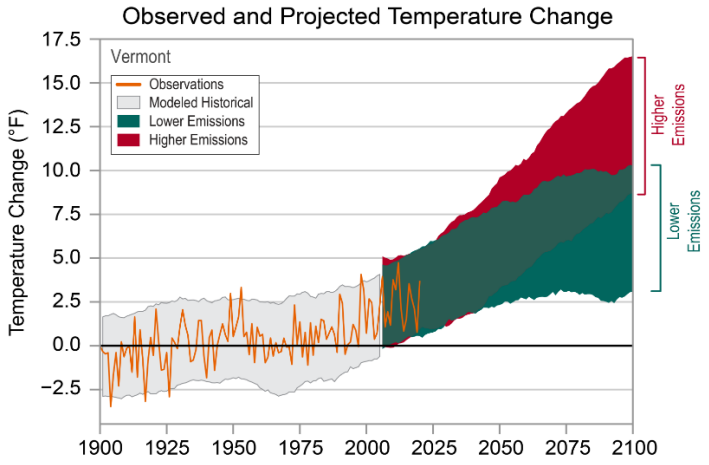
As weather patterns shift and we see larger storms and more frequent freeze-thaw cycles, the Town will monitor for signs that rivers and streams that have historically been stable are becoming less stable, with increased erosion, widening and trees falling in from its banks, etc.

Strong Wind Hazard History

These are the most up to date significant events impacting Cabot. Federal declarations are depicted in **bold**. Damages are to Washington County.

12/23/2022: 50-60+ wind gusts: $450,000
10/30/2017: 40 mph wind: $250,000
2/26/2010: 55 mph wind: $15,000
2/17/2006: 37 mph wind: $10,000
9/29/2005: 35 mph wind: $50,000
11/13/2003: 35 mph wind: $10,000
10/15/2003: 50 mph wind: $10,000
3/10/2002: strong wind: $5,000
12/12/2000: strong wind: $5,000
3/28/2000: strong wind: $5,000
9/17/1999: strong wind: $75,000
11/23/1998: strong wind: $10,000
2/22/1997: 50 mph wind: $15,000

Extreme Heat and Cold- Heat is becoming increasingly more prevalent due to our shifting climate. Vermont has been seeing an increase in 90+ degree temperature days. Cabot temperatures have been recorded as high as 92 and as low as -28 degrees Fahrenheit. This trend is expected to continue. Most of our housing stock and individuals are well adapted to dealing with cold temperature but the quick swings to higher temperatures do not allow for acclimation and many of our structures are designed to retain, rather than shed, heat. Due to the climate of our region the high temperatures and high humidity often create situations that negatively affect older individuals and those with preexisting conditions.



-NOAA 2022 Vermont Climate summary

Due to the instability of the jet stream from climate changes, extreme cold can still be an issue. If it is a long-lasting cold without snow cover, frost can migrate deep into the ground freezing pipes and heaving roadways. Most of this would be dealt with by the town either through their utility contracts or by the town road crew in keeping the transportation infrastructure in usable condition. Loss of power during one of these cold snaps may require use of the town shelter and is planned for in the town Local Emergency Management Plan.

Wildfires are not often much of a concern within our region, although the Spring and Fall can be times when dry hazardous conditions exist. Opportunity for wildfires occurs due to the lack of foliage in these seasons, before Spring green up or in the Fall after foliage has died back when combined with dry conditions. Historically, Vermont has seen the most wildland fires between March and June. These are generally times when dry conditions exist for an extended period causing drought conditions. Ignition of wildfires is predominantly caused by human activity and mainly from debris fires that are not contained or not supervised. Thus, messaging when conditions exist is very important to convince individuals not to make mistakes in relation to ignition sources. This messaging is handled by the town fire warden in association with the fire department.

Infectious Disease and Invasive Species

This Plan must assess the risk of all hazards identified in the 2023 Vermont State Hazard Mitigation Plan, including infectious disease and invasive species. Due to the different nature of these hazards, the Planning Team assessed them separately from the natural hazards in **Table 4**.

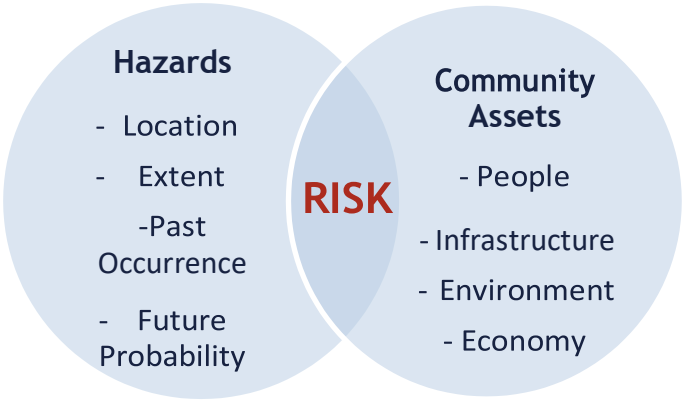
Infectious diseases and invasive species are diverse categories of hazards. So, while their probability of occurrence in Cabot may be likely, potential impacts will be highly dependent on the specific infectious agent or invasive.

The Planning Team acknowledges that impacts to Cabot's people, environment, and local economy from infectious disease and/or invasive species could be significant. However, given the diverse nature of these hazards, they cannot be fully explored in this Plan. This Plan does include information about the potential hazards and risks associated with a specific infectious agent (West Nile Virus) and invasive species (Emerald Ash Borer) due to cascading impacts associated with flooding and storm-related tree damage.

Readers should look to the Vermont Department of Health for more information on significant infectious disease outbreaks, such as epidemics and pandemics and the Vermont Agency of Natural Resources for more information on invasive species, including terrestrial invasives, forest pests, and aquatic invasives. The town will monitor these for up to date threat information and follow the appropriate protocols developed by these agencies as necessary.

Droughts In the Northeast, we frequently experience what are referred to as "flash" droughts, defined as rapid onset of intense dry periods that can follow periods of normal or above normal precipitation. These may last from 2-6 months, and can have profound impacts within the region, on agricultural losses, shortages of water supply and very low stream flows. This pendulum often swings from a dry year to a wet year.

The town's risk of droughts is mainly addressed through the Ordinances for the town water supply and for individuals with private springs or water wells. The town in the past has allowed residents to fill containers for drinking water from town taps at the Willey Building during drought episodes.



The Hazard Identification and Risk Assessment is the foundation for the Mitigation Strategy to reduce future risk.

With the increasing risks of events from our changing climate, all weather-related natural events are expected to have an increase in both frequency and in intensity. Vermont is predicted to experience increases in heat waves, downpours and flooding.

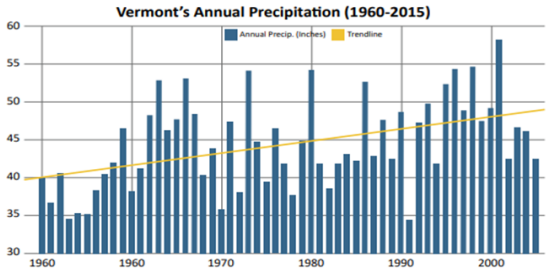


Figure 26: Vermont's annual precipitation (1960-2015) *Source: climatechange.vermont.gov*

-precipitation data showing increased precipitation trends from VT state climate action plan

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 reduce future risk from potential hazards.

Mitigation Goals

The Hazard Mitigation Planning Team identified the following as the community's primary mitigation goal:

Increase the Town of Cabot's resilience to natural hazards by advancing mitigation investment to reduce or avoid long term risk to people, homes, the local economy, cultural and historic resources, ecosystems, and community lifelines such as transportation, water, sewer, energy, and communications.

See Community Survey results in Appendix C for which assets survey respondents thought were most important to protect against potential future severe weather impacts.

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. Cabot's mitigation capabilities that reduce hazard impacts or that could be used to implement hazard mitigation activities are listed below

Administrative & Technical This capability refers to the Town's staff and their skills and tools that can be used for mitigation planning and to implement actions. 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 Treasurer, Town Clerk, Assistant Town Clerk, and Zoning Administrator/Planning Assistant.

In addition to paid staff, there is a 5-member Selectboard, 5-member Planning Commission, Fire Warden, Town Health Officer, and Constable. As well as the Cabot Community Association who work on economic development, produce The Cabot Chronicle and support many town events and multiple community non-profit organizations.

To augment local resources, the Town has formal mutual aid agreements for emergency response – fire and EMS. The Fire Department is also increasing their capabilities by adding a FAST (First Aid Standard Triage) squad and response capability. Technical support is available through the CVRPC 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 bylaw administration and VTrans Districts for hydraulic analyses.

Strengths community with a family atmosphere • committed small core of volunteers involved in several committees and groups • strong interdepartmental communication and cooperation

Areas for Improvement continue and increase coordination with partners to maximize town capacity and ability to get projects completed.

Planning & Regulatory These 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[3] that regulate how and where land is developed, and structures are built.

Town Plan: March 2017
Description: A framework and guide for how future growth and development should proceed.
Relationship to Natural Hazard Mitigation Planning: Includes goals and policies related to flood resilience and land use.

Zoning Ordinance with Flood Hazard Area and River Corridor Overlay District Requirements: March 2019
Description: Provides for orderly community growth promoting the health, safety, and general welfare of the community.
Relationship to Natural Hazard Mitigation Planning: Site plan review requirements and zoning districts, including Flood Hazard and River Corridor Overlay Districts, with specific standards for proposed development. Requirements are designed to prevent overdevelopment; to mitigate negative impacts to the natural and human environment; minimize effects to the historical and aesthetic character of the community; and ensure design and construction of development in flood and other hazard areas are accomplished in a manner that minimizes or eliminates the potential for flood loss or damage to life and property.

Community Lifelines

Community Lifelines enable the continuous operation of critical government and business functions and are essential to human health and safety or economic security. The goal of the lifeline concept is to focus response efforts on stabilizing or re-establishing these most fundamental services during and after a disaster. Mitigating lifelines should reduce cascading impacts across government and business functions and essen system-wide damage.

Community Lifelines are organized into seven categories:

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
2. Responder 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

Road and Bridge Standards: July 2019

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

Road Erosion Inventory Report: *2017*

Description: Prioritizes those infrastructure projects necessary to improve transportation network resiliency and water quality. Relationship to Natural Hazard Mitigation Planning: Improvements are designed to minimize or eliminate flood impacts on hydrologically connected road segments.

Local Emergency Management Plan: April 2023

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

Fire Department ISO Rating: Issued in 2015

Description: Where municipal water is available, the rating is 7.7. This rating is a score from 1 to 10 that indicates how well-protected the community is by the local fire department. Will be coming up for renewal in ~2 years and may be able to improve.
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.

Water Ordinance: January 2023

Description: Establish minimum standards for design, construction, installation, control, operation of public drinking water system.
Relationship to Natural Hazard Mitigation Planning: Adopted standards that reduce risk, make the system more resilient, and conserve water.

Municipal Water Source Protection Plan: 2017

Description: Defines the area of land that likely recharges a public drinking water source and addresses actions a public water system will perform to minimize the contaminant risks to the source(s).
Relationship to Natural Hazard Mitigation Planning: Source water protection can complement a broad sweep of community objectives, including protection of water quality, open space, natural systems, and disaster resilience.

Upper Winooski River Corridor Plan: 2006

Description: Identify river best management practices and develop prioritized projects to mitigate stormwater water quality problems.

Relationship to Natural Hazard Mitigation Planning: Many proposed projects accomplish multiple goals:-water quality and mitigation.

[3] Cabot does not have any local building codes. Vermont has adopted statewide codes for commercial building fire safety and energy standards. The energy code also applies to residential buildings. Codes enforced by Vermont's Division of Fire Safety are the 2015 National Fire Protection Association (NFPA) 1 Fire Code; 2015 NFPA 101 Life Safety Code; the 2015 International Building Code (IBC); 2017 NFPA 70 National Electrical Code; 2021 International Code Council (ICC) International Plumbing Code; and the 2015 National Board Inspection Code from the National Board of Boiler and Pressure Vessel Inspectors.

Strengths p ans and regu at ons 'n p ace are be'ng executed keep plans and regulations up to date strong local partners in implementing plans

Areas for Improvement Upcoming update to town plan Source protection plan

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

Cabot's 2023-2024 proposed town budget is $1,627,492, with $925,863 to fund the Highway Department. In addition to property tax revenues, the Town collects separate fees for sanitary sewer and water services.

Strengths well-funded budgets

Areas for Improvement Upgrading town transportation infrastructure and securing match funding for larger projects through capital planning process.

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

- Cabot Fire Department Cabot Ambulance, Cabot School, Cabot Conservation Committee, Cabot Community Association
- Town website, Front Porch Forum, Cabot Chronicle

Strengths multiple programs/organizations are already in place in the community p a r t i c u l a r l y strong online and social media presence

Areas for Improvement better coordination needed to help implement future mitigation activities. Maintain VTa ert tra'n'ng and status.

National Flood Insurance Program Compliance

The Town joined the National Flood Insurance Program (NFIP) in 1985. The effective date of the current Flood Insurance Rate Map (FIRM) is March 19, 2013. The Zoning Administrator enforces NFIP compliance through permit review requirements in its Flood Hazard Area regulations. Cabot's regulations outline detailed minimum standards for development in flood hazard areas defined as FEMA Special Flood Hazard Areas and Floodway Areas. The regulations also require administering Substantial Improvement and Substantial Damage (SI/SD) requirements in accordance with FEMA P-758 SI/SD Desk Reference, May 2010.

The town is currently awaiting the new flood insurance maps that are being compiled by FEMA and will be reviewed and accepted to maintain the town's NFIP status once the process has been completed.

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

1) Prepare, distribute, or make available NFIP insurance explanatory pamphlets or booklets.
2) Participate in NFIP training offered by the State and/or FEMA.
3)

30 buildings are in the Special Flood Hazard Area (1 of which is a public building); mostly single-family dwellings or businesses.

According to FEMA, 10% of these properties have flood insurance.

There are no repetitive loss properties.

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 a 7.5% State match. The State will increase its match to 12.5% or 17.5% if communities take steps to reduce flood risk as described below.

12.5% funding for communities that have adopted

four (4) mitigation measures:

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

17.5% funding for 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.

Cabot's current ERAF rate is 7.5%. Upon adoption of the 2024 Local Hazard Mitigation Plan, their ERAF rate will increase to 17.5% because the Town has adopted Flood Hazard regulations that are strong enough to receive interim status as River Corridor Bylaws.

Mitigation Action Identification

The Hazard Mitigation Planning Team discussed the mitigation strategy, reviewed projects from the 2018 Plan, and identified possible new actions from the following categories for each of the highest risk natural hazards identified in Section 5.

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

Structure & 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.

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

Outreach & Education Programs These actions inform and educate the public about hazards and potential ways to mitigate them. Although this type of action reduces risk less directly than structure projects or regulation, it is an important foundation. Greater awareness is more likely to lead to community support for direct actions.

Local Plans & Regulations Examples

Integrate Mitigation into Capital Improvement Programs: Incorporate risk assessment and hazard mitigation principles into capital planning.

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

Develop a Road Right-of-Way Vegetation Management Plan: Identify community priorities and plan of action for site-specific tree and roadside forest management to increase roadside resilience.

Improve Flood Resilience with a Flood Study: The aim of a flood study is to define existing flood behavior for a particular catchment, river, or creek. The study helps inform building, land use planning, community awareness and disaster management.

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

Manage Development in Erosion Hazard Areas: The intent of River Corridor Bylaws is to allow for wise use of property within river corridors that minimizes potential damage to existing structures and development from flood-related erosion.

Structure & Infrastructure Project Examples

Protect Power Lines: Protect power lines by 1) inspecting and maintaining hazardous trees in the road right-of-way and 2) burying power lines.

Protect Critical Roadways: Use snow fences or living snow fences (e.g., rows of trees) to limit blowing and drifting of snow.

Retrofit Critical Facilities: Critical facilities can be protected from the impacts of high winds and

winter storms by 1) retrofitting them 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.

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

Improve Stormwater Drainage Capacity: Minimize 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: Help drainage systems and flood control structures function properly with 1) routine cleaning and repair; 2) cleaning debris from support bracing underneath low-lying bridges; and 3) inspecting bridges and identifying if any repairs are needed to maintain integrity or prevent scour.

Protect Infrastructure and Critical Facilities: Minimize infrastructure losses and protect critical facilities from flooding by 1) elevating roads above base flood elevation to maintain dry access; 2) armoring streambanks near roadways to prevent washouts; 3) rerouting a stream away from a vulnerable roadway; and 4) floodproofing facilities.

Natural Systems Protection Examples

Protect and Restore Natural Flood Mitigation Features: Natural conditions can provide floodplain protection, riparian buffers, groundwater infiltration, and other ecosystem services that mitigate flooding. Preserving such functionality is important. Examples include 1) adding riparian buffers; 2) stabilizing stream banks; 3) removing berms; 4) minimizing impervious area development; 5) restore floodplain; and 6) restore incision areas.

Outreach & Education Program Examples

Educate Residents about Extreme Winter Weather: Winter storms create a higher risk of car accidents, hypothermia, frostbite, carbon monoxide poisoning, and heart attacks from overexertion. Educational outreach can help minimize these risks.

Assist Vulnerable Populations: Measures can be taken to protect vulnerable populations from natural hazards, such as

1) organizing outreach and
2) establishing and promoting accessible heating or cooling centers in the community.

Mitigation Action Evaluation

For each mitigation action identified, the Planning Team evaluated its potential benefits and/or likelihood of successful implementation. Actions were evaluated against a 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**.

See Community Survey results in **Appendix D** for which category of mitigation actions survey respondents wanted the Town to prioritize.

Mitigation Action Plan for Implementation

After careful evaluation, the Planning Team agreed on a list of actions that support the Mitigation Goals of this Plan and are acceptable and practical for the community to implement.

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

For the selected actions, the Planning Team then 1) assigned a responsible party to lead the completion of each action; 2) identified potential grant funding; 3) defined a timeframe for implementation; and ranked each action's priority (high, medium, low).

Natural hazards pose a unique threat to the Town's vulnerable populations. Data has shown that underserved and marginalized populations tend to live in at-risk hazard-prone areas or in homes with substandard construction. The data also suggests that this segment of the community is less likely to

fully recover after a disaster. [4] When ranking an action's priority, those that directly benefit a vulnerable population were ranked high.
The action plan is presented in **Table 6**

[4] FEMA Hazard Mitigation Assistance Program and Policy Guide, March 23, 2023

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 & Regulations									
Recommended for Implementation									
Integrate Mitigation into Capital Improvement Programs and Planning	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	1	Yes
Update Road Erosion and Culvert Inventories	1	1	1	1	1	1	6	1	Yes
Inspect Town Short-Structures and Review VTrans Bridge Inspection Reports[5] for Town Long-Structures and Plan for Repairs to Prevent Flood-related Impacts like Scour	1	1	1	1	1	1	6	1	Yes
Improve Stormwater Management by Completing a Stormwater Master Plan	1	1	1	1	1	1	6	1	Yes
Plan for Road Right-of-Way Vegetation Management	1	1	1	1	0	1	5	1	Yes
Hot and Cold Weather Planning	1	1	1	1	1	1	6	1	Yes
Burn Bans and outreach for fire danger	1	1	1	1	1	1	6	1	Yes
Improve Flood Resilience with a Flood Study	1	1	1	1	-1	1	4	1-2	Yes
Not Recommended for Implementation									
Adopt Local Building Codes for Roof Wind and Snow Loads	The Town does not have the capacity to adopt local building codes but wants to explore expanding local capacity to enforce State building codes during the development review process.								
Adopt Flood Hazard Area and/or River Corridor Bylaws	Planning Team did not evaluate this action because the Town has already adopted FHA bylaws stringent enough to gain interim River Corridor status.								
Adopt a Policy Requiring All Town Employees to be Fully Vaccinated Against Common Disease	1	0	1	-1	1	0	2	1	Yes
Structure & Infrastructure Projects									
Recommended for Implementation									
Protect Power Lines and Roads 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
Increase Drainage/Absorption Capacities with Green Stormwater Management Practices	1	1	1	1	1	1	6	1	Yes
Stabilize Outfalls	1	1	1	1	1	1	6	1	Yes
Install/Re-establish Roadside Ditches	1	1	1	1	1	1	6	1	Yes
Routinely Clean and Repair Stormwater Infrastructure	1	1	1	1	1	1	6	1	Yes
Routine Clear Debris from Support Bracing Underneath Low-Lying Bridges and culverts	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	1-2	Yes
Remove Existing Structures from Flood-Prone Areas	1	1	1	0	1	1	5	3	Yes

[5] VTrans inspects all town-owned long structures under the State's Town Highway Bridge Program every two years. 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
Floodproof Critical Facilities	1	1	1	1	1	1	6	1	Yes
Structure & Infrastructure Projects (cont.)									
Not Recommended for Implementation									
Elevate Roads Above Base Flood Elevation to Maintain Dry Access	1	1	1	0	1	0	4	3	No
Bury Power Lines	Planning Team evaluated this infrastructure project and decided it was more appropriate to implement as a regulatory action by updating Zoning Ordinance to require new subdivision developments to bury power lines.								
Insulate Shallow Buried Utility Mains/Services	Planning Team did not evaluate this action because there are no known shallow buried utility mains or service lines.								
Anchor Roof-Mounted Mechanical Equipment on Critical Facilities	Planning Team did not evaluate this action because there are no critical facilities with roof-mounted mechanical equipment.								
Natural Systems Protection									
Recommended for Implementation									
Stabilize Stream Banks	1	1	1	1	1	1	6	1	Yes
Remove Berms and/or Accumulated Debris from Stream to Restore Flood Capacity	1	1	1	1	1	1	6	1	Yes
Not Recommended for Implementation									
Remove Significant Hazard Potential Dams	1	1	1	-1	1	1	4	3	No
Establish Vegetative Buffers in Riparian Areas	The Town will collaborate with the Natural Resources Conservation District or Friends of the Winooski to identify and implement projects that meet the goals of this Plan.								
Restore Floodplain									
Restore Incision Areas									
Outreach & Education Programs									
Recommended for Implementation									
Educate the Public About the Risks of Infectious Disease and/or Invasive Species and How to Protect Against Them	1	1	1	1	1	1	6	1	Yes
Educate residents about the ability to dry or wet floodproof basements to minimize damages from water intrusion.	1	0	1	1	1	1	5	1	Yes
Not Recommended for Implementation									
Assist Vulnerable Populations	Planning Team did not evaluate this action because the Town already has a procedure for assisting vulnerable populations in its Local Emergency Management Plan. Besides individuals who are known in the community or on the VT CARES list the only vulnerable population in town is the Cabot school when in session.								
Keep the Ditches Clean Campaign	Planning Team did not evaluate this action because the filling of ditches by adjacent property owners is not a problem in the community.								

Table 5 Evaluation Criteria:

Life Safety –Will the action be effective at protecting lives and preventing injuries?
Property Protection –Will the action be effective at eliminating or reducing damage to structures and infrastructure?
Technical – Is the 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, benefit a vulnerable population, 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: Mitigation Action Plan

Plan for and Maintain Adequate Road and Debris Clearing Capabilities: A leading cause of death and injury during winter storms is from auto accidents so it is important to plan for and maintain adequate road and debris clearing capabilities. This includes capital planning and annual funding to support the facilities (garage and equipment) and an appropriate number of staff needed to maintain the transportation network in Cabot.

ADDRESSED HAZARDS

Extreme Cold, Snow, and Ice

Primary Hazard

Strong Wind

COMMUNITY LIFELINES TARGETED

Safety & Security

Transportation

Primary Lifeline

LEAD PARTY

Road Foreman

GRANT FUNDING SOURCES

☐ None☐

PARTNERSHIPS

☐ None☐

TYPE OF PROJECT

Local Plans & Regulations

Area of Impact

Town-wide; ±64 mile road network

PROJECT TIMEFRAME

To coincide with preparing annual Town budget each Nov

PRIORITIZATION = HIGH

☐ **Continues on next page**

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 reassessment every 5 years.

Addressed Hazards

Floods

Type of Project

Local Plans & Regulations

Community Lifelines Targeted

Safety & Security

Transportation

Primary Lifeline

Area of Impact

Town-wide; ±64 mile road network and 667 culverts

Lead Party

Road Foreman

Grant Funding Sources

- CVRPC TPI funding

Partnerships

- CVRPC
- ANR Municipal Roads Program

Project Timeframe

2025 construction season

PRIORITIZATION = MEDIUM

Road Right-of-Way (ROW) Vegetation Management Plan: Hazard trees in the road ROW can contribute to power and communication outages as well as debris in the roadway during winter storms and wind events. This hazard is exacerbated by the Emerald Ash Borer infestation. To increase roadside resilience, Cabot will prioritize locations of dead trees for removal from the ROW

ADDRESSED HAZARDS

Extreme Cold, Snow, and Ice

Primary Hazard

Strong Wind

Invasive Species

TYPE OF PROJECT

Local Plans & Regulations

COMMUNITY LIFELINES TARGETED

Energy

Primary Lifeline

Communications

Transportation

Area of Impact

Town-wide; ±64 mile road network

LEAD PARTY

Road Crew

GRANT FUNDING SOURCES

- VTrans HSIP

PARTNERSHIPS

- Tree Warden
- VT Urban & Community Forestry
- VT Dept of Forests, Parks, & Rec

PROJECT TIMEFRAME

- Complete as needed
- Pursue funding if necessary

PRIORITIZATION = MEDIUM

Flood Study: A flood study is a technical investigation of flood behavior for a river. The aim is to define existing hydraulic and hydrologic processes. The study can help inform building, land use planning, community awareness, and disaster management. The Town will explore the infrastructure of the two tributaries that are on main street and were overwhelmed by July flood waters.

ADDRESSED HAZARDS

Floods

TYPE OF PROJECT

Local Plans & Regulations

COMMUNITY LIFELINES TARGETED

Safety & Security

Transportation

Primary Lifeline

Area of Impact

Winooski River tributaries

LEAD PARTY

Flood Resiliency Task Force

GRANT FUNDING SOURCES

☐ FEMA/VEM Hazard Mitigation☐

PARTNERSHIPS

☐ VEM ☐

PROJECT TIMEFRAME

Partner outreach Jan 2024

PRIORITIZATION =HIGH

Burn Bans: Cabot Fire Warden/Fire Chief will provide education materials and outreach on fire danger conditions and burn bans during elevated fire danger periods.

ADDRESSED HAZARDS

Wildfire

TYPE OF PROJECT

Outreach & Education

COMMUNITY LIFELINES TARGETED

Safety & Security

Food, Water, Shelter

Primary Lifeline

Area of Impact

Town-wide

LEAD PARTY

Cabot Fire Warden/Fire Department

GRANT FUNDING SOURCES

☐ None☐

PARTNERSHIPS

☐ VT Forestry☐

PROJECT TIMEFRAME

Continuous

PRIORITIZATION = MEDIUM

Install Back-up Power at Critical Facilities: Generators (standby or portable) are emergency equipment that provide a secondary source of power to a facility. Cabot has identified a critical facility needing back-up power – Willey Building to serve as a resiliency hub to allow for continuity of operations for town and as a shelter facility as necessary.

Addressed Hazards

All Hazards

Including Extreme Cold

Type of Project

Structure & Infrastructure

Community Lifelines Targeted

Energy

Primary Lifeline

Food, Water, Shelter

Area of Impact

Willey Building

Lead Party

Selectboard

Grant Funding Sources

- MERP

Partnerships

- BGS

Project Timeframe

2028 construction season

PRIORITIZATION = MEDIUM

Install Green Stormwater Management Practices: Green infrastructure uses vegetation, soils, and other elements and practices to restore some of the natural processes required to manage stormwater. Cabot has identified the following projects.

Addressed Hazards

Floods

Type of Project

Structure & Infrastructure

Community Lifelines Targeted

Safety & Security

Transportation

Primary Lifeline

Area of Impact

Main Street and along Winooski River from 2004 SGA

Lead Party

Conservation committee

Grant Funding Sources

- Central Vermont CWSP
- FEMA/VEM Hazard Mitigation

Partnerships

- Friends of the Winooski
- Winooski Natural Resource Conservation District

Project Timeframe

2024 and ongoing

PRIORITIZATION = HIGH

Stabilize Culvert Outfalls: Erosion at culvert outlets is common and can cause structural failure with serious downstream consequences. Properly stabilized outfalls protect channel bank stability and reduce erosion. Cabot will stabilize outfalls either as needed or as identified by the Municipal Roads General Permit requirements.

Addressed Hazards

Floods

Type of Project

Structure & Infrastructure

Community Lifelines Targeted

Safety & Security

Transportation

Primary Lifeline

Area of Impact

See Municipal Roads General Permit (MRGP) Outlet and Road Erosion Inventories for non-compliant culvert outfalls

Lead Party

Road Foreman

Grant Funding Sources

- VTrans

Partnerships

- VTrans District 6
- ANR Rivers Program
- ANR Municipal Roads General Permit

Project Timeframe

See MRGP Improvement Schedule

Prioritization = Medium

Install/Re-work Roadside Ditches: Properly installed and stabilized roadside ditches are critical to protect the integrity of the road. Cabot has an extensive network of ditches, with 322 road segments (328 ft) with ditches that must be improved to current municipal Road Standards. Of these, 12 are very high priority, 47 high priority, and 263 moderate/low priority.

Addressed Hazards

Floods

Type of Project

Structure & Infrastructure

Community Lifelines Targeted

Safety & Security

Transportation

Primary Lifeline

Area of Impact

See MRGP Road Erosion Inventory for non- compliant road segments

Lead Party

Road Foreman

Grant Funding Sources

- VTrans

Partnerships

- ANR Municipal Roads General Permit

Project Timeframe

See MRGP Improvement Schedule

PRIORITIZATION = HIGH

Remove Structures from Flood-Prone Areas: Removing structures from flood-prone areas to minimize future flood losses by acquiring and demolishing or relocating structures from voluntary property owners and preserving the land is a highly recommended long-term flood mitigation measure. There are no NFIP repetitive loss properties in Cabot; however, there are 30 buildings in the Special Flood Hazard Area, with 51 of these in the River Corridor. Cabot is conducting outreach to property owners most at risk to determine interest in a property buyout following the July 2023 flood.

Addressed Hazards

Floods

Type of Project

Structure & Infrastructure

Community Lifelines Targeted

Safety & Security

Food, Water, Shelter

Primary Lifeline

Area of Impact

30 buildings in Special Flood Hazard Area/Floodway

Lead Party

Town clerk/Selectboard

Grant Funding Sources

- FEMA/VEM Hazard Mitigation

Partnerships

- Vermont Emergency Management

Project Timeframe

Currently in process for interested parties

PRIORITIZATION = HIGH

Stabilize Stream Banks: Eroding sections of stream bank on the Winooski River and tributaries. Town will be inventorying areas which lack riparian buffers and are prone to erosion. Cabot will work with project partners to explore options to stabilize the identified areas of stream bank that have erosional issues.

Addressed Hazards

Floods

Type of Project

Natural Systems Protection

Community Lifelines Targeted

Safety & Security

Transportation

Primary Lifeline

Area of Impact

Winooski River

Lead Party

Conservation Committee

Grant Funding Sources

- Central Vermont CWSP
- FEMA/VEM Hazard Mitigation

Partnerships

- Winooski NRCD
- ANR Rivers Program
- Friends of the Winooski

Project Timeframe

Analyze Options Jun-Dec 2024 2026 construction season

PRIORITIZATION = MEDIUM

Remove Accumulated Debris to Restore Flood Capacity: Cabot will work with project partners to explore options to restore flood capacity in a tributary of the Winooski River above Main Street.

Addressed Hazards

Floods

Type of Project

Natural Systems Protection

Community Lifelines Targeted

Safety & Security

Transportation

Primary Lifeline

Area of Impact

Winooski River - upstream of double culverts on Main Street

Lead Party

Road Foreman/Road Crew

Grant Funding Sources

- VTrans
- FEMA/VEM Hazard Mitigation

Partnerships

- Winooski NRCD
- Friends of the Winooski
- ANR Rivers Program
- US Army Corps of Engineers

Project Timeframe

Analyze Options 2024

2024-25 construction season

Prioritization = High

Infectious Disease and/or Invasive Species Awareness: Cabot will work with project partners to increase awareness about the potential hazards and risks associated with specific infectious agents, like West Nile Virus, and invasives, like Emerald Ash Borer or Giant Hogweed, due to cascading impacts associated with floods and storm-related tree damage.

Addressed Hazards

Infectious Disease

Invasive Species

Type of Project

Outreach & Education Programs

Community Lifelines Targeted

Safety & Security

Public Health

Primary Lifeline

Area of Impact

Town-wide

Lead Party

Emergency Management Director/Town Health officer/ Tree Warden

Grant Funding Sources

- None

Partnerships

- VT Department of Health
- VT Urban & Community Forestry
- VT Dept of Forests, Parks, & Rec
- VT Fish & Wildlife
- Ready.gov

Project Timeframe

Partner Outreach to Develop Materials and Schedule for Messaging

Ongoing As needed

Prioritization = Low

Dry and Wet Floodproofing Cabot will work with the Cabot School to develop educational and outreach information that is crafted by the students to explain how to implement these best management practices for residencies and structures that have basement issues.

ADDRESSED HAZARDS

Floods

COMMUNITY LIFELINES TARGETED

Food, Water, Shelter

Primary Lifeline

LEAD PARTY

Flood Resiliency Task Force

GRANT FUNDING SOURCES

- ☐ none☐

PARTNERSHIPS

- ☐ CVRPC

TYPE OF PROJECT

Outreach & Education Programs

Area of Impact

Whole town

PROJECT TIMEFRAME

- ☐ Partner Outreach to Develop Materials and Schedule for Messaging
- ☐ Ongoing As needed
- ☐ **PRIORITIZATION = LOW**

Extreme Temperature Planning: Develop plan for addressing extreme temperatures. Primarily planning for hot weather. This plan would become an appendix to the Local Emergency Management Plan to be used during extreme temperature events when Vermont Department of Health triggers notices.

ADDRESSED HAZARDS

Extreme Temperatures

Including Extreme Cold

COMMUNITY LIFELINES TARGETED

Food, Water, Shelter

LEAD PARTY

Selectboard/Willey Building Committee/ Emergency Management Director

GRANT FUNDING SOURCES

- ☐ VDH☐

PARTNERSHIPS

- ☐ CVRPC☐

TYPE OF PROJECT

Local Plans & Regulations

Area of Impact

Willey Building

PROJECT TIMEFRAME

2024

PRIORITIZATION = MEDIUM

Integrating into Existing Plans and Procedures

For Cabot to succeed in reducing long-term risk, information from this Plan should be integrated throughout government operations. When activities are connected, they can not only reduce risk and increase resilience, but also accomplish other objectives such as environmental protection, economic development, financial stability, and land use planning.

There are several ways the Town can achieve

integration into existing plans and procedures to support risk-informed community planning. They can include the community's primary mitigation goal as stated on page 18, information from the risk assessment, and mitigation actions as follows:

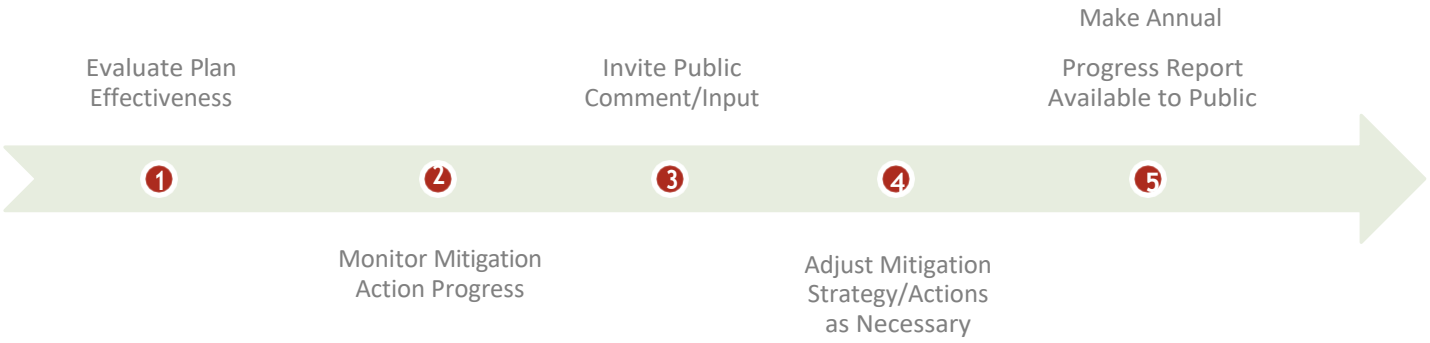
- The mitigation goal and risk assessment information can be considered when prioritizing capital improvements. Mitigation actions listed in this Plan can be included in the annual budgeting process.
- Funding for mitigation actions can be prioritized in the annual budget process.
- The mitigation goal and risk assessment information can be incorporated into the next Town Plan update (Land Use and Flood Resilience chapters in particular) to help steer growth and redevelopment away from high-risk locations.
- The mitigation goal and risk assessment information can be incorporated into future zoning ordinance updates. Ideally incorporating this while doing zoning updates for the acceptance of new flood maps.
- The mitigation goal and risk assessment information can be incorporated into any plans to expand public water and sewer utilities to ensure they are not expanded into high-hazard areas.
- Several flood-related mitigation actions for increasing road resiliency can be implemented under the existing Municipal Road General Permit (8054-9040) for controlling stormwater discharges from town roads.
- Several flood-related mitigation actions have already been and continue to be implemented in the response and rebuilding from DR-4720 event.
- Several flood-related mitigation actions for increasing road resiliency can be implemented under the existing Municipal Road General Permit (8054-9040) for controlling stormwater discharges from town roads.

7 PLAN MAINTENANCE

This Plan is dynamic. To ensure it remains current and relevant, it should be annually evaluated and monitored and updated every five years, in accordance with FEMA guidelines in effect at the time.

Annual Evaluation and Monitoring

Within 12 months of FEMA Final Approval, the Plan will be annually evaluated and monitored as follows:



1. The Selectboard will evaluate the effectiveness of the Plan in meeting the stated goals. Things to consider during this evaluation:

   - What disasters has the town (or region) experienced?
   - Should the list of highest risk natural hazard impacts be modified?
   - Are new data sources, maps, plans, or reports available? If so, what have they revealed, and should the information be incorporated into this plan?
   - Has development in the region occurred and could it create or reduce risk?
   - Has the town adopted new policies or regulations that could be incorporated into this plan?
   - Have elements of this plan been incorporated into new plans, reports, policies, or regulations?
   - Are there different or additional community capabilities available for mitigation implementation?

2. Next, the Selectboard will monitor mitigation action progress. Things to consider:

   - Is the mitigation strategy being implemented as anticipated?
   - Were the cost and timeline estimates accurate?
   - Should new mitigation actions be added?
   - Should proposed actions be revised or removed?
   - Are there new funding sources to consider?

   The status (e.g., in progress, complete) of each 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.

3. The Selectboard will seek public comment from the Whole Community on plan implementation. Things to consider:

   - Are there any new stakeholders to include?
   - What public outreach activities have occurred?
   - How can public involvement be improved?

4. Based on input received, the mitigation strategy and/or actions will be modified, if needed.

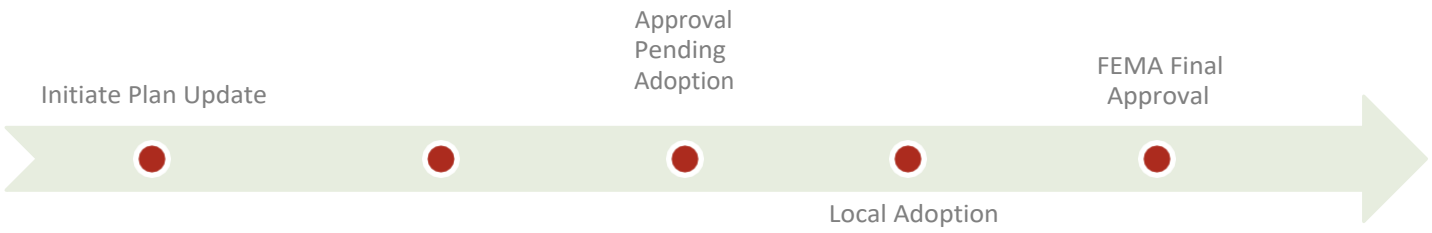
5. A report (or record in the form of meeting minutes) of the annual evaluation and monitoring will be made available to the public.

Table 7: Mitigation Action Status

Mitigation Action	2024	2025	2026	2027	2028
Local Plans & Regulations					
Plan for and Maintain Adequate Road and Debris Clearing Capabilities					
Update Road Erosion and Culvert Inventories					
Road Right-of-Way Vegetation Management Plan					
Bridge and Culvert inventory					
Flood Study					
Structure & Infrastructure Projects					
Remove Hazard Trees in Road Right-of-Way					
Install Back-up Power at Critical Facilities					
Install Green Stormwater Management Practices					
Stabilize Culvert Outfalls					
Install/Re-work Roadside Ditches					
Routinely Clean and Repair Stormwater Infrastructure					
Routinely Clear Debris from Low-Lying Bridge Support Bracing					
Adequately Size Culverts in Flood-Prone Areas					
Remove Structures from Flood-Prone Areas					
Natural Systems Protection					
Stabilize Stream Banks					
Remove Accumulated Debris to Restore Flood Capacity					
Outreach & Education Programs					
Infectious Disease and/or Invasive Species Awareness					
Wildfire messaging					
Dry Proofing and Wet Proofing of basements					

5-Year Updates

This Plan will be updated at a minimum every five (5) years as follows:



Opportunities for Whole Community Involvement

1. Currently, funding to assist municipalities in paying for planning services to update the Local Hazard Mitigation Plan is available through FEMA's Building Resilient Infrastructure and Communities grant program. If using this grant, Cabot should contact Vermont Emergency Management (VEM) to apply for funding in 2027 – approximately 2 years before the Plan expires.

   Once funding is secured and the grant agreement between the Town and State is in place, the Town Manager can issue a request for proposals (RFP) to procure planning services in accordance with the grant agreement. The RFP should be issued approximately 14 months before the Plan expires.

   Once a consultant is procured, the Plan update can begin with a kick-off meeting including the consultant and local hazard mitigation planning team. The kick-off meeting should be scheduled approximately 12 months before the Plan expires. The Town should allot approximately 8 months for the Plan update process.

2. Opportunities for Whole Community involvement throughout the Plan update process need to be factored into the schedule. These opportunities may include a community survey, planning workshop, and public meetings at critical milestones agreed to at the project kick-off meeting.

3. Once the local hazard mitigation planning team has prepared a final draft, they can seek authorization from the Selectboard to submit the Plan for VEM/FEMA approval. Plan approval is accomplished in two steps – the first is Approval Pending Adoption. The Town should submit for Approval Pending Adoption approximately 4 months before the Plan expires to allow for time to respond to any review comments received from VEM/FEMA.

4. Once the Town receives Approval Pending Adoption, the Selectboard should adopt the Plan as soon as their next regular meeting.

5. Once adopted, the Town can submit the Plan for VEM/FEMA Final Approval. The Town should submit for Final Approval approximately 1 month before the Plan expires to ensure there is no gap in coverage between updates. The FEMA Final Approval date starts the clock on the effective dates of the 5-year Plan.

CERTIFICATE OF ADOPTION

Town of Cabot, Vermont Selectboard

A Resolution Adopting the Cabot, Vermont 2024 Local Hazard Mitigation Plan

WHEREAS the Cabot Selectboard recognizes the threat that natural hazards pose to people and property within the Town of Cabot; and

WHEREAS the Cabot Selectboard has prepared a natural hazard mitigation plan, hereby known as the Cabot, Vermont 2024 Local Hazard Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Cabot, Vermont 2024 Local Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Town of Cabot from the impacts of future hazards and disasters; and

WHEREAS adoption by the Cabot Selectboard demonstrates its commitment to hazard mitigation and achieving the goals outlined in the Cabot, Vermont 2024 Local Hazard Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE TOWN OF CABOT, VERMONT, THAT:

Section 1. In accordance with 24 VSA §872, the Cabot Selectboard adopts the Cabot, Vermont 2024 Local Hazard Mitigation Plan. While content related to the Town of Cabot may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the Town of Cabot to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of_____ in favor and____ against, and____ abstaining, this _____ day of_____, 2024.

By:_____(print name)
Selectboard Chair

ATTEST: By:_____(print name)

MITIGATION ACTIONS FROM 2018 PLAN

Vulnerability: Flooding, Severe Storms, Hurricane, Flash Flood, High Wind

The town will select and review strategies outlined in the Upper Winooski Corridor Plan. However, some projects have already been completed.

Who: Select Board, Planning Commission When: May 2018–September 2020
How: Local Funds Priority: High

2024 Update: The town has continued implementing projects that were listed in this plan.
Remove damaged trees and implement best management practices for removal of trees in the road right of way

Who: Road Crew, Select Board When: Annually
How: Town Funds Priority: High

2024 Update: Complete; achieved the intended results

Emergency Preparedness. Develop community networking system to encourage neighbors to check on neighbors before and after hazard events. The town is using Front Porch Forum and VTAlert at present.

Who: Fire Department, Select Board, VEM When: 2016-2018
How: Local Funds Priority: High

2024 Update: No formalized plan was completed but community organized organically to respond during Covid response delivering food to individuals especially older adults.

Preparedness Action: Selectboard formed a committee to help resolve ongoing situation with lack of volunteers for Emergency Services

Who: Select Board Committee When: Annually
How: Local Funds Priority: High

2024 Update: The town has not completed this action

Preparedness action: Explore future grant application to address stormwater system upgrades

Who: Select Board, Public Works Director When: Annually
How: VT ACCD Municipal Planning Grants, Local Funds Priority: Medium

2024 Update: Town has reviewed grant opportunities and applied as budgets allowed.

Upgrade and expand culverts on Danville Hill, Mac Mountain Road, White Road, West Shore Road, and Bolton Road.

Who: Select Board, Road Foreman When: 2017–2018
How: Federal Transportation Money Priority: Medium

2024 Update: The road crew had worked in these areas and upgraded culverts to current standards

Upgrade and adopt new regulations for land use development on slopes greater than 25% and regulate development on slopes over 15%. The Cabot Planning Commission is changing the regulations to say NO development on slopes.

Who: Planning Commission, Zoning Administrator, Select Board When: 2019-2020
How: Local Funds, VCDP, MPG Priority: Low

2024 Update: This has not been completed but the planning commission may pursue.

Lower Cabot: Replace bridge (#B7) which was washed out by flooding.

Who: Public Works Director, CVRPC, Select Board When: 2018-2019
How: VTrans, Federal Transportation grant Priority: High

2024 Update: Bridge still needs replacing, town is trying to get the bridge listed on State bridge project list.

Adopt River Corridor into flood hazard bylaws

Who: Select Board, Planning Commission, CVRPC, VTANR, VLCT, Regional Floodplain Manager
When: 2016-2017 How: Town Funds Priority: High

2024 Update: The town adopted flood hazard bylaws that were strong enough to gain interim status for River Corridor bylaws

Relocate Recreation Field out of floodplain (Larry and Sons Rec Field)

Who: Recreation Committee, Select Board When: 2017-2018
How: Local Funds, Volunteers, Donations Priority: Low

2024 Update: This is private land and the landowner has not decided what they will do with this

Preparedness Action: Educate adjoining landowners to water supply reservoir at 215 N about nutrient management to limit nitrogen rich field runoff from entering the reservoir. Encourage agricultural best management practices.

Who: Select Board When: 2019-2020
How: Drinking Water State Revolving Fund (DWSRF) Priority: Low

2024 Update: This has not been completed.

Vulnerability: Severe Storms, Winter Storms, extreme cold, Ice Storms

Purchase and Install generator for Cabot School (emergency shelter)

Who: School Board, Select Board When: 2016-2019
How: FEMA, HMGP, PDM Priority: Medium

2024 Update: This is a project that has not been completed.

Preparedness Action: Encourage the owners of local businesses to install generator for backup power

Who: Business Owners When: 2018-2019
How: FEMA, HMGP, Biomass Funds Priority: Medium

2024 Update: This is a project that has not been completed

Preparedness Action: Provide training to residents on how to insulate homes (pipes, attics) for extreme cold spells and heat

Who: Planning Commission, Select Board, Fire Department, Capstone Community Action
When: 2016-2018
How: Local Funds, Non-Profits, Community Action Groups Priority: Medium

2024 Update: The town has not completed this action.

Upgrade electrical systems in municipal buildings and shelters to prevent surge/equipment damage from fluctuating current during ice and wind storms

Who: Fire Department, Select Board When: 2019-2020
How: FEMA, Local Funds, Town Bonds Priority: Medium

2024 Update: The town has upgraded many systems and is working with their electrician to stay on top of needs.

Upgrade main 3-inch water supply line on Danville Hill

Who: Public Works Director, Select Board When: 2017-2018
How: Drinking Water State Revolving Fund (DWSRF) Priority: Medium

2024 Update: The town has completed this project.

Remove damaged and overgrown trees in right of way to prevent power outages

Who: Select Board, WEC, Public Works Director When: 2017-2018
How: PDM, WEC, Local Funds Priority: Medium

2024 Update: This work has been completed by GMP and WEC per utilities maintenance plans

Upgrade and improve municipal waterlines in village

Who: Select Board, Town Clerk, Public Works Director When: 2018-2019
How: VT ACCD Municipal Planning Grants, VTANR weather grants Priority: Medium

2024 Update: The town has not completed this but may still in the future.

Vulnerability: Dam Failure

Work with landowners on dam study to determine hazard/removal/ownership and maintenance of West Hill Pond Dam

Who: Select Board, Planning Commission, ANR
How: FEMA, VTANR
When: 2016–2018
Priority: Medium

2024 Update: The town has not completed this but may still in the future.

Preparedness Action: The Town will work with Green Mountain Power and the VTANR to support the Marshfield Dam

Who: Select Board, Planning Commission, GMP, VTANR
How: Green Mountain Power (Dam owner responsibilities)
When: Annually
Priority: Medium

2024 Update: The town has continued to work with GMP and VTANR to support safety at the Marshfield Dam

Work with landowners and VTANR to decide fate of Sawmill Dam. The study has been completed and an application has been sent to FEMA for removal.

Who: Select Board, Planning Commission, VTANR, FEMA-region 1
How: FEMA
When: 2018-2019
Priority: High

2024 Update: Removal effort failed in land value negotiations with landowner. Dam failed in July 2023 flooding event.

Vulnerability: Drought

Explore the development of alternative water source

Who: Select Board
How: Drinking Water State Revolving Fund (DWSRF)
When: 2016–2017
Priority: High

2024 Update: The town has chosen not to pursue this

Review and upgrade town policy on water supply access for farms from the town wells.

Who: Select Board
How: Local Funds
When: 2017-2018
Priority: Low

2024 Update: The town has created a water supply ordinance that addresses usage of water from town wells during a drought event.

Upgrade water supply system to increase capacity in a drought situation.

Who: Select Board
How: Drinking Water State Revolving Fund (DWSRF)
When: 2020-2021
Priority: High

2024 Update: : The town has created a water supply ordinance that addresses usage of water from town wells during a drought event.

Vulnerability: Structure Fire

Work with landowners to develop additional dry hydrants in remote areas of Cabot. At this point the fire department has added more than 14 new hydrants.

Who: Select Board, Fire Department, CVRPC, VACD
How: Vermont Rural Fire Protection Task Force
When: 2019-2020
Priority: Medium

2024 Update: The town has assisted the fire department in the build out of dry hydrants and has continued to add locations as necessary or opportunities arise.

Preparedness Action: Develop fire education materials for homeowners regarding heating homes safely during winter months and proper chimney/furnace maintenance.

Who: Select Board, Fire Department, School Board Principal
How: Local Funds
When: 2016-2018
Priority: Low

2024 Update: The town has not completed this action

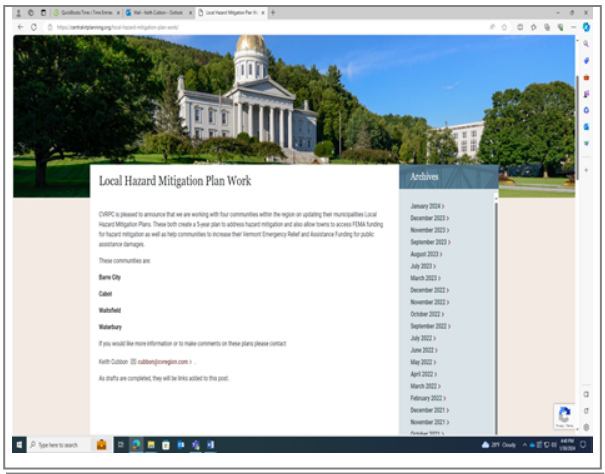
Vulnerability: Bridge/Pedestrian Hazard

A Town bridge north of the village is undersized and needs to be enlarged to allow safe pedestrian crossing. There is a transportation study in progress.

Who: Select Board, Planning commission
How: Federal Transportation Dollars
When: 2019-2021
Priority: Medium

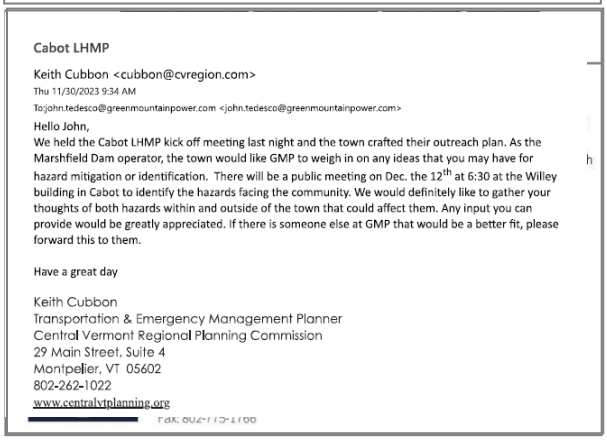
SUMMARY OF PUBLIC COMMENTS ON DRAFT PLAN

Public comments received throughout the plan development process are summarized here. For detailed information about how the Whole Community was invited to participate reference **Table 2**.



Example Plan update kick-off public notice from Central Vermont Regional Planning Commission website.

No inquiries received in response to the kick-off notice.



Cabot LHMP

Keith Cubbon <cubbon@cvregion.com>
Thu 11/30/2023 9:34 AM
To:john.tedesco@greenmountainpower.com <john.tedesco@greenmountainpower.com>

Hello John,
We held the Cabot LHMP kick off meeting last night and the town crafted their outreach plan. As the Marshfield Dam operator, the town would like GMP to weigh in on any ideas that you may have for hazard mitigation or identification. There will be a public meeting on Dec. the 12th at 6:30 at the Willey building in Cabot to identify the hazards facing the community. We would definitely like to gather your thoughts of both hazards within and outside of the town that could affect them. Any input you can provide would be greatly appreciated. If there is someone else at GMP that would be a better fit, please forward this to them.

Have a great day

Keith Cubbon
Transportation & Emergency Management Planner
Central Vermont Regional Planning Commission
29 Main Street, Suite 4
Montpelier, VT 05602
802-262-1022
www.centralvtplanning.org

Example email to Key Partners announcing Plan update kick-off – dated November 30, 2023.

Follow-up discussion with Green Mountain Power representative regarding planning process and opportunities for participation in the plan development.

Example Local Hazard Mitigation Planning Community notice and Survey notice posted at town office and library and post office, posted on December 11, 2023 link for survey was also in 2nd Cabot Chronicle article and on Front Porch Forum posts.

See **Appendix D** for copy of survey and results.

Example: Cabot Hazard Mitigation Planning Workshop advertisement posted at locations throughout town also had front page article in Cabot Chronicle newspaper.

Please join us for Cabot's next Hazard Mitigation Plan meeting: Monday, January 22, 2024

by Peg Elmer Hough

Public Meeting January 22 To Discuss Hazard Mitigation

by Keith Cubbon, CVRPC

New Years Resolution: Buy Seeds That Align With Your Values

by Susan Socks of Garden Goddess Consulting and Gardening

Example: Cabot Mitigation Public Meeting to discuss Mitigation activities and develop priorities with the community.

Example notice of draft plan available for public comment at during plan development process from Central Vermont Regional Planning Commission website, including link to draft plan, posted on February 5, 2024.

Minor editorial comments received from the Cabot Planning Commission were incorporated into the Plan.

Example email to Key Partners and local officials in neighboring towns seeking comments on draft plan as draft was completed in plan development process – dated May 9, 2023.

Informal review comments received from VEM were incorporated into the Plan.

[placeholder for example outreach seeking comments on final draft plan]

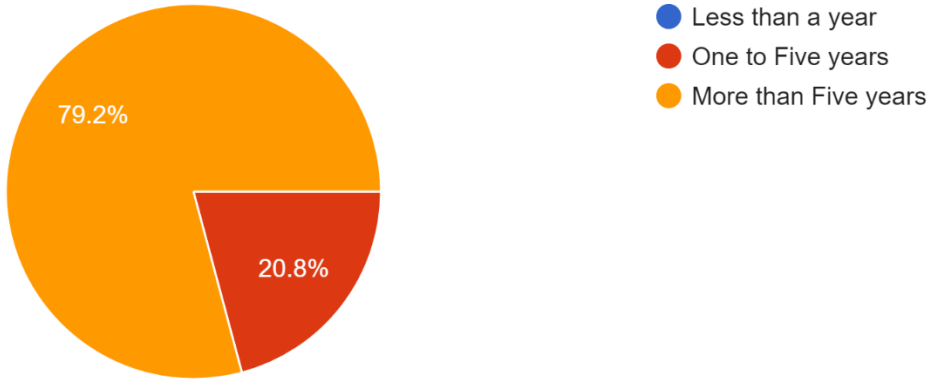
[placeholder for any public comments received on final draft plan and how they were addressed]

COMMUNITY SURVEY RESULTS

The Town of Cabot utilized a survey to solicit public input on 1) potential natural hazard impacts and 2) mitigation strategies to reduce these impacts in the future. The survey was made available online as well as hard copy over the course of 6 weeks in December 2023 through end of January 2024. The Town received 24 responses and a summary of the input received is provided below, followed by a copy of the actual survey.

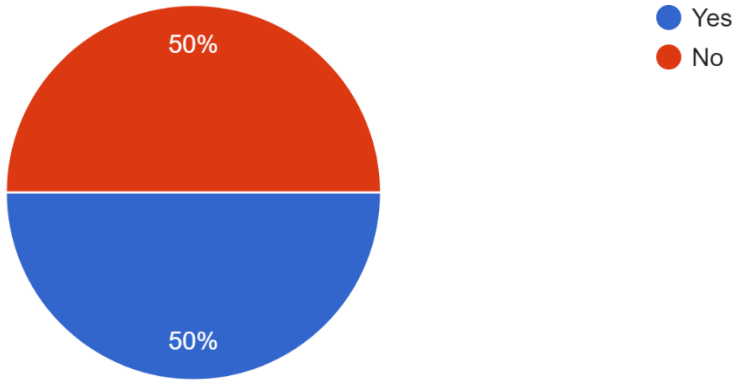
1) How long have you lived in or owned a business or property in Cabot?

24 responses



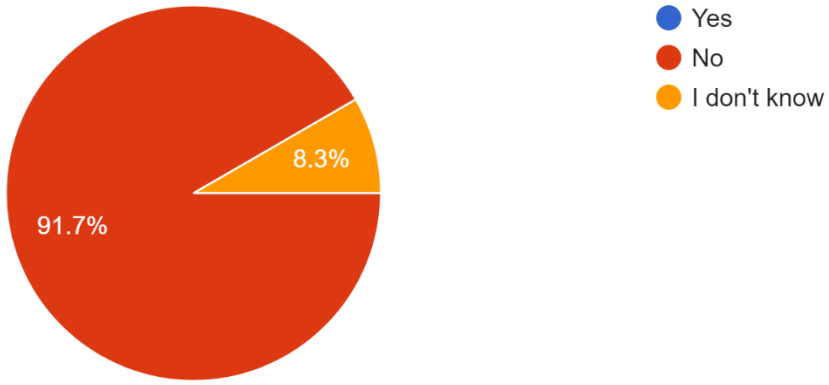
2) Have you experienced damage during a past severe weather event?

24 responses



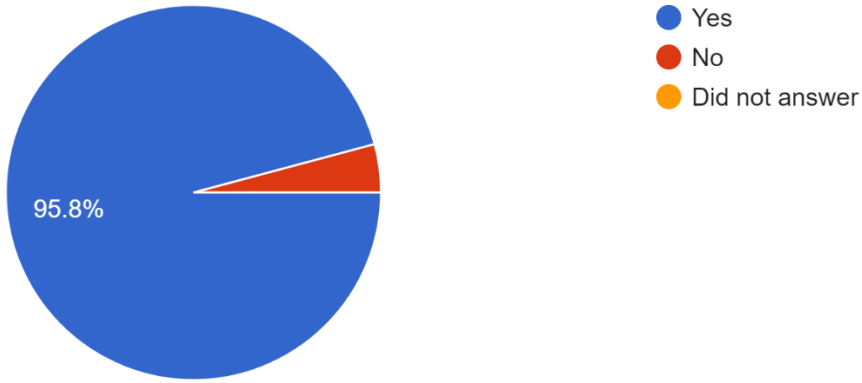
3) Is your home or business property located in a FEMA designated floodplain? If yes, do you have insurance through the National Flood Insurance Program (NFIP)?

24 responses



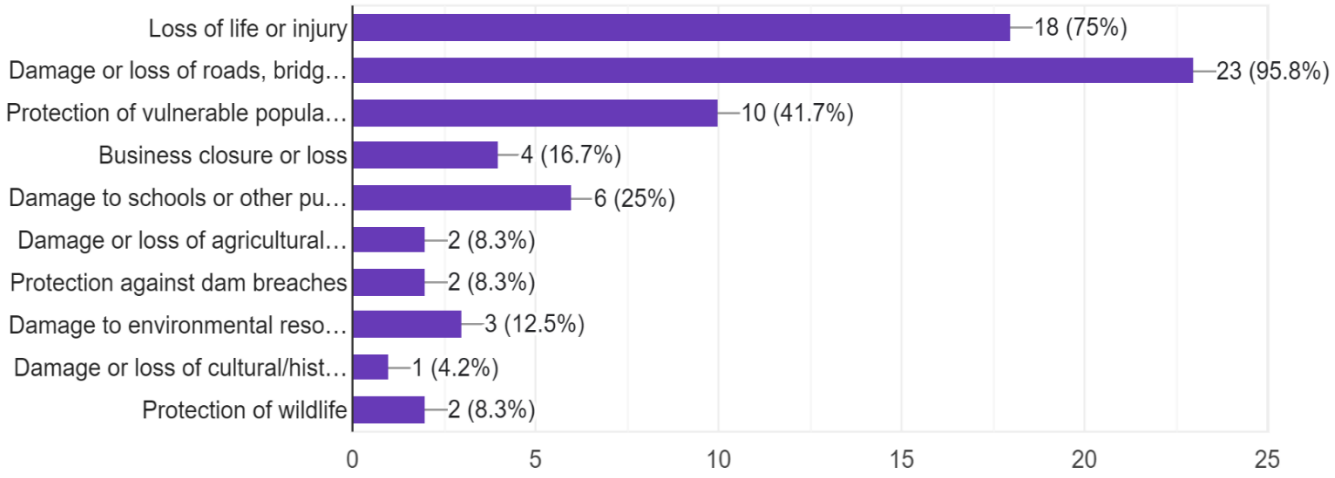
4) Have you seen areas in the community damaged during a past severe weather event?

24 responses



5) In your opinion, which of the following are most important to protect against potential future severe weather impacts in Cabot? Please check up to 3 boxes.

24 responses



6) In this context, hazard mitigation is a sustained measure that reduces or eliminates long-term risk to people and property from the effects of natural hazards (defined as severe weather events). What types of hazard mitigation measures would you like to see the community prioritize?

20 responses

I believe ice storms, while rare are uniquely damaging to the electrical infrastructure as exemplified by the 1998 disaster in upstate NY and southern Ontario and Quebec. I believe a section in Cabot's plan should include a section on how best to protect dairy farms and critical town services. An Emergency Shelter location is essential. Also the more emergency generators in place the better the chances of total disaster.

Create a "resilience hub" like Craftsbury has, at the Willey Building. A beefed-up emergency shelter where people will want to gather, adding a shower and cots, using the kitchen, adding solar panels and back-up battery, and communication bulletin board

Flood mitigation.

Improve/expand emergency services

I'd like to see the town invest resources in a salaried position that leads this effort, manages natural disaster responses, coordinates with EMS/FIRE districts, trains community members, works with partners to apply for grants, etc. We burned out and exhausted our volunteer town managers this summer. Let's not do that again.

Relief dams that would slow the flow of water into Cabot Village from surrounding hills. Larger culverts in some spots might help carry water more effectively, deeper ditches and rip-rap - all of which I believe the road crew has been doing over the years. Possibly putting more utility lines underground to reduce power outages in storms.

Culverts and ditch analyses

Monitoring and maintenance of waterways, especially culverts, bridges, and banks with buildings.

Flood and drought projects

flood control, road maintenance, maintain pedestrian sidewalks & paths in village

Flood mitigation measures

Help for owners of property in flood-prone areas.

Flood control measures, move structures out of flood prone areas, require utilities to maintain their lines from hazards , install up stream barriers to keep debris out of box culverts during flooding events.

Identify areas and types of properties most vulnerable to the most-likely hazards, and provide means to fortify/prevent/mitigate potential damage. —like FEMA but before the fact

Help reduce the impact of flooding in the village.

Wetlands develop & management. Land & forest management near streams. Main Street re-engineering.

Better road, culvert waterway management against floods

less fossil fuel , greener life styles.

Minimizing and/or slowing down flood waters

Clearing streamers of debris

7) Anything else you would like to provide for consideration and incorporation into the Cabot Local Hazard Mitigation Plan?

12 responses

Finding ways to sequester and slow down future floods in the upper reaches of the Winooski watershed is critical for avoiding future devastation in Cabot village and all the way along the river. It is the only hope of avoiding recurring disasters in Montpelier in particular.

Keep supporting any initiatives that help strengthen community links and networking. Strong social cohesion is key to climate resilience

Thank you all for your time and effort.

I am proud of the way Cabot has recovered from recent storms - we have great people in our town and I'm confident in their ability to recognize what needs to be done and then cooperate to find solutions.

no

I'd add in protection against invasive species. To the extent we can mitigate their spread, we should.

Implementing fixes for our infrastructure that is out of date: culverts, bridges, and the rip rap along sides of the road. All that have not or we’re not done in the past 2 floods

name Winooski River to concern about ""streams flooding

Raising community consciousness about the plan

Assess local infrastructure hit hard in the last major storm events.

Backup power supports

River Corridors

Cabot LHMP community survey

This is an opportunity for the residents of Cabot to have their voices heard for prioritizing hazard mitigation projects for the town and strategies for the next 5 years.

1. 1) How long have you lived in or owned a business or property in Cabot?

   Mark only one oval.

   - ◯ Less than a year
   - ◯ One to Five years
   - ◯ More than Five years

2. 2) Have you experienced damage during a past severe weather event?

   Mark only one oval.

   - ◯ Yes
   - ◯ No

3. 3) Is your home or business property located in a FEMA designated floodplain? If yes, do you have insurance through the National Flood Insurance Program (NFIP)?

   Mark only one oval.

   - ◯ Yes
   - ◯ No
   - ◯ I don't know

4. 4) Have you seen areas in the community damaged during a past severe weather event?

   Mark only one oval.

   - ◯ Yes
   - ◯ No
   - ◯ Did not answer

5. 5) In your opinion, which of the following are most important to protect against potential future severe weather impacts in Cabot? Please check up to 3 boxes.

   Check all that apply.

   - ☐ Loss of life or injury
   - ☐ Damage or loss of roads, bridges, utility infrastructure
   - ☐ Protection of vulnerable populations
   - ☐ Business closure or loss
   - ☐ Damage to schools or other public property (e.g., parks, buildings)
   - ☐ Damage or loss of agricultural operations
   - ☐ Protection against dam breaches
   - ☐ Damage to environmental resources (e.g., wetlands, ponds, rivers, forests)
   - ☐ Damage or loss of cultural/historic properties
   - ☐ Protection of wildlife

6. 6) In this context, hazard mitigation is a sustained measure that reduces or eliminates long-term risk to people and property from the effects of natural hazards (defined as severe weather events). What types of hazard mitigation measures would you like to see the community prioritize?

7. 7) Anything else you would like to provide for consideration and incorporation into the Cabot Local Hazard Mitigation Plan?

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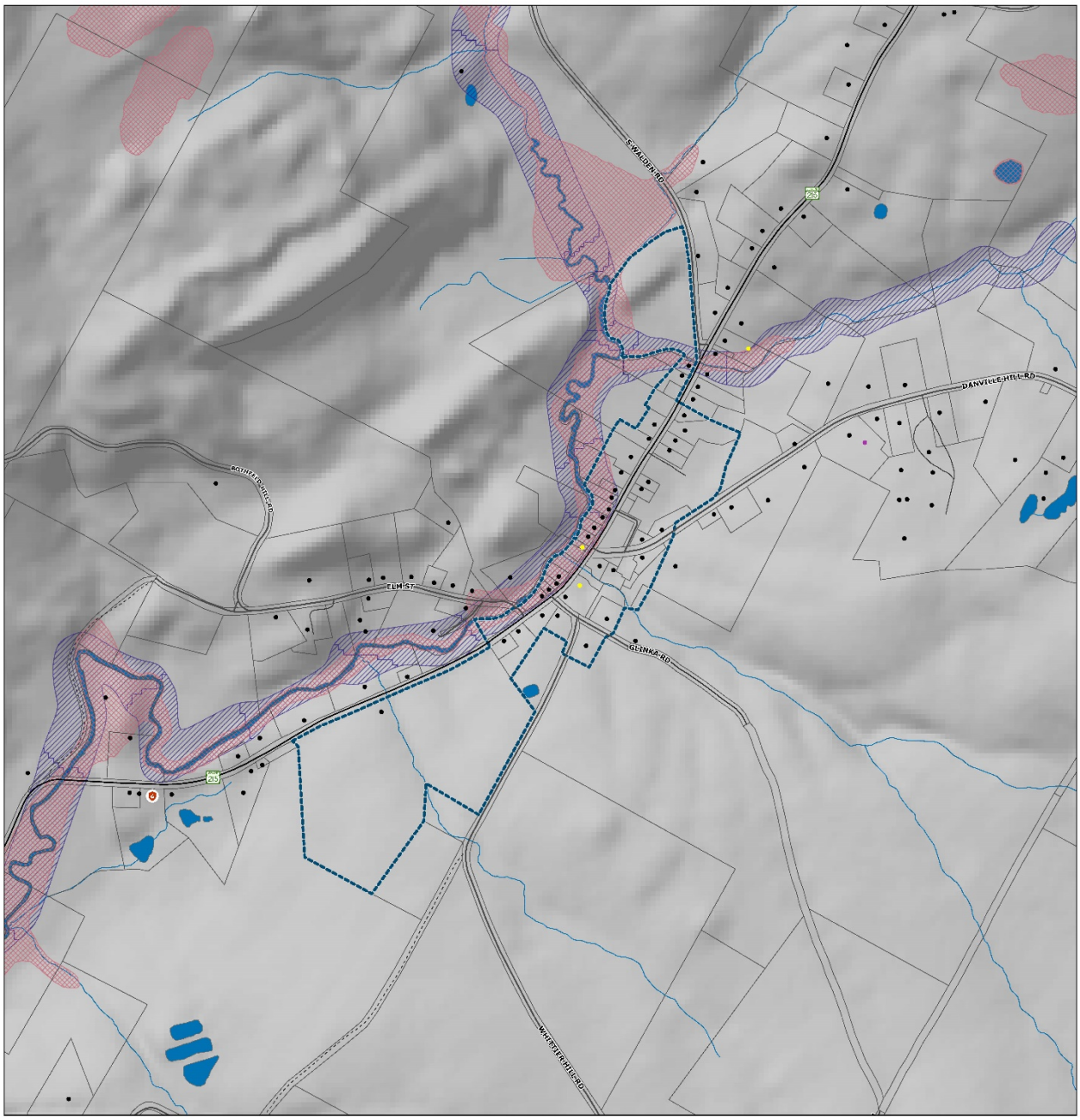
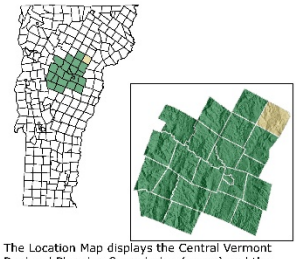
Google Forms

Town of Cabot, VT Village Center



Location Map



The Location Map displays the Central Vermont Regional Planning Commission (green) and the Town of Cabot (yellow) within the State of Vermont.

Legend

Boundaries
- Parcel Boundary
- Town Boundary
- Village Center Boundary
- Shoreland Zoning District
- FEMA Special Flood Hazard Area
- River Corridor

Roads
- Class I, II & III Town Highways
- Class IV & Forest Highways
- Legal Trail
- Private Road
- VT Route

E911 Address Points
- Residential
- Commercial
- Government

Surface Water
- Rivers & Streams
- Lakes & Ponds

0 0.13 0.25 0.5 mi
0 0.25 0.5 1 km

Central Vermont Regional Planning Commission

Map Notes

Date: 15 February 2024
File: N:\Towns\Cabot\Cabot.aprx
Contact: cvrpc@cvregion.com

Disclaimer

This map is for planning & assessment purposes only. It is neither a survey product nor intended to be used for conveyance, legal boundary definition or property title. Users are encouraged to examine the data documentation for information related to its accuracy, currency and limitations.

Data Resources

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Town of Cabot, VT

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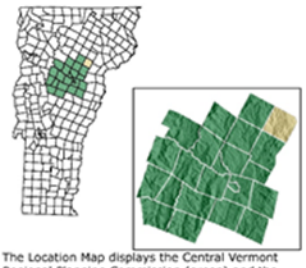

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0 0.75 1.5 3 mi
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Central Vermont Regional Planning Commission

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