

TOWN OF EDEN, VERMONT

LOCAL HAZARD MITIGATION PLAN

2023 – 2028

FEMA Approvable Pending Adoption: May 31, 2023

Eden Selectboard Adopted: June 13, 2023

FEMA Formal Approval: July 27, 2023

Plan expires: , 2028

This plan was prepared with funding support of Lamoille County Planning Commission's Emergency Management Performance Grant.

1.1 Introduction

This plan serves as a single jurisdiction Local Hazard Mitigation Plan (LHMP) for the Town of Eden. The Eden LHMP was last updated in 2018 and adopted by the Eden Selectboard on May 29, 2018. The current Eden LHMP expires June 7, 2023. The plan has been reviewed, amended, and updated in its entirety to reflect changes in development, progress in local mitigation efforts, and changes in priorities since the adoption of the 2018 Single Jurisdiction Plan.

The impact of expected, but unpredictable natural and human-caused events can be reduced through community planning. The goal of this plan is to provide all-hazards local mitigation strategies that make Eden more disaster resilient.

Hazard mitigation is defined as any sustained action that reduces or eliminates long-term risk to lives and property resulting from the effects of natural and human-caused hazards. Based on the results of previous Project Impact efforts, FEMA, state, regional, and local agencies have come to recognize that it is less expensive to prevent disasters than to repeatedly repair damage after a disaster has struck. This plan recognizes that communities have opportunities to identify mitigation strategies and measures during each phase of Emergency Management-Preparedness: Response, Recovery and Mitigation. Hazards cannot be eliminated, but it is possible to identify what the local hazards are, where the hazards are most severe, and what local actions that can be taken to reduce the severity of incidents.

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

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

1.2 Purpose

The purpose of this Local Hazard Mitigation Plan (LHMP) is to assist the Town of Eden in identifying all hazards facing the community and in developing strategies to begin reducing risks from these identified hazards.

1.3 Planning Process

Planning Process Overview and Public Participation

This plan was prepared by the Eden Selectboard in coordination with Lamoille County Planning Commission. In accordance with Vermont's open meeting law, all municipal board meetings are publicly advertised and open to the public. Eden places meeting notices at the town web page <http://www.edenvt.org>, and at three locations in the community (Eden General Store, Eden Post Office, and Town Office). Meeting minutes are posted on the town web page and hard copies are available at the Town Office. As the hazard mitigation plan was being developed, plan drafts have been made available to the public at the Town Office, town web page, and at all public meetings at which the plan was discussed. The Administrative Assistant was designated as a point of contact for feedback on the draft plan. During the development of the plan, comments were received from one resident as well as the Town of Eden Selectboard. Those comments were incorporated into the plan at the request of the Eden Selectboard.

The Planning Committee responsible for developing the hazard mitigation plan consisted of three members of Eden's Legislative Body (Titles: Selectboard Chair and Selectboard members), an employee of the Town of Eden (Title: Town Clerk), Eden's Emergency Management Director, and Lamoille County Planning Commission's Regional Planner.

The following meetings were held, and actions undertaken to develop the plan:

- Administrative Assistant met with LCPC Regional Planners on October 19, 2022, to discuss approach to plan review.
- Alec Jones, GIS Planner, met with Jeff Hunsburger, Eden EMD, on November 3, 2022, to discuss updates to the Hazards and Mitigation Tables.
- Alec Jones and Sal Morales met with the Eden Selectboard on November 22, 2022, to discuss updates to the mitigation actions for the plan. It was agreed that LCPC will meet with the selectboard in December to discuss the final draft of the plan.

Existing Plans, Studies, Reports, and Technical Information

To develop this plan, Eden utilized the following resources:

- American Community Survey Population Estimates, 2020 – Used to estimate population and Demographics.
- Eden Grand List, FY 2021 – Used to analyze residential trends and locations as they relate to all hazards.
- E-911 data -Used to visualize vulnerable populations in the vicinity of possible flooding hazards.
- FEMA disaster declarations; <https://www.fema.gov/disasters> - Used to review past disaster declarations Eden has been impacted by.
- National Oceanic and Atmospheric Administration, <https://www.ncdc.noaa.gov/stormevents/> - Used to gather information regarding specific storms Eden was impacted by.
- Eden Town Plan 2017-2025 – Used to base mitigation actions off of in order to stay consistent with town priorities.
- 2022 Eden Local Emergency Management Plan – Used to identify stakeholders, Emergency shelter information, and additional planning efforts by the town.
- 2018 State of Vermont Hazard Mitigation Plan – Used to develop mitigation goals and hazard assessments based on statewide priorities.

Planning Process and Neighboring Communities

Neighboring communities have been encouraged to provide input into the development of this plan and review the draft plan. On January 23, 2023, the draft plan was distributed to Regional Emergency Management Committee (REMC) members. The REMC is composed of emergency management professionals and volunteers and includes representatives from all of Eden's neighboring communities in Lamoille County, i.e., Belvidere, Johnson, Hyde Park. The draft plan was also sent to representatives from Craftsbury, Lowell, Albany, and Montgomery. Representatives from Vermont Electric Co-op and the Lamoille Family Center were notified of the plan update and given an opportunity to provide comments. The Lamoille Family Center is a nonprofit organization that promotes the well-being of Lamoille Valley children, youth and families and supports them in meeting life's challenges through education, direct services, and advocacy. The Family Center works with low income and underserved families to ensure family needs are met. The Lake Eden Association was provided a copy of the plan as well. Everyone was encouraged to provide comments to Alec Jones, Lamoille County Planning Commission, via email or phone. Representatives of businesses, academic, other private organizations, and non-profit organizations that work directly with and/or provide support to underserved communities and socially vulnerable populations were not specifically engaged in the planning process as the planning team struggled to identify participants due to the small and rural nature of the town of Eden. In the future the planning team will work with local officials, regional offices, and state personnel to identify potential partnerships and participants for plan review prior to the update process. A public hearing was held on January 24, 2023, Selectboard meeting to collect public comments on the plan. The public comment period ended on February 13, 2023. Comments were approved by the Selectboard on February 28, 2023, and added to the plan by LCPC. The Eden Selectboard approved the plan for VEM review at their March 14, 2023, meeting. The plan was submitted to VEM for review on March 31, 2023, and received Comments from VEM on May 12, 2023. LCPC addressed these comments and met with the Eden Selectboard on May 23, 2023 to approve the edits to the plan. The plan was resubmitted to VEM on May 26, 2023 and received approval pending adoption on May 31, 2023. The Eden Selectboard adopted the plan on June 13, 2023.

2. Community Background

Eden is in northeastern Lamoille County. The town borders Belvidere to the northwest, Johnson to the southwest, Hyde Park to the south, Craftsbury to the east and Lowell to the northeast. Two major highways bisect Eden. VT Route 100 is a major north/south regional truck route, carrying goods from Canada and the Northeast Kingdom south to Interstate 89. Route 118 is also a significant east/west roadway carrying traffic and goods across the town from Eden to Belvidere and Route 109.

Eden is a rural residential community of 1,338 people. The main town center is located around the intersection of Routes 100 and 118, south of Lake Eden— a popular seasonal and recreation destination. Since the adoption of the previous hazard mitigation plan in 2018, Eden experienced a modest residential growth, estimated at 11 residents. No residential development occurred in the floodplain. There was no other growth that would alter Eden's land use patterns. Any development since the last plan has had no effect on the Towns vulnerability to identified hazards. After reviewing the previous hazard mitigation plan, the town has decided that hazard preparedness and mitigation approach will continue to focus on three significant natural hazards discussed in detail in section 3 of the plan.

Vermont Electric Cooperative (VEC), headquartered in nearby Johnson, provides electric service to all residents and businesses. Green Mountain Power (GMP) has lines that cross Eden, although there are no residential hookups. GMP owns one parcel with a substation west of Route 100, on Route 118. There is

no municipal water supply system provided for Eden residents. All water is supplied by private wells and springs. There is also no central public sewage treatment system or facility. All sewage is treated in individual, on-site septic systems. Eden has numerous bridges and culverts it must maintain on local roads. Because of the high cost of bridge repairs, the town relies heavily on state and federal aid for such work.

Locally, fire coverage is provided primarily by the volunteer North Hyde Park/ Eden Fire Department, which covers the northern half of Hyde Park as well as all of Eden. The fire station is located on Route 100 in North Hyde Park. The North Hyde Park/Eden Fire Department participates in the Lamoille Mutual Aid Association (LMMA), which functions as a mutual aid response network among all eight Lamoille County fire departments. The Northern Emergency Medical Services Division of Newport Ambulance Service, Inc. (NEMS) provides full-time emergency ambulance coverage for Eden. Law Enforcement support is provided by the Vermont State Police (VSP) and as needed emergency coverage is provided by Lamoille County Sheriff's Department.

Eden's critical facilities include Eden's Emergency Operations Center located at Eden's Town Office (71 Old Schoolhouse Rd) just off Route 100 and the Eden Central School. These two facilities are equipped with backup generators. The critical facilities are located outside of flood of fluvial erosion susceptible areas but could be affected by a severe winter storm event.

2.1 Previous FEMA-declared natural disasters

Since 2011 Eden has received public assistance for the following FEMA Declared Disasters:

May 2011 (DR-1995)	\$66,293
August 2011 (DR-4022)	\$0
May 2012 (DR-4066)	\$25,965
May 2013 (DR-4120)	\$6,572
December 2013 (DR-4163)	\$30,521
April 2014 (DR-4178)	\$0
December 2014 (DR-4207)	\$0
October 2017 (DR-4356)	\$0
May 2018 (DR-4380)	\$0
October 2019 (DR-4474)	Projects still active
January 2020 (DR-4532)	\$0

DR-1995 – Vermont Severe Storms and Flooding –

April 23 - May 29, 2011 - Excessive rain and severe floods swept across northern Vermont and the Champlain Valley, with a federal disaster (DR-1995) declared for Addison, Chittenden, Essex, Franklin, Grand Isle, Lamoille, and Orleans counties on June 15, 2011. This declaration extended both Public Assistance and Individual Assistance funds to Lamoille County communities. Eden received \$66,293 in Public Assistance funds.

DR-4022 – Vermont Tropical Storm Irene –

August 28 - September 2, 2011 - Hurricane Irene was downgraded in New England to a Tropical Storm, producing high winds and devastating flooding throughout Vermont. Southern Vermont experienced catastrophic floods after 3 inches of rain. Lamoille County saw about 1.5 inches in total rainfall. Eden did not receive Public Assistance funds.

DR-4066 – Vermont Severe Storm, Tornado, and Flooding –

May 29, 2012 - Flash flooding, thunderstorms, heavy rain, and strong winds struck parts of Vermont, including Lamoille County, causing a federal disaster declaration (DR-4066) for Addison, Lamoille, and Orleans counties. Public Assistance funds were allocated to repair roads, bridges, and culverts. Eden received \$25,965 in Public Assistance funds.

DR-4120 – Vermont Severe Storms and Flooding –

May 26, 2013 - Heavy rainfall produced flash flooding across Lamoille and Chittenden Counties (DR-4120). Excessive runoff in the steep terrains washed out bridges, culverts, and roads. Gradually the flash flooding transitioned to a flood event as larger rivers such as the Lamoille and Browns River responded to the increased flows. Eden received \$6,572 in Public Assistance funds.

DR-4163 – Vermont Severe Winter Storms –

December 20-26, 2013 - A major disaster was declared after a winter storm that brought significant icing to Caledonia, Chittenden, Essex, Franklin, Grand Isle, Lamoille, and Orleans Counties. $\frac{3}{4}$ - 1 inch of ice accumulated in Lamoille County, causing tree damage, power outages, disruption to travel, and damage to many facilities in the area. Eden received \$30,521 in Public Assistance funds.

DR-4178 – Vermont Severe Storms and Flooding –

April 15-18, 2014 - Heavy rainfall and snowmelt caused widespread minor to moderate flooding across Lamoille County, mainly along and west of Route 100 (DR-4178). Numerous highways were flooded and there was widespread damage to gravel roadside and many culverts failed in Johnson, Belvidere, Cambridge, and Waterville. In Stowe, the recreation path sustained damage. Eden did not receive Public Assistance funds.

DR-4207 – Vermont Severe Winter Storms –

December 9-12, 2014 - A major disaster was declared after a winter storm that brought significant snowfall to Addison, Chittenden, Essex, Franklin, Lamoille, Orange, Orleans, Rutland, Washington, and Windsor Counties. 6-18 inches of snow accumulated in Lamoille County, with 17 inches of snow landing in Eden. Eden did not receive Public Assistance funds.

DR-4356 – Vermont Severe Storms and Flooding –

October 30, 2017 - Rain began on October 29th and became heavy on October 30th. Sustained winds of 25 to 35 mph with frequent wind gusts of 50 to 70 mph occurred during the early morning hours of October 30th across portions of Vermont due to fully mature mountain waves. A peak wind gust of 115 mph was observed at the summit of Mount Mansfield. The severe storm and rainfall caused flooding across the region, with a federal disaster (FEMA-4356-DR-VT) declared for Addison, Chittenden, Essex, Franklin, Grand Isle, Lamoille, Orange, Orleans, Washington, and Windham counties on January 2, 2018. Eden did not receive federal assistance funds.

DR-4380 – Vermont Severe Storms and Flooding –

May 4, 2018 - Rain started overnight on May 4th and increased on May 5th. The severe storm and rainfall caused flooding across the region, with a federal disaster (FEMA-4380-DR-VT) declared for Chittenden, Grand Isle, Lamoille, Orange, and Orleans counties on July 30, 2018. Eden did not receive federal assistance funds.

DR-4474 – Vermont Severe Storms and Flooding –

October 31, 2019 - Steady rain developed during the night of October 31st and became heavy at times through November 1st. Rainfall amounts ranged from 1.5 to 4 inches across Vermont. Numerous flooded streams and washed-out roads were reported. Several large rivers flooded, including the Lamoille. In addition to the large rain amounts, strong winds were reported throughout the county. Gusts more than 50 mph caused downed trees and power outages. Roads and structures were damaged by trees being blown over.

DR-4532 – Vermont COVID-19 Pandemic –

January 20, 2020 and continuing - The COVID-19 pandemic was declared a disaster in Vermont on April 8, 2020. COVID-19 can cause people to experience fever, shortness of breath and difficulty breathing, and many other flu-like symptoms. This virus proved to be harmful to the elderly and people who are immunocompromised. As of December 3, 2021, there are 51,134 total positive cases. Also 83% of Vermonters age 5+ have been fully vaccinated. Eden did not receive federal assistance funds.

3. Eden Hazard Inventory/ Vulnerability Assessment

Hazard Identification and Risk Assessment (HI/RA):

A risk assessment measures the potential loss of life, personal injury, economic injury, and property damage resulting from natural hazards by assessing the vulnerability of people, buildings, and infrastructure to atmospheric disasters. During the preparation of this plan, Eden evaluated ten atmospheric hazards. These hazards, presented in the table below, were ranked based upon the frequency and severity of the event, and the community's vulnerability to the hazard.

To aid with hazard evaluation, the hazard mitigation planning committee reviewed FEMA disaster declarations, the storm events database maintained by the National Oceanic and Atmospheric Administration as well as local disaster and damage records kept by the town office. Three disaster categories were identified as significant: 1) Flooding, fluvial erosion, and ice jams, 2) Severe winter storms and, 3) High wind events and severe windstorms. The significant hazards are analyzed in section 3.1 of the plan. Eight "other" hazards are listed but not discussed in detail due to low event probability as well as a lack of risk to town infrastructure and population.

The Frequency of occurrence is classified as shown:

- Rare: < 1% probability in the next 100 years; may never have occurred in Vermont.
- Unlikely: 1% to 4% probability in the next year, this type of event has occurred in Vermont.
- Unusual: 4% to 10% probability in the next year, or at least one chance in the next 100 years.
- Likely: 10% to 50% probability in the next year, or at least one chance in the next 10 years.
- Frequent: Greater than 50% probability in the next year

*Frequency in Table 1 take into account future climate projections.

The Severity (percentage of the community affected) of the hazard can be classed as follows:

- Minor: < 10% of properties damaged/Minimal disruption to quality of life.
- Serious: 10% to < 25% of properties damaged/Loss of essential facilities/services for up to 7 days/Few (< 1% of population) injuries possible.
- Extensive: 25% to 50% of properties damaged/Loss of essential facilities/services for > 7 days < 14 days/Major (< 10% of population) injuries/few deaths possible.

- Catastrophic: > 50% of properties damaged/loss of essential facilities/services for > 14 days/Severe (> 10% of population) injuries/multiple deaths possible.

The combination of the Severity and the Frequency was used to determine the Community Vulnerability as *High, Moderate, Low or Very Low*.

3.1 Eden HI/RA Matrix Table

Table 1: Hazard Identification and Risk Assessment

Possible Hazard	Frequency	Severity	Community Vulnerability	Most vulnerable
Significant Hazards:				
Flooding, fluvial erosion and ice jams	Frequent	Catastrophic	High	Town Garage, Town Office campgrounds, Homes on Blakeville Rd, Post office, a state-owned access point to Lake Eden, and highways located in the vicinity of rivers- with associated bridges and culverts.
Severe Winter Storms (snow and ice storms)	Frequent	Serious	Moderate	Town Garage, Town Office, and Eden Central School. Homes with residents with health needs (e.g. oxygen) could also be impacted.
High Winds and Windstorms, (thunderstorms, hurricanes and tropical storms	Likely	Serious	Moderate	Town Garage, Town Office, Campgrounds, and Utility infrastructure.
Other Hazards:				Potential Damages to:
Major Hailstorm	Unlikely	Minor	Low	Structures and other private and public property
Major Wildfire or Forest fire	Unusual	Extensive	Low	Structures, infrastructure
Drought	Unusual	Serious	Very Low	Private well failures, wildfires, agricultural losses
Earthquake	Unlikely	Serious	Very Low	Structures and other private and public property
Landslide	Unusual	Minor	Very Low	Roads and structures
Tornado	Unusual	Serious	Very Low	Roads, electric grid, structures
Extreme Temperatures	Unlikely	Minor	Very Low	Cold –plumbing, machinery, transportation; Hot – crop and livestock
Dam Failure	Unusual	Catastrophic	High	Roads, culverts, bridges, residences, potential water source contamination.
Invasive Species	Unusual	Minor	Very Low	Roads, Residences, Power infrastructure, Vulnerable populations
Infectious Disease	Unlikely	Minor	Low	Vulnerable Populations, Elementary School

Climate Change and Natural Hazards

Potential impacts of climate change on hazards in Eden include increased intense precipitation events, increased wind events, increased periods of drought, increased wildfire risks, a changing growing season, increased heat, and less snowfall. Eden will reassess the inclusion of additional hazards in our next plan update, and are currently focused on flood, fluvial erosion, high winds, and changes in winter conditions as hazard increased by climate change. Potential impacts on our assets include crop losses, increased insect borne disease, decreased maple syrup production, impacts to ski and snow mobile trails, health impacts to those who are exposed to hazards or have high risk factors, and property or infrastructure damage due to flooding, fluvial erosion, and wind. Residents at greatest risk are isolated residents on life support equipment in the event that wind or any hazard takes out the power, and those with few resources to evacuate during or recover from disaster. Please see the State Hazard Mitigation Plan¹ for additional details on climate change impacts in Vermont and vulnerability to each hazard that can occur in Vermont.

3.2 Significant Hazards:

Flooding (also includes fluvial erosion, ice jams, and dam failure)

Hazard Definition: Flooding is the overflowing of rivers, streams, drains, and lakes due to excessive rain, rapid snow melt, or ice. Fluvial erosion is the removal of sediment from stream channel banks by the channel flow. This process occurs naturally over time as a stream channel makes adjustments. However, fluvial erosion can occur more quickly and severely during flood events and can pose a significant risk to infrastructure and buildings within the river corridor. Ice jams occur when warm temperatures and heavy rain cause snow to melt rapidly. Snowmelt combined with heavy rains can cause frozen rivers to swell, which breaks the ice layer on top of the river. The ice layer often breaks into large chunks, which float downstream and often pile up near narrow passages or other obstructions, such as bridges, culverts, and dams.

Extent: The worst flooding that can be anticipated is reflected by the 2011 events during Tropical Storm Irene in southern Vermont, where most areas received between 5 and 7 inches of rain, with the highest recorded amount in the Town of Mendon (11 inches). Had the northern part of the state- including Eden – received a comparable amount of rain during Irene, the results would have been equally catastrophic. The extent information for fluvial erosion, ice jams, and dam failure is unavailable.

Location and most vulnerable assets: Within the flood plain and the river corridors, both delineated on the Flood Hazard Map (Appendix A), Eden has 5 structures located in the 100-year flood plain (four single family homes and one mobile home), and 25 structures located within the river corridor (twelve single family homes, three mobile homes, five seasonal camps, three commercial property, one public telephone utility, and one other structures). The floodplain effects property along VT Route 100 in the south parts of Eden and Belvidere Rd on the West side of town. Assets that may be exposed to flooding and fluvial erosion impacts include the Town Garage, three campgrounds (one town-owned, one privately owned, and one owned by the Boy Scouts of America), a state-owned access point to Lake Eden, and highways located in the vicinity of rivers- with associated bridges and culverts. The Town Garage could experience loss of function and power outages during flooding. The three campgrounds could experience loss of use/access when flood waters overtake roads, culverts, and bridges. The Lake Eden access point can become unusable during flooding due to lack of safe access because of increased lake water levels. Roads, Bridges, and Culverts can all be damaged or destroyed during flooding event. This causes loss of access to critical facilities, property damage, and road closures across the town.

¹ <https://vem.vermont.gov/plans/SHMP>

Historical Occurrence: Major flooding events that impacted Lamoille County between 2012 and 2022 are listed below.

Table 2: Flooding and Severe Storm Events in Lamoille County

Date (and FEMA DR number if event was declared a federal disaster)	Type of Event	Damage Assessment	FEMA public assistance funds received by Eden
April-May, 2011 (DR-1995)	Severe Storms and Flooding	\$1,162,000 (County)	\$66,293
August, 2011 (DR 4022)	Tropical Storm Irene	\$460,000 (County)	\$0
May 29, 2012 (DR-4066)	Severe Storm, Tornado and Flooding	\$306,000 (County)	\$25,965
May 23, 2013 (DR-4120)	Severe Storms and Flooding	\$145,000 (County)	\$6,572
July 4, 2013	Flash Flood	\$8,710 (Eden)	Not applicable (NA)
April 15, 2014 (DR-4178)	Severe Storms and Flooding	\$326,000 (County)	\$0
June 26, 2016	Flooding	\$146,520 (Eden)	NA
October 29, 2017 (DR 4356)	Severe Storms and Flooding	Data not available at this writing	\$0
October 31, 2019	Severe Storms and Flooding	Data not available at this writing	Data not available at this writing

National Flood Insurance Program

Eden does not participate in the NFIP and thus has no repetitive loss properties. The town has no flood hazard bylaw and must have one in place in order for residents to apply for federally subsidized insurance. Eden has elected not to enroll in NFIP due to the small extent of floodplain in the community and limited demand for flood insurance among residents.

Dam Failure

Eden has two dams in town. One other, Corez dam, is privately owned and minimal hazard. The Lake Eden Dam and the South Pond Dam. If either of these dams were to fail, the onrush of water would be catastrophic to roads, culverts, and bridges. This could also damage residential infrastructure and could result in water source contamination near the dams.

The Lake Eden dam (indicated in yellow) is rated low hazard, the contributing stream is the Gihon River and the basin is the Lamoille River. South Pond (indicated in red) has the same contributing stream and basin, but is rated high hazard. The last inspection in October 2022 resulted in a fair condition rating. Max storage is 3330 acre feet and normal storage is 1100 acre feet.

Figure: Eden Low and High Hazard Dams



Severe Winter Storms (snowstorms and ice storms)

Hazard Definition: Severe winter storms bring the threat of heavy accumulations of snow, cold/wind chills, strong winds, power outages and property damage.

Extent: The worst winter storm that can be anticipated in Eden would be comparable to the ice storm of January of 1998 when an unusual combination of precipitation and temperature led to the accumulation of more than three inches of ice in many locations, causing closed roads, downed power lines, and damage to thousands of trees. This storm was estimated as a 200–500-year event. Alternatively, the worst snowstorm that can be expected is snowfall of up to 30”, which has occurred multiple times. While large snowfalls often disrupt business for one or more days, Vermont communities are well prepared for handling snow.

Location and most vulnerable assets: During a severe winter storm, an entire community is at risk. All properties can be affected. This includes 472 year-round residential parcels, 197 seasonal residential parcels, 23 commercial parcels, 2 parcels owned by electric utilities, 5 farms, 67 woodland parcels, 10 public and non-profit parcels (owned by town, school, church, historical society, and boy scouts), 96 miscellaneous parcels, and public utility infrastructure- most notably electric power lines. Specific assets of note include the Town Garage, Eden Central School and homes with residents with health needs (e.g. oxygen) could also be impacted. The Town Garage, Eden Elementary School, and vulnerable populations can be impacted by loss of power and loss of access during a severe winter storm. Access for emergency services and sheltering can also be impacted by severe winter storms.

Historical occurrence: Below is the list of snowstorms with accumulation of more than 10 inches of snow and the list of ice storms that occurred in the past ten years.

Table: Winter and Ice Storm Occurrence in Lamoille County

Date (FEMA DR Number if event was declared a federal disaster)	Snow or Ice Accumulation in Lamoille County (and Eden when available)	Damage Assessment County-Wide	FEMA Public Assistance Funds Received by Eden
December 26, 2012	10-16” of snow	\$15,000	Not Applicable (NA)
February 2, 2013	8-12” of snow	\$10,000	NA
February 20, 2013	6-18” of snow	\$10,000	NA
March 19, 2013	9-15” of snow	\$10,000	NA
December 21, 2013 (DR-4163)	¾-1 inch of ice	\$390,000	\$30,521
March 12, 2014	12-18” of snow	\$20,000	NA
November 26, 2014	6-12” of snow	\$20,000	NA
December 9, 2014 (DR-4207)	6-18” of snow (17” Eden)	\$230,000	\$0
December 11, 2014	Ice storm	\$2,222 (Eden only)	NA
November 20, 2016	6-12” of snow	\$0	NA
February 12, 2017	8-14” of snow	\$10,000	NA
March 14, 2017	18-28” of snow (18” in Eden)	\$15,000	NA
March 13, 2018	30” in Eden	NA	NA
March 22, 2019	12-14” of snow	NA	NA

February 7, 2020	10-13" of snow	NA	NA
February 3, 2022	10" of snow	NA	NA

Source: National Oceanic and Atmospheric Administration, FEMA and Town records

High Winds and Severe Windstorms (Thunderstorms, Tropical storms, Hurricanes)

Hazard Definition: A high wind warning is defined as average winds of 40 mph or greater for one hour or longer, or winds gusting to 58 mph or greater regardless of duration. When high winds are accompanied by rain, severe thunderstorms, hurricanes, and tropical storms occur. Thunderstorm winds are generally short in duration, involving winds or gusts in excess of 50 mph. A tropical storm has a maximum sustained wind speed of 39–73 mph. A hurricane is a tropical cyclone with sustained winds that have reached speed of 74 mph or higher.

Extent: The worst windstorm that can be anticipated in Eden would be comparable to that of the September 1938 hurricane. The hurricane entered Vermont as a Category 1 hurricane, with estimated winds of 74 mph, and caused extensive damage to trees, buildings, and powerlines. Over 2000 miles of roads were blocked statewide.

Location and most vulnerable assets: High winds can strike anywhere in the community. All properties can be affected. This includes 472 year-round residential parcels, 197 seasonal residential parcels, 23 commercial parcels, 2 parcels owned by electric utilities, 5 farms, 67 woodland parcels, 10 public and non-profit parcels (owned by town, school, church, historical society, and boy scouts), 96 miscellaneous parcels, and public utility infrastructure- most notably electric power lines. Damage to utility infrastructure is one of the worst cases in a sever windstorm. Long term power outages can impact vulnerable populations drastically. Power outages also affect the town’s ability to shelter residents and conduct municipal duties by the town garage and town office. In case of high winds accompanied by heavy rains, community assets listed in the flooding section are susceptible as well.

Historical Occurrence: The Storm Events Database maintained by NOAA reports two high wind events and seven thunderstorm wind events in Lamoille County between 2012 and 2022. NOAA does not specify the impact of these events on Eden.

Table: High Wind and Thunder Wind Occurrence in Lamoille County

Date (and FEMA DR number if applicable)	High Wind (HW) or Thunderstorm Wind (TW) Magnitude	Damage Assessment Lamoille County
December 21, 2012	HW 61 knots	\$50,000 in Lamoille County
July 17, 2013	TW 50 knots	\$5,000 in Wolcott
July 19, 2013	TW 55-65 knots	\$135,000 in Wolcott, Stowe, Morristown, Johnson, Hyde Park, Cambridge and Jeffersonville
July 23, 2014	TW 55 knots	\$50,000 in Stowe
June 20, 2016	TW 50 knots	\$15,000 in Cambridge, Stowe and Johnson
July 22, 2016	TW 50-55 knots	\$15,000 in Cambridge and East Johnson
August 28, 2016	TW 50 knots	\$10,000 in Johnson and Belvidere Center
May 31, 2017	TW 50 knots	\$5,000 in Stowe
October 30, 2017 (DR 4356)	HW 52 knots	\$400,000 in Lamoille County

Source: National Oceanic and Atmospheric Administration

3.3 Other Hazards:

Major Hailstorm

Hazard Definition: Hail is a form of precipitation composed of spherical lumps of ice. Known as hailstones, these ice balls typically range from 5–50 mm in diameter on average, with much larger hailstones forming in severe thunderstorms. In Eden, the probability of a hailstorm is unlikely, and the vulnerability is low.

Major Wildfires

Hazard Definition: A wildfire is the uncontrolled burning of woodlands, brush, or grasslands. Across much of Vermont, small wildland and brush fires are common, but the probability of major forest fire is very low. Peak wildfire season is in April, just after spring “green-up.” A second window of wildfire vulnerability typically occurs in early fall. Every town in Vermont has a designated Forest Fire Warden, who receives daily updates from the Division of Forestry during periods of elevated risk. The risk of wildfires is most severe in outlying areas of development—away from the town’s major highways—where structures are surrounded by ignitable hard and softwood forests. In Eden, the probability of a wildfire is unusual, and the vulnerability is moderate.

Drought

Hazard Definition: Drought is defined as a water shortage with reference to a specified need for water in a conceptual supply and demand relationship. It is a complex phenomenon that is difficult to monitor and assess because it develops slowly and covers extensive areas, as opposed to other disasters that have rapid onsets and obvious destruction.

Droughts represent a hazard in late summer when local spring and well levels are reduced to minimal flows. The local water table reached an all-time low during the nationwide drought of 1988; however, recovery was rapid. In Eden, the probability of a drought is unusual, and the vulnerability is low.

Earthquake

Hazard Definition: An earthquake occurs when two blocks of the Earth suddenly slip past one another.

According to the U.S. Geological Survey (USGS), the risk of earthquakes in Vermont and much of northern New England is rated moderate, compared with the high risk attributed to much of the West Coast and lower-Midwest. Lamoille County has not experienced any property damage or loss of life attributed to an earthquake in its history. In Eden, the probability of an earthquake is unlikely, and the vulnerability is low.

Landslides

Hazard Definition: The term "landslide" describes a wide variety of processes that result in the downward and outward movement of slope-forming materials including rock, soil, artificial fill, or a combination of these.

The risk of a landslide is most often associated with flooding, erosion, and other impacts of heavy rain. Landslides have caused significant property damage in the nearby towns of Johnson and Cambridge in recent years. Eden’s topography and rural development pattern leaves few homes and critical facilities exposed to the threat a landslide. In Eden, the probability of a landslide is unusual, and the vulnerability is low.

Tornado

Hazard Definition: A tornado is a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 mph or more. In Eden, the probability of a tornado is unusual, and the vulnerability is moderate.

Extreme Temperatures

Hazard Definition: Extreme Temperatures can include both unusually hot and cold events. The definition of “extreme” in this instance is based on the local climate. In Vermont, a heat wave is defined as a period of three or more consecutive days during which the diurnal maximum temperature meets or exceeds 90°F. Extended periods of cold during winters are likely to occur. One of the most prolonged cold episodes lasted from January 18 to February 3, 1969. The temperature remained below 0°F consistently and water mains around the state burst in record numbers. Other instances include February 1993 and January 1997, both of which were caused by Arctic high-pressure systems. Also, since the adoption of the 2017 Local Hazard Mitigation Plan, there have been six separate times that would be defined as heatwaves. Overall, Eden’s vulnerability to extreme temperatures is low and the probability is unusual, but heat waves are becoming more frequent in Vermont.

Invasive Species

Eden is a rural town that contains a high concentration of forested land. The major concern as it related to invasive species is the Emerald Ash Borer. The Ash Borer burrows inside of Ash trees and kills them from the inside. These trees become very weak and structurally unstable. This insect poses a threat to road infrastructure, power infrastructure and residential property. These trees can become a danger when they become weak enough to fall onto town infrastructure or residential buildings. Another invasive species identified by the town is Milfoil in Lake Eden. Though this invasive does not pose an immediate threat to health or safety, it is a concern of keeping the Lake healthy and usable as a town asset.

Infectious Disease

This constitutes a widespread outbreak caused by a variety of organisms, typically including bacteria, protozoan, fungi, or viruses that enter the body and grow. Some of these diseases return seasonally and therefore require continuous monitoring. An epidemic emerges when an infectious disease occurs suddenly and exceeds the normally expected number of cases. This threat is a danger primarily to emergency responders, healthcare providers, and schools, but is often present in the general population as well.

Influenza returns yearly as a possible threat, although there has not been a serious outbreak in Vermont. in recent history. However, more serious strains of flu may occur in an upcoming year that are not included in the annual flu vaccine. There are many other diseases such as HIV/AIDS, SARS, cholera, malaria, and antibiotic-resistant tuberculosis that are major problems elsewhere but are not prevalent here. Illnesses that are present in Lamoille County include Pertussis, Giardia, Salmonella, and Lyme disease. All these illnesses are present at normal levels. Some possible outbreaks that could occur in Eden might involve a contaminated water supply, widespread food supply contamination, large-scale livestock outbreaks, or a bio-terrorist act. While climate change has not yet been directly linked to an

increase in infectious disease cases, there is a speculated connection.

The pandemic of Coronavirus/Covid-19 emerged as a problem in early 2020, when the governor issued a State of Emergency on March 13, 2020, and a subsequent stay-at-home order. This disrupted supply chains, shut down tourism and resulted in major shifts in the economy, work-force, and quality of life. The Covid-19 pandemic continues to this day, although cases are not as severe in Vermont due to the development of a vaccine. This global pandemic is still a concern for the economy, supply chain, and public health. As of May 12, 2022, the Vermont Health Department reported 128,058 total positive cases of Covid-19. The vaccination efforts have been widespread. Around 90% of eligible Vermonters have received at least one dose of the vaccine.

3.4 Vulnerable Assets

The Town of Eden has two municipal buildings, The Town office at 71 Old Schoolhouse Rd in Eden and the Town Garage at 3625 Vt Rt 100 in Eden. Both buildings are susceptible to floods, severe winter storms, and severe windstorms. All these hazards have the potential to create a lack of access and loss of power at these town facilities. Other vulnerable assets include roads, bridges, culverts, utility infrastructure, campgrounds, residential property, and the Lake Eden Access on Rt 100. All hazards the town might face have the potential to impact one or all these town assets. Vulnerable populations is one that could be most impacted by power outages caused by any of these hazards. These populations are tracked using the CARES program.

4. HAZMAT Sites

Data from the inventory previously maintained by LEPC #11 identifies 3 Tier II sites in the town of Eden. A Tier II site is defined by federal law under the Emergency Planning & Community Right to Know Act (EPCRA) and is generally any facility which uses or possesses reportable quantities of chemicals requiring material safety data sheets by VOSHA, known human carcinogens, extremely hazardous substances, explosives which require licensing or certain threshold quantities of petroleum products.

According to the State's Waste Management Interactive database, there have been 6 hazardous material spills in the town of Eden since the last LHMP was adopted in 2018. Materials spilled include, milk/whey, diesel, motor oil, #2 fuel oil, hydraulic oil, and bio-diesel. As of March 2023, the following table lists active waste sites in Eden. This list includes petroleum as well as non-petroleum sites. Prior to database consolidation in 1991, different site numbering systems were used. In order to minimize confusion, the petroleum site numbering system was adopted. This system consists of a two- or four-digit prefix (year site was identified) and a four-digit (site specific) number. All sites identified since January 1, 1991, have been consecutively numbered beginning with 91-1000. Sites identified prior to January 1, 1991, have retained their previously assigned site identification numbers. Due to database requirements for a six-digit site number, the nonpetroleum sites identified prior to January 1, 1991, have a 77-prefix added to their previously assigned site identification numbers.

As of November 2021, the State's Waste Management Interactive Database Lists the sites below:

Active Hazardous Waste Sites in Eden (as of November 2021)

Site #	Site Name	Address	Town	County	Priority	Discovery
--------	-----------	---------	------	--------	----------	-----------

951883	Eden General Store	Route 100	Eden	Lamoille	Low	10/01/1995
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The State's database lists no hazardous waste generators and one active underground storage tank facility location in the Town. The potential for severe pollution impacts to water quality and ecosystems exists from hazardous waste sites and/or from spills at facilities which use hazardous materials. The Town of Eden has no commercial hazardous sites. Hazardous fuels are only located within Town on a smaller scale such as household heating fuels or heating fuels for local farms. Releases of hazardous materials from fixed site locations in Eden are an unusual occurrence.

5. Mitigation Goals

5.1 Planning and Development Guidelines that Support Hazard Mitigation

In the 2017 revision of the Eden Town Plan, Eden integrated hazard mitigation planning efforts into its Town Plan goals and policies. The Town Plan update process incorporated more awareness of hazards and what the community can do to improve resiliency. The 2017 Eden Town Plan was adopted by the community on December 26, 2017. Town Plan policies in the existing 2017 plan pertaining to hazard mitigation and flood resiliency include:

Goals:

To preserve Eden's water resources, including its lake reservoir, ponds, streams, rivers, wetlands, groundwater, and associated habitats. Where degraded, work to improve these resources in order to ensure water quality for drinking, recreation, and the environment. To protect the health, safety and welfare of the residents of Eden by discouraging development in flood hazard areas and river corridors.

Policies:

- Development within floodplain and river corridors should be avoided. If new development is to be built in such areas, it should not exacerbate the potential for any flooding or fluvial erosion. Agriculture, recreation fields, parks, and open spaces are all appropriate uses of flood hazard areas.
- Wetlands shall be protected from pollution, filling, and any other uses or activities that will result in their degradation or a reduction in its capacity to provide wildlife habitat, flood control and water storage. Any development related to wetlands shall adhere to state regulations.
- Existing floodplain encroachments caused by the transportation network should be mitigated when technically and financially feasible. This may involve upsizing bridges and culverts and/or restoring floodplain areas disturbed by past infrastructure investments.
- Development within or proximate to designated rivers and streams should follow Vermont Fish and Wildlife Guidelines for Stream Crossings and should protect and maintain a natural vegetative buffer.
- The Town of Eden encourages support for lake and pond association grant applications to monitor milfoil and other lake issues.
- Per State regulations, withdrawal of groundwater should not exceed the recharge rate over a reasonable period of time. No form of waste disposal or storage of possible contaminants should be permitted in high-water table and groundwater recharge areas.
- All construction should provide adequate erosion control per state guidelines and regulations.
- Agriculture and forestry must abide by State Guidelines (Accepted Agricultural Practices and Accepted Management Practices.)
- Upland forests should be maintained and managed to attenuate floodwaters.

Recommendations:

- Maintain signage at all boat accesses and public shore accesses to notify the public of Eurasian Milfoil and how to protect the lake.
- Educate lakeshore property owners about the importance of maintaining lakeshore vegetation.
- Work with the Agency of Transportation to upgrade undersized bridges and culverts located on the State transportation network. Work with the Lamoille County Planning Commission to have these highway structures added to the State Transportation Improvement Program (STIP).
- Identify funding sources to upgrade undersized bridges and culverts located on Town Roads.
- New bridges and culverts should be built to town and State standards.
- Work with landowners in the Forest District to maintain large blocks of unregimented, upland forest while ensuring that forestland ownership remains economically viable.
- In order to prevent additional property from being removed from the Town’s Grand List, as an alternative to buyouts, Eden encourages elevation or relocation of existing structures within the floodplain or river corridors when possible.

Though Eden has not adopted land use and development ordinances, the Town is motivated to encourage residents to build in accordance with flood safe practices. As mentioned in the above excerpt from the Town Plan, the Towns policies include avoiding building in the floodplain where possible. The town will be working with LCPC to update their Town plan in 2023. The existing capabilities of the town will be reevaluated to identify what changes need to be made to achieve mitigation in the Town. These updated capabilities will be incorporated in future planning initiatives the Town undertakes. All Town capabilities are listed in the tables below with an explanation of how they can be improved for the next update cycle.

EXISTING AUTHORITIES, POLICIES, PROGRAMS AND RESOURCES

Plans and Studies

Capability	Description	Improvement Opportunity
<i>Town Plan</i>	The existing town plan ins in effect until 2024. The town will be working with LCPC to update the plan.	Work with LCPC to evaluate current hazard mitigation policies and goals and adjust them as appropriate.
<i>Local Hazard Mitigation Plan (LHMP)</i>	The LHMP is being updated by the Town and LCPC. The current plan expires in June of 2023 when this plan will be adopted.	Review annually and note adjustments to make in the next update cycle.

<i>Local Emergency Management Plan (LEMP)</i>	The LEMP is updated annually with the help from LCPC.	Work with LCPC to bring LEMP up to State standards and consider becoming trained on WebEOC to update contact information.
<i>Culvert Inventory</i>	The Highway department has a vast understanding of their current culvert data. The last culvert inventory for the entire town was conducted by LCPC in 2011.	Work with LCPC to update current culvert inventory for entire Town system.

Administrative Capacity and Capability

Capability	Description	Improvement Opportunity
<i>Emergency Management Director</i>	The emergency management director assists with plan updates, emergency planning, and coordination with LCPC.	Participate in REMC, Trainings, and regional exercises.
<i>Planning Commission</i>	The Eden Planning Commission has begun meeting again and will work with LCPC on future planning processes.	Participate in planning process and host/participate in Hazard Mitigation Training.
<i>Tree Warden</i>	The Eden Tree Warden oversee the forested land in the Town of Eden.	Participate in REMC, Trainings, and regional exercises.
<i>Selectboard</i>	The Eden Selectboard oversees the planning process works with LCPC on updates and coordination.	Participate in planning process and host/participate in Hazard Mitigation Training.
<i>VEM Training</i>	The EMD meets with the REMC to help develop regional training. Town staff are invited to Emergency Management trainings as they become available.	Participate in regional exercises and trainings hosted by VEM

<i>Highway Department</i>	The highway department oversees the transportation infrastructure and maintenance in the town	Consider participating in planning process and participate in Hazard Mitigation Training.
<i>Town Clerk/Manager/Administrative Assistant</i>	The Town Clerk works with town officials and LCPC on planning updates and coordination.	Consider participating in planning process and participate in Hazard Mitigation Training.

Financial Resources

Capability	Description	Improvement Opportunity
Hazard Mitigation Grants	The Town is eligible for many state and federal hazard mitigation grants.	Consider working with LCPC to apply for hazard mitigation funding and projects.

Zoning and Regulations

Capability	Description	Improvement Opportunity
<i>National Flood Insurance Program (NFIP)</i>	The Town does not currently participate in the NFIP.	Consider Participating in the NFIP Program

Outreach and Education

Capability	Description	Improvement Opportunity
<i>Town Website</i>	The town has a town website (Eden, Vermont 05652 and Eden Mills, VT 05653 (edenvt.org))	Consider posting the LHMP to the town website

5.2 Existing Hazard Mitigation Programs, Projects, and Activities

Eden's preparedness activities include:

- Annual adoption of Local Emergency Management Plan (last adopted in 2022)
- Annual Upkeep of Radio Communications (last updated in 2022)
- Annual Maintenance of Two Emergency Generators
- Installation of Dry Hydrants for Fire Protection. Currently there are ten dry hydrants available.
- Participation in Regional Emergency Management Committee meetings and activities.
- Vegetation management in utility right of way, to include Inspection and removal of trees and/or limbs which endanger electrical lines during windstorms (performed by Vermont Electric Cooperative)

6 Plan Maintenance and Continued Community Involvement

6.1 Monitoring, Evaluating, and Updating the Plan

The Eden LHMP will be evaluated and updated regularly by the Eden Planning Board and Emergency Management Director, with technical assistance from LCPC staff with additional input from the Eden Select Board. The 5-year plan update will begin 1 year from the expiration of the plan. Any significant disaster event will prompt a review of this plan between members of the Planning Board, the Eden EMD and LCPC. At the very minimum, the plan will be amended as required within five years from the date of FEMA approval.

The Eden Planning Board in conjunction with the Eden Emergency Management Director and input from the Eden Selectboard will also perform a mid-cycle review of the Eden Local Hazard Mitigation Plan within three years of adoption. The Emergency Management Director, Planning Commission, and Selectboard all have the expertise and experience to expand on and improve the goals of this plan as hazards worsen or change. The mid-cycle review will monitor the status of the actions in this plan and evaluate their effectiveness in meeting plan goals. The mid-cycle review will take place at an Eden Planning Board Meeting open to the public and warned as a regularly scheduled meeting through agenda postings at the Town Clerk's Office, Eden General Store, Eden Post Office, and on the Town website. Ultimately, the long-term success of this and other LHMPs is dependent on the availability of funding to implement mitigation priorities.

6.2 Incorporating into Existing Planning Mechanisms

Actions identified in this plan will be made available to state agencies for their incorporation into statewide plans including the Tactical Basin Plan for Lamoille River Watershed of the VT Agency of Natural Resources or the List of Priority Infrastructure Projects developed annually by the VT Agency of Transportation. The mitigation actions listed in this Local Hazard Mitigation Plan will be incorporated into the flood resilience section of the next Town Plan Update. The information in this plan will be used to keep the Local Emergency Management Plans consistent on a year-to-year basis.

6.3 Continued Public Involvement

There are four principal avenues for broad public comment that include:

- Community involvement through the local and regional planning process relating to updating existing planning mechanisms.
- Participation at the regular REMC meetings (REMC meetings are typically attended by a variety of parties: first responders, municipal officials, non-profit health care agencies, disaster assistance groups, and communications industry officials)
- Posting of the LHMP on the LCPC webpage for public comment
- Town-level meetings and trainings where awareness issues are raised. As a small community, Eden is able to bring people together for decision-making.
- Other opportunities for continued public involvement include postings at the Eden Town Clerk's Office.

The general public will be notified of review and update efforts over the next five years through press releases to local newspapers, social media, announcements by local radio stations, and updates to the LCPC website. This opportunity will allow for a community discussion to focus on land use planning as a mitigation strategy, in order to utilize regulatory and non-regulatory tools. Additionally, LCPC will reach out to other regional stakeholders, including the Lamoille Mutual Aid Association and Lamoille County

Sheriff's Department, to ensure mitigation planning efforts align with the county's public safety interests.

6.4 Town Prioritization and Mitigation Priorities

Eden's overarching hazard mitigation goals are to: 1) Reduce and avoid long-term vulnerabilities to flooding, fluvial erosion and ice jams; 2) Reduce and avoid long-term vulnerabilities to severe winter storms; 3) Reduce and avoid long-term vulnerabilities to severe windstorms. In reaching these goals, Eden engages in emergency preparedness activities of an ongoing nature as well as hazard mitigation action projects. Implementation of hazard mitigation measures that could further lessen impacts to community, such as adoption of building codes to lessen roof snow load, has been considered. At this time, community will does not exist to support building code or zoning code adoption. To protect power lines, the electric utility serving Eden has and implements standards for tree pruning around the power lines.

The transportation projects listed in Table 3 mitigate the threat of flood hazards by providing larger pathways for water runoff to pass under transportation infrastructure. The ditching projects allow for flood waters to efficiently run parallel to the roadways rather than overtop the roads. These action items mitigate the risk of road washouts and bridge damage thus keeping access to critical facilities and vulnerable populations open. These mitigation actions also help reduce erosion, sediment build up, and transportation or nutrients to water bodies throughout the state. Improving ditching and road surfaces allows for stormwater to flow more naturally and helps alleviate the stress on the natural water system as a result.

Town of Eden's Selectboard is Eden's sole local hazard mitigation authority. The Selectboard oversees Eden's town budget, approved annually by Eden residents on Town Meeting Day. The budget revenue is primarily composed by tax payment revenues collected from Eden's property owners. In accordance with projected budget revenues, and subject to availability of additional grant funds, Eden's Selectboard plans for the implementation of hazard mitigation actions. To aid Eden's capability to maintain, and possibly expand, engagement in hazard mitigation actions, Eden utilizes planning, grant writing and project management services of the Lamoille County Regional Planning Commission as well as assistance available from the Vermont Agency of Transportation. Eden has also received grant funding in the past through the Vermont Asbestos Group to complete projects related to mitigating impact from the Asbestos Mine tailings found in Eden. These projects help mitigate the impact to natural systems by reducing runoff from the mine waste.

Overall, Eden's capabilities to mitigate natural hazards are considered adequate in relation to the size of the community and the available financial resources and cannot be expanded at this time. Added demands to improve hazard mitigation will necessitate access to more financial resources which, for a small community with a modest tax base, is a significant challenge.

Previous Hazard Mitigation Plan (2017) Actions

Action	Status
1. Upgrade and replace undersized culvert #13-8 on Knowles Flat Road	Completed
2. Upgrade failed double culverts #13-1 and #13-2 on Knowles Flat Rd to a concrete bridge.	Completed

3. Continue upgrading culverts identified in 2011 Culvert Study (An example of an identified priority is replacement of undersized culvert on Boy Scout Road)	Ongoing and kept in the latest version of the Eden LHMP (2023)
4. Obtain Municipal Road General Permit from the State of Vermont and establish MRGP Plan for Eden.	Completed
5. Search for funding to enable paving of high traffic, steep slope roadways.	Completed
6. Develop a plan to address water runoff into Lake Eden	Completed (REI 2019)

Additionally, to the actions listed above, Eden put in place drainage and erosion control measures in various locations: South Pond Rd, East Hill, Knowles Flat Rd, and Blakeville Rd. Infrastructure replacements included Blakeville Rd bridge #13, and other replacements related to the October 2019 storm.

New priority actions are listed below in Appendix B. The Selectboard will take these priorities into consideration annually, during the town budget development process. An onset of a significant disaster event may prompt a review of the priorities. Otherwise, it is the Selectboard’s intent to implement the actions listed below as funding, time and public support allow.

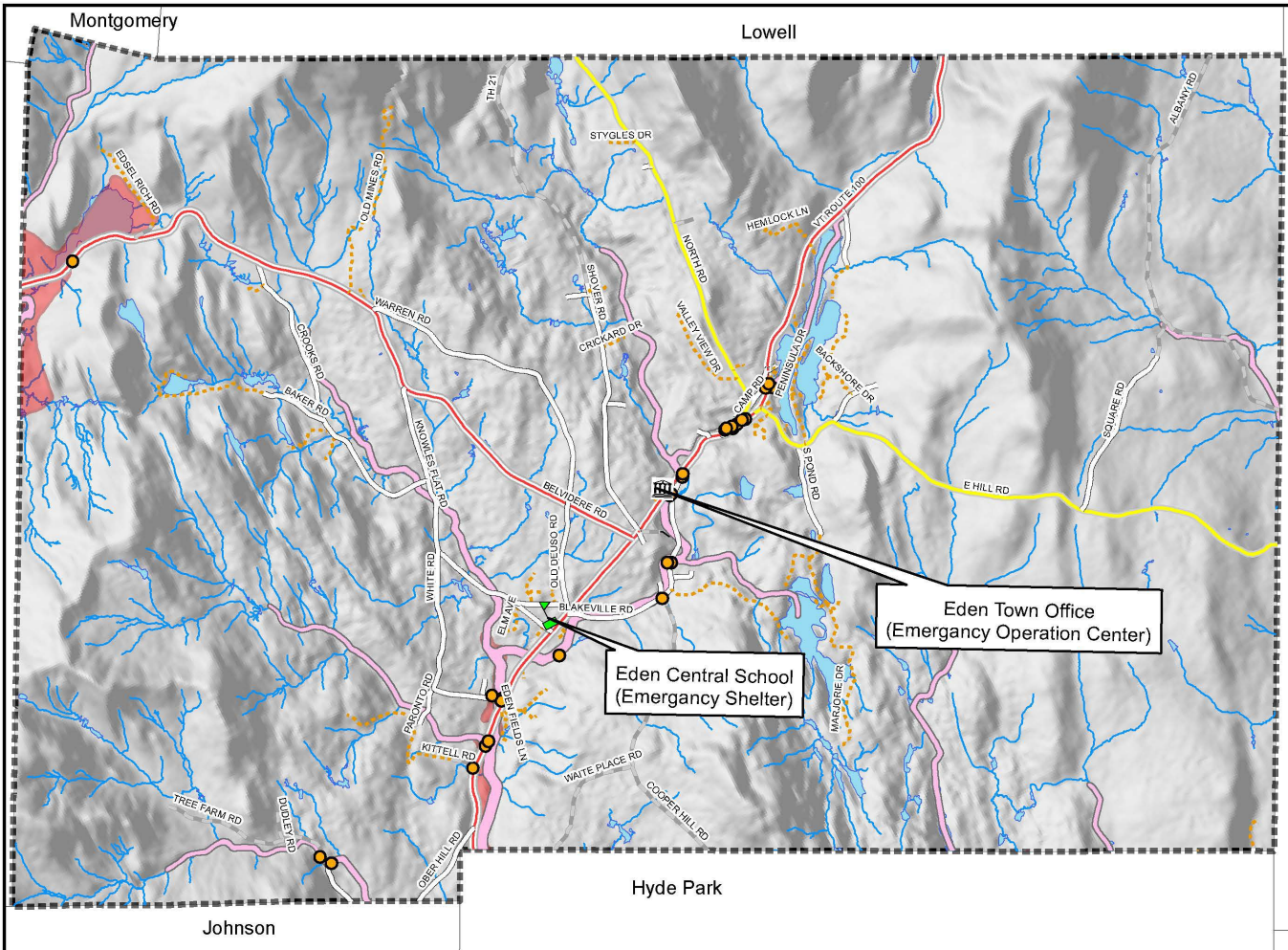
Eden’s hazard mitigation priorities have not changed, and actions remain focused on mitigating flooding, fluvial erosion, ice jams, high winds and severe wind events accompanied by rain. The Town will also continue to focus its efforts on managing winter weather impacts to public roadways by deploying its Highway Department forces when the storms occur. Implementation of hazard mitigation measures that could further lessen impacts to community, such as adoption of building codes to lessen roof snow load, has been considered. To protect power lines, the electric utility serving Eden has and implements standards for tree pruning around the power lines.

Eden’s priority hazard mitigation actions are listed in Appendix B below. The mitigation actions focus on structure and infrastructure projects, and natural systems protections. Actions pertaining to education and awareness programs will be delivered as they are made available to the Town by its partner organizations such as the Lamoille County Planning Commission or Lamoille County Conservation District. Adoption of local regulations to limit development in hazardous areas is not feasible at this time.

When evaluating investments in hazard mitigation, Eden considers both the cost of the investment as well as the benefit of the investment to the community. Eden uses the following criteria to evaluate the priorities: 1) Action responds to significant hazard; 2) Likelihood of Funding; 3) Protects threatened infrastructure; 4) Socially and politically acceptable; 5) Technically Feasible; 6) Administratively realistic; 7) Reasonable cost to benefit; and 8) Environmentally sound.

Appendix A. Supporting Maps

Flood Hazard Areas Town of Eden



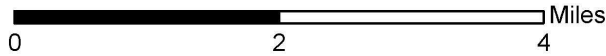
Legend

- Road Class**
- Class 2
 - Class 3
 - Class 4
 - - Legal Trail
 - · · Private
 - · · Private
 - State Highway
- Water Features**
- River Corridor
 - 100 Year Flood Plain
 - Waterbodies
- Structures**
- Structures in Floodplain or River Corridor

Sources:
 Political Boundaries: 1:24000 USGS
 Quadrangles, VCGI, 1991
 Roads: E-911 Road Data 2021
 Surface Water: VCGI 2001
 E911 Sites: VCGI 2022

Map created by LCPC November 2022.

For planning purposes only.
 Not for regulatory interpretation.



Appendix B. Implementation Schedule for Prioritized Mitigation Projects

Table 3: Priority Hazard Mitigation Actions 2023-2028

Prioritized Mitigation Actions	Hazard	Party to Initiate Action	Estimated Timeline	Possible Funding	Cost	Benefit
Culvert replacements on flood susceptible roads (White Rd, Boy Scout Rd, Mary Deuso Rd, Blakeville Rd)	Flooding	Eden Selectboard	2023-2028	Town, VTrans, VT ANR	High	High (Flood and erosion reduction; Water quality improvement; Continued public accessibility)
Bridge Replacement on Blakeville Rd (Bridge 15)	Flooding	Eden Selectboard	2023-2028	Town, VTrans, VT ANR	High	High
Ditch and road maintenance related to MRGP compliance	Flooding	Eden Selectboard	2023-2028	Town, VTrans, VT ANR	Medium	High
VT Alert training for Town Staff and residents	All Hazards	Eden Selectboard	2023-2028	VEM, LCPC	Low	High
Research emergency call system for town emergencies	All Hazards	Eden Selectboard	2023-2028	Town of Eden, VEM	Low-Medium	High
Consider Participation in the NFIP with newly produced FEMA FIRMs	Flooding	Eden Selectboard	2023-2028	Town of Eden	Low	Medium
Work with LCPC to map town areas susceptible to high wind	Severe Windstorm	Eden Selectboard	2023-2028	Town of Eden	Low	Medium
Public outreach regarding wind retrofits	Severe Windstorm	Eden Planning Commission	2023-2028	VEM, LCPC, Town of Eden	Low	Medium
Public outreach regarding winter storm preparedness	Severe Winter Storm	Eden Planning Commission	2023-2028	VEM, LCPC, Town of Eden	Low	Medium

*Cost and Benefit explanation. Cost is assessed based on a scale of Low (0 - \$5,000), Medium (\$5,001 - \$15,000), High (\$15,001 - \$50,000) or Very High (More than \$50,000). Benefit is defined as improved resilience of existing buildings or improved infrastructure, and improved public safety. Benefit is Low, Medium, or High.

Appendix C. Resolution for Town of Eden, Vermont Local Hazard Mitigation Plan 2023-2028 Adoption

Resolution

Adopting the Town of Eden, Vermont Local Hazard Mitigation Plan 2023-2028

The Selectboard of the Town of Eden find that:

- A) The adoption of a multi-hazard plan is required as a condition for communities to remain eligible for future Federal Emergency Management Agency (FEMA) mitigation grant funds.
- B) The Town of Eden has prepared a single jurisdiction Eden Local Hazard Mitigation Plan in order to meet FEMA's funding requirements.
- C) The Selectboard has reviewed and considered Town of Eden, Vermont Local Hazard Mitigation Plan 2023-2028.
- D) The mitigation strategies and actions identified in the plan will be implemented only when funding sources have been identified and projects have been prioritized as outlined in the Plan.

NOW THEREFORE,

BE IT RESOLVED BY THE SELECTBOARD OF THE TOWN OF EDEN, A MUNICIPALITY OF THE STATE OF VERMONT, AS FOLLOWS:

Section 1. Based on the above findings, which are hereby adopted, the Town of Eden, Vermont Local Hazard Mitigation Plan 2023-2028 is approved as the official Multi-Hazard Mitigation Plan for the Town of Eden.

Section 2. This resolution shall become effective immediately upon adoption.

The foregoing Resolution is hereby adopted this ____ day of _____, 2023

Selectboard Chair _____

Selectboard Member _____

Selectboard Member _____

Town Clerk received _____