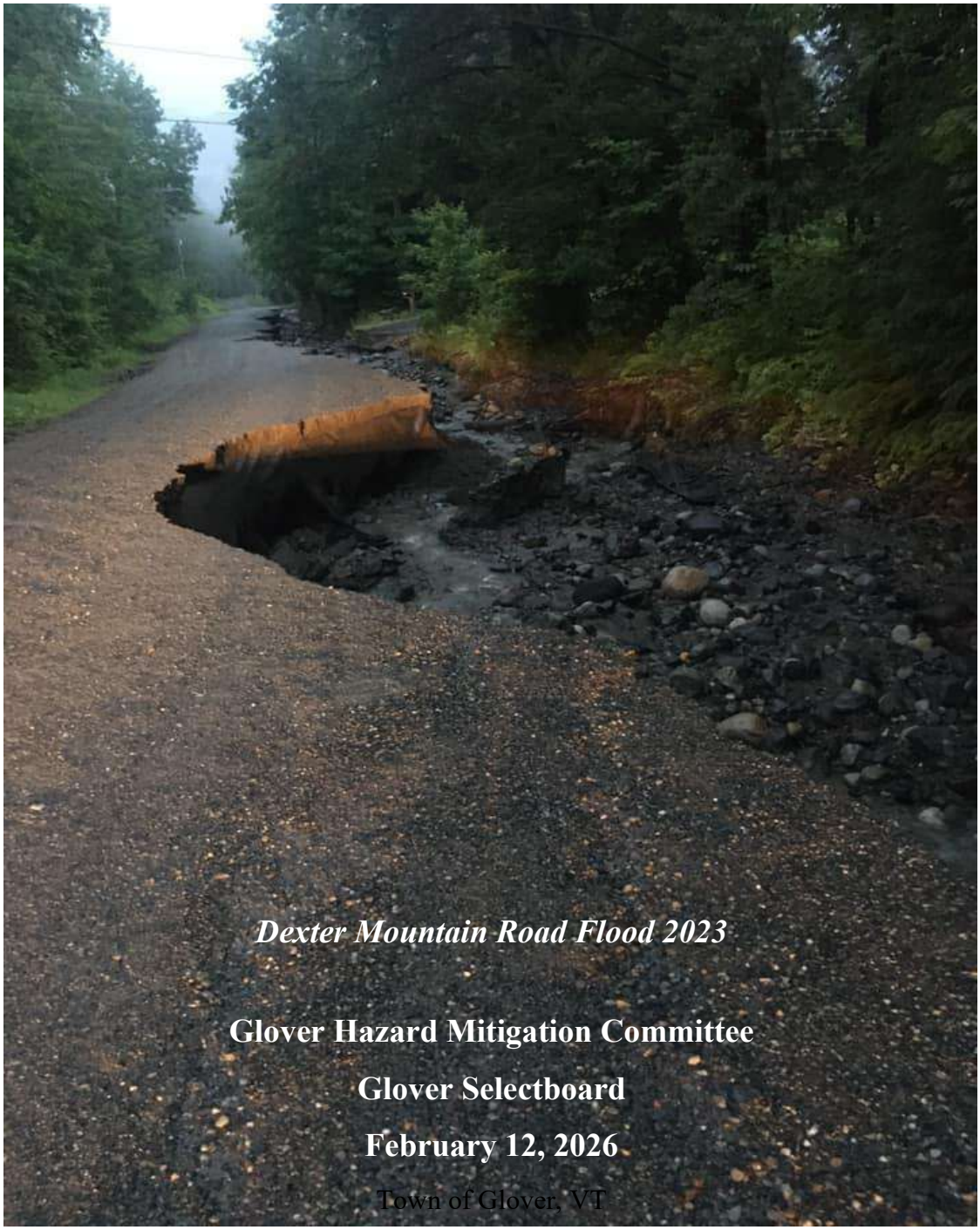
TOWN of GLOVER, VERMONT

ALL HAZARDS MITIGATION PLAN UPDATE, 2026

(Original Approval: 2006)



Dexter Mountain Road Flood 2023

Glover Hazard Mitigation Committee

Glover Selectboard

February 12, 2026

Town of Glover, VT

A Resolution Adopting the All-Hazards Mitigation Plan Update

See last page for signatures.

WHEREAS, the Town of Glover has worked with its residents and stakeholders to identify its hazards and vulnerabilities, analyze past and potential future losses due to natural and human-caused hazards, and identify strategies for mitigating future losses and

WHEREAS, the Town of Glover All-Hazards Mitigation Plan contains recommendations, potential actions, and future projects to mitigate damage from disasters in Glover and

WHEREAS, the Town of Glover and the respective officials will pursue implementation of the strategy and follow the maintenance process described in this plan to ensure that the plan stays up to date and compliant and

WHEREAS, a meeting was held by the Town of Glover Selectboard to formally approve and adopt the Town of Glover All Hazards Mitigation Plan Update.

NOW, THEREFORE BE IT RESOLVED that the Town of Glover adopts this All Hazards Mitigation Plan update for the town.

Date: 2/12/2026 Anne Eldridge, Select Board Chair_____

Date: 2/12/2026 Adam Huselin, Selectboard Member_____

Date: 2/12/2026 Tabitha Armstrong, Selectboard Member_____

Date: 2/12/2026 Attested to by Town Clerk _____

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Executive Summary

The Town of Glover Local Hazard Mitigation Plan (LHMP) Version 4.6.3 identifies the community's most significant natural and human-caused hazards, assesses vulnerabilities, and outlines strategies to reduce risk and improve resilience. This plan is required under the Disaster Mitigation Act of 2000 (DMA 2000) and aligns with the Federal Emergency Management Agency (FEMA) and Vermont Emergency Management (VEMA) guidelines.

Purpose of the Plan

The LHMP serves four primary purposes:

1. Protect life, property, and critical facilities from the impacts of natural and human-caused hazards.
2. Maintain eligibility for federal mitigation funding through FEMA's Hazard Mitigation Assistance programs.
3. Guide municipal policies, land use decisions, and investments in infrastructure resilience.
4. Strengthen coordination with neighboring towns, state agencies, and nonprofit partners.

Planning Process

The Town of Glover placed strong emphasis on public outreach to ensure that the Local Hazard Mitigation Plan reflects the experiences and priorities of the community. Outreach efforts were designed to reach residents in their daily routines and to encourage broad participation across a diverse set of stakeholders. Notices were displayed at Currier's Market, Parker Pie, Union House, RuralEdge, and Busy Bee Diner, as well as on the Town website and through bulk emails.

The Planning Commission, Energy Committee, Equity Committee, Cemetery Committee, and Trails Committee were invited to participate, contributing perspectives on land use, sustainability, social equity, and recreation. Meetings were open to all residents, with opportunities to provide comments, share local knowledge, and suggest mitigation actions. Some residents volunteered to draft sections of the plan in partnership with town staff. Neighboring towns were invited to participate and will be included in upcoming tabletop exercises led by the Emergency Management Director to strengthen regional preparedness. These outreach methods demonstrate Glover's commitment to inclusive, transparent, and accessible public participation.

The plan was developed through an inclusive, community-driven process. Outreach included public postings at Currier's Market, Parker Pie, Union House, RuralEdge, and Busy Bee Diner, website announcements, bulk emails, and invitations to local committees (Planning, Energy, Equity, Cemetery, Trails). Public meetings were open and encouraged resident participation. Nonprofits including Barton Area Senior Services, Inc. (BASSI) and RuralEdge Senior Housing were engaged to represent vulnerable populations. Neighboring towns and regional partners were also invited.

Non-Profit Engagement

Non-profit organizations in Glover provide essential services to seniors, low-income residents, and individuals with limited mobility — groups that are especially vulnerable during hazard events. Recognizing their importance, the Town ensured that key nonprofits were directly engaged during the development of the LHMP.

Barton Area Senior Services, Inc. (BASSI): Delivers over 7,000 Meals-on-Wheels annually and hosts weekly community meals at Town Hall, which was impacted during the 2023 flood. Continuity strategies include shelf-stable meals, volunteer expansion, and responder coordination.

RuralEdge Senior Housing: Manages a 12-unit senior housing complex near the Barton River, at risk of flooding. Staff input addressed evacuation planning, backup power, and communication improvements.

Both organizations reviewed LHMP drafts and provided feedback, ensuring vulnerable populations' perspectives were reflected in the risk assessment and mitigation strategies.

Public Comment Period and Incorporation of Feedback

During the drafting stage of the 2024 LHMP update and prior to formal submission to VEMA and FEMA, the Town of Glover provided an opportunity for public review and comment. The draft plan was made available through the Town website, public postings, and direct email outreach to community partners and nonprofit organizations. Hard copies were available upon request at the Town Clerk's Office.

The public comment period was open from February 28th, 2026, allowing residents, stakeholders, and neighboring communities adequate time to review the draft and submit feedback.

Comments received during the review period were evaluated by the Planning Team and incorporated into revisions to the hazard risk assessment, vulnerability analysis, and mitigation strategy where appropriate. Feedback from nonprofit partners serving vulnerable populations informed updates to evacuation planning considerations, backup power needs, communication strategies, and continuity planning for seniors and low-income residents.

Copies of outreach materials, a list of entities contacted (including titles and organizations), and documentation of public engagement efforts are included in **Appendix B – Public Outreach Documentation**.

Key Hazards Identified

The risk assessment identified the following hazards as most relevant to Glover:

- Flooding & Fluvial Erosion (medium probability/impact)
- Winter Storms/Ice (high probability/high impact)
- Power Failures (high probability/high impact)
- Structure Fires (medium probability/impact)
- Dam Failure – Shadow Lake Dam (low probability/medium impact)
- Other Hazards: Tornado, Hazardous Materials, High Wind, Wildfire, School Safety Issues

Vulnerable Populations & Facilities

Populations at higher risk include seniors, children, and individuals with disabilities. Facilities identified include Union House Nursing Home, RuralEdge Senior Housing, Barton Area Senior Services, Glover Elementary School, the New School at Maple Manor, Dexter Mountain Daycare, and the Glover Library. Preparedness efforts focus on continuity of care, evacuation planning, and backup power.

Mitigation Strategy

The plan establishes goals and actions to reduce risk, including:

- Upgrading culverts, roads, and bridges to withstand flooding.
- Enhancing emergency power capacity for critical facilities.
- Conducting dam safety inspections and improving emergency notification protocols.
- Expanding school safety planning and preparedness exercises.
- Supporting regional tabletop exercises to test communication and emergency response.

Each action is prioritized based on cost, feasibility, and risk reduction potential, and is directly cross-referenced to hazards identified in the risk assessment.

Plan Maintenance & Adoption

The Town of Glover recognizes this Local Hazard Mitigation Plan (LHMP) as a living document that must be actively monitored, evaluated, and updated to remain effective.

Continued Public Participation

Following plan adoption, the Town of Glover Selectboard will ensure continued public participation throughout implementation, monitoring, evaluation, and future updates of this plan.

Public participation will occur through:

- Annual Town Meeting presentations led by the Selectboard, where mitigation progress will be reported and public feedback invited.
- Regularly warned Selectboard meetings, which are open to the public and allow comment on mitigation activities.
- Coordination with the Local Emergency Planning Committee (LEPC) to share hazard preparedness information and gather community input.
- Public outreach during development of major mitigation projects and FEMA/state grant applications.
- Posting plan updates or progress information on the Town website, when available.

Public input received during these activities will be documented in meeting minutes and incorporated into future mitigation prioritization and the required five-year plan update.

Plan Monitoring Process

How:
The Town will monitor implementation by tracking the status of each mitigation action identified in Section 5.6. Monitoring will include reviewing whether actions are completed, ongoing, delayed, or modified.

When:
Monitoring will occur annually during a publicly warned Selectboard meeting.

By Whom:
The Town of Glover Selectboard will serve as the lead monitoring body, in coordination with the Road Foreman and Planning Commission. The Selectboard may request input from NVDA or relevant state agencies as needed.

Monitoring activities will include:

- Reviewing progress of each mitigation action
- Identifying new funding opportunities
- Documenting completed projects
- Identifying new hazard events and lessons learned
- Determining whether priorities require adjustment

Monitoring results will be recorded in meeting minutes and retained in Town records.

Plan Evaluation Process

How:
The effectiveness of the plan will be evaluated by assessing whether mitigation actions have reduced hazard vulnerability and supported the plan's stated goals.

Evaluation criteria will include:

- Reduction in hazard-related damages
- Improved infrastructure performance during hazard events
- Reduced emergency response and recovery costs
- Improved protection of vulnerable populations
- Increased public awareness and preparedness

When:
Evaluation will occur:

- Annually in conjunction with plan monitoring, and
- Following significant hazard events affecting the Town.

By Whom:
The Selectboard, with input from the Road Foreman and Planning Commission, will evaluate plan effectiveness. Findings will inform adjustments to mitigation priorities and guide the formal five-year update process.

Plan Update Process

How:
The Town will conduct a comprehensive review and revision of this LHMP at least once every five years to ensure compliance with FEMA requirements. The update will include:

- Review and revision of hazard profiles
- Updated risk assessments
- Status updates for all mitigation actions
- Evaluation of completed, ongoing, and discontinued actions
- Incorporation of new hazard data and development trends
- Continued public and stakeholder participation

When:
The formal update process will begin no later than four years after FEMA approval to ensure completion before the five-year expiration deadline.

By Whom:
The Selectboard will designate a lead coordinator for the update process. The Town will collaborate with NVDA and appropriate state agencies to ensure compliance with FEMA and VEMA requirements.

Plan Adoption

Following FEMA approval, the Town of Glover Selectboard will formally adopt this plan by resolution. Documentation of adoption will be included in the final plan submission.

Introduction

Hazard mitigation planning remains an essential framework designed to proactively address and mitigate the impact of both natural and human-induced hazards on communities. It involves the systematic identification of potential risks and vulnerabilities faced by localities, aiming to devise strategic measures that reduce or eliminate long-term threats to lives and properties. Recognized by the Federal Emergency Management Agency (FEMA) as a crucial process, hazard mitigation planning empowers state and local governments to assess, understand, and develop comprehensive strategies that safeguard individuals and assets from the adverse effects of future hazard events (source: www.fema.gov/plan/mitplanning).

Purpose

The primary aim of this hazard mitigation plan update is to comprehensively identify and address hazards affecting the town while devising effective strategies to mitigate long-term risks associated with known threats. This plan intends to achieve several crucial objectives:

Firstly, it seeks to raise public awareness and understanding regarding both natural and manmade hazards, shedding light on the associated risks and vulnerabilities within the community. Secondly, the plan aims to significantly reduce physical, financial, and emotional losses resulting from disasters, fortifying the town's resilience against unforeseen adversities.

Moreover, it endeavors to enhance understanding regarding potential risks and viable measures for risk reduction linked with future development, thereby empowering informed decision-making, and fostering sustainable growth. Additionally, the plan endeavors to garner increased community and voter support for specific town-proposed actions aimed at minimizing future losses, fostering unity in implementing hazard mitigation initiatives.

A new element In our strategy will be to strengthen coordination with neighboring towns, including the establishment of mutual aid agreements, to enhance collective resilience. Furthermore, this plan update strives to strengthen partnerships and communication among diverse stakeholders, providing avenues for collaboration, resource sharing, and leveraging collective strengths to devise efficient hazard mitigation strategies.

Lastly, it is designed to secure the town's eligibility for federal hazard mitigation grants and aid, both preemptively and post-federally declared disasters, ensuring access to vital financial support for bolstering mitigation efforts and facilitating community recovery.

In essence, this updated plan serves as a crucial tool not only for immediate risk reduction but also as a guiding blueprint for the town's resilience and preparedness in navigating future hazard events.

Hazard Mitigation Projects 5 – Year Plan

Goal #1: Study the Flooding at West Glover's Four Corners

Research and study the area where Roaring Brook Road, Parker Road, and Bean Hill Road meet. This location is prone to flooding with over 10 inches of rain. Runoff from nearby farming fields clogs the twin culverts under the Vermont Association of Snow Travelers (VAST) Trail bridge, causing water to overflow. The Lake Parker dam also contributes to this issue. The existing 18-inch culvert is insufficient to handle the water flow, endangering the nearby ambulance bay in the flood plain. This area became a priority during the 2023 flood, requiring significant restoration efforts.

Goal #2: River Management

Inspect the river for problem areas, such as downed trees and debris accumulations, which can obstruct flow and cause flooding. A significant debris accumulation near Parker Lake Dam includes logs, tree trunks, and branches. This debris can range from single logs to large jams spanning the river channel and may require removal to prevent negative impacts. Create a River page on the Town of Glover website offering photos, educational videos, informational links, and helpful tips.

Goal #3: Monitor Dam Activity

Regularly monitor dam activity and maintain grounds and debris inlet. Report any concerns to the Vermont Dam Safety Program to ensure community safety. Train on modeling and analysis of dam failure scenarios and understanding likely consequences of dam emergencies. Investigate grant possibilities to upgrade the dam mechanisms.

Goal #4: Address Environmental and Public Health Risks Posed by the Tire Dump

Assess the environmental impact of the existing tire dump located near the river, adjacent to several campers and truck trailers. Tire dumps pose significant fire hazards and water contamination risks, especially due to their proximity to water bodies. These risks are amplified during floods, which can carry debris and hazardous materials into the river, further endangering the local ecosystem and nearby residents. The Town of Glover will collaborate with state agencies, including Act 250, to manage and mitigate the potential hazards. Regular monitoring and mitigation actions will be implemented to ensure compliance with state and federal regulations and reduce the risk to the community.

Update: Since the time of this plan, the people responsible for the collection of tires have vacated the property leaving all tires behind. The landowners are dealing with abandoned tires, and the property is not an active tire dump; more tires are not coming onto the property. Tires have been moved to the south end of the property, and some have been sold. It is being used as a log yard again.

Hazard Mitigation Planning Process and Meetings Summary

Jurisdiction Participating in the Plan

The Town of Glover, Vermont is the sole jurisdiction participating in and seeking approval of this Local Hazard Mitigation Plan. Plan development was coordinated by the Town Administrator and supported by a mitigation planning team composed of municipal officials, emergency response personnel, planning professionals, and community representatives. Participants contributed local knowledge, operational expertise, and planning input throughout the plan update process, as documented in the meeting summaries below.

Mitigation Planning Team – Agency and Role

The following individuals participated in the development of this plan on behalf of the Town of Glover and in advisory roles. Titles reflect positions held at the time of participation.

- Theresa Perron – Town Administrator, Town of Glover
- Philip Brooks – Emergency Management Provider, Town of Glover
- Nick Ecker-Racz – Former Selectboard Member; EMT; Health Officer; Tree Warden; Licensed Vermont Forester, Town of Glover
- Job Breitmeyer – Fire Department Chief, Town of Glover
- Adam Heuslin – Emergency Medical Services Representative, Town of Glover
- Mike Pray – Road Foreman, Town of Glover
- Jim Bowes – Environmental Consultant; Member, Glover Planning Committee
- Noah Bond – Mitigation Consultant; MPA; GIS Specialist (Plan Author and Coordinator)

Community and Jurisdictional Representatives

The following community members participated in the mitigation planning process as representatives of the Town of Glover and provided local knowledge, historical context, and perspectives on community vulnerability and recovery:

- **Elizabeth Nelson** – Glover resident; artist and retired farmer
- **Tina Ghantous** – Glover resident; mental health professional
- **Jenifer Andrews** – Educator; Glover community representative
- **Doug Safford** – Education professional; Glover community representative
- **Cheri Safford** – Business owner, Red Sky Trading; Glover community representative
- **Steve Walcott** – Town of Glover representative
- **Ann Craven** – Town of Glover representative

How the Jurisdiction and Participants Contributed

Representatives of the Town of Glover participated in the hazard mitigation planning process by contributing operational knowledge of emergency response, road and infrastructure conditions, flood and erosion impacts, facility vulnerabilities, and municipal administrative considerations. Emergency services and highway personnel provided site-specific insight related to access, response constraints, and infrastructure performance during hazard events. Planning and environmental representatives contributed expertise related to land use, watershed conditions, and mitigation strategies. Community representatives provided local historical knowledge and identified recurring hazard concerns and community priorities. Collectively, participant input directly informed hazard identification, vulnerability assessment, and the development and prioritization of mitigation actions included in this plan.

Meeting Summaries

- January 18, 2024 (9 a.m. – 11 a.m.)
    - Discussed Hazard Mitigation Plans
    - Formulated a 20-page editing plan
    - Discussed school and emergency housing
    - Identified next steps to take

At the January 18, 2024 meeting, the Hazard Mitigation Committee initiated the plan update process and reviewed the structure and content of the existing Local Hazard Mitigation Plan. Participants discussed priority hazard categories and identified sections requiring expansion to meet current Vermont and FEMA guidance. As a result of this discussion, the committee developed a structured 20-page editing plan to guide revisions and ensure consistency across hazard profiles, vulnerability analysis, and mitigation actions.

The committee also discussed the role of local schools and emergency housing facilities during hazard events, emphasizing the importance of safe access, sheltering capacity, and coordination with emergency services. These discussions informed subsequent revisions to the community profile and vulnerability assessment sections and helped identify mitigation actions related to

emergency sheltering, access routes, and continuity of operations. The meeting concluded with the identification of next steps, including data collection needs, stakeholder outreach priorities, and assignment of drafting responsibilities.

- March 11, 2024 (10:00 – 11:00 A.M.
    - Discussed updates to the Hazard Mitigation Plan
    - Reviewed and discussed updated information

At the March 11, 2024 meeting, the Hazard Mitigation Committee reviewed updates to the draft Local Hazard Mitigation Plan developed since the initial planning session. Committee members discussed revisions to the hazard profiles and community risk information, with particular attention to ensuring that hazard descriptions, locations, and impacts accurately reflected recent local experience and available data. Participants identified areas where additional narrative detail was needed to clearly describe vulnerabilities and potential impacts to people, infrastructure, and critical facilities.

As a result of this discussion, the committee directed further expansion of the risk assessment section to strengthen the linkage between identified hazards and their impacts on transportation infrastructure, emergency access routes, and community lifelines. Feedback from this meeting informed subsequent revisions to the vulnerability and mitigation strategy sections, ensuring that proposed actions were better aligned with documented risks and municipal capabilities.

- March 20, 2024 (9 a.m. – 11 a.m.)
    - Discussed and decided to keep the original survey
    - Defined goals for the 2026 All Hazard Mitigation Plan:
    - Goal #1: Study the four corners of West Glover (Roaring Brook Road, Parker Road, Bean Hill Road)
    - Goal #2: River management
    - Goal #3: Dam safety

At the March 20, 2024 meeting, the Hazard Mitigation Committee reviewed options for public engagement and discussed whether to modify or replace the existing community hazard mitigation survey used in prior planning efforts. After evaluating the effectiveness of the original survey and its relevance to current hazard concerns, the committee determined that the existing survey remained appropriate for the 2026 plan update and would allow for continuity in comparing community input across planning cycles. This decision informed the public outreach

strategy and ensured consistency in how resident feedback was collected and incorporated into the plan.

During this meeting, the committee also defined and confirmed the primary goals for the 2024 Local Hazard Mitigation Plan update based on identified risks, recent hazard events, and community priorities. The committee established three focus areas to guide subsequent risk assessment and mitigation strategy development: (1) conducting focused study of the four-corners area of West Glover, including Roaring Brook Road, Parker Road, and Bean Hill Road, due to known flooding and infrastructure concerns; (2) advancing river management strategies to address flooding and fluvial erosion impacts; and (3) addressing dam safety considerations to reduce risk to downstream areas and critical infrastructure. These goals directly shaped the organization of the hazard profiles and the development and prioritization of mitigation actions included in this plan.

- March 23, 2024 (9 a.m. – 12 p.m.)
    - Tour of the Ambulance Bay to evaluate flood plain concerns
    - Discussed culvert capacity and potential relocation of the ambulance bay

On March 23, 2024, the Hazard Mitigation Committee conducted a field-based site visit to the Ambulance Bay to evaluate floodplain-related risks and operational vulnerabilities. Committee members reviewed the location of the facility in relation to nearby surface waters and drainage features and discussed how flooding or fluvial erosion could impact emergency response operations, access routes, and the ability to stage emergency vehicles during high-water events.

During the site visit, participants assessed the capacity and condition of nearby culverts and discussed whether existing drainage infrastructure is adequate to convey stormwater during intense precipitation events. The committee also evaluated the feasibility of relocating the ambulance bay or modifying access and drainage conditions to reduce long-term flood risk. Observations from this site visit directly informed the flood hazard profile and vulnerability analysis and contributed to the identification of mitigation actions related to culvert upgrades, drainage improvements, and potential relocation or floodproofing of critical emergency response facilities.

- March 24, 2024 (9 a.m. – 12 p.m.)
    - Tour of Shadow Lake and Lake Parker dams with committee and Selectboard members.

On March 24, 2024, the Hazard Mitigation Committee, together with Selectboard members, conducted a field-based tour of the Shadow Lake and Lake Parker dams to evaluate dam-related

risks and downstream vulnerabilities. Participants reviewed the physical condition of the dams, discussed known maintenance and operational considerations, and examined the potential consequences of dam failure or uncontrolled releases on downstream infrastructure, roadways, and properties.

During the site visit, the committee and Selectboard members discussed emergency response considerations, communication and coordination needs, and the importance of dam safety planning to protect life and property. Input from this field review informed the dam safety hazard profile and vulnerability analysis and contributed to the identification of mitigation actions related to dam inspection, maintenance planning, emergency preparedness, and coordination with dam owners and regulatory agencies. This site visit also reinforced dam safety as a priority focus area for the 2026 Local Hazard Mitigation Plan update.

- April 21, 2024 (9 a.m. – 11 a.m.)
    - Noah Bond sought input from key emergency personnel.
    - Guest Speakers: Adam Hueslin (Glover EMS), Job Breitmeyer (Fire Department Chief), Mike Pray (Road Foreman), Cindy Epinette (Town Clerk)
    - Covered topics: Mitigation Plan updates, hazards at Ambulance Bay in West Glover, watersheds, need for generators, scenarios and drills, climate change, fire department updates, road maintenance, differences between LEMP and LHMP, communication with school officials.

At the April 21, 2024 meeting, the Hazard Mitigation Committee solicited detailed input from key emergency response and municipal operations personnel to validate hazard impacts and operational challenges identified in the draft Local Hazard Mitigation Plan. Guest speakers representing emergency medical services, fire protection, highway operations, and town administration provided firsthand accounts of recent hazard events, response constraints, and infrastructure vulnerabilities that affect emergency operations and community safety.

Emergency services personnel discussed site-specific hazard concerns, including flooding and access issues at the Ambulance Bay in West Glover, watershed-related impacts, and the need for reliable backup power at critical facilities. Participants emphasized the importance of generators to maintain continuity of operations during power outages, as well as the value of conducting scenario-based planning and drills to improve preparedness and coordination. These discussions informed revisions to the vulnerability assessment and supported mitigation actions related to backup power installation, facility resilience, and emergency planning.

Fire department and highway personnel provided updates on operational capacity, road maintenance challenges, and climate-related trends affecting response and infrastructure conditions. Discussion also clarified the distinction between the Local Emergency Management

Plan (LEMP) and the Local Hazard Mitigation Plan (LHMP), reinforcing the role of this plan in addressing long-term risk reduction rather than short-term response. Input regarding communication and coordination with school officials highlighted the importance of safe access, sheltering considerations, and continuity planning for students and staff during hazard events. Collectively, feedback from this meeting directly informed updates to hazard profiles, vulnerability narratives, and the mitigation strategy included in this plan.

- May 2, 2024 (10: a.m. – 11:00 a.m.)
    - Discussed updates to the Hazard Mitigation Plan
    - Discussed Version two and three updates to the plan
    - Discussed updates to the Dam section of the Hazard Mitigation Plan

At the May 2, 2024, meeting, the Hazard Mitigation Committee reviewed successive draft versions of the Local Hazard Mitigation Plan to evaluate progress and ensure that revisions made in response to earlier meetings were accurately incorporated. Committee members compared Version Two and Version Three of the draft plan, focusing on clarity, completeness, and consistency across hazard profiles, vulnerability analysis, and mitigation actions.

Shadow Lake at one foot lowered.

Attention was given to updates to the dam safety section of the plan. Participants reviewed expanded narrative describing dam-related hazards, downstream impacts, and coordination needs and discussed whether the revised content adequately reflected information gathered during the March site visit and subsequent discussions. Feedback from this meeting resulted in further refinement of the dam hazard profile and mitigation actions to better address inspection, maintenance planning, emergency preparedness, and coordination with dam owners and regulatory agencies. This meeting represented a key step in finalizing plan content prior to public review and submission.

Community Profile

Glover Town Government

Governance in Glover is managed by a three-person Selectboard, supported by a Town Clerk and a Town Administrator. Voters discuss and approve the town budget at an annual meeting, during which all town officers are elected. The town also has a three-member Board of Listers, auditors, a health officer, and other typical rural town positions.

The town's services include a three-member Road Crew, a well-trained and equipped Ambulance Squad, and a Volunteer Fire Department. Police services are provided by the Orleans County Sheriff's Department and the Vermont State Police.

Glover has a Town Plan and several relevant ordinances but does not have zoning regulations. Instead, the town relies on Act 250 and various state laws to manage growth and the establishment of businesses or industrial installations.

I. Selectboard

Elected Members (3)

II. Town Staff

1. Administrative

Town Clerk/Treasurer

Town Administrator/ Recycling Supervisor

2. Public Works

Road Foreman

Road Crew (2)

3. Public Safety

Constables/Dog Warden (2)

Emergency Manager

Fire Warden

Law Enforcement (Contract with County Sheriff)

4. Health and Environment

Health Officer

Flood Hazard Area Administrative Officer

5. Planning and Management

Planning Commission

Cemetery Commissioners

6. Financial Oversight

Listers (3)

Auditors (3)

7. Justices of the Peace

8. Energy Committee

9. Equity Committee

10. Community Services

Library Staff (2)

III. Volunteer Organizations

1. Fire Department

18 Trained Firefighters

Equipment: 3,200 Gallon Tanker, 3 Pumper Trucks, 5 Dry Hydrants

Facilities: Fire Station (Emergency Operations Center, Red Cross Shelter, PA System)

2. Ambulance Squad

Advanced Providers (6)

EMTs (7)

Support Staff (2)

Equipment: 3 Ambulances, Command/Treatment Trailer

3. Recreation Committee

4. Historical Society

5. Library Support

Library Trustees

Friends of the Glover Library

Flood Insurance and Town Ordinances

National Flood Insurance Program (NFIP) Participation and Floodplain Management

The Town of Glover participates in the National Flood Insurance Program (NFIP), which allows property owners to obtain federally backed flood insurance and requires the Town to regulate development within mapped flood hazard areas. Participation in the NFIP requires the Town to adopt and enforce floodplain management regulations that meet or exceed FEMA minimum standards.

Local Floodplain Regulations Supporting NFIP Compliance

Glover administers floodplain development regulations through the Town of Glover Flood Hazard Area Bylaws, adopted by the Glover Board of Selectmen on December 11, 2025. These regulations govern development within Special Flood Hazard Areas (SFHAs) and establish permit requirements, development standards, and conditional use review procedures.

The Flood Hazard Area Bylaws are incorporated into the Town's municipal regulatory framework and are used to ensure continued NFIP compliance.

Flood Insurance Rate Maps (FIRM) and Flood Insurance Study (FIS)

The Town of Glover utilizes FEMA Flood Insurance Rate Maps (FIRMs) and associated Flood Insurance Study (FIS) data to identify Special Flood Hazard Areas and administer floodplain development standards.

The current effective FIRM panels for the Town of Glover (Community ID 500251, Orleans County) have an effective date of:

August 5, 1991 (08/05/1991)

Effective panels include:

- 5002510005B
- 5002510010B
- 5002510015B
- 5002510020B
- 500251IND0 (Index Panel)

These mapping products are available through the FEMA Map Service Center (msc.fema.gov) and are incorporated by reference into the Town's Flood Hazard Area Regulations. All

development determinations within flood hazard areas are made using these effective FEMA mapping products.

Local Administration and Enforcement

Floodplain regulations are administered locally through:

- Administrative Officer – Responsible for receiving permit applications, determining whether proposed development is located within a Special Flood Hazard Area, and ensuring required documentation is submitted.
- Board of Adjustment – Responsible for conditional use review and approval of development proposals within regulated flood hazard areas, including review of elevation data, floodproofing documentation, and site-specific flood risk considerations.

This structure ensures compliance with NFIP requirements through local permitting and oversight.

Substantial Improvement and Substantial Damage Procedures

The Town of Glover implements NFIP substantial improvement and substantial damage requirements through its Flood Hazard Area Regulations.

“Substantial Improvement” is defined as any repair, reconstruction, rehabilitation, addition, or improvement of a structure where the cost equals or exceeds 50 percent of the market value of the structure either:

1. Before the improvement begins; or
2. If the structure has been damaged, before the damage occurred.

Following a flood or damaging event, property owners proposing repairs or reconstruction within a Special Flood Hazard Area must apply for a permit. The Administrative Officer reviews applications and determines whether the proposed work meets the definition of substantial improvement or substantial damage. If the 50 percent threshold is met, the structure must comply with current floodplain development standards, including elevation requirements consistent with base flood elevation data.

The Board of Adjustment conducts conditional use review when required and ensures that rebuilding, additions, or improvements within flood hazard areas are consistent with adopted floodplain management standards and NFIP requirements.

Current NFIP Community Status

According to the Vermont Flood Ready Expanded Community Report for the Town of Glover (retrieved February 16, 2026), the Town currently has 142 buildings located within the FEMA-mapped Special Flood Hazard Area (SFHA). Of those, 1 active flood insurance policy is in force within Zone A/AE/AO/A1–30, representing approximately 1% of buildings in the SFHA with flood insurance coverage.

Glover participates in the NFIP Regular Program and does not currently participate in the Community Rating System (CRS). The Town remains in good standing with the NFIP and continues to regulate floodplain development in accordance with FEMA minimum standards.

Town Ordinances

1. Ordinance for Licensing and Control of Domestic Dogs or Wolf-hybrids (8/4/05)
2. Sewer Use Ordinance (1/22/15)
3. Private Roads and Driveways Ordinance (8/24/95)
4. Municipal Parks, Beaches, and Forests Ordinance (4/12/90)
5. Parking Ordinance (4/24/14)
6. All-Terrain Vehicle Ordinance (8/20/08)
7. Mass Gathering Ordinance (4/20/00)
8. Regulation of Waste by Dumping Ordinance (3/15/06)
9. Solid Waste by Open Burning Ordinance (3/15/06)
10. Speed Ordinance (6/1/2000)
11. Traffic Ordinance (2/2021)
12. Flood Hazard Area Regulations (06/27/1991)

History/ Community Profile

The Town of Glover, incorporated in 1801, began as a small hamlet east of the Hinman Road, a military road built from Greensboro to Derby. For generations, the economy was based on water-powered mills, forestry, and agriculture. Significant sawmills operated in the Black Hills and on the outlet stream of Shadow Lake. In the twentieth century, Conley's Sawmill, a cedar fence company above the village, sometimes employed over 100 people for more than 50 years. Glover's population peaked at 970 in 1890 and has stabilized in recent years.

Location and Layout

Glover is situated at the "heart" of the Northeast Kingdom, approximately 30 miles south of the Canadian border, 25 miles west of the New Hampshire border, and northwest of St. Johnsbury, accessible via Exit 25 on Vermont Interstate Highway 91. The Village of Glover houses the town offices, Currier's General Store, and the Glover Fire Station along VT State Route 16. West Glover, about two and a half miles west of the town center near Lake Parker, features a hilltop community with a small store, a pizza restaurant, and Glover Ambulance Bay.

"The town is home to two churches: the Glover Community Church and the West Glover Congregational Church. Educational needs are served by the Glover Community School, which caters to students from pre-kindergarten through eighth grade."

Community and Land Use

Glover follows Vermont's traditional pattern of compact village centers surrounded by open landscapes of working farms, forests, streams, and lakes. It is one of 19 towns in Orleans County, with primary land uses including forestry, recreation, and agriculture. Activities include timber harvesting, woodlots, maple sugaring, Christmas tree farms, and recreational use of forested lands.

Infrastructure and Services

- Sewer and Water: Municipal sewer service operates in Glover Village and West Glover Village, with sewage directed to a treatment plant in Barton, vulnerable to severe flooding. Glover Village also hosts a private water company with 11 connections, drawing water from a floodplain-independent source.

- Emergency Services: Volunteer-based, including the Glover Fire Department, Ambulance Service, two Town Constables, and contracted County Sheriff services. The hilly terrain poses challenges for emergency communication and cell phone service. Backup generators are available at the fire station, ambulance bay, and West Glover for ambulance services.

- Education and Shelters: The Glover Elementary School is the primary shelter, and the Town Hall is the secondary shelter. Even though the Town Hall is in the flood plain, it has an upper floor level that can provide shelter to residents.

- Vulnerable Populations: Glover has two daycares, a 40-bed nursing home, a 12-unit senior housing facility and the New School of Montpelier-West Glover Campus. The nursing home is particularly vulnerable to severe flooding.

Topography and Drainage

The Town of Glover covers 36 square miles and includes the headwaters of the Barton River, which starts in the southeast and flows north through a narrow valley. The village of Glover straddles the river near the town's northern edge. The town features two dozen hills with elevations of 1,700 feet or higher, along with five lakes and ponds.

Most of the town is drained by streams feeding into the Barton River. However, a small section in south Glover drains to the Lamoille River, the southwest corner to the Black River, and a small part of the east edge to the Passumpsic River. The largest lake, Lake Parker, spans 239 acres with a maximum depth of 45 feet. Its watershed covers the northwest quarter of the town, and its waters flow north through Roaring Brook to the Barton River.

Shadow Lake, covering 199 acres with a maximum depth of 139 feet, receives drainage from Daniels Pond and flows east to the Barton River. Daniels Pond, covering 66 acres, drains into Shadow Lake. Tildy’s Pond, covering 31 acres, is part of the Barton River's headwaters. An unnamed "Beaver Pond" west of Daniels Pond flows southwest to the Black River in Craftsbury.

The highest hills in the south part of town are Black Hills and Pepin Hill, both around 2,260 feet in elevation. The Barton River drops 412 feet from 1,357 feet at the town's southern edge to 945 feet in Glover Village, 5.75 miles north.

Route 16, a state highway, follows the Barton River up the east side of town and is joined by Route 122 coming from Sheffield. Shadow Lake Road and Bean Hill Road are the main east-west roads. Shadow Lake Road carries traffic from Route 16 to Greensboro, Craftsbury, and Albany. Bean Hill Road connects Glover Village to West Glover Village and intersects with Roaring Brook Road to Barton, Irasburg Road, and County Road. County Road and Andersonville Road run along the west edge of town, connecting with Albany and Craftsbury.

Glover has 14.32 miles of Class 2 roads, 35.41 miles of Class 3 roads, and 6.99 miles of Class 4 roads. Many Class 3 roads are dead ends serving one or a few residences.

Development Pattern

Glover follows Vermont's tradition of compact village centers surrounded by open land, including farms, forests, streams, and lakes. Many outlying farms have been abandoned and reverted to woods. While some new residential developments have occurred along major and less-traveled roads, there has been relatively little development in the village centers. Glover's development pattern has evolved with limited town-wide land use regulation, though the Town has adopted Flood Hazard Area Regulations that govern development in designated flood-prone areas.

Seasonal homes around the lakes and ponds began as camps around 1900 and have continued to be built and upgraded. Today, most shoreland that could be developed is occupied, with some camps being converted to year-round homes.

In the 19th century, waterpower from the Barton River and other streams powered sawmills and gristmills. Local industries included a tannery, box factory, potato starch factory, furniture and wagon shops, and blacksmith shops. Though mostly small operations, several sawmills transitioned from waterpower to steam and did considerable business. The town also had creameries, general stores, and hotels, with Route 16 once serving stagecoach traffic and Barton providing railroad access.

Today, Glover Village hosts businesses such as Currier's Market, Busy Bee Diner, Rural Edge Senior Housing, Union House Nursing Home, Jay Hudson's art gallery, Colburn's Organic Beef & Maple, Phil Brown's butcher and honey shop, Red Sky Trading, NEK Dental, and Labour of Love Nursery. Outside the village, notable businesses include Parker Pie Restaurant and Store, the Museum of Everyday Life, Northeast Kingdom Balsam, Bread & Puppet Theater, Nana's Bears and Buttons, and numerous home-based businesses. Glover also hosts a Sunday Farmer's Market on the green and a Senior Meal Site open at the Town Hall, along with one licensed daycare center.

Population

According to the 2020 U.S. Census, Glover has a population of 1,114 people. The town includes two unincorporated villages: Glover and West Glover. However, seasonal population data is not being tracked currently.

Housing

In 2020, 19.2% of renters in Glover paid $500 a month, while 80.8% paid between $500 and $999. Since then, rent prices have increased significantly. Home ownership stands at 69.5%, with 54.8% of homeowners having a mortgage. There are 788 housing units in Glover. However, seasonal housing data is not being tracked at this time.

Occupations

Residents of Glover work in traditional occupations like agriculture and forestry, but many commute to nearby towns for jobs as tradesmen, carpenters, equipment operators, and office workers. Fifty years ago, there were numerous small dairy farms; today, most farmland is managed by two large operations, with a few small feedlots and heifer or beef operations remaining. The town has one thriving grower of grain, beans, and sunflowers. Cottage industries are common, and there are jobs at two small restaurants, a country store, a 40-bed nursing home, a 12-unit senior living center, a library, and the town office. The COVID-19 pandemic increased the number of residents working from home, raising the daytime population to an all-time high, which impacts disaster preparedness.

Local Economy

As of 2021, Glover, Vermont, had a population of 1,114 people, reflecting a notable 10% increase from the previous year. The town's economy is primarily supported by the Construction, Health Care & Social Assistance, and Retail Trade sectors. The highest-paying industry is Educational Services & Health Care & Social Assistance, with significant wages in this category. Glover's median household income was reported at approximately $66,807, adjusted for 2022 inflation, representing a moderate increase from previous years. These figures highlight the town's growing economy and the pivotal role of key industries in sustaining local employment (Census Reporter) (Neilsberg).

Climate Change and Its Impact on Glover, Vermont

The National Climate Assessment Report of 2014 emphasizes that climate change is now a pressing reality. Various sectors, including maple syrup producers in Vermont, are experiencing unprecedented climate-related changes.

The Fifth National Climate Assessment highlights the growing and severe impacts of climate change on Vermont, particularly in the areas of extreme weather events, rising temperatures, and shifting precipitation patterns. These changes are stressing ecosystems, agriculture, and infrastructure in Vermont. Extreme precipitation events have notably increased, leading to more frequent flooding; this is a major concern for rural areas like Vermont. The state is also experiencing warmer winters, affecting industries like maple syrup production and winter recreation, and increasing challenges for public health, agriculture, and local economies (Fifth National Climate Assessment).

Temperature and Precipitation Trends

Temperature Increase: Vermont's temperatures have risen approximately 3°F since the early 20th century. The period from 2010 to 2020 was the warmest on record. Without significant emission reductions, this warming trend is expected to continue.

Freeze-Free Periods: The intensity of extreme winter cold is decreasing, with Vermont's freeze-free period lengthening by three weeks since 1960. Lakes and ponds now thaw one to three days earlier per decade.

Precipitation Increase: Annual average precipitation has increased by nearly 6 inches since the 1960s, with the largest increases in mountainous regions. Winter and spring precipitation is expected to rise, with more falling as rain. Heavier rainstorms will impact communities, causing damage to farms, homes, roads, and bridges. The 2019 Halloween storm, for instance, caused over $6 million in damage. The 2023 and 2024 flooding was catastrophic to many small communities in Vermont. It was followed by the 2025 heavy rain causing significant damage.

Environmental Damage and Biodiversity Impacts

Invasive Species: Climate change exacerbates threats from invasive plants, insects, and diseases, which are already harming Vermont’s forests. Warmer temperatures decrease winter mortality and increase reproduction rates of invasive species.

Drought and Water Quality: Milfoil, along with other invasive species like Eurasian watermilfoil and zebra mussels, increasingly thrive in Vermont's water bodies due to the compounded effects of climate change. Warmer water temperatures and nutrient loading from heavy precipitation and erosion create ideal conditions for these species to spread. This invasion further deteriorates water quality by outcompeting native species, altering habitats, and contributing to harmful algae blooms. The combined impact of drought, nutrient loading, and invasive species poses a significant threat to Vermont's aquatic ecosystems and water quality.

Wildlife Changes: Climate change threatens 92 bird species in Vermont. Warmer winters are expected to increase white-tailed deer populations and decrease moose populations, affecting forest composition. Warming waters will impact lake and river systems, increasing the risk of harmful algae blooms and reducing biodiversity.

Public Health and Agriculture Impacts

Health Risks: Warmer and wetter conditions will increase habitats for disease-carrying ticks and mosquitoes, worsen air and water quality, and exacerbate chronic diseases. Mental health challenges may also rise due to environmental stress.

Agricultural Shifts: Vermont's climate changes benefit agriculture by extending growing periods and allowing new crops. However, increased temperature and precipitation variability will cause setbacks, such as impacting fruit-bearing species and the maple syrup industry.

Economic Impacts

Economic Sectors: All sectors, including tourism, forestry, agriculture, maple sugaring, and recreation, will feel climate change impacts. Vermont may see an increase in summer visitors escaping extreme heat elsewhere.

Winter Recreation: By 2080, Vermont's ski season could shorten by two weeks (low emissions scenario) or a month (high emissions scenario).

Response and Adaptation

The Glover Energy Committee, established in 2016 as part of the Town Plan update, aims to enhance energy efficiency and conservation in Glover. Composed of members Ann Creaven,

Mariel Hess, Jack Sumberg, Angela Daniels, Sara Gluckman, and David Olsen, the committee meets bi-monthly and encourages community involvement. This initiative is particularly vital as climate change increases the risk of weather-related hazards like flooding, erosion, droughts, and wildfires, while also potentially introducing new diseases and pests to the area. For more information or to join, contact glovervtenergy@gmail.com.

State Initiatives

In 2011, Governor Shumlin formed the Vermont Climate Cabinet to enhance collaboration among state agencies for climate policy implementation. The 2013 Vermont Agency of Natural Resources Climate Change Adaptation Framework addresses climate change exposures and vulnerabilities, guiding actions to prepare for anticipated changes. VTrans aims to minimize long-term societal and economic costs from climate impacts on transportation infrastructure. Regardless of the cause, the frequency of declared disasters in the county is rising (Vermont Climate Council, n.d.).

This update builds on the hazard profile outlined in the 2005 plan, which covered flooding (including dam failure), hazardous materials, urban fire, landslides, and school safety. However, for this update, the planning team has opted to exclude hazardous material incidents, fire, and school safety to focus on natural hazards.

The highest-risk hazards identified in this update are:

- Flooding (including fluvial erosion and dam breach)
- Severe winter storms (including ice storms)
- Extreme cold
- High winds

Table 2.0: Summary of Vermont Major Disaster Declarations since 1998.

Event Number	Year	Event
1201	1998	Ice Storm
1228	1999	Severe Storms and Flooding
1307	1999	Tropical Storm Floyd
1336	2000	Severe Storms and Flooding
1358	2001	Severe Winter Storm
3167	2001	Snowstorm
1428	2002	Severe Storms and Flooding
1488	2003	Severe Storms and Flooding
1559	2004	Severe Storms and Flooding
1698	2007	Severe Storms and Flooding
1715	2007	Severe Storm, Tornado and Flooding
1778	2008	Severe Storms and Flooding
1784	2008	Severe Storm, Tornado and Flooding
1790	2008	Severe Storms and Flooding
1816	2009	Severe Winter Storm
1951	2010	Severe Storm
1995	2011	Severe Storms and Flooding
3338	2011	Hurricane Irene
4001	2011	Severe Storms and Flooding
4022	2011	Tropical Storm Floyd
4043	2011	Severe Storms and Flooding

Event Number	Year	Event
4066	2012	Severe Storm, Tornado and Flooding
4120	2013	Severe Storms and Flooding
4140	2013	Severe Storms and Flooding
4163	2014	Severe Winter Storm
4178	2014	Severe Storms and Flooding
4207	2015	Severe Winter Storm
4232	2015	Severe Storms and Flooding
4356	2018	Severe Storm
4380	2018	Severe Storm
3437	2020	Biological
4474	2020	Severe Storm
4532	2020	Biological
3567	2021	Hurricane
3595	2023	Flood
4695	2023	Severe Storm
4720	2023	Severe Storm and Flooding
4762	2024	Severe Storm and Flooding
4770	2024	Severe Winter Storm
4810	2024	Severe Storms and Flooding
4826	2024	Severe Storms, Flooding, and Landslides

Previous Hazard Events and Disaster Declarations

The Town of Glover reviewed historical hazard events affecting the planning area, including FEMA Major Disaster and Emergency Declarations applicable to Orleans County, to inform this risk assessment update. Table 2.0 provides a summary of Vermont Major Disaster Declarations for historical context.

In addition, the Planning Team reviewed the Orleans County–specific disaster declaration list provided by VEMA (best available data), including all declarations occurring since the last FEMA-approved LHMP update. These declarations were evaluated to determine relevance to the Town of Glover and to ensure compliance with 44 CFR §201.6(c)(2)(i).

Since the last plan update, Orleans County has been included in multiple federally declared disaster and emergency events associated with:

- Severe Winter Storms
- Severe Storms and Flooding
- Flood Events
- Landslides
- Hurricane/Tropical Systems
- Severe Storm/Wind Events
- Biological Events (COVID-19)

These events are reflected within the hazard profiles in this section under “Previous Occurrences.”

For hazard types where no FEMA Major Disaster or Emergency Declaration has been identified affecting Orleans County since the last plan update, this is noted within the corresponding hazard evaluation narrative.

This review confirms that all natural hazards identified in the 2023 Vermont State Hazard Mitigation Plan were evaluated for previous occurrences within the planning area, and where no documented disaster declaration exists, this absence has been explicitly acknowledged.

Profile Hazards

The Town of Glover evaluated all natural hazards identified in the 2023 Vermont State Hazard Mitigation Plan (SHMP), as well as hazards historically affecting Orleans County and previously identified in prior LHMP updates. Each hazard was assessed using the Hazard Risk Estimation methodology described above and summarized in Table 3.0. Probability ratings were determined based on documented historical occurrences, FEMA disaster declarations affecting Orleans County, and observed recurrence patterns for each hazard type. These ratings reflect the anticipated likelihood of a damaging event occurring within the planning horizon of this plan and allow for consistent comparison across hazards.

The hazards presenting the highest relative risk to community assets based on the scoring methodology are:

- Inundation Flooding
- Fluvial Erosion
- Severe Winter Storm (Snow)
- Ice Storm
- High Winds
- Dam Failure

All natural hazards identified in Table 3.0 are profiled below using a consistent framework.

Hazard Risk Estimation Scoring Definitions

Each hazard was evaluated using a standardized scoring methodology consistent with Table 3.0. Numerical values were assigned for Area Impacted, Health & Safety Consequences, Property Damage, Environmental Damage, and Probability. The definitions below correspond directly to the scoring framework used in the table and provide transparent criteria for how hazard prioritization was determined.

The Total Risk Score is calculated by summing the numerical ratings assigned to each of the five categories below. This methodology ensures consistent comparison across hazards and clearly documents how relative risk was determined.

Area Impacted

0: No developed area impacted
1: Less than 25% of developed area impacted
2: Less than 50% of developed area impacted
3: Over 75% of developed area impacted
4: Majority or entire municipality impacted

This category reflects the geographic extent of development exposed to hazard impacts, including residential, commercial, municipal, and infrastructure assets.

Health & Safety Consequences

0: No health and safety impact
1: Few injuries or illnesses
2: Multiple injuries or illnesses
3: Numerous fatalities

This category evaluates potential direct impacts to life safety, including injury, illness, evacuation needs, and fatality risk.

Property Damage

0: No property damage
1: Few properties damaged
2: Multiple properties damaged
3: Many properties destroyed or heavily damaged

This category reflects structural impacts to homes, businesses, municipal buildings, transportation infrastructure, and utilities.

Environmental Damage

0: Little or no environmental damage
1: Resources damaged with short-term recovery
2: Resources damaged with long-term recovery
3: Resources damaged beyond recovery

This category evaluates impacts to waterways, wetlands, forests, agricultural lands, habitat, and water quality.

Probability

Probability reflects the anticipated frequency of a damaging event occurring within a 100-year time horizon and considers whether recurrence is reasonably expected within the 5-year planning horizon of this Local Hazard Mitigation Plan.

0: No likelihood of occurrence
Event has not occurred historically and is not reasonably expected.

1: Low likelihood (rare or isolated events)
Estimated recurrence: 0–2 events per 100 years.

Typically occurring once every 50–100+ years.
These hazards are possible but not expected during the 5-year planning horizon.

2: Moderate likelihood (periodic occurrences)
Estimated recurrence: 2–10 events per 100 years.
Typically occurring once every 10–50 years.
These hazards are reasonably expected within a 100-year period and may occur during the 5-year planning horizon.

3: High likelihood (frequent or recurring events)
Estimated recurrence: 10 or more events per 100 years.
Occurring annually or multiple times within a 10-year period.
These hazards are expected to occur at least once during the 5-year planning horizon.

Probability ratings were informed by documented historical occurrences, FEMA disaster declarations affecting Vermont and Orleans County, regional climatological data, and local experience. Where quantitative recurrence data is limited (e.g., dam failure or emerging biological hazards), ratings were assigned based on best available statewide assessments and documented historical evidence.

Inundation Flooding

Location:
Low-lying areas of Glover Village along the Barton River and its tributaries are the primary areas of concern, particularly within FEMA-mapped flood hazard areas. Additional exposure exists at culvert crossings, undersized drainage infrastructure, lake outlets (including Shadow Lake), and road segments located adjacent to stream corridors. Structures, roadways, and municipal facilities situated near the Barton River channel and tributary confluences are especially susceptible. Gravel roads and older culvert systems throughout rural portions of the town increase localized vulnerability during intense precipitation events.

Extent:
Flooding in Glover is primarily associated with heavy rainfall events, rapid snowmelt, and river overflow from the Barton River watershed. The mapped 1% annual chance floodplain defines the primary inundation area; however, localized flooding may occur outside mapped areas due to drainage limitations, debris blockage, or undersized culverts. Impacts range from basement flooding and roadway shoulder erosion to bridge scour, culvert failure, septic system impacts, and structural damage to homes and businesses. Severe events may disrupt utilities, isolate neighborhoods, and impede emergency access. The July 2023 flood resulted in over $400,000 in documented municipal and private damage, including road repair, culvert replacement, and structural impacts, demonstrating the financial magnitude of potential future events.

Previous Occurrences:
Major flooding occurred in 1927 and again in July 2023. Minor to moderate flood events occur periodically during heavy precipitation and spring thaw conditions. Recurrent nuisance flooding has also been documented at culvert crossings and low-lying road segments.

Probability:
Moderate (Score = 2). Documented flood events in 1927, 2023, and additional minor events demonstrate a recurrence pattern consistent with a 10–50-year frequency range. Based on watershed conditions and regional precipitation patterns, 2–10 flood events may be expected within a 100-year period. Flooding is expected to recur within the long-term planning horizon.

Vulnerability:
Residential structures, businesses, municipal facilities, roads, bridges, and culverts located within flood hazard areas are vulnerable. Road closures may isolate rural households and delay emergency response and school transportation. Elderly residents, individuals with limited mobility, and low-income households may face disproportionate recovery challenges. Infrastructure repair costs place financial strain on municipal budgets. Flooding may also impair water quality, damage septic systems, and disrupt local economic activity within the village center.

Fluvial Erosion

Location:
Stream crossings, roadside drainage systems, gravel roads, and mapped river corridor areas along the Barton River, Roaring Brook, Shadow Lake outlet, and other tributaries throughout the municipality are particularly susceptible. Infrastructure located within mapped river corridors is exposed to lateral channel migration and bank instability.

Extent:
Fluvial erosion may result in bank collapse, culvert undermining, ditch washouts, slope instability, and partial or complete roadway loss. River corridor mapping prepared by the State of Vermont[1] identifies areas susceptible to channel migration and vertical incision. While impacts are often localized to stream-adjacent infrastructure, repair costs can be significant and require engineered stabilization measures. Erosion may also increase sediment loading into waterways, affecting aquatic habitat and downstream water quality.

[1] River corridor maps available here: https://dec.vermont.gov/watershed/rivers/river-corridor-and-floodplain-protection/river-corridor-and-floodplain-maps#rcmaps

Previous Occurrences:
Significant erosion occurred during the July 2023 flooding event, resulting in documented road shoulder loss and culvert damage. Smaller-scale erosion and ditch failure occur periodically during heavy rainfall and rapid snowmelt events.

Probability:
High (Score = 3). Erosion impacts occur repeatedly during intense precipitation events and are associated with annual storm cycles. Based on mapped river corridor conditions and recent damage history, erosion-related impacts are expected multiple times within a 10-year period and more than 10 times within a 100-year period.

Vulnerability:
Municipal transportation infrastructure is most vulnerable. Failure of roads and culverts may isolate residents, impede emergency response, and disrupt school and business access. Rural properties located along streambanks are also susceptible. Repair and reconstruction costs strain municipal budgets and may require state or federal assistance. Environmental impacts include sedimentation, habitat disruption, and long-term channel instability.

Severe Winter Storm (Snow)

Location:
The entire municipality is affected by winter storms, with particular vulnerability along steep rural roads, forested corridors, and hilltop residences. Remote areas and gravel roads may experience prolonged accessibility challenges.

Extent:
Snowfall events range from moderate accumulations of 4–6 inches to significant storms exceeding 12 inches within 24 hours. Seasonal snowfall has exceeded 120 inches in peak years. Severe storms may result in road closures, school cancellations, multi-day power outages, structural roof loading concerns, and delayed emergency response. Heavy wet snow may increase tree damage and power line stress.

Previous Occurrences:
Snow events occur annually. Significant accumulation occurred during the 2010–2011 winter season, with repeated heavy snowfall impacting transportation and municipal budgets.

Probability:
High (Score = 3). Snow events occur annually, with significant accumulation events occurring regularly. Based on long-term climate records, winter storms exceed 10 occurrences within a 100-year timeframe and are certain to recur during the 5-year planning period.

Vulnerability:
Transportation access, emergency response times, and power reliability are affected. Elderly residents and medically dependent individuals are particularly vulnerable during prolonged outages. Municipal snow removal and road treatment costs increase during severe winters. Agricultural buildings and older structures may experience roof loading stress during heavy accumulation events.

Ice Storm

Location:
Town-wide, especially forested and elevated areas where ice accumulation on trees and overhead utility lines is most severe.

Extent:
Ice accumulation of 0.25 inches or greater may result in widespread tree damage, blocked roadways, and multi-day power outages. Ice loading increases the likelihood of downed utility lines, structural stress on tree canopy, and hazardous travel conditions. Extended freezing rain events may significantly impair municipal operations.

Previous Occurrences:
Localized ice events have occurred historically, resulting in temporary power outages and road blockages. Vermont has experienced significant regional ice storms impacting infrastructure.

Probability:
Moderate (Score = 2). Damaging ice storms occur intermittently in northern Vermont, generally within a 10–50 year recurrence range. Based on regional history, multiple damaging ice events are reasonably expected within a 100-year period.

Vulnerability:
Overhead power lines and forested corridors are highly vulnerable. Extended outages affect heating systems, refrigeration, water pumps, and communications. Downed trees may block emergency access routes and increase municipal debris removal costs.

High Winds

Location:
Entire municipality, particularly hilltops, open corridors, and forested areas susceptible to treefall.

Extent:
Sustained winds exceeding 40 mph or gusts above 60 mph may occur during severe thunderstorms, nor'easters, or winter storm systems. Impacts include treefall, roof shingle loss, barn damage, and utility disruption. Wind events may also exacerbate wildfire spread during dry conditions.

Previous Occurrences:
Wind-related damage has occurred during thunderstorms and winter storms, including localized tree damage and power outages.

Probability:
Moderate (Score = 2). Wind-related damage events occur periodically in association with thunderstorms and winter storm systems. While not annual at severe levels, damaging winds occur multiple times per century and are expected within the 100-year planning horizon.

Vulnerability:
Older structures, agricultural buildings, and overhead utility lines are vulnerable. Treefall may block roadways and disrupt electrical service. Repair costs and temporary business interruption may occur following significant events.

Dam Failure

Location:
Shadow Lake Dam and downstream areas along the Barton River corridor, including roadways, bridges, and structures located within potential inundation pathways.

Extent:
Failure of Shadow Lake Dam could result in rapid downstream inundation, potentially damaging bridges, road segments, culverts, and adjacent properties. Depending on failure mode and water volume, downstream erosion and debris transport may compound impacts. Sudden water release could significantly affect emergency response and evacuation timing.

Previous Occurrences:
The dam was reinforced following the 1927 flood. A sinkhole identified after the 2023 flood event was stabilized following engineering consultation, indicating the importance of ongoing maintenance and monitoring.

Probability:
Low (Score = 1). No documented structural failure has occurred in modern history. Based on maintenance history and inspection practices, failure likelihood is estimated at fewer than two

occurrences per 100 years; however, extreme rainfall conditions present a limited but credible risk.

Vulnerability:
Downstream infrastructure, transportation routes, and properties are vulnerable to sudden inundation. Evacuation of residents in low-lying areas may be required. Environmental resources and aquatic habitat could also be affected in the event of structural failure.

Wildfire / Forest Fire

Location:
Forested and rural areas throughout Glover, particularly within the wildland-urban interface where residential structures are located adjacent to wooded areas. Properties with limited defensible space, seasonal camps converted to year-round residences, and areas accessed by narrow or gravel roads are most susceptible.

Extent:
Fire spread would likely be influenced by fuel load, slope, wind conditions, and access limitations. While most wildland fires are less than 1-acre, larger events can occur. A 2024 wildfire in Barnard, VT burned 50 to 60 acres in a single event.

Previous Occurrences:
No major municipal-scale wildfire events have been documented in Glover. However, small brush fires and regional forest fire activity have occurred in Vermont, particularly during dry summer conditions.

Probability:
Low (Score = 1). No major wildfire events have been documented within Glover in recent decades. Based on regional fire occurrence data and forest composition, wildfire events are estimated at fewer than two occurrences per 100 years at a damaging municipal scale.

Vulnerability:
Rural residences surrounded by forested land are most vulnerable, particularly where access roads are narrow or limited. Volunteer fire response times may increase in remote areas. Environmental resources, including forest habitat and wildlife, would be impacted in the event of a fire. Economic impacts would likely be localized and limited in duration. Wildfire events in Glover would most likely occur during extended dry periods combined with high winds. While large-scale forest fires are uncommon in northern Vermont, localized brush or forest fires could result in structural damage, loss of wooded acreage, temporary road closures, and reduced air quality.

Drought

Location:
Agricultural lands, private wells, surface water sources, and forested areas throughout Glover.

Extent:
Drought conditions typically develop gradually and may persist for weeks or months. In October 2025 Glover reached D3 Extreme Drought.

Previous Occurrences:
Periodic drought conditions have occurred regionally in Vermont, including seasonal dry periods impacting agricultural productivity and groundwater levels. In September 2025 when the drought reached D2 Severe Drought a diner in Glover reportedly closed because there was no water. Some residents were also without water, while others were concerned that they might run out[2].

Probability:
Moderate (Score = 2). Periodic drought conditions occur regionally, typically within a 10–50 year recurrence range. Multiple drought episodes may occur within a 100-year period.

Vulnerability:
Private well users and agricultural operations are most vulnerable. Reduced water availability may impact crop yields, livestock operations, and forest health. Economic impacts may affect farming operations and associated local businesses. Extended periods of below-average precipitation may reduce groundwater recharge, lower well yields, stress agricultural crops, and increase wildfire susceptibility. Impacts may include reduced crop productivity, increased irrigation demand, and stress to aquatic ecosystems. Table 3.0

Category	Examples of historically observed impacts
D0	Crop growth is stunted; planting is delayed
	Fire danger is elevated; spring fire season starts early
	Lawns brown early; gardens begin to wilt
	Surface water levels decline
D1	Honey production declines
	Irrigation use increases; hay and grain yields are lower than normal
	Trees and landscaping are stressed; fish are stressed
	Voluntary water conservation is requested; reservoir and lake levels are below normal capacity
	Wildfires and ground fires increase
D2	Fish kills occur; wildlife move to farms for food
	Golf courses conserve water
	Producers begin feeding cattle; hay prices are high
	Specialty crops are impacted in both yield and fruit size
	Trees are brittle and susceptible to insects
	Warnings are issued on outdoor burns; air quality is poor
	Water quality is poor; groundwater is declining; irrigation ponds are dry; outdoor water restrictions are implemented
D3	Crop loss is widespread; Christmas tree farms are stressed; dairy farmers are struggling financially
	Extremely reduced flow to ceased flow of water is observed; river temperatures are warm; wells are running dry; people are digging more and deeper wells
	Water recreation and hunting are modified; wildlife disease outbreak is observed
	Well drillers and bulk water haulers see increased business

[2] Newport Daily Express (Vt.), Sep 24, 2025. https://droughtmonitor.unl.edu/DmData/StateImpacts.aspx

Extreme Heat

Location:
Entire municipality, particularly residential areas without air conditioning and congregate living facilities.

Extent:
Extreme heat events may include multiple consecutive days exceeding 85–90°F. Although Vermont is generally temperate, prolonged heat waves may increase health risks, strain electrical systems, and elevate cooling demand. Impacts may include dehydration, heat exhaustion, and increased emergency medical calls.

Previous Occurrences:
Short-duration heat waves have occurred periodically in the region, though extended extreme heat events are not historically common.

Probability:
Moderate (Score = 2). Heat events exceeding 85–90°F occur intermittently in northern Vermont. While not annual at hazardous thresholds, multiple heat events are expected within a 100-year timeframe.

Vulnerability:
Elderly residents, medically vulnerable individuals, and homes without cooling systems are most vulnerable. Increased energy demand may strain power systems. Outdoor workers and agricultural operations may also experience productivity impacts during extreme heat events.

Extreme Cold

Location:
Entire municipality, with heightened vulnerability in remote rural areas and residences dependent on electric or fuel-based heating systems.

Extent:
Extreme cold events may include sustained temperatures below 0°F and wind chill values below -20°F. Impacts may include frozen pipes, heating system failures, increased fuel consumption, frostbite risk, and hypothermia. Combined with power outages, extreme cold may create life-safety emergencies.

Previous Occurrences:
Sub-zero temperatures occur periodically each winter in Vermont. Arctic air intrusions and wind chill events have historically affected the region.

Probability:
Moderate (Score = 2). Temperatures below 0°F occur periodically each winter season. Severe cold events with dangerous wind chill are expected multiple times per century.

Vulnerability:
Residents without backup heating systems, elderly individuals, and medically dependent populations are most vulnerable. Frozen water lines may cause residential property damage. Municipal costs may increase due to road treatment, fuel use, and emergency sheltering needs.

Hail

Location:
Town-wide, particularly in open agricultural areas and residential neighborhoods exposed during severe thunderstorms.

Extent:
Hail events may cause damage to roofing materials, siding, vehicles, and crops. While most hail events in Vermont are small in diameter, larger hailstones during severe thunderstorms could result in structural repair costs and agricultural losses. A 2007 event in Morgan Center resulted in hail with a 1.75 inch diameter.

Previous Occurrences:
Localized hail events have occurred regionally during summer thunderstorms. No large-scale catastrophic hail damage has been documented in Glover.

Probability:
Low (Score = 1). Localized hail events occur sporadically but rarely produce widespread structural damage. Based on historical patterns, damaging hail events are estimated at fewer than two occurrences per 100 years at a municipal scale.

Vulnerability:
Agricultural operations and older roofing materials are most vulnerable. Impacts are generally short-term and localized, with limited municipal infrastructure exposure.

Earthquake

Location:
Entire municipality.

Extent:
Vermont is classified as a low seismic hazard state. A moderate seismic event could result in minor cracking of masonry walls, chimney collapse, foundation stress, and potential bridge inspection needs. Significant structural collapse is unlikely based on regional seismic history.

Previous Occurrences:
Minor tremors have occurred regionally, but no significant earthquake damage has been recorded in Glover.

Probability:
Low (Score = 1). Vermont is classified as a low seismic risk state. Damaging earthquake events are estimated at fewer than two occurrences per 100 years.

Vulnerability:
Older masonry structures, historic buildings, and unreinforced foundations are most vulnerable. While catastrophic impacts are unlikely, even minor damage could affect municipal buildings and residential properties.

Landslides

Location:
Steep slopes, road embankments, and streambanks throughout Glover, particularly along gravel roads and cut slopes.

Extent:
Landslides in Glover would most likely occur as shallow slope failures or embankment collapses following intense rainfall or rapid snowmelt. Impacts may include roadway undermining, ditch failure, and debris blockage of culverts. Recent landslide data was not available for this update.

Previous Occurrences:
Minor slope instability has occurred regionally following heavy precipitation events. No catastrophic landslide events have been recorded in Glover.

Probability:
Low (Score = 1). Localized slope failures may occur following heavy rainfall; however, large-scale landslide events are infrequent and estimated at fewer than two significant events per 100 years.

Vulnerability:
Road embankments and adjacent properties located below steep slopes are most vulnerable. Repair costs may be required for localized infrastructure damage.

Infectious Disease

Location:
Entire municipality, including schools, municipal facilities, healthcare providers, and congregate living facilities.

Extent:
Infectious disease is caused by micro-organisms, such as bacteria, viruses or parasites. An epidemic emerges when an infectious disease occurs suddenly in numbers that are in excess of normal expectancy. There is no single scientific scale to measure extent for infectious disease.

Previous Occurrences:
The COVID-19 pandemic affected Glover as part of statewide and national impacts. Seasonal influenza outbreaks occur annually at varying levels.

Probability:
Moderate (Score = 2). Pandemic-level events are infrequent; however, regional outbreaks occur intermittently. Based on historical epidemiological trends, multiple outbreak events may occur within a 100-year period.

Vulnerability:
Infectious disease events may result in workforce shortages, school closures, supply chain disruptions, and strain on healthcare systems. While structural infrastructure damage does not occur, economic and operational impacts may be significant. Elderly residents, medically vulnerable individuals, and congregate living populations are most vulnerable. Municipal services may be affected by staffing shortages. Economic impacts may affect small businesses and local employment.

Invasive Species

Location:
Forested lands, waterways including the Barton River and surrounding lake systems, wetlands, and agricultural lands.

Extent:
Non-native species introduced to an ecosystem are considered invasive if they cause or are likely to cause economic or environmental harm or harm to human health. There is no single measure of extent. Impacts are typically gradual but may require long-term management and monitoring.

Previous Occurrences:
Invasive plant species and forest pests have been documented regionally in Vermont. Aquatic invasive species have affected nearby water bodies. See the Vermont SHMP for more details.

Probability:
High (Score = 3). Invasive plant and aquatic species spread occurs continually across Vermont. Introduction and expansion events are ongoing and exceed 10 occurrences within a 100-year timeframe.

Vulnerability:
Invasive terrestrial and aquatic species may reduce biodiversity, impair forest health, alter habitat conditions, and degrade water quality. Aquatic invasive species may impact recreation and tourism. Natural resources, forest health, agricultural productivity, and recreational waterways are most vulnerable. Long-term management costs and ecological degradation may affect economic activity and environmental quality.

Other Hazards Considered (Technological / Human-Caused)

The following hazards are considered technological or human-caused hazards and are evaluated separately from the natural hazard risk assessment required under FEMA 44 CFR §201.6:

- Structure Fire
- Hazardous Materials Incident
- Power Failure
- Tire Dump Environmental Hazard

These hazards are recognized as potential community concerns but are addressed through existing regulatory, emergency response, and operational mechanisms.

Hazard and Risk Analysis Summary

The Town of Glover conducted a comprehensive hazard and risk assessment consistent with the methodology described in Table 3.0. All natural hazards identified in the 2023 Vermont State Hazard Mitigation Plan (SHMP), as well as hazards historically affecting Orleans County and previously identified in prior LHMP updates, were evaluated.

Each hazard was assessed based on:

- Area Impacted
- Health and Safety Consequences
- Property and Environmental Damage
- Economic Disruption
- Probability of Occurrence

The overall risk value was determined using a consistent scoring methodology to allow direct comparison across hazards.

Based on the updated risk assessment, the hazards presenting the greatest relative risk to community assets in Glover are:

- Inundation Flooding
- Fluvial Erosion
- Severe Winter Storm (Snow)
- Ice Storm
- High Winds
- Dam Failure

Flooding and fluvial erosion represent the most financially significant hazards due to their potential to damage municipal roads, bridges, culverts, and structures located within river corridors and low-lying areas. The July 2023 flooding event reinforced the Town's vulnerability to intense precipitation and related infrastructure impacts.

Winter storms and ice events affect the entire municipality annually and present recurring risks to transportation access, power reliability, and vulnerable populations. While high wind events and dam failure present comparatively lower probability, their potential impacts to infrastructure and downstream properties warrant continue monitoring and mitigation planning.

Additional natural hazards—including wildfire, drought, extreme heat, extreme cold, hail, earthquake, landslides, infectious disease, and invasive species—were evaluated using the same methodology. Based on historical experience and documented municipal impact, these hazards were determined to present comparatively lower relative risk to municipal infrastructure at this time but remain part of the Town's ongoing monitoring framework.

Technological and human-caused hazards, including structure fire, hazardous materials incidents, power failure, and the identified tire dump environmental concern, are recognized as potential community risks but are evaluated separately from the natural hazard mitigation requirements under FEMA 44 CFR §201.6.

This comprehensive assessment ensures alignment with FEMA and VEMA multi-hazard risk assessment standards and provides a clear foundation for prioritizing mitigation actions within this plan.

Overall Community Vulnerability Summary

The Town of Glover's vulnerability to natural hazards is shaped by its rural geography, aging infrastructure, dispersed population, and concentration of critical facilities within or near hazard-prone areas. Key community assets include residents (particularly elderly and medically vulnerable populations), municipal buildings, transportation infrastructure, emergency services, utilities, local businesses, and natural resources.

Glover includes socially vulnerable populations such as elderly residents in nursing home facilities, individuals dependent on electrical medical equipment, low- to moderate-income households, and residents living on remote or dead-end roads. Seasonal residents and visitors around lake areas also increase population exposure during peak periods.

Flooding and fluvial erosion present the greatest financial risk due to exposure of municipal roads, culverts, bridges, and structures located within mapped floodplains and river corridors.

Winter storms, ice events, and high winds threaten transportation access, electrical infrastructure, and emergency response capabilities. Dam failure presents localized but potentially severe downstream impacts.

Across all hazards, the most significant vulnerabilities include:

- Disruption of transportation networks
- Loss of power and communication
- Damage to municipal infrastructure
- Risk to elderly and medically vulnerable populations
- Economic interruption to local businesses
- Impacts to water quality and natural resources

This vulnerability assessment considers both current assets and anticipated future conditions within the planning horizon of this plan.

Future Conditions and Potential Changes in Hazard Impacts

The Town of Glover recognizes that future conditions within the planning horizon may influence the severity and consequences of hazard impacts. While the 2025 FEMA planning guidance no longer requires explicit analysis of climate change or demographic projections, the Planning Team considered how evolving conditions may affect community vulnerability.

Future impacts may be influenced by:

- Aging infrastructure requiring increased maintenance and replacement,
- An aging population and medically vulnerable residents requiring reliable power and emergency access,
- Continued development within or near existing village centers and transportation corridors,
- Ongoing maintenance and replacement of culverts, bridges, and road infrastructure.

Increased development within flood-prone areas, changes in seasonal population, or shifts in the age composition of residents may increase vulnerability to flooding, winter storms, and extended power outages. Conversely, improved infrastructure upgrades and mitigation actions may reduce future impacts.

The Town will continue to consider hazard exposure during development decisions, capital planning, and infrastructure investment to reduce long-term risk to community assets.

Table 3.0 Hazard & Risk Analysis

Table 3.0 Hazard & Risk Analysis: Natural Hazards

Hazard	Area Impacted	Health & Safety	Property Damage	Environmental Damage	Probability	Total Risk	Total Risk Score
Fluvial Erosion	4	2	3	2	3	14	14
Inundation Flooding	4	2	3	2	2	13	13
Severe Winter Storm (Snow)	4	2	2	2	3	13	13
Ice Storm	3	2	2	1	2	10	10
High Winds	3	2	2	1	2	10	10
Dam Failure	2	2	3	1	1	9	9
Extreme Cold	3	2	1	1	2	9	9
Drought	2	1	1	1	1	6	6
Extreme Heat	2	1	1	1	1	6	6
Hail	2	1	1	1	1	6	6
Landslides	1	1	1	1	1	5	5
Wildfire / Forest Fire	1	1	1	1	1	5	5
Earthquake	2	2	0	1	1	6	6
Infectious Disease	2	2	0	0	1	5	5
Invasive Species	2	0	0	1	2	5	5

Key: Area Impacted	Health & Safety Consequences	Property Damage	Environmental Damage	Probability
0 – No developed area impacted 1 – Less than 25% of developed area impacted 2 – Less than 50% of developed area impacted 3 – Over 75% of developed area impacted	0 – No health and safety impact 1 – Few injuries or illnesses 2 – Few fatalities or illnesses 3 – Numerous fatalities	0 – No property damage 1 – Few properties destroyed or damaged 2 – Few destroyed but many damaged 3 – Many properties destroyed and damaged	0 – Little or no environmental damage 1 – Resources damaged with short-term recovery 2 – Resources damaged with long-term recovery 3 – Resources damaged beyond recovery	0 – No likelihood of occurrence 1 – Low likelihood (rare or isolated events) 2 – Moderate likelihood (periodic occurrences) 3 – High likelihood (frequent or recurring events)

Hazard Prioritization

Based on the hazard and risk analysis shown in Table 3.0, the Town of Glover has evaluated all natural hazards identified in the 2023 Vermont State Hazard Mitigation Plan, as well as hazards historically affecting Orleans County.

The following hazards are prioritized for full profiling and mitigation strategy development due to their higher relative risk to community assets:

- Fluvial Erosion
- Inundation Flooding
- Winter Storm (Snow)
- Ice Storm
- High Winds
- Dam Failure

Hazards scoring lower relative risk were evaluated using the same criteria but are not fully profiled due to comparatively limited anticipated impacts to municipal infrastructure and community assets. No hazard was omitted without structured evaluation through the Table 3.0 risk assessment process.

Profiled Hazard's Impact and Extent Data

Flooding and fluvial erosion stand out as the most prevalent recurring hazards in the state of Vermont. The records from June 2015 marked an unprecedented level of rainfall statewide, with Glover and other towns in the Northeast Kingdom receiving 7 to 8 inches of rain. The events of 2011 and the subsequent records set in 2015 are clear indicators of a trend toward increased total rainfall and intensified rainfall within shorter timeframes—a pattern observed consistently across recent history. This trend is emphasized in the 2015 Glover Flood Resilience Plan, a collaborative effort between the Northwoods Stewardship Center and the community, partially funded by the Barton Hydro Project Municipal Planning Grant.

Geographical Overview of Glover's Watersheds and Water Bodies

Glover, encompassing approximately 22,740 acres, has diverse hydrological characteristics, primarily falling within the Lake Memphremagog Watershed, which covers about 92% of the town. The remaining area lies within the Lake Champlain and Connecticut River watersheds.

Within the Lake Memphremagog Watershed, there are four sub-basins: the Johns River, Black River, Barton River, and Clyde River watersheds. Both the Black River and Barton River watersheds include portions of Glover, with the Barton River watershed contributing to most of the town's surface water drainage. These rivers flow generally northward into Lake Memphremagog, eventually draining north via Quebec's Magog and St. Francis rivers into the St. Lawrence River. The Barton River watershed spans approximately 162 square miles, originating in southern Glover and culminating in its outlet at the South Bay Wildlife Management Area in Coventry, VT. Similarly, the Black River watershed begins in Albany and meets Lake Memphremagog in Coventry, although the river itself does not course through Glover.

In contrast, the Upper Lamoille River watershed, spanning an area of roughly 722 square miles, originates in Greensboro and flows southwestward. It converges at Jackson Dam in Hardwick before continuing westward, ultimately emptying into Lake Champlain in Milton, VT. While the Lamoille River doesn’t traverse Glover, a portion of its watershed (1,856 acres) is located in the town's southern region.

Additionally, a small 64-acre area of the Miller’s Run watershed, a sub-watershed of the Passumpsic River watershed, is situated within Glover, although it excludes the Passumpsic River itself. The Passumpsic River watershed spans approximately 504 square miles, featuring several converging branches in Lyndon before coursing southward and joining the Connecticut River at Barnet. The Passumpsic River is one of the primary tributaries of the northern Connecticut River.

Moreover, Glover boasts two lakes, Shadow Lake and Lake Parker; four ponds including Clarks Pond (also known as Tildy’s Pond), Daniels Pond, an unnamed pond colloquially referred to as the Beaver Pond, and Sweeney Pond. The town is also home to numerous streams and rivers, encompassing a 7.9-mile stretch of the Barton River along with its headwaters.

Elevation and Topography in Glover

The Township of Glover, Vermont, spans six miles on each side and features diverse topography, including towering hills and low, marshy valleys. Numerous hills exceed 1700 feet in elevation, with the highest reaching 2260 feet. Notable peaks include the two peaks of the Black Hills in the southern region and Pepin Hill to the west. The town contains four substantial bodies of water: Shadow Lake (217.3 acres), Lake Parker (239 acres), Daniels Pond (66 acres), and Clark Pond (31 acres). The outflow from these lakes primarily drains north into the Barton River, which leads to Lake Memphremagog. Additionally, some areas drain south into the Lamoille River or east into the Passumpsic River, eventually reaching the Connecticut River.

The town's steep drainages are prone to flash flooding, exacerbated by historical deforestation for agriculture and the construction of roads. These factors have created unnatural channels for rainwater and snowmelt, accelerating water flow over impermeable surfaces and causing erosive damage. This fast-moving water transports sediment and debris, leading to culvert blockages that can trigger flooding across roads and driveways, resulting in property damage and culvert erosion.

Soil Types in Glover

In Glover, soil types are classified into four categories based on their susceptibility to erosion: Highly Erodible, Potentially Highly Erodible, Not Erodible, and Unrated (NRCS HELCLASS). A significant portion, approximately 62%, of the soils in Glover fall under the category of Potentially Highly Erodible. This designation is attributed to soil textures and slopes that render these soils highly sensitive to erosion when disturbed or exposed.

Flood History

Vermont has a history of major floods that predates the availability of federal disaster assistance. Noteworthy events include:

June – 1810:

A work crew from Glover attempted to increase water flow for their mill by excavating a channel from Long Pond to Clarks Pond and then to the Barton River. The unstable soil gave way, causing the entire pond to empty into the Barton River, resulting in significant destruction of bridges, mills, trees, and farm fields.

November – 1927:

Record-breaking rainfall led to widespread flooding. In West Glover, a bridge was lost, and a sawmill was damaged. In Glover Village, one house and a blacksmith shop were lost. This flood is extensively documented in the History of the town of Glover, Vermont.

July – 1997:

Flooding in Glover village caused damage to the town hall, church, and firehouse. Cellars in several homes were flooded, and approximately 200 culverts were washed out. Erosion occurred at the bridge in Glover village, and Sand Hill Road was washed out.

May – 2011:

Heavy rain caused two culverts on Rodgers Rd to be washed out, previously partially blocked by beavers.

August – 2011:

During Tropical Storm Irene, the King Road culvert washed out, and there was erosion on Phillips Rd.

May – 2012:

Heavy rain in the north end of Glover caused significant damage to King Road and Dexter Mountain Road. The Sargent Lane Bridge abutment was undermined, and there was some damage to Sand Hill Road.

June - 2023

A period of heavy rain on already saturated land created the perfect conditions for disaster. The floodwater breached the town hall, submerging it under 4 to 5 feet of water. Many village homes suffered extensive damage, and 18 town roads were significantly impacted.

June - 2024

One year after the 2023 flood, Orleans County was significantly impacted again. Another federal disaster was declared on August 21st, 2024.

Glover's most severe flooding occurred in 1927, affecting villages, roads, and bridges throughout the town. The flood's cause was a combination of excessive rain in October saturating the soil, culminating in intense rainfall on November 4. The flood altered the landscape, causing slope failures, home, and bridge destruction, prompting extensive rebuilding efforts across all counties.

The town remains vigilant in monitoring and addressing potential flood risks to enhance resilience and mitigate the impact of future events.

Update on Fluvial Erosion

Fluvial erosion is an ongoing, small-scale natural process within the riparian corridor of the town's streams and rivers, contributing to the proper functioning of the ecosystem. However, when occurring on a large scale, fluvial erosion can pose significant threats by damaging stream

banks and undermining critical infrastructure, including roads, bridges, and culverts. Agricultural land and structures are also susceptible, leading to severe damage.

Large-scale fluvial erosion has the potential to cause stream bank collapses, often classified as landslides. It's important to note that most flood damage is linked to fluvial erosion rather than simple inundation. The 2023 Vermont State All-Hazards Mitigation Plan provides a comprehensive discussion of fluvial erosion, emphasizing the need for strategic planning and mitigation measures to address the challenges posed by erosion on a larger scale. This proactive approach is essential for safeguarding the town's infrastructure, agricultural assets, and overall community well-being against the adverse effects of fluvial erosion.

Vermont's landscape has historically led to widespread channelization of rivers and streams, primarily for maximizing agricultural land use and facilitating transportation infrastructure development. This practice, combined with extensive floodplain encroachment, has resulted in disconnecting up to 70% of Vermont's streams from their floodplains. This unsustainable condition, particularly when intensified by flood events, often leads to catastrophic adjustments in the channel, causing significant fluvial erosion damage to adjacent or nearby human investments.

Fluvial erosion hazards are prevalent across the state, with certain areas experiencing more significant impacts due to the location of storm tracks. Transportation infrastructure and agricultural property are the most commonly endangered types of human investments affected by these hazards. Additionally, residential, commercial, and other municipal properties are frequently at risk. Changes in watershed hydrology, influencing fluvial stability, are commonly associated with urbanization or silvicultural practices. In Vermont, localized changes in watershed scale hydrology have been observed in small, highly urbanized watersheds or in rural sub-watersheds following extensive clear-cutting.

Stream geomorphic assessments and a fluvial geomorphic database maintained by the Agency of Natural Resources reveal that main stem rivers are typically channelized from 60-95% of their lengths. Despite the unsustainable morphological condition and the associated hazards to public safety, there is often an extreme public interest in maintaining this status quo when human investments and land use expectations extend to the riverbanks throughout the valley. The costs and risks involved in sustaining this condition underscore the challenge of addressing the long-standing impact of channelization practices on Vermont's waterways.

Stream Crossing Structures and Fluvial Erosion

The Vermont Agency of Transportation (VTrans) classifies certain stream crossing structures as "scour critical," indicating their heightened vulnerability to streambed scour—the undermining of bridge supports by water action and erosion. VTrans maintains a spreadsheet database continually updated by the Bridge Inspection Program, focusing on structures 20 feet or longer owned by municipalities or the state. The scour critical rating primarily considers the structure itself and doesn't account for factors like debris jams, outflanking, channel change, or other issues associated with fluvial erosion.

While water supply source and distribution systems are susceptible to fluvial erosion, particularly buried pipes crossing streams, it's noteworthy that the town of Glover lacks a municipal water supply. In December 2014, the Vermont Department of Environmental Conservation (DEC) issued the "Flood Hazard Area and River Corridor Protection Procedures" guide, providing specific actions and considerations for all towns in the state.

Shadow Lake Dam

There are three dams within the town of Glover. Shadow Lake Dam is an earth embankment dam with a principal spillway and auxiliary spillway. The Dam is approximately 130 feet long with a structural height of 12 feet. The upstream face of the dam consists of a granite block wall with some riprap placed in front of the wall. The crest is about 8 ft. wide and surfaced with grass. The downstream slope is earthen and surfaced with grass. The principal spillway is a cast-in-place

concrete drop inlet-style spillway with a single stoplog section that controls elevation. A series of timbers in front of the stop logs act as a trash rack.

Flow is released through a 36-inch diameter opening with a knife gate located on the upstream face of the opening. The stop logs and knife gate are housed in a timber gate house building which the town keeps locked. The auxiliary spillway is a 15 feet wide broad crested weir with a concrete chute. The drainage area of the dam is reportedly 5.3 square miles. Shadow Lake at normal pool is approximately 220 acres and the normal and maximum storage capacity of the dam are approximately 1,708 acre-feet and 2,866 acre-feet. The dam's original construction dates to 1800's and the auxiliary spillway was constructed to its current configuration in 1929. [*The Vt. Dam Safety Inspection Report of 06/28/2023 [Hannah Kuleba & Andrew Sampsell*]

Shadow Lake Dam is the largest with the potential to cause the most damage in the event of a breach. It is classified as a "Class 2" or "Significant Hazard" dam by the Vermont Dam Inventory (VDI). A 06/28/2023 Vermont Dam Safety Inspection Report [Shadow Lake Dam] is available online at www.townofglover.com. Click on "Documents" and/or a paper copy can be located at the Glover Town Office. A second Rapid Inspection Report was done on 7/18/2023 after the flood.

The Vt. Dam Safety Inspection Report of 06/28/2023 [Hannah Kuleba & Andrew Sampsell] recommended.

General: On a regular basis and following the application of unusual or extreme loading [H20] conditions, perform monitoring of the dam and its appurtenances [subordinate structures]. Report on any unsafe conditions to Vt. Dam Safety Program.

- General Embankment: Establish and maintain vegetation clearing limits a minimum of 15 feet from all portions of the dam. Annually cut and remove grass, weeds, brush, and woody vegetation [but leave stumps] from the dam crest, upstream and downstream slopes, abutments and downstream areas to near ground surface. Mow/brush hog the grass surfaces of the embankment at least once to twice annually.

- Crest: Cut tall vegetation on dam crest; Backfill the sinkhole located between the gate house and auxiliary spillway with compacted granular fill and monitor the area. If adverse conditions develop, contact Benjamin Green from the Vt. Dam Safety Program at Benjamin.green@vermont.gov

- Downstream Slope Area: Cut tall vegetation on downstream slope; and regularly monitor seepage, leakage, and/or wet areas for changes in flow, turbidity, or size.

- Spillways: Maintain the principal and auxiliary spillways free of debris to help ensure free-flow conditions. Cut vegetation in front of, around, and below auxiliary spillway. Monitor the condition of the auxiliary spillway's concrete and perform minor surficial repairs as needed.

- Low-level Outlets: Periodically monitor and inspect the condition of the stoplogs and. take measures to reduce leakage as necessary

- Embankment Walls: Cut vegetation in front of the masonry wall.

- Timber Gate House: Replace two bottom boards around the bottom of the building in several places as needed. Replace roof with new metal roofing.

The 2024 Emergency Action Plan calls for monitoring of the dam during normal conditions and during periods of heavy precipitation, flooding, or any unusual hydrologic events that might cause structural damage to the dam. The plan names a monitor and alternate monitor, provides an assessment checklist, specifies preventative action, and lists officials and downstream residents to contact in the event of imminent possible failure.

The Glover Select Board designates each one of the three members to oversee various town operations, functions, and committees. Therefore, one Select-Boad Member is the town's representative on the Mitigation Committee. In addition, the Road Commissioner and Town Administrator are active and major contributors. On Wednesday, March 20, 2024, a Mitigation Committee member joined the Glover Board member, Town Administrator and made an on-site visit to the Shadow Lake Dam and Lake Parker Dam. They met in the morning to inspect Shadow Lake Dam and review recommendations from the State of Vermont. Their recommendations are respected and a work crew will be developed to follow through with their suggestions. In addition, the work crew will clearly mark the Town of Glover boundaries at the dams' markers, remove all debris, logs, etc. and address recommendations. In addition to the pictures in the Vt. Dam Inspection Report, we have included current photos of the dam. A work team will meet in the summer of 2024. After the flood of July 2024, a rapid inspection was done and can be found at www.townofglover.com

The VT Agency of Natural Resources

Resources (ANR) Dam Safety Program maintains an inventory of Vermont dams (including ANR owned dams) with impoundments greater than 500,000 cubic feet." Failure of any of these dams could result in significant downstream flooding.

There is a wonderfully written and documented book by Joan Alexander, Connie Ashe and Jack Sumberg [Slab City/South Glover, Vermont - A Busy Hamlet – Now Vanished] that is well worth the read. The power of water has been instrumental in the history and culture of Glover [West Glover, South Glover, Slab City, Runaway Pond] and so forth

. DANIEL'S POND

The Daniels Pond Dam does not appear on the VCGI dams' layer because it consists of a granite block set across the culvert at the outlet which controls the height of the water and is not adjustable. The area was inspected by the mitigation team, May 17, 2024, and noticed it needs debris clean up and cut back some branches that overhang the culvert.

Lake Parker Dam:

The Lake Parker Dam, classified as a Class 3 "low hazard" dam, is not included in this Mitigation Plan. However, an inspection conducted on May 17, 2024, highlighted the need for debris removal assistance for families living near the dam. These families have indicated they might handle the work themselves but will contact the town if further help is needed. Additionally, a new top board is required for the outlet, and the town has committed to providing it.

NOAA DATA

The National Oceanic & Atmospheric Administration (NOAA) documents storms and significant weather phenomena with sufficient intensity to cause loss of life, injuries, substantial property damage, and/or disruption to commerce. In the Orleans County Zone, one of the National Weather Service forecast zones, the predominant recorded regional events are attributed to winter storms and winter weather. However, in the local Glover area, events are primarily associated with thunderstorms, high winds, and flooding. According to both local and national data, flooding and high winds stand out as the most damaging of all natural hazards.

The NOAA database spans from January 1950 to October 2014. Notably, from 1950 to 1954, only tornado events were recorded. Subsequently, from 1955 to 1992, the digital database included tornadoes, thunderstorm wind, and hail events. Between 1993 and 1995, the data extraction from unformatted text files focused on tornadoes and thunderstorm wind and hail events. Specifically for Orleans County, spanning from 1958 to 1993, there were 16 recorded thunderstorm and wind events, 6 hail events, and 3 tornado events. The data underscores the historical occurrence and impact of various weather events in the region.

Flood/Fluvial Erosion and Dam Breech Vulnerability

Vermont faces three main types of flooding: rainfall or snowmelt-induced flooding, flash flooding, and urban flooding. Additionally, ice jams in rivers near developed areas can lead to flooding. Major rainstorms over a small area can cause widespread damage in river floodplains or localized flash flooding, which can be worsened by ice or debris dams, infrastructure failures (particularly culverts), and dams (both private and beaver dams). While rainstorms are the primary cause of flooding in Glover, the town's infrastructure has generally sustained less damage during major rain events compared to other areas in the state. However, the flood of 2023 caused significant damage to Glover’s Town Hall. Winter and spring thaws, often exacerbated by ice jams, also contribute to flash flooding. Flooding is extensively discussed in both the 2013 and 2023 Vermont State All-Hazards Mitigation Plans.

Glover's hilly terrain, scattered development pattern, and early road layout have left numerous sections of gravel roads vulnerable to fluvial erosion. Intense summer storms or rapid snowmelt can overflow roadside ditching, wash out culverts, and erode road surfaces and base materials.

In the Village of Glover, particularly on the west side of the river, the relatively shallow slope and high development density make it susceptible to flooding. Certain structures, including Red Sky Trading, Currier’s Store, Union House Nursing Home, and the Congregational Church, are

fully or partially within the FEMA 100-Year Flood Zone, which has a 26% chance of flooding within a thirty-year period. While Glover Village School is located outside the FEMA-mapped flood zone, it lies within 100 feet of both the flood zone to the south and an unnamed brook to the north. Similarly, the firehouse is approximately 40 feet outside the flood zone.

The 2023 flood caused extensive damage to some structures within the flood zone. For example, Currier's Market experienced severe flooding, with water pushing through the basement floor and damaging several new generators. Despite being within the flood zone, these structures have not historically suffered repetitive losses or damage from their proximity to the Barton River.

Consideration should also be given to areas surrounding lakes and ponds, characterized by high structure density and vulnerability to floods. These areas are historically unaffected by flooding, and the Vermont Shoreline Protection Act restricts development within 250 feet of lakes or ponds larger than 10 acres. Five such lakes in Glover, including Lake Parker, Shadow Lake, Daniels Pond, Clarks Pond, and Beaver Pond, fall under these regulations. Consequently, no actions are recommended for this area currently.

The State of VT does not have detailed data from the flood of 23, on fluvial erosion damage in Glover and the number of acres lost are unknown at this time. There was significant fluvial erosion in several areas in Glover.

Flooding Summary

As part of the 2026 Local Hazard Mitigation Plan update, the Town of Glover reviewed and incorporated relevant existing plans, studies, reports, and technical information into the development of this plan.

Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS)

The Town of Glover participates in the National flood Insurance Program (NFIP) and enforces floodplain management regulations based on the FEMA Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) effective August 5, 1991. These regulatory flood mapping products identify Special Flood Hazard Areas (SFHAs) and were used to assess community exposure to inundation flooding. The Town's Flood Hazard Area Regulations are based on and enforce the standards established in these FEMA mapping products. FEMA flood maps and related documentation for Glover can be accessed through the FEMA Map Service Center (MSC) at msc.fema.gov.

Vermont State Hazard Mitigation Plan (2026 Update)

The 2023 Vermont State Hazard Mitigation Plan was reviewed to ensure consistency in hazard identification and risk assessment methodology. Hazards identified at the state level were evaluated for relevance to Glover and informed the hazard ranking and prioritization process in this LHMP.

Glover Town Plan

The Glover Town Plan was reviewed to assess land use trends, development patterns, and policies related to floodplain management and natural resource protection. Information from the Town Plan informed the vulnerability assessment and mitigation strategy sections of this document.

Local Emergency Management Plan (LEMP)

The Local Emergency Management Plan was reviewed to understand emergency response capabilities and coordination procedures. This informed mitigation actions related to emergency preparedness and infrastructure resilience.

River Corridor and Fluvial Erosion Mapping

Vermont River Corridor Maps and fluvial erosion hazard data were reviewed to assess erosion risks along the Barton River and tributaries. These data informed the fluvial erosion hazard profile and mitigation priorities.

Location: Low-lying areas of Glover Village along the Barton River.

Impact: Ranges from flooded cellars to substantial damage to buildings and roads/bridges (e.g., DR 4720DR-VT (7/2023) resulted in over $400,000 in flood-related damage to town infrastructure and residents combined).

Previous Occurrences: Significant damage occurred during the flood of 1927, with few minors to moderate events since then, including notable incidents in 2023 and 2024.

Probability of Future Events: Medium (4%) to high (100%).

Extent: In 1927, record-breaking rainfall and resulting flooding caused significant damage. Similar severe weather events continued to impact the area in 2023 and 2024.

Vulnerability: All village residences and businesses, nursing homes, town office and senior living facility

Fluvial Erosion Summary: Detachment of material of the riverbed and sides

Location: Roads on steeper hills throughout town.

Extent: Moderate to severe.

Previous Occurrences: More frequent since global warming.

Probability of Future Events: Medium (4%) to high (100%).

Impact: Potential for significant losses, although new road maintenance practices are making the town road system more resilient. Significant damage is possible but usually restricted to certain areas, not the entire town.

Vulnerability: Moderate, can result in temporarily closed roads.

Dam Failure Summary: Uncontrolled seepage may weaken the soils and lead to a structural failure.

Location: Along Shadow Lake outlet stream and the Barton River valley north through town and village.

Extent: N/A.

Previous Occurrences: The dam was a concern during the 1927 flood, but it was successfully sandbagged and survived. Upgrades were made in 1929. The floods of 2023 and 2024 resulted in the formation of a present-day sinkhole. Following advice from Ben Green of Vermont Dam Safety Control and with the assistance of engineers from DuBois & King, the town was advised

to fill the sinkhole with stone. A report from DuBois & King will be made available at www.townofglover.com. Weston & Sampson Engineering were hired to provide a repair plan to bring the Shadow Lake Dam into compliance with the Vermont Dam Safety Program.

Probability of Future Events: Low (1% to 4%).

Impact: Potential for significant damage to roads/bridges and buildings. Significant damage possible to bridges crossing the outlet stream and Barton River. Possible flooding of buildings closest to Barton River.

Vulnerability: Could result in temporarily closed roads and evacuation of residents in flood-prone areas.

Severe Winter Weather

Winter storms, characterized by significant snowfall, ice, or sleet, create hazardous conditions and pose risks to property. Ice storms, which occur when rain freezes on contact, coat surfaces in ice, resulting in widespread damage and dangerous travel conditions. Extreme cold often accompanies these storms, further exacerbating their impact.

Snowfall typically affects entire communities, with drifts accumulating unevenly based on wind direction. Ice damage can be more localized, varying with elevation and exposure, but it has the potential to impact large areas. The frequency and intensity of winter storms vary annually, influenced by climatic trends.

Glover is well-prepared for winter weather, with equipment for snow removal and strategies for managing traffic during these events. The most destructive aspect of winter storms is often ice storms, where heavy, wet snow or freezing rain can lead to power and telephone outages, exacerbated by the weight of ice on lines and falling trees and branches.

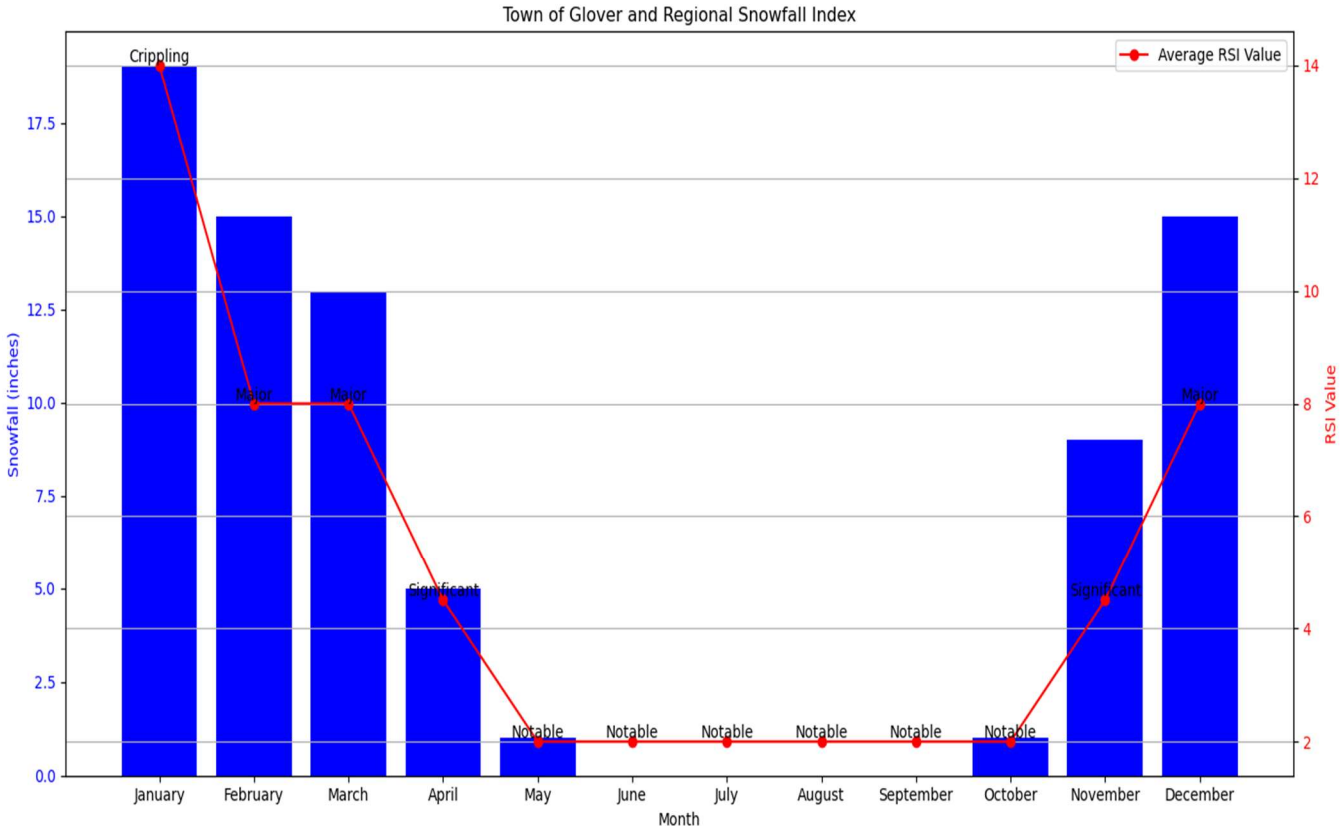
Winter Storms and Snowfall Analysis

Winter storms vary from moderate snowfall to blizzard conditions. A severe storm is defined by the accumulation of at least four inches of snow within 12 or six inches within 24 hours. Blizzard conditions include sustained winds of 40 mph or more, significant snowfall, and temperatures around 10°F or below. Ice storms occur with at least a quarter inch ice accumulation, leading to significant damage and power outages due to downed trees and wires.

Glover, Vermont has experienced a history of significant snowfall, with the winter of 2010-2011 ranking as the third snowiest on record, accumulating 124.3 inches. This pales in comparison to the all-time high of 145.4 inches set in 1970-1971. Recently, winters have continued to challenge the community with heavy snowfall events, emphasizing the ongoing need for preparedness as the region faces increasingly unpredictable winter weather conditions.

The NOAA's Regional Snowfall Index (RSI) classifies the impact of significant snowstorms in the eastern two-thirds of the U.S. on a scale from 1 to 5, providing a historical perspective on their regional effects. This tool aids in comparing the impacts of different snowstorms for emergency managers, the media, and the public by detailing the affected area and population based on snowfall intensity. Notably, storms in 2010, 2012, and 2015 rank highly on this scale. Since 2000, the Northeast has experienced one category 4 event, five category 3 events, and numerous significant storms. Despite Glover's above-average snowfall, it has not qualified for major Public Assistance (PA) funding for snow-related damages.

Table 4.0. Town of Glover Snowfall & Regional Snowfall Index



Winter Weather Hazards Overview:

1. Snow and Ice Events:

Funding and Preparedness: Despite declared snow storm disasters in the county, Glover has not received Public Assistance (PA) funding. The town is well-equipped to handle snow removal and traffic incidents.

Most Damaging Events: Ice storms caused by heavy wet snow or rain followed by freezing temperatures result in widespread power and telephone outages due to collapsing lines and falling trees.

Historical Data: The winters of 1969-72 produced record snowfalls, and 8 out of 11 years from 1969-79 recorded greater-than-normal precipitation.

2. Ice Storms:

Occurrences: Major Ice Storms occurred in January 1998, December 2013, and January 2014. Include Severe Winter Storm in January 2015

Significant Events: The North American Ice Storm of 1998 caused over 2'' of ice accumulation in Glover, leading to significant forest damage and a seven-day power disruption.

Recent Trends: While evidence suggests increased weather severity, the incidence of ice storms remains spaced out, not expected every year.

3. Extreme Cold:

Concerns: Recent extremes in cold temperatures, including the coldest winter in 2015, pose health and safety threats. Cold temperatures are expected, impacting livestock and residents' well-being.

Historical Data: January 1994 recorded the coldest mean temperature since 1930, with consistent negative temperatures in Orleans County since 1930.

4. Winter Storm/Ice Storm Summary:

Location: Entire town, with scattered heavy drifts or ice accumulation based on exposure or elevation.

Extent: Historical records show varied snowfall extremes and notable ice storm impacts.

Probability of Future Events: Medium (4%) to high (100%).

Impact: Potential for significant damage to electric lines, increased workload for town road crews, and temporary road closures.

Vulnerability: Potential for extended power outages may require shelters for at-risk residents.

5. High Wind:

Definition: Sustained winds of 40 m.p.h. or greater for one hour or longer, or winds of 58 m.p.h. or greater for any duration.

Impacts: Thunderstorms can generate high winds causing extensive tree damage and power outages.

Historical Data: The last recorded high wind event in January 2012 caused power outages in Vermont and New York. //NWS might have historic data on this.

Concerns: Two declared disasters due to wind highlight risks to transportation routes and electric power supply.

Beaufort Scale for Non-Hurricane Winds

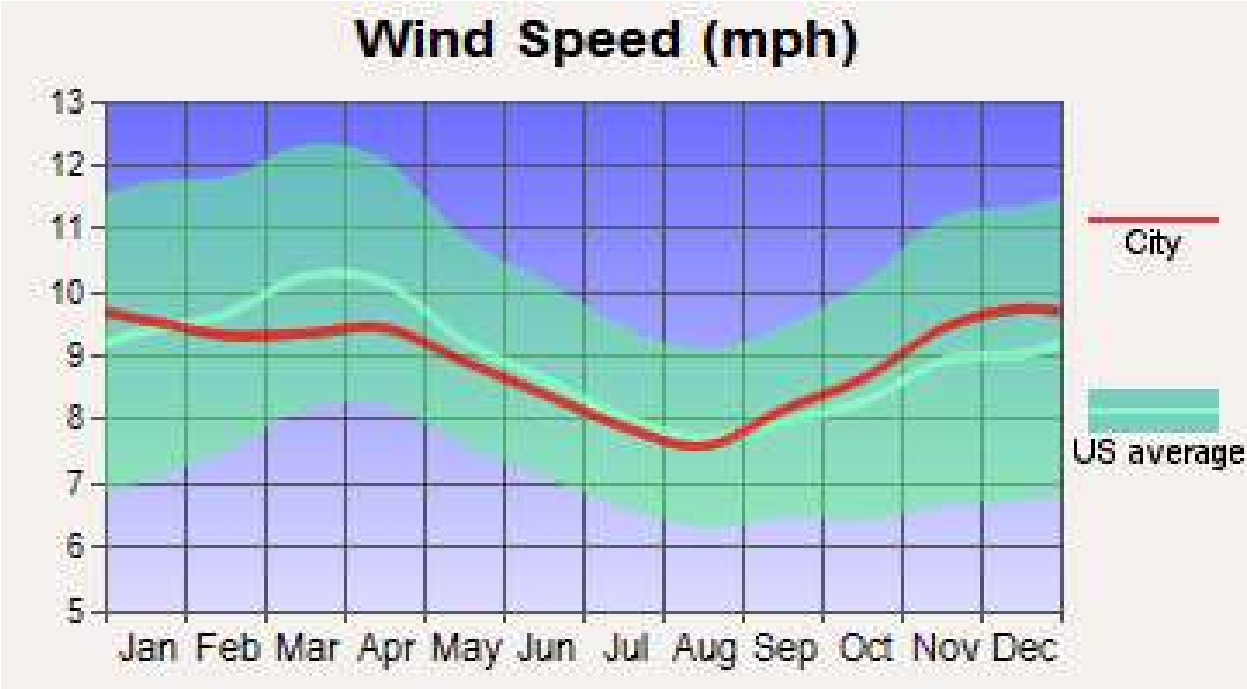
Note: The Beaufort Wind Scale, created in 1805 by Britain's Admiral Sir Francis Beaufort (1774-1857), was one of the first systems to estimate wind speeds and their effects based on visual observations. This scale ranges from 0 to 12 and is still used today to estimate wind strengths. The following table summarizes the Beaufort Scale for non-hurricane winds in relation to the recorded wind speeds during the January 2012 event

Beaufort Number	Wind Speed (mph) U.S. Average	Wind Speed (mph) Glover Events	Description	Wind Effects on Land
0	0-1	Calm	Calm, Smoke rises vertically	Smoke rises vertically
1	1-3	Light Air	Wind direction visible in smoke	Wind direction visible in smoke
2	4-7	Light Breeze	Wind felt on face; leaves rustle	Wind felt on exposed skin; leaves rustle
3	8-12	Gentle Breeze	Leaves and small twigs in constant motion	Leaves and small twigs in constant motion
4	13-18	Moderate Breeze	Raises dust and loose paper; small branches move	Small branches begin to move
5	19-24	Fresh Breeze	Small branches sway	Small trees begin to sway
6	25-31	Strong Breeze	Large branches move; umbrella use becomes difficult	Large branches move; umbrellas difficult
7	32-38	Near Gale	Whole trees move; inconvenience walking against wind	Whole trees in motion; walking impeded
8	39-46	Gale	Large branches break; cars veer on road	Twigs break off trees; progress impeded
9	47-54	Strong Gale	Slight structural damage to buildings	Slight structural damage occurs
10	55-63	Storm	Trees uprooted; considerable structural damage	Trees uprooted; considerable damage
11	64-72	Violent Storm	Widespread damage	Widespread damage
12	73+	Hurricane	Devastation occurs	Devastation occurs

Table 5.0: Beaufort Scale and Glover Windspeed vs. U.S. Average

Note: *Wind speed categories are based on the Beaufort Wind Force Scale. The values for Glover, Vermont, are approximate and can vary based on specific weather conditions and local topography. Please refer to official meteorological sources for precise and up-to-date wind speed information for the town of Glover.*

Table 6.0 Glover Wind Speed vs. U.S. Average



SHELDUS Data Overview

SHELDUS, which stands for Spatial Hazard Events & Losses Database for the United States, is a national hazard events database. It compiles information from the National Climatic Data Center, the Storm Prediction Center, and the National Geophysical Data Center. The dataset provides county-level data for 18 different natural hazard events, including thunderstorms, hurricanes, floods, wildfires, and tornadoes. It specifically includes events causing more than $50,000 in damages or resulting in at least one death.

Similar to FEMA data, SHELDUS reveals that flooding and high winds are prominent natural hazard types causing the most damage in Orleans County.

High Wind Summary

Location: Throughout the town, typically confined to specific exposures.

Extent (5/2012 event):

Confirmed EFO (gale) tornado in West Glover.

Hail exceeding an inch in diameter.

Damaging winds.

Flash flooding with total rainfall of 3-5 inches.

Potential Damage:

Significant damage possible to trees, power lines, and building roofs.

Previous Occurrences:

Glover experienced high wind damage in 2004, 2006, and 2013.

A confirmed tornado touched down in West Glover in 2012.

Probability of Future Events:

Medium (4% to 100%).

Impact:

Typically limited but could be significant.

Vulnerability:

Possible road closures, power outages, and personal injuries.

1. Probability Levels:

High: Near 100% probability in the next year.

Medium: 4% to 100% probability in the next year or once in the next 25 years.

Low: 1% to 4% probability in the next year or at least once in the next 100 years.

2. Threat Assessment:

Yes: Hazard presents the threat of a disaster.

No: Hazard presents a routine emergency.

3. Plan Considerations:

Hazards with a Low level of impact are not addressed in this plan.

Repetitive Losses

Glover actively participates in the FEMA National Flood Insurance Program (NFIP). Development in identified Special Flood Hazard Areas is regulated by a Flood Hazard Area Regulation initially adopted by the Glover selectboard on April 16, 1987, and amended on June 27, 1991. Notably, there are no properties with repetitive losses in Glover.

Estimating Potential Losses in Designated Hazard Areas

Based on the most recent NFIP insurance report (2015), Glover has 5 properties in the A-Zone and none in the V-Zone. The Median Housing Value (MHV) for Glover is $176,500, and the Equalized Value for all properties in Glover in May 2010 was $127,225,294. Since 1978, there have been no repetitive loss claims. Currently, there are 7 policies providing a total coverage of $705,100, with 7 claims recorded since 1978 totaling $23,433 paid. Unfortunately, no additional information on these claims is available.

The values of municipal property are as follows:

Municipal Building and Fire Station: $513,800

Office Equipment: $25,000

Town Hall: $172,000 + $10,000 (furnishings)

While it is possible to estimate the total loss of all properties in designated hazard areas, the likelihood of this occurrence is low. Given the absence of a history of structural loss, further analysis is not required at this time, except for the consideration of potential risks to bridges, which, although a high-risk element, have not experienced structural loss in the past.

Mitigation Strategies

Significant progress in mitigation planning has been driven by direct experiences with major disasters over the past decade, particularly the floods of 2023 and 2024. These catastrophic events reshaped both the state's and the town's approach to mitigation, leading to a more proactive and resilient strategy. The updates made following these floods are now considered the new standard for Glover, encouraging comprehensive efforts to mitigate vulnerabilities in key areas such as roads, culverts, and critical infrastructure like the town hall. These enhancements not only respond to the immediate impacts of the floods but also serve as vital documentation and guidance for future mitigation cycles.

Glover Town Goals and Policies supporting Hazard Mitigation

Land Use and Development Trends Related to Mitigation:

The town has several ordinances addressing high-risk flood areas and regions that are not subject to zoning regulations.

No adverse impacts.

Future Development and Housing:

There has been significant development, with much larger year-round homes replacing small camps on Shadow Lake, Lake Parker, and Daniel’s Pond. Additionally, new homes have been built in the community and on rural farmland. A "No Adverse Impact" approach is not always followed in towns without zoning.

This pattern of development has increased the Town’s vulnerability to several identified hazards. Larger year-round residences in shoreline and low-lying areas increase exposure to flooding, fluvial erosion, and severe storm events, particularly during periods of heavy precipitation. Increased year-round occupancy also elevates life-safety risk during winter storms and extended power outages. In areas without zoning or formal floodplain-based siting controls, development in hazard-prone locations may further increase long-term exposure to natural hazards.

Roads:

Nineteen roads were adversely affected by the flood of 2023. The road supervisor identified four of these roads that would benefit from larger culverts: Parker Road, Bear Call Road, and Dexter Mountain Road. Additionally, Bean Hill Road experienced a mudslide, requiring more extensive work. We will prioritize sites for improvement, focusing on hydraulic studies, stone riprap, and increasing culvert sizes.

Flood Resilience Goals:

Ensure System Integrity: By complying with state standards, Glover can ensure that their water and sewer infrastructure is built to withstand the pressures and impacts of flooding. This reduces the likelihood of system failures, which can lead to contamination of drinking water supplies and the overflow of untreated sewage.

Special Population Tracking: Implementing systems to track the locations and needs of special populations helps ensure that emergency responders and planners can effectively assist those who are most at risk during a flood. This might involve creating and maintaining a database of individuals who require special assistance, coordinating with healthcare providers.

Cost-Effective Flood Hazard Mitigation: Investing in flood mitigation measures that offer the greatest benefit relative to their cost is essential for maximizing the impact of available resources. This might include:

Nature-Based Solutions: Utilizing natural barriers, such as wetlands and green spaces, to absorb floodwaters can be a cost-effective way to reduce flood risk while providing additional environmental benefits.

Infrastructure Upgrades: The town is focused on upgrading critical infrastructure to mitigate flood risks. This includes elevating roads and bridges, reinforcing levees, and enhancing drainage systems. Additionally, efforts are underway to secure funding for addressing the town's aging infrastructure.

Capital Improvement Goals:

The primary objective is to provide essential services while securing adequate funding for the Highway Department, ensuring sustainable maintenance and development of road network.

Glover aims to not only meet but exceed VTrans standards, prioritizing participation in flood resilience training to enhance community preparedness and adaptability to changing environmental conditions.

Glover's focus includes updating transportation infrastructure data within the Vermont Online Bridge and Culvert Inventory Tool, ensuring accuracy and reliability for future planning and maintenance, thereby supporting efficient and safe travel across the region.

Public Participation Goals:

Non-profit organizations in Glover provide essential services to seniors, low-income residents, and individuals with limited mobility — groups that are especially vulnerable during hazard events. Barton Area Senior Services, Inc. (BASSI) delivers over 7,000 Meals-on-Wheels annually and hosts weekly community meals at Town Hall, which was impacted during the 2023 flood. Continuity strategies include shelf-stable meals, volunteer expansion, and responder coordination. RuralEdge Senior Housing manages a 12-unit senior housing complex near the Barton River, at risk of flooding. Staff input addressed evacuation planning, backup power, and communication improvements. Both organizations reviewed LHMP drafts and provided feedback, ensuring vulnerable populations' perspectives were reflected in the risk assessment and mitigation strategies.

Glover will actively solicit input on planning issues from residents and entities, fostering community engagement in decision-making processes.

Utilizing statewide local emergency planning commission (LEPC) meetings, drills, and exercises, Glover will enhance planning and resilience efforts, ensuring preparedness for potential emergencies and disasters.

Regulatory Devices Goals:

The town has chosen not to implement zoning regulations, prioritizing flexibility and individual property rights. This decision allows residents and businesses greater freedom in land use and development, fostering a unique local character and potentially encouraging economic growth

without the constraints of zoning restrictions. However, it also requires careful consideration of community needs and long-term planning to ensure responsible development and environmental stewardship are maintained.

Land Use:

In alignment with the town's commitment to sustainable and safe development, Glover, Vermont will adopt and follow the "No Adverse Impact" (NAI) methodology. This approach ensures that any new land use or development activities within the town do not increase flood risks or other hazards for neighboring properties or the community as a whole. The NAI methodology encourages responsible planning and development practices that consider the potential impacts on the environment and surrounding areas, particularly in flood-prone zones.

The town will also prioritize institutional awareness in all land use decisions. This means ensuring that local officials, planners, and developers are well-informed about the latest hazard mitigation practices, zoning laws, and environmental regulations. By fostering a culture of awareness, Glover can make more informed decisions that align with both safety and long-term sustainability goals.

Additionally, Glover will work to integrate hazard mitigation strategies into its land use planning process, including considering the potential impacts of climate change. This may involve updating zoning ordinances, building codes, and land use policies to reflect current and future risks, particularly those related to flooding, severe storms, and other natural hazards identified in this plan.

By following these principles, Glover aims to minimize adverse impacts on the community while promoting resilient development that supports the town's safety and well-being.

Natural Resources

1. Ensure Alternative Viable Routes: Develop and maintain alternative routes to ensure access around vulnerable infrastructure, minimizing disruptions during emergencies or infrastructure failures.

2. Prioritize Safety: Integrate safety considerations into every aspect of the transportation system, including its development, implementation, operation, and maintenance, to protect residents and infrastructure from climate-related risks.

3. Develop Contingency Plans: Formulate and regularly update contingency plans to address a range of potential climate impacts, ensuring preparedness for various scenarios such as extreme weather events and long-term climate shifts.

4. Utilize Information Technology: Employ advanced information technology to effectively communicate with stakeholders during emergencies, enhancing coordination and response efforts.

5. Educate the Public: Implement educational programs to raise awareness about climate change and fluvial erosion hazards, helping residents understand and prepare for these risks.

6. Increase Infrastructure Inspection: Enhance the frequency and scope of infrastructure inspections based on indicators of climate change, ensuring that assets remain resilient to evolving conditions.

7. Apply Cost-Benefit Analyses: Conduct thorough cost-benefit analyses for adaptive plans and policies to ensure that investments in climate resilience are both effective and economically justified.

8. Protect Essential Ecosystem Functions: Safeguard critical ecosystem functions that help mitigate climate change risks, such as wetlands and forests, which provide natural buffers against extreme weather events.

9. Promote Best Practices in Recovery: Educate residents on best practices for recovery efforts to prevent ecological damage and support sustainable rebuilding processes.

10. Recognize Ecological Interconnections: Acknowledge and address the interconnectedness of the built environment with ecological processes, ensuring that infrastructure decisions support overall environmental health.

11. Protect State Investments: Safeguard the state's investment in transportation infrastructure by adapting it to future climate change impacts, ensuring long-term resilience and functionality.

In line with DEC's best practices on fluvial erosion, the town will:

1. Implement Runoff Management Strategies: Develop and execute robust strategies to slow, spread, and infiltrate runoff. This includes creating and maintaining natural and engineered features such as rain gardens, bioswales, and permeable pavements to manage stormwater effectively and reduce the velocity of runoff, which helps minimize erosion and flooding.

2. Avoid and Remove Encroachments: Identify and eliminate encroachments within river corridors that disrupt natural processes and contribute to erosion. This involves conducting regular assessments of riverbanks and floodplains, removing unauthorized structures, and enforcing land-use regulations that prevent future encroachments. Additionally, restore riparian buffers with native vegetation to stabilize banks and improve ecological health.

3. Adhere to Standard River Management Principles: Implement Standard River Management Principles and Practices to mitigate flood damage. This includes adopting best practices for riverbank stabilization, such as using natural materials and techniques that enhance resilience while preserving ecological functions. Promote the use of floodplain management strategies, including zoning regulations and floodplain restoration projects, to reduce flood risks and protect property.

Reference: [State Surface Water Management Strategy](http://www.watershedmanagement.vt.gov/swms.html) and [River Corridor Easement Guide](http://www.watershedmanagement.vt.gov/rivers/docs/rv_RiverCorridorEasementGuide.pdf).

Policies

In collaboration with town and state-level management, the town is committed to implementing and enhancing policies to address environmental and infrastructure challenges effectively:

1. Encourage Naturally Vegetated Shorelines and Buffers: Promote the establishment and maintenance of naturally vegetated shorelines, buffers, and setbacks for water bodies. This includes encouraging landowners to plant native vegetation along shorelines and riparian zones to improve water quality, reduce erosion, and enhance wildlife habitats. Implement guidelines and incentives for shoreline restoration projects and ensure adherence to best practices for maintaining natural buffers.

2. Reduce Flood Hazards and Road Washouts: Enhance the effectiveness of the Culvert Monitoring Program and Road Erosion Site Inventory to address flood hazards and reduce repetitive road washouts. This involves updating and refining the monitoring program to include regular inspections, maintenance schedules, and improvements based on observed vulnerabilities. Prioritize the replacement of outdated or undersized culverts and implement erosion control measures at identified problem sites to mitigate the impact of heavy rainfall and flood events.

3. Identify and Manage Pollution, Flooding, and Fluvial Erosion Hazards: Develop and implement comprehensive strategies to identify and manage pollution, flooding, and fluvial erosion hazards along rivers and streams. This includes conducting regular assessments of water quality, flood risk, and erosion patterns to inform target management actions. Collaborate with environmental agencies and stakeholders to address pollution sources, improve floodplain management, and implement erosion control measures. Develop educational programs for the community to raise awareness about these hazards and promote practices that minimize their impact.

Transportation

In addition to town-specific planning, the town is committed to adhering to current state standards and best practices related to:

1. Maintaining Safe Operating Conditions: Ensure that town roads remain safe and functional. Explore opportunities for additional paving on vulnerable road sections, contingent upon the availability of state funding. This includes regular inspections and maintenance to address wear and tear and improve road safety.

2. Protecting Roads from Flood Damage: Implement measures to safeguard town roads from flood damage and uncontrolled stormwater runoff. This involves installing and maintaining effective drainage systems, such as culverts and retention basins, and adopting erosion control practices to prevent road deterioration.

3. Preserving Road Capacity and Safety: Focus on preserving road capacity and ensuring smooth traffic flow and safety. This includes addressing congestion issues, optimizing traffic management strategies, and conducting regular road assessments to identify and resolve potential safety hazards.

4. Supporting Road Maintenance Crews: Provide ongoing training and professional development for road maintenance crews. This includes organizing regular training sessions to keep crews informed about the latest techniques, safety protocols, and equipment advancements.

5. Ensuring Safe Parking at Recreational Areas: Work with owners and managers of recreational areas to ensure the provision of safe and adequate parking facilities. This includes evaluating current parking infrastructure and making necessary improvements to accommodate visitors and prevent hazards.

6. Maintaining Access to Gravel and Sand Deposits: Secure long-term access to gravel and sand deposits essential for road maintenance. This involves identifying and managing sources of these materials to ensure a steady supply for future roadwork needs.

7. Enhancing Understanding of ICS: Improve understanding and application of the Incident Command Structure (ICS) among town staff for better coordination during emergency response phases. This includes organizing training sessions and drills to familiarize personnel with ICS procedures.

8. Developing Standard Operating Procedures: Create a Standard Operating Procedure (SOP) for Highway Department activities based on ICS principles. This SOP will streamline operations, enhance coordination, and improve efficiency during emergencies.

Additionally, the town will work towards establishing a formal tracking mechanism for infrastructure work to explore funding opportunities under the Hazard Mitigation Grant Program (HMGP).

Utilities and Facilities Goals

1. Maintaining Partnerships: Foster strong relationships with Vermont State Police, County Sheriff, and rescue services to ensure effective collaboration and support during emergencies.

2. Identifying Tanker Truck Access Points: Determine effective locations for tanker truck access to water in areas that lack adequate supplies. This includes mapping potential sites and coordinating with relevant agencies to ensure accessibility during emergencies.

3. Promoting High-Speed Internet Access: Advocate for and support the expansion of high-speed internet access throughout the town. This initiative aims to enhance connectivity for local businesses and improve overall community engagement and services.

4. Enhancing Fire Department Equipment Resiliency: Identify resources and grant programs to bolster the equipment resilience of the fire department. This includes seeking funding and support for upgrading and maintaining essential firefighting equipment.

Educational Facilities

1. Ensuring Emergency Equipment: Ensure that schools are equipped with necessary emergency equipment to respond effectively to crises. This includes conducting regular inventory checks and updating equipment as needed.

2. Increasing Emergency Planning Cohesion: Strengthen emergency planning cohesion between schools and town Emergency Operations Plans (EOPs). Promote mutual participation in Local Emergency Planning Committee (LEPC) meetings to enhance collaborative efforts and ensure comprehensive preparedness. The LEPC is a community-based organization dedicated to emergency preparedness and response.

Existing Town of Glover Actions Supporting Hazard Mitigation

1. Hazard mitigation strategies and measures aim to avoid, alter, avert, or adapt to hazards by limiting exposures, reducing frequency, redirecting impacts, or modifying structures or standards.

Existing Authorities, Policies, Programs, and Resources:

1. Town Plan:

Drafted by the Planning Commission, the Town Plan sets goals for community growth, health, safety, and welfare. Adopted by the Selectboard.

2. NFIP (National Flood Hazard Insurance Program):

Glover is a member, ensuring adoption and enforcement of floodplain management requirements. The town identifies and maps floodplains, making efforts to satisfy local requests for map updates.

3. Flood Regulations:

Adopted in 1987 and amended in 1991, these regulations prevent increased flooding through controlled development in flood-prone areas. Permits issued by the Flood Hazard Area Administrative Officer.

4. Town Road and Bridge Standards:

Adopted the Vermont Transportation Agency's new standards in 2014, enhancing road, highway, bridge, and culvert construction to withstand large flood events. Maintenance overseen by the Glover Selectboard and supervised by the Road Foreman.

5. Bridge and Culvert Inventory:

Conducted an inventory to assess bridge and culvert conditions. Maintenance responsibility lies with the Road Foreman.

6. VTRC (Vermont Red Cross) Shelter Pre-Agreement:

Has a Shelter Pre-Agreement with the Vermont Red Cross, enabling efficient use if needed. The Fire Chief serves as both the Emergency Manager and local representative.

7. Emergency Action Plan for Shadow Lake Dam:

Updated and adopted May 23rd, 2024.

8. Local Emergency Management Plan (LEMP):

Updated as of March 28th, 2024, and kept current annually by the Emergency Manager and Selectboard Chairman.

9. Emergency Training:

Fire and rescue personnel actively participate in training sessions.

10. Flood Resilience Planning:

Preparing a new Flood Resilience Element for the Glover Town Plan as part of the Barton Hydro Study Municipal Planning Grant, conducted by Northwoods Stewardship Center.

Town of Glover All-Hazards Mitigation Goals

1. Reduce and Prevent Losses:

Minimize loss of life and injury from all hazards.

2. Mitigate Financial and Environmental Losses:

Reduce financial losses and environmental degradation across municipal, educational, residential, commercial, industrial, and agricultural sectors due to various hazards.

3. Raise Awareness:

Maintain and increase awareness among residents and businesses regarding damages from previous and potential future hazard events outlined in the Local All-Hazards Mitigation Plan.

4. Recognize Linkages:

Acknowledge the link between disaster events' frequency/severity and infrastructure design, development, use, maintenance, and land use planning.

5. Maintain Municipal Plans:

Preserve existing municipal plans, programs, and ordinances directly or indirectly supporting hazard mitigation.

6. Incorporate Mitigation Plan:

Develop mechanisms for the formal integration of the Local All-Hazards Mitigation Plan into municipal operations and procedures, as specified in 24 VSA, Section 4403(5).

7. Integrate Mitigation into Budgeting:

Establish mechanisms to formally incorporate the Local All-Hazards Mitigation Plan, especially recommended actions, into the town's operating and capital plans and programs related to public facilities and infrastructure. Town Meeting Day will serve as the formal approval time for mitigation strategy budgetary considerations.

8. Prioritize Long-Term Solutions:

Support long-term solutions over short-term fixes for community needs and problems.

9. Promote Collaboration:

Promote collaboration and cooperation through working partnerships between governments, non-profits, institutions, and businesses.

Mitigation Actions

In alignment with FEMA guidance, the town adopts specific mitigation action categories. The town does not anticipate significant new development but will consider a "No Adverse Impact" methodology for new structure development opportunities. The mitigation actions outlined in the previously approved plan are excluded due to their generality or being no longer considered acceptable. Priorities have shifted based on recent events, and the town emphasizes experience, increased awareness, and access to resources in shaping priorities.

Mitigation Action Groups:

(P) Prevention

(PP) Property Protection

(PEA) Public Education & Awareness

(NRP) Natural Resource Protection

(SP) Structural Projects

Current Capabilities and Need for Mitigation Actions

The town generally considers its existing capabilities adequate to address the priority hazards identified in this plan. However, plans for education and ongoing awareness efforts will also be considered to further strengthen our preparedness.

Priority Hazard Narrative:

1.Flooding:

Major infrastructure repeatedly damaged by flooding is a concern. Continuing the culvert monitoring program and road erosion site inventory will allow for strategic planning and infrastructure revisions.

2.Severe Winter Storm:

Current hazard mitigation efforts are regarded as sufficient for winter storm impacts. A standard operating procedure (SOP) addition to the winter operations emergency plan could enhance operational capacity.

3.Extreme Cold:

Recent cold snaps highlight vulnerabilities. Addressing this hazard is crucial due to potential threats to health and safety.

4.High Winds:

High winds are common and can cause major disruptions. Readiness of the highway department is crucial for effective mitigation.

Table 7.0 Existing municipal actions that support hazard mitigation

Type of Existing Protection	**Description /Details/Comments**	**Issues or Concerns**
Emergency Response		
Police Services	Vermont State Police/ Orleans County Sherriff	Cost of Services are being discussed
Fire Services	Glover VFD	None currently
Fire Department Personnel	Glover VFD	None currently
Fire Department Mutual Aid Agreements	Northeast International Mutual Aid (19 participants)	None currently
EMS Services	Glover Ambulance Squad	None currently
Other Municipal Services		
Highway Services	Town Highway Department	ICS training. Establish SOP with Road Commission in times of heightened response
Highway personnel	3 FTE field personnel	

Water / Sewer Department	Yes	Sewer Plant Renovations & Cost
Planning and Zoning personnel	None dedicated	None currently
Residential Building Code / Inspection	no	None currently
Emergency Plans		
Local Emergency Management Plan (LEMP)	Updated annually.	Assure sheltering plans and contact information are up to date and vulnerable populations addressed.
School Emergency/Evacuation Plan(s)	2026	Increased collaboration (with town staff, LEPC, NVDA), knowledge of roles and drills are next step. Communications about the school being the town ER shelter.
All Hazard Mitigation Plan	Updating 2026	None currently
Shelter, Primary	Glover School	Work with the American Red Cross with Sheltering Initiative to obtain training and supplies. Include volunteer staff in planning communication and schedule drills to test efficacy.
Replacement Power, backup generator	Yes, installed	Generator
Shelter, Secondary:	Town Hall/Fire Station	None at this time
Replacement Power, backup generator	Fire station only	Upgrade
Municipal Plans		
Town / Municipal Comprehensive Plan	Update in Process	
Town of Glover Culvert Monitoring Program	Yes	Update as required and track all work expenditures.
Hazard Specific Zoning (slope, wetland, conservation, industrial, etc.)	Zoning Bylaws on River Corridors	River corridor bylaws are adopted by Glover in 2026
Participation in National Flood Insurance Program (NFIP) and *Floodplain/Flood Hazard Area Ordinance	Yes	Continue best practices and a no-adverse-impact policy approach to development.
Culvert and bridge Inventory	Yes	VT Culverts site needs to be populated and updated.

*Above: Floodplain/Flood Hazard: Flood Bylaws are adopted by Glover in 2026

Prioritization of Mitigation Strategies

Specific projects are described in Section 5.5.3 and Table 5-2. A simple "Action Evaluation and Prioritization Matrix" is utilized for prioritization. Criteria include hazard significance, likelihood of funding, protection of infrastructure, speed of implementation, social/political acceptability, technical feasibility, administrative realism, benefit-to-cost ratio, and environmental soundness/ecological improvement. The town anticipates conducting further analyses as they implement mitigation goals and actions.

Mitigation Action Prioritization Methodology

The Town of Glover prioritized mitigation actions using a structured qualitative evaluation process to ensure actions were selected consistently, transparently, and in accordance with FEMA requirements. While detailed quantitative Benefit-Cost Analyses (BCA) are conducted during grant application phases (e.g., FEMA Hazard Mitigation Assistance programs), this Local Hazard Mitigation Plan applies a planning-level screening method to compare and prioritize actions.

Each mitigation action was evaluated using the following criteria:

1. Risk Reduction Potential

The degree to which the action reduces long-term risk to people (including socially vulnerable populations), structures, critical facilities, infrastructure, natural resources, and community systems. Actions that significantly decrease the likelihood or severity of hazard impacts received higher scores.

2. Cost Effectiveness

The estimated implementation cost is relative to anticipated avoided damages, reduced emergency response costs, avoided infrastructure repair, and long-term maintenance savings. Both quantitative and qualitative cost considerations were included.

3. Technical and Administrative Feasibility

The Town's ability to implement the action based on available staffing, regulatory authority, technical expertise, and operational capacity.

4. Community and Environmental Co-Benefits

Additional benefits beyond direct hazard mitigation, including:

- Protection of vulnerable and underserved populations
- Improved public safety and emergency access
- Protection of water quality and aquatic habitat
- Preservation of historic and cultural resources
- Increased transportation reliability
- Enhanced mental health and social resilience
- Natural resource conservation and ecosystem restoration

5. Funding Availability and Implementation Readiness

Availability of realistic funding sources (e.g., FEMA HMGP, BRIC, Town Capital Budget, Municipal Planning Grants) and the Town's readiness to implement the action within the identified timeframe.

Scoring Framework

Each action was scored on a scale of 1 to 5:

Score	Description
1	Very low benefit relative to cost, significant barriers to implementation
2	Low benefit or relatively high cost compared to expected impact
3	Moderate benefit and moderate cost effectiveness
4	High benefit and cost-effective with feasible implementation
5	Very high long-term risk reduction, highly cost-effective, strong community and environmental benefits

Higher cumulative scores indicate higher overall priority for implementation.

Cost-Benefit Basis for Prioritization

Mitigation actions were prioritized based on whether the anticipated long-term reduction in hazard vulnerability outweighs the financial, administrative, and logistical costs of implementation.

Costs considered include capital expenses, staff time, permitting, engineering, and maintenance requirements. Benefits considered include avoided disaster recovery costs, protection of infrastructure, uninterrupted emergency access, protection of vulnerable populations, preservation of natural resources, and long-term community resilience.

Although some benefits cannot be quantified monetarily, qualitative benefits such as reduced disruption to residents, protection of critical services, environmental improvements, and enhanced public safety were incorporated into scoring decisions.

Actions that demonstrate meaningful long-term reduction in hazard risk and provide benefits exceeding projected costs were assigned higher priority rankings in Table 8.0.

Specific Mitigation Actions

Rank	Mitigation Action	Responds to high	Funding potential	Protection value	Time to implement	Social and Political acceptance	Technical feasibility	Admin feasibility	Benefit to Cost	Environmental	TOTAL
2	Improve highway, culvert and bridge programs and infrastructure.	5	4	5	4	5	5	4	5	4	41
3	Improve resilience to severe winter storms	4	4	5	4	5	3	3	5	2	39
7	Reduce risk and impact of extreme cold snaps	2	2	3	2	3	2	2	3	2	21
4	Increase resilience of mobile homes through accepted structural modifications and resident awareness of programs and opportunities	4	5	5	4	5	3	3	5	4	38
5	Mitigate high wind vulnerability	2	3	3	3	5	1	1	5	1	24
1	Raise public awareness of hazards, hazard mitigation and disaster preparedness	4	5	5	5	5	5	5	5	3	43
6	Continue fluvial geomorphology (in coordination with state recommendations and protocol) assessments and develop strategies.	3	2	4	2	2	2	2	3	3	23

While several mitigation actions are intentionally structured to address multiple hazards (e.g., flooding and fluvial erosion, winter storm and extreme cold), each **Specific Identified Task** within those grouped actions directly corresponds to one or more clearly identified hazards. Where actions are labeled as “multi-hazard” or “all-hazard,” the individual tasks contained within the action are hazard-specific in their implementation and expected risk-reduction

outcomes. This ensures that mitigation efforts are directly aligned with the hazard profiles and vulnerability analysis presented in the Risk Assessment section.

To provide clear administrative direction and implementation transparency, the Town has developed a detailed **Mitigation Action Implementation Matrix**, included as **Appendix C** of this plan. The matrix disaggregates each grouped action into its individual specific identified tasks and identifies, for each task:

- The hazard(s) addressed.
- The responsible municipal position, office, department, or coordinating agency.
- Supporting agencies or partners where applicable.
- Specific and realistic funding sources, including identified federal programs (e.g., FEMA HMGP, BRIC, FMA, EMPG), Vermont state programs (e.g., VTrans Structures Grant Program, Vermont Better Roads Program, Vermont DEC River Corridor Program, Vermont Urban & Community Forestry Program), VLCT risk management programs, utility infrastructure programs, and applicable Town of Glover budget line items; and
- A defined timeframe for completion based on the Town's established short-term (1–2 years), medium-term (1–5 years), long-term (5+ years), or ongoing implementation horizons.

The Implementation Matrix serves as the Town's primary administrative tracking tool for mitigation activities and supports annual plan maintenance, budgeting, grant application prioritization, and progress evaluation. By clearly assigning responsibility, identifying funding pathways, and defining implementation timeframes at the task level, the Town ensures that mitigation actions are both feasible and actionable.

This structure demonstrates that each hazard identified in the Risk Assessment is supported by at least one implementable mitigation task and that the Town has established a clear and organized framework for carrying out, funding, and monitoring mitigation activities over the life of the plan.

Action #1: Improve Infrastructure Protection Programs

Hazard(s) Addressed: Hazard(s) Addressed: Flooding, Fluvial Erosion, Severe Storms, Dam Failure. The Specific Identified Tasks below correspond to the reduction of risk associated with each of these hazards.

Implementation Framework

Primary Lead Agency:
Town of Glover Road Foreman (responsible for day-to-day implementation, monitoring, and infrastructure oversight), with policy direction and funding authorization provided by the Town of Glover Selectboard.

Supporting Agencies/Partners:
Vermont Agency of Natural Resources (ANR); Vermont Agency of Transportation (VTrans); Northeastern Vermont Development Association (NVDA); Vermont Department of Emergency Management and Homeland Security (DEMHS); FEMA; Agency of Commerce and Community Development; Vermont Department of Environmental Conservation (Dam Safety Section).

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP); FEMA Building Resilient Infrastructure and Communities (BRIC); FEMA Flood Mitigation Assistance (FMA) (if applicable); FHWA Emergency Relief Program; Vermont Better Roads Grants; VTrans Structures Grants; Municipal Planning Grants; Town Capital Improvement Budget; Town Operating Budget.

Timeframe for Completion:
Short-term (1–2 years): Infrastructure assessments, documentation system improvements, ICS training, and EAP review updates.
Medium-term (1–5 years): Phased culvert replacements, stormwater upgrades, and targeted erosion mitigation projects.
Ongoing: Monitoring, maintenance, dam inspections, and documentation updates.

Progress

The Road Foreman continually monitors road and stormwater management capabilities. The Town has established a Culvert Monitoring Program and Road Erosion Site Inventory to guide action by identifying areas of erosion, estimated repair costs, and projected future needs.

Specific Identified Tasks

1. Infrastructure Assessment for Stormwater Vulnerability: Assess the vulnerability and operational capability of municipal-owned roads, culverts, and other stormwater management infrastructure in areas with recurring issues.
2. Assessment for Fluvial Erosion/Landslide Vulnerability: Identify streambanks at high risk of erosion and implement mitigation measures such as riparian plantings or Better Roads grant projects.
3. Culvert Upgrades: Develop a phased replacement schedule for undersized culverts to handle hydraulic capacity and protect infrastructure.
4. Continued Monitoring of Vulnerable Infrastructure: Inventory bridges and document flood-related impacts to guide long-term planning.
5. Road Improvements: Re-engineer Road sections where necessary to reduce maintenance costs and improve storm performance.

6. Documentation: Develop a methodology to capture work and expenditures related to hazard mitigation.
7. Increase Awareness of Funding Opportunities: Promote utilization of FEMA HMGP and related programs.
8. ICS Training and SOP Development: Enhance ICS knowledge and formalize Highway Department roles during major events.
9. Maintenance and Upgrades of Shadow Lake Dam.
10. Continue to do an Annual Review and Update of 2025 Emergency Action Plan for Shadow Lake Dam when needed.

The tasks within this action reduce hazard risk as follows: infrastructure assessments, culvert upgrades, bridge inventory, and road re-engineering reduce flood and severe storm impacts to transportation infrastructure; fluvial erosion and landslide assessments reduce river corridor instability and erosion hazards; maintenance, upgrades, and annual Emergency Action Plan (EAP) updates for Shadow Lake Dam directly reduce dam failure risk; and ICS training and SOP development strengthen coordinated response capacity during severe storm events. Collectively, these tasks ensure that each listed hazard is addressed through targeted mitigation measures.

Rationale / Cost-Benefit Review

Conducting vulnerability assessments facilitates a targeted and effective approach to road and stormwater management infrastructure, aiding in the development and implementation of municipal plans and grant-funded mitigation projects. Mitigating recurring infrastructure problems reduces short- and long-term maintenance costs, protects transportation access for emergency services, and improves public safety during hazard events.

Cost-Benefit Conclusion:
The long-term reduction in hazard risk to roads, culverts, bridges, and dam infrastructure, along with avoided emergency response and repair costs, outweighs the estimated implementation costs. By reducing repetitive damage and protecting transportation access for emergency services and residents, this action represents a cost-effective investment that strengthens long-term community resilience.

Action #2: Enhance Winter Storm Resilience

Hazard(s) Addressed: Severe Winter Storms, Ice Storms, Extreme Snowfall, Extended Power Outages. The Specific Identified Tasks below correspond directly to the reduction of risk associated with each of these hazards.

Implementation Framework

Primary Lead Agency:
Town of Glover Selectboard (policy direction, funding authorization, and coordination oversight), with operational implementation by the Town of Glover Highway Department.

Supporting Agencies/Partners:
Local Emergency Planning Committee (LEPC); Glover Fire Department; American Red Cross (Shelter Initiative Program); Vermont Department of Emergency Management and Homeland Security (DEMHS); regional electric utility provider; Glover Elementary School administration.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP); FEMA Building Resilient Infrastructure and Communities (BRIC); Vermont Emergency Management (DEMHS) preparedness grants; Town Operating Budget; Town Capital Budget; American Red Cross training programs; Local Emergency Planning Committee funding allocations.

Timeframe for Completion:
Short-term (1–2 years): Shelter capability enhancements, notification system development, and formalized ICS training improvements.
Medium-term (1–3 years): Coordination with utility providers and refinement of emergency communication systems.
Ongoing: Annual winter preparedness activities, equipment maintenance, shelter readiness, and emergency supply monitoring.

Progress

Roads are monitored and altered as necessary to ensure damage-free plowing. Glover Elementary School, equipped with an emergency generator, is designated as the primary community shelter. Snow-clearing equipment is regularly serviced, and the Town maintains an adequate winter sand supply.

Specific Identified Tasks

1. Enhance Existing Shelter Capability: Improve notification procedures and provide formalized shelter management training using the American Red Cross “Shelter Initiative Program.”
2. Reduce Power Failure Risk: Collaborate with the regional electric utility provider to reduce outage risks during ice storms and ensure generator functionality.
3. Develop Notification Plan: Establish a formal communication plan utilizing school phone systems, email, text alerts, and backup methods.

4. Residential Guidance: Provide public education on structural and mechanical winter storm mitigation measures (weatherproofing, tree trimming, generator safety).
5. Monitor Road Conditions: Ensure safe and effective plowing through routine monitoring and hazard response protocols.
6. Maintain Emergency Supplies: Maintain adequate supplies of diesel fuel and road sand.
7. Vehicle Maintenance Program: Maintain and document vehicle maintenance to ensure operational readiness.
8. Increase ICS Awareness: Strengthen knowledge and implementation of Incident Command System (ICS) principles during winter storm events.

The tasks within this action reduce hazard risk as follows: shelter capability enhancements and emergency communication planning reduce risks associated with severe winter storms and extended power outages; coordination with utility providers reduces ice storm-related outage vulnerability; road monitoring, vehicle maintenance, and emergency supply management reduce transportation and service disruption during extreme snowfall; and ICS awareness strengthens coordinated emergency response during high-impact winter events.

Rationale / Cost-Benefit Review

This action reduces economic disruption and risk to human and animal health during severe winter storms. Improved shelter operations, emergency communications, and coordination with utility providers protect vulnerable populations and reduce strain on emergency services. Proactive planning and training minimize response costs and limit damage during high-impact winter events.

Cost-Benefit Conclusion:
The long-term reduction in economic disruption, emergency response costs, infrastructure damage, and risk to vulnerable populations outweighs the relatively modest implementation and training expenses. Enhancing winter storm preparedness and shelter capacity represents a cost-effective investment that reduces future disaster impacts and strengthens overall community resilience.

Action #3: Enhance Cold Weather Resilience

Hazard(s) Addressed: Extreme Cold, Extended Power Outages, Severe Winter Weather Impacts to Infrastructure, Livestock, and Residents. The Specific Identified Tasks below correspond directly to the reduction of risk associated with each of these hazards.

Implementation Framework

Primary Lead Agency:
Town of Glover Selectboard (coordination, policy oversight, and funding authorization), in collaboration with the Planning Commission for outreach and planning implementation.

Supporting Agencies/Partners:
Northeastern Vermont Development Association (NVDA); Glover School Administration; Vermont Department of Emergency Management and Homeland Security (DEMHS); Local Emergency Planning Committee (LEPC); regional assistance organizations; local utility providers.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP); FEMA Building Resilient Infrastructure and Communities (BRIC); Vermont Community Development Program (VCDP); Municipal Planning Grants; Town Operating Budget; Vermont Emergency Management preparedness funding; utility assistance programs where applicable.

Timeframe for Completion:
Short-term (1–2 years): Development of outreach protocols, communication plans, and identification of vulnerable populations.
Medium-term (1–3 years): Establishment of formal partnerships with utility providers and assistance organizations; implementation of education programs.
Ongoing: Annual updates to communication systems, shelter coordination, and monitoring of vulnerable populations during extreme cold events.

Specific Identified Tasks

1. **Economic Resilience:** Establish formal relationships with utility companies to support residents experiencing heating cost burdens and connect resource organizations with residents in need.
2. **Maintain Existing Shelter Capability:** Maintain and improve shelter readiness, including formalized training through the American Red Cross “Shelter Initiative Program.”
3. **Assess Vulnerable Populations:** Identify at-risk community members during evacuation or sheltering events, particularly those lacking transportation or financial resources. Develop outreach and notification protocols to address identified needs.
4. **Notification and Education:** Establish a comprehensive communication plan to provide essential sheltering information during extreme cold events. Provide public education on personal protection measures and guidance for preventing frozen pipes and structural damage.

The tasks within this action reduce hazard risk as follows: economic resilience coordination and utility partnerships reduce risks associated with prolonged power outages and heating failures; shelter maintenance and training reduce life-safety risks during extreme cold events; identification of vulnerable populations reduces human health impacts; and public notification and education efforts reduce infrastructure damage, frozen pipe incidents, and livestock impacts during extended cold weather events.

Rationale / Cost-Benefit Review

With increasing variability in winter weather patterns, including extreme cold events, proactive coordination and public outreach are essential to protect residents, livestock, and municipal infrastructure. Strengthening communication systems and identifying vulnerable populations reduces emergency response burdens and improves protection of socially and economically vulnerable residents. Collaboration with utility providers and assistance organizations enhances the Town's ability to respond efficiently to prolonged cold weather impacts.

Cost-Benefit Conclusion:
Although many elements of this action involve coordination and outreach rather than large capital expenditures, the long-term protection of residents, livestock, and infrastructure from extreme cold events outweighs implementation costs. Strengthening cold weather resilience reduces future emergency expenditures, protects vulnerable populations, and represents a cost-effective mitigation investment.

Action #4: Enhance Mobile Home Resilience

Hazard(s) Addressed: Flooding, Severe Storms, High Winds, Extreme Cold. The Specific Identified Tasks below correspond directly to the reduction of risk associated with each of these hazards.

Implementation Framework

Primary Lead Agency:
Town of Glover Planning Commission (coordination of outreach, mapping, and policy recommendations), with oversight and funding authorization provided by the Town of Glover Selectboard.

Supporting Agencies/Partners:
Northeastern Vermont Development Association (NVDA); Vermont Department of Emergency Management and Homeland Security (DEMHS); University of Vermont (UVM) Extension;

Agency of Commerce and Community Development (ACCD); regional housing and community development organizations.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP); FEMA Flood Mitigation Assistance (FMA); FEMA Building Resilient Infrastructure and Communities (BRIC); Vermont Community Development Program (VCDP); Municipal Planning Grants; Town Operating Budget; ACCD housing resilience initiatives.

Timeframe for Completion:
Short-term (1–2 years): Data collection, mapping of mobile home locations, development of outreach materials, and coordination with partner agencies.
Medium-term (1–3 years): Implementation of targeted outreach efforts and development of mitigation guidance tailored to at-risk mobile home communities.
Ongoing: Continued updates to risk mapping, outreach distribution, and integration of mitigation education into community planning efforts.

Specific Identified Tasks

1. Collect recommendations from UVM and ACCD programs dedicated to mobile home resilience.
2. Develop an outreach mechanism addressing resident and owner needs, available resources, and assisting agencies. Distribute informational brochures outlining accepted mitigation actions specific to mobile homes (e.g., anchoring systems, elevating electrical systems and furnaces, structural reinforcements).
3. Collaborate with NVDA to map all mobile homes in the Town, assess flood and wind risk exposure, develop risk rankings, and tailor outreach efforts accordingly.

The tasks within this action reduce hazard risk as follows: mapping and risk assessment of mobile homes reduce exposure to flooding and high wind events; outreach materials addressing anchoring systems and structural reinforcement reduce severe storm and wind vulnerability; elevation of electrical systems and furnace protection reduce flood damage; and education on insulation and winterization reduces extreme cold impacts on mobile home residents.

Rationale / Cost-Benefit Review

Research in Vermont has demonstrated that mobile homes are disproportionately impacted during disaster events due to structural vulnerability and location within higher-risk areas. Targeted outreach and risk mapping efforts improve preparedness and reduce the likelihood of severe structural damage, displacement, and economic hardship. Protecting this housing stock safeguards both residents and the Town’s tax base while reducing the need for costly disaster recovery assistance.

Cost-Benefit Conclusion:
Targeted outreach, mapping, and mitigation education efforts are relatively low-cost compared to the potential loss of housing stock and property damage during hazard events. Protecting mobile homes reduces long-term vulnerability for a disproportionately impacted population and represents a cost-effective strategy to safeguard residents, preserve affordable housing, and reduce future disaster recovery expenditures.

Action #5: Enhance Public Awareness of Hazards and Mitigation Actions

Hazard(s) Addressed: Flooding, Severe Storms, Winter Storms, High Winds, Extreme Cold, Fire, and All-Hazard Events. The Specific Identified Tasks below correspond directly to the reduction of risk associated with each of these hazards.

Implementation Framework

Primary Lead Agency:
Town of Glover Selectboard (policy oversight and coordination), with implementation support from the Glover Fire Chief for public safety outreach and emergency preparedness coordination.

Supporting Agencies/Partners:
Local Emergency Planning Committee (LEPC); Northeastern Vermont Development Association (NVDA); Vermont Department of Emergency Management and Homeland Security (DEMHS); Vermont state agencies; regional nonprofit and community organizations; Glover Elementary School administration.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP) (education and outreach components); FEMA Building Resilient Infrastructure and Communities (BRIC) (community capacity-building components); Vermont Emergency Management outreach programs; Local Emergency Planning Committee funding allocations; Town Operating Budget; Vermont Department of Health outreach resources.

Timeframe for Completion:
Short-term (1–2 years): Development and update of educational materials, expansion of outreach efforts, and coordination with regional partners.
Medium-term (1–3 years): Integration of mitigation education into school programs and community events; development of formalized communication materials related to HMGP and mitigation opportunities.
Ongoing: Annual public awareness programming, National Fire Prevention Week activities,

emergency preparedness education, and continuous dissemination of hazard mitigation information.

Progress

Integration of mitigation planning into day-to-day operations presents an opportunity to engage residents and reduce risk. The LEPC regularly covers emergency preparedness topics, raising community awareness regarding emergency response planning and chemical safety. Annual Town Meetings serve as additional outreach opportunities to inform residents about hazard risks and mitigation strategies.

Specific Identified Tasks

1. Hazard Resilience for Property Owners: Develop and maintain educational materials informing property owners how to protect homes and businesses from natural hazards (e.g., securing structures against high winds, elevating electrical equipment, floodproofing techniques, lightning protection).
2. HMGP Awareness: Participate in informational sessions on FEMA HMGP funding opportunities and collaborate with NVDA to develop brochures explaining acquisition, elevation, and flood-proofing options available to residents.
3. School Programs: Ensure the school is structurally prepared for natural hazard risks and continue educational programs that raise student awareness regarding hazards, safety, and preparedness. Explore establishing the school's emergency notification system as a primary emergency communication method for the broader community when appropriate.
4. Family Safety Programs: Continue programs such as car seat safety and bicycle safety initiatives to promote hazard awareness and injury prevention.
5. Fire Prevention Programs: Continue National Fire Prevention Week and related programs to raise awareness of fire hazards and preparedness.
6. Other Hazard Awareness Programs: Develop public awareness initiatives addressing all-hazard risks, including pandemic preparedness and public health emergencies, consistent with guidance from the Vermont Department of Health.

The tasks within this action reduce hazard risk as follows: hazard resilience education for property owners reduces structural vulnerability to flooding, high winds, and severe storms; HMGP outreach supports flood mitigation, elevation, and acquisition strategies; school preparedness programming reduces life-safety risks during winter storms and severe weather; fire prevention initiatives reduce structural fire risk; and all-hazard awareness programming strengthens preparedness for extreme cold, public health emergencies, and other hazard events.

Rationale / Cost-Benefit Review

Improved public awareness significantly reduces potential loss of life, property damage, and emergency response demands by empowering residents to take proactive mitigation actions. Education initiatives strengthen social resilience and foster public support for municipal mitigation investments. Increasing community understanding of hazard risks enhances preparedness and reduces future disaster-related costs.

Cost-Benefit Conclusion:
Public education and outreach efforts require minimal financial investment compared to the potential reduction in property damage, emergency response demands, and loss of life. Increased awareness and preparedness reduce long-term hazard vulnerability and represent a highly cost-effective mitigation investment that strengthens overall community resilience.

Action #6: Mitigate High Wind Vulnerability

Hazard(s) Addressed: Severe Wind Events, Thunderstorms, Downbursts, Associated Power Outages. The Specific Identified Tasks below correspond directly to the reduction of risk associated with each of these hazards.

Implementation Framework

Primary Lead Agency:
Town of Glover Selectboard (policy coordination and funding authorization), with technical coordination support from Northeastern Vermont Development Association (NVDA).

Supporting Agencies/Partners:
Vermont Agency of Natural Resources (ANR); Vermont Agency of Transportation (VTrans); regional electric utility provider; Planning Commission; local emergency response agencies.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP); FEMA Building Resilient Infrastructure and Communities (BRIC); Vermont Better Roads Program; VTrans infrastructure grants; utility provider infrastructure improvement programs; Municipal Planning Grants; Town Capital Improvement Budget.

Timeframe for Completion:
Short-term (1–2 years): Development of GIS-based vulnerability database and wind risk mapping; initial coordination with utility providers regarding tree maintenance and infrastructure standards.
Medium-term (1–5 years): Implementation of priority mitigation measures, including

infrastructure improvements and utility coordination projects.
Ongoing: Public outreach, tree maintenance integration into drainage system maintenance schedules, and continued infrastructure monitoring.

Specific Identified Tasks

1. **Develop and Maintain Severe Wind Vulnerability Database:** Utilize GIS tools to map areas at risk of severe wind impacts and identify concentrations of at-risk structures. Develop a severe wind scenario model to estimate potential losses and prioritize mitigation efforts.
2. **Establish Utility Coordination Standards:** Coordinate with the regional electric utility provider to improve tree pruning practices near power lines, inspect utility poles for wind resistance, and evaluate feasibility of undergrounding lines in priority areas. Integrate tree inspection into drainage system maintenance programs and promote resilient infrastructure design practices.
3. **Public Outreach and Education:** Provide educational materials to school administrators, healthcare facilities, property owners, and design professionals regarding wind-resistant construction techniques, safe refuge areas, and temporary mitigation measures.

The tasks within this action reduce hazard risk as follows: development of a GIS-based wind vulnerability database reduces structural exposure to severe wind events; coordination with utility providers and improved tree maintenance reduces power outage frequency during thunderstorms and downbursts; and public outreach on wind-resistant construction reduces structural damage and life-safety risks associated with high wind events.

Rationale / Cost-Benefit Review

High wind events pose significant risks to infrastructure, transportation systems, utilities, and public safety. Proactive mapping and coordination with infrastructure partners reduces the likelihood of prolonged power outages and costly structural damage. Strengthening wind resilience supports continued functionality of emergency services and reduces cascading impacts from other hazards.

Cost-Benefit Conclusion:
Mitigation measures addressing high wind vulnerability reduce long-term infrastructure damage, utility restoration costs, and public safety risks. Although some actions require interagency coordination and phased infrastructure improvements, the avoided repair expenses and improved system reliability outweigh implementation efforts, making this a cost-effective and sustainable resilience strategy.

Action #7: Fluvial Geomorphology Assessments and Response Strategies

Hazard(s) Addressed: Flooding, Fluvial Erosion, River Channel Migration, Infrastructure Damage Associated with River Corridors. The Specific Identified Tasks below correspond directly to the reduction of risk associated with each of these hazards.

Implementation Framework

Primary Lead Agency:
Town of Glover Selectboard (policy coordination and adoption of mitigation strategies), in coordination with the Vermont Department of Environmental Conservation (DEC) River Management Program for technical guidance.

Supporting Agencies/Partners:
Northeastern Vermont Development Association (NVDA); Vermont Agency of Natural Resources (ANR); regional nonprofits; Planning Commission; other appropriate municipal and regional entities.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP); FEMA Building Resilient Infrastructure and Communities (BRIC); FEMA Flood Mitigation Assistance (FMA); Vermont DEC River Corridor Program funding; Municipal Planning Grants; Vermont Better Roads Program; Town Capital Improvement Budget.

Timeframe for Completion:
Short-term (1–2 years): Coordination with DEC to review existing assessments and identify data gaps; enhanced floodplain and river corridor mapping updates.
Medium-term (1–5 years): Development of hazard maps, outreach strategies, and drafting of river corridor management recommendations.
Long-term (5+ years): Implementation of identified mitigation strategies, including infrastructure modifications or land-use policy adjustments as needed.
Ongoing: Monitoring of river corridor conditions and integration of updated hazard data into municipal planning processes.

Specific Identified Tasks

1. **Fluvial Geomorphic Assessments:** Coordinate with DEC to review findings for Basin ID 15 (Passumpsic) and develop a framework to guide infrastructure planning and vulnerability reduction.

2. **Fluvial Erosion Hazard Mapping:** Develop hazard maps for assessed stream reaches using Stream Geomorphic Assessment Tools (SGAT) and produce comprehensive mapping of waterways within the Town.
3. **River Corridor Management Plans:** Utilize River Corridor Maps to inform outreach strategies and identify resilience measures for residents and structures located within or near defined river corridors.
4. **Fluvial Erosion Hazard Mitigation Implementation:** Develop strategies to avoid or mitigate identified erosion hazards, including public information campaigns, potential municipal ordinance development, and infrastructure planning adjustments.

The tasks within this action reduce hazard risk as follows: fluvial geomorphic assessments reduce infrastructure vulnerability to flooding and river channel migration; fluvial erosion hazard mapping reduces development exposure in high-risk river corridors; river corridor management planning reduces long-term infrastructure damage; and implementation of erosion mitigation strategies reduces repetitive flood and erosion losses.

Rationale / Cost-Benefit Review

Flooding and fluvial erosion are the most common hazards triggering Federal disaster declarations in Glover. Improved understanding of river dynamics enables the Town to avoid costly infrastructure damage and inappropriate development within high-risk areas. Accurate hazard mapping supports informed decision-making, protects public infrastructure, and reduces repetitive loss potential.

Cost-Benefit Conclusion:
Investments in fluvial geomorphology assessments and hazard mapping provide critical data that prevents costly infrastructure damage and inappropriate development in high-risk areas. The long-term reduction in flood and erosion-related losses outweighs assessment and planning costs, making this action a cost-effective approach to reducing repetitive disaster impacts and strengthening long-term community resilience.

Action #8: Mitigate Wildfire Vulnerability

Hazard(s) Addressed: Wildfire / Forest Fire

Implementation Framework

Primary Lead Agency:
Town of Glover Fire Department (responsible for operational coordination, risk identification, community education, and seasonal preparedness planning), with policy oversight and funding authorization provided by the Town of Glover Selectboard.

Supporting Agencies/Partners:
Vermont Department of Forests, Parks and Recreation; Vermont Agency of Natural Resources (ANR); Northeastern Vermont Development Association (NVDA); Local Emergency Planning Committee (LEPC); regional mutual aid fire departments; UVM Extension.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP); FEMA Building Resilient Infrastructure and Communities (BRIC); U.S. Forest Service Community Wildfire Defense Grants (if eligible); Vermont Urban & Community Forestry Grants; Vermont Department of Forests wildfire prevention funding; Town Operating Budget; Town Capital Budget (if infrastructure improvements are identified).

Timeframe for Completion:
Short-term (1–2 years): Identification of wildland-urban interface (WUI) areas and development of defensible space education materials.
Medium-term (1–5 years): Mapping of high-risk residential areas and evaluation of response access improvements.
Ongoing: Annual wildfire season monitoring, outreach updates, and coordination with State forestry officials.

Progress:
While no major wildfire events have been documented in Glover, increasing seasonal drought conditions and regional wildfire activity indicate emerging risk. The Fire Department maintains volunteer response capacity and mutual aid agreements.

Specific Identified Tasks

- Identify and map residential structures located within the wildland-urban interface (WUI) using available GIS tools.
- Develop and distribute defensible space guidance for homeowners, including vegetation clearance, safe debris burning practices, and structural hardening measures.
- Coordinate with the Vermont Department of Forests regarding seasonal wildfire risk advisories and response coordination.
- Evaluate adequacy of dry hydrants, drafting sites, and access routes for wildfire response.
- Integrate wildfire risk awareness into annual public hazard outreach programming.

Rationale / Cost-Benefit Review

Although wildfire probability is currently low, Glover's extensive forest cover, rural development pattern, and increasing seasonal dryness present credible exposure risk. Proactive education, mapping, and coordination reduce ignition likelihood, improve emergency access, and

strengthen community preparedness. Early identification of WUI areas allows targeted outreach without requiring costly capital projects.

Cost-Benefit Conclusion

The cost of outreach, mapping, and coordination is minimal compared to potential residential structure loss, forest resource damage, and emergency response expenses. This action represents a cost-effective strategy to reduce emerging wildfire vulnerability and protect life and property.

Action #9: Mitigate Drought Impacts

Hazard(s) Addressed: Drought

Implementation Framework

Primary Lead Agency:
Town of Glover Selectboard (policy coordination and oversight), with planning support from the Town Planning Commission.

Supporting Agencies/Partners:
Vermont Agency of Agriculture, Food & Markets; Vermont Agency of Natural Resources; UVM Extension; Northeastern Vermont Development Association (NVDA); local agricultural operators.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (planning and outreach components); USDA Rural Development Programs; Vermont Community Development Program (VCDP); Vermont Agency of Agriculture grants; Town Operating Budget.

Timeframe for Completion:
Short-term (1–2 years): Development of drought awareness materials and voluntary water conservation guidance.
Medium-term (1–3 years): Coordination with agricultural stakeholders on drought preparedness strategies.
Ongoing: Monitoring state drought advisories and integrating findings into municipal planning processes.

Progress:
Periodic drought conditions have occurred regionally. While no severe municipal-scale drought emergency has occurred, agricultural and private well vulnerability remains a concern.

Specific Identified Tasks

- Monitor state-issued drought advisories and communicate voluntary conservation recommendations to residents.
- Develop educational materials addressing water conservation practices and well system protection.
- Coordinate with agricultural stakeholders to promote drought-resilient practices.
- Integrate drought awareness into municipal hazard outreach programming.
- Consider incorporating water conservation best practices into future Town Plan updates.

Rationale / Cost-Benefit Review

Drought primarily impacts agricultural productivity, groundwater recharge, and private well systems. Although structural damage is limited, economic impacts may be significant. Education and coordination strengthen preparedness and reduce financial losses without requiring major infrastructure investment.

Cost-Benefit Conclusion

Low administrative and outreach costs are substantially outweighed by avoided agricultural losses and reduced strain on water resources. This action aligns mitigation effort with the moderate probability rating assigned to drought.

Action #10: Mitigate Extreme Heat Risk

Hazard(s) Addressed: Extreme Heat

Implementation Framework

Primary Lead Agency:
Town of Glover Selectboard (policy coordination and oversight), with operational coordination by the Glover Fire Department.

Supporting Agencies/Partners:
Vermont Department of Health; Local Emergency Planning Committee (LEPC); Glover Elementary School; regional healthcare providers; community organizations.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (planning and outreach components); Vermont Department of Health preparedness grants; Town Operating Budget; American Red Cross preparedness programs.

Timeframe for Completion:
Short-term (1–2 years): Identification and designation of cooling location and development of outreach materials.
Ongoing: Seasonal monitoring and vulnerable population outreach during heat advisories.

Progress:
Extreme heat events have historically been limited but are projected to increase in variability.

Specific Identified Tasks

- Identify and designate a municipal cooling location for use during prolonged heat advisories.
- Develop targeted outreach materials for elderly, medically vulnerable, and low-income residents.
- Coordinate heat advisory notifications with Vermont Department of Health communications.
- Promote residential heat mitigation practices including hydration, ventilation, and safe cooling strategies.
- Review municipal continuity planning for potential increased energy demand during heat events.

Rationale / Cost-Benefit Review

Extreme heat poses life-safety risks to vulnerable populations and may strain electrical systems. Proactive designation of cooling space and targeted outreach reduce medical emergencies and emergency response demands.

Cost-Benefit Conclusion

The modest cost of planning and outreach is justified by avoided medical incidents and reduced strain on municipal emergency services.

Action #11: Mitigate Hail Damage Risk

Hazard(s) Addressed: Hail

Implementation Framework

Primary Lead Agency:
Town of Glover Planning Commission (responsible for coordination of outreach, risk awareness integration into planning documents, and monitoring of severe storm exposure trends), with policy oversight and funding authorization provided by the Town of Glover Selectboard.

Supporting Agencies/Partners:
Vermont Agency of Agriculture, Food & Markets; Vermont Agency of Natural Resources; Northeastern Vermont Development Association (NVDA); National Weather Service; local agricultural operators; local property owners.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP) (education and outreach components); FEMA Building Resilient Infrastructure and Communities (BRIC) (community resilience components); Vermont Agency of Agriculture resilience grants; Town Operating Budget.

Timeframe for Completion:
Short-term (1–2 years): Integration of hail preparedness guidance into public outreach materials and agricultural coordination.
Medium-term (1–5 years): Incorporation of impact-resistant building awareness into municipal planning updates.
Ongoing: Monitoring of National Weather Service severe thunderstorm advisories and periodic public education.

Progress:
Localized hail events have occurred regionally during severe thunderstorms. While no catastrophic hail damage has been documented in Glover, agricultural exposure and aging roofing materials present localized vulnerability.

Specific Identified Tasks

- Integrate hail risk awareness into municipal hazard outreach materials, including roofing durability and storm preparedness guidance.
- Coordinate with agricultural stakeholders regarding crop protection practices and risk mitigation during severe storm advisories.
- Promote awareness of National Weather Service severe thunderstorm warnings and public notification systems.
- Encourage evaluation of impact-resistant roofing materials during routine building maintenance and capital improvement planning.
- Monitor regional severe storm trends to evaluate potential changes in hail exposure frequency.

Rationale / Cost-Benefit Review

Hail impacts are typically localized but may cause structural damage to roofs, siding, and agricultural assets. Although probability is low, even isolated hail events can result in repair costs and insurance claims. Public education and awareness reduce vulnerability by encouraging proactive building maintenance and crop protection strategies.

Cost-Benefit Conclusion

The minimal cost of outreach and monitoring is significantly outweighed by avoided property repair expenses and agricultural losses. This action provides a cost-effective mitigation strategy proportionate to the hazard's low probability but credible impact potential.

Action #12: Mitigate Earthquake Risk

Hazard(s) Addressed: Earthquake

Implementation Framework

Primary Lead Agency:
Town of Glover Selectboard (policy oversight and integration into emergency planning), with coordination support from the Town Planning Commission.

Supporting Agencies/Partners:
Vermont Emergency Management; Northeastern Vermont Development Association (NVDA); Local Emergency Planning Committee (LEPC); Vermont Agency of Transportation (for bridge inspection coordination).

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP) (planning and non-structural mitigation components); FEMA BRIC (if structural retrofit is identified in future); Town Operating Budget; Town Capital Improvement Budget (if structural improvements are required).

Timeframe for Completion:
Short-term (1–2 years): Review and update of emergency response procedures related to seismic events.
Medium-term (1–5 years): Evaluation of municipal facility vulnerability during future capital planning cycles.
Ongoing: Integration of earthquake awareness into annual preparedness programming and training exercises.

Progress:
Vermont is classified as a low seismic hazard state. No major structural earthquake damage has been recorded in Glover; however, regional tremors have occurred.

Specific Identified Tasks

- Review municipal emergency response and evacuation procedures for potential seismic events.
- Encourage property owners to secure heavy furnishings, fuel tanks, and mechanical systems to reduce non-structural hazards.
- Evaluate municipal buildings and bridges for potential seismic vulnerability during scheduled capital planning reviews.
- Incorporate earthquake response considerations into municipal emergency exercises and tabletop trainings.
- Integrate earthquake preparedness guidance into annual public hazard outreach materials.

Rationale / Cost-Benefit Review

Although earthquake probability is low, even moderate seismic events may cause chimney collapse, masonry cracking, and infrastructure inspection needs. Non-structural mitigation and preparedness planning strengthen overall all-hazard resilience and improve emergency coordination.

Cost-Benefit Conclusion

The low cost of planning review and public awareness efforts is justified by the avoided risk of injury and infrastructure inspection costs. This action enhances overall emergency preparedness while aligning with the hazard's low probability rating.

Action #13: Mitigate Landslide and Slope Instability Risk

Hazard(s) Addressed: Landslides

Implementation Framework

Primary Lead Agency:
Town of Glover Road Foreman (responsible for infrastructure monitoring and slope stability assessment), with policy direction and funding authorization provided by the Town of Glover Selectboard.

Supporting Agencies/Partners:
Vermont Agency of Transportation (VTrans); Vermont Agency of Natural Resources (ANR); Northeastern Vermont Development Association (NVDA); Vermont Geological Survey (as applicable).

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP); Vermont Better Roads Grants; VTrans infrastructure grants; Town Capital Improvement Budget; Town Operating Budget.

Timeframe for Completion:
Short-term (1–2 years): Integration of slope monitoring into routine road inspection protocols.
Medium-term (1–5 years): Prioritization and stabilization of recurring embankment failures.
Ongoing: Documentation and mapping of instability during heavy precipitation events.

Progress:
Localized embankment instability has occurred following intense rainfall and rapid snowmelt events, though no catastrophic landslide events have been recorded.

Specific Identified Tasks

- Incorporate slope and embankment condition review into routine road and culvert inspections.
- Document areas of recurring instability using GIS mapping tools.
- Prioritize stabilization projects within annual infrastructure improvement planning.
- Coordinate engineered assessments for high-risk or repeatedly failing slopes.
- Integrate slope stability considerations into future road design and drainage improvement projects.

Rationale / Cost-Benefit Review

While large-scale landslides are rare, shallow slope failures can undermine roads, block culverts, and disrupt transportation access. Early identification and phased stabilization reduce emergency repair costs and protect public safety.

Cost-Benefit Conclusion

Routine monitoring and prioritized stabilization significantly reduce long-term infrastructure repair expenses. The incremental cost of integrating slope monitoring into existing inspection practices is minimal compared to avoided reconstruction costs.

Action #14: Mitigate Infectious Disease Impacts

Hazard(s) Addressed: Infectious Disease

Implementation Framework

Primary Lead Agency:
Town of Glover Selectboard (policy oversight and municipal continuity coordination).

Supporting Agencies/Partners:
Vermont Department of Health; Glover Elementary School; regional healthcare providers; Local Emergency Planning Committee (LEPC); regional emergency management partners.

Specific Funding Sources:
FEMA Hazard Mitigation Grant Program (HMGP) (planning and continuity components); Vermont Department of Health preparedness funding; Town Operating Budget; Federal public health preparedness grants (as available).

Timeframe for Completion:
Short-term (1–2 years): Review and update of municipal continuity and communication protocols.
Medium-term (1–3 years): Integration of continuity strategies into municipal operational planning.
Ongoing: Coordination during declared outbreaks and periodic review of public health guidance.

Progress:
The Town coordinated COVID-19 response efforts in alignment with State directives, demonstrating baseline operational capacity.

Specific Identified Tasks

- Maintain active coordination protocols with the Vermont Department of Health during declared outbreaks.
- Review and update Continuity of Operations Planning (COOP) to ensure essential municipal services remain operational during workforce disruptions.
- Develop communication procedures for timely public information during infectious disease events.
- Identify cross-training opportunities to ensure continuity of essential municipal roles.
- Incorporate infectious disease considerations into emergency preparedness exercises.

Rationale / Cost-Benefit Review

Infectious disease events primarily impact workforce availability and service delivery rather than physical infrastructure. Proactive continuity planning reduces service disruption, economic strain, and public confusion during declared health emergencies.

Cost-Benefit Conclusion

Administrative planning and coordination costs are minimal relative to potential economic and operational disruption during future outbreaks. Maintaining continuity protocols strengthens municipal resilience.

Action #15: Mitigate Invasive Species Impacts

Hazard(s) Addressed: Invasive Species

Implementation Framework

Primary Lead Agency:
Town of Glover Planning Commission (coordination of natural resource monitoring and public education), with oversight provided by the Town of Glover Selectboard.

Supporting Agencies/Partners:
Vermont Agency of Natural Resources (ANR); UVM Extension; Northeastern Vermont Development Association (NVDA); regional conservation organizations; lake and watershed associations.

Specific Funding Sources:
Vermont ANR invasive species grants; FEMA Hazard Mitigation Grant Program (planning components); Vermont Watershed Grants; Town Operating Budget.

Timeframe for Completion:
Short-term (1–2 years): Development of invasive species awareness materials and reporting coordination.
Medium-term (1–5 years): Integration of invasive species monitoring into natural resource planning.
Ongoing: Collaboration with State agencies and community education.

Progress:
Regional invasive plant and aquatic species have been documented in surrounding watersheds and forest systems.

Specific Identified Tasks

- Promote public reporting of invasive species through Vermont ANR programs.
- Coordinate with ANR and regional partners regarding management guidance and control best practices.
- Integrate invasive species awareness into shoreline, forest, and land use planning discussions.
- Encourage landowners to adopt preventative measures to reduce spread.
- Monitor regional invasive species trends to evaluate emerging risk.

Rationale / Cost-Benefit Review

Invasive species spread gradually but may result in long-term ecological degradation, reduced biodiversity, impaired water quality, and economic impacts to forestry and recreation. Early detection and education reduce long-term management costs.

Cost-Benefit Conclusion

The relatively low cost of coordination and education is significantly outweighed by avoided long-term ecological damage and control expenses. This action supports sustainable resource management and community resilience.

Table 9.0. Town of Glover Hazard Risk and Vulnerability Summary

Hazard Type	Probability[1]	Vulnerability[2]	Impact[3]
Flood/Fluvial Erosion	Medium to High	All village residences and businesses, Union House Nursing home, Rural Edge, Elder Living, Curriers Market, Red Sky Trading, and the Town Hall	JULY 2023 FLOODING Resulted in severe flood damage for the town, including 14 road sites and flooding to the town hall senior meals site,
Winter Storm/Ice Storm/ Extreme Cold with Power Failure	High	The entire Town is vulnerable, including road infrastructure, town and privately owned buildings and utility infrastructure	For roof collapse: monetary damages will depend on each structure but, collapse of barn roof is often a total loss. This does not include the loss of livestock. Collapse of a

			HOUSE ROOF MAY BE AT A 50% LOSS. FOR CAR CRASHES DUE TO POOR DRIVING CONDITIONS: MINIMAL DAMAGE TO VEHICLE TO TOTALED VEHICLE AND OPERATOR INJURY. HEALTH IMPACTS COULD VARY SIGNIFICANTLY. LOSS OF ENERGY OR COMMUNICATION CAPABILITIES MAY OCCUR AND IMPEDE RECOVERY.
HIGH WIND	MEDIUM	THE ENTIRE TOWN IS VULNERABLE TO THE RESULTS OF HIGH WIND EXPOSURE. SIGNIFICANT DAMAGE POSSIBLE TO TREES, POWER LINES, BUILDING ROOFS.	5/2012 EVENT: CONFIRMED EFO (GALE) TORNADO IN W. GLOVER, HAIL GREATER THAN AN INCH IN DIAMETER, DAMAGING WINDS, FLASH FLOODING, TOTAL RAINFALL OF 3-5 INCHES

Changes in Development Since the Previous Plan

Status of Previous Mitigation Actions

As part of this five-year update, the Town of Glover reviewed all hazard mitigation actions identified in the previously FEMA-approved 2017 Local Hazard Mitigation Plan to determine whether each action has been completed or not. For actions that have not been completed, the Town evaluated whether the action remains relevant and whether it is included in the updated 2024 mitigation strategy.

The table below identifies the status of all mitigation actions from the previous plan and clearly states whether each action has been completed, remains in progress, is ongoing, or has been incorporated into the updated mitigation strategy.

Status of 2014 Mitigation Actions

2017 Mitigation Action	Status	Disposition in 2026 Plan	Explanation
Identify and schedule bridge and culvert maintenance and upgrades	Ongoing – included in the updated mitigation strategy	Included in Action #1: Improve Infrastructure Protection Programs	Continuing as an infrastructure priority with phased upgrades implemented since 2017
Utilize the Vermont Stream Alteration Permit process when replacing culverts and bridges	Ongoing – included in the updated mitigation strategy	Included in Action #1	Required by State statute and incorporated into municipal road practices
Maximize FEMA Public Assistance (406) mitigation following disaster events	Ongoing – included in the updated mitigation strategy	Incorporated into updated mitigation strategy and funding approach	Applied following eligible disasters of 2023 and 24 and remains a funding tool
Upgrade and maintain ditching along town roads	Ongoing – included in the updated mitigation strategy	Included in Action #1	Continues as part of annual road maintenance and flood mitigation efforts
Maintain town equipment in top condition for winter operations	Ongoing – included in the updated mitigation strategy	Included in Action #2: Enhance Winter Storm Resilience	Incorporated into annual operational practices

Maintain adequate diesel fuel and road sand supply	Ongoing – included in the updated mitigation strategy	Included in Action #2	Continuing as a winter preparedness measure
Identify and remove hazard trees	Ongoing – included in the updated mitigation strategy	Incorporated into updated mitigation actions and municipal capabilities	Continues under Tree Warden and road maintenance responsibilities
Perform recommended maintenance and upgrades of Shadow Lake Dam	In progress – included in the updated mitigation strategy	Included in updated infrastructure protection actions	Maintenance, Inspections and coordination with State Dam Safety Program with updates in 2027
Review and update the Shadow Lake Dam Emergency Action Plan annually	Completed – 2025 ongoing annual review included in updated mitigation strategy	Included in updated mitigation strategy	EAP updated and reviewed annually as required

Summary of Action Review

All hazard mitigation actions identified in the 2017 plan remain relevant to current hazard conditions and community priorities. Actions that were not one-time projects have been continued as ongoing municipal practices and are included in the updated 2026 mitigation strategy to ensure continued long-term risk reduction.

Integration of Mitigation Plan into Other Planning Mechanisms

Since approval of the 2017 Local Hazard Mitigation Plan, the Town of Glover has integrated mitigation strategies and hazard vulnerability information into multiple municipal planning mechanisms and operational processes.

Infrastructure mitigation actions identified in the 2014 plan, including culvert upgrades, ditching improvements, and bridge maintenance, have informed annual road work planning, capital improvement discussions, and prioritization of Better Roads grant applications. Identified flood and fluvial erosion risks have guided culvert sizing decisions and compliance with Vermont Stream Alteration Permit requirements during infrastructure replacement projects.

Dam safety mitigation actions have been integrated into coordination efforts with the Vermont Department of Environmental Conservation, including review and maintenance of the Shadow Lake Dam Emergency Action Plan and consideration of dam-related risks during municipal emergency planning discussions.

Winter storm mitigation actions, including equipment maintenance and fuel supply management, have been incorporated into annual municipal budgeting and operational planning to ensure continuity of services during severe weather events.

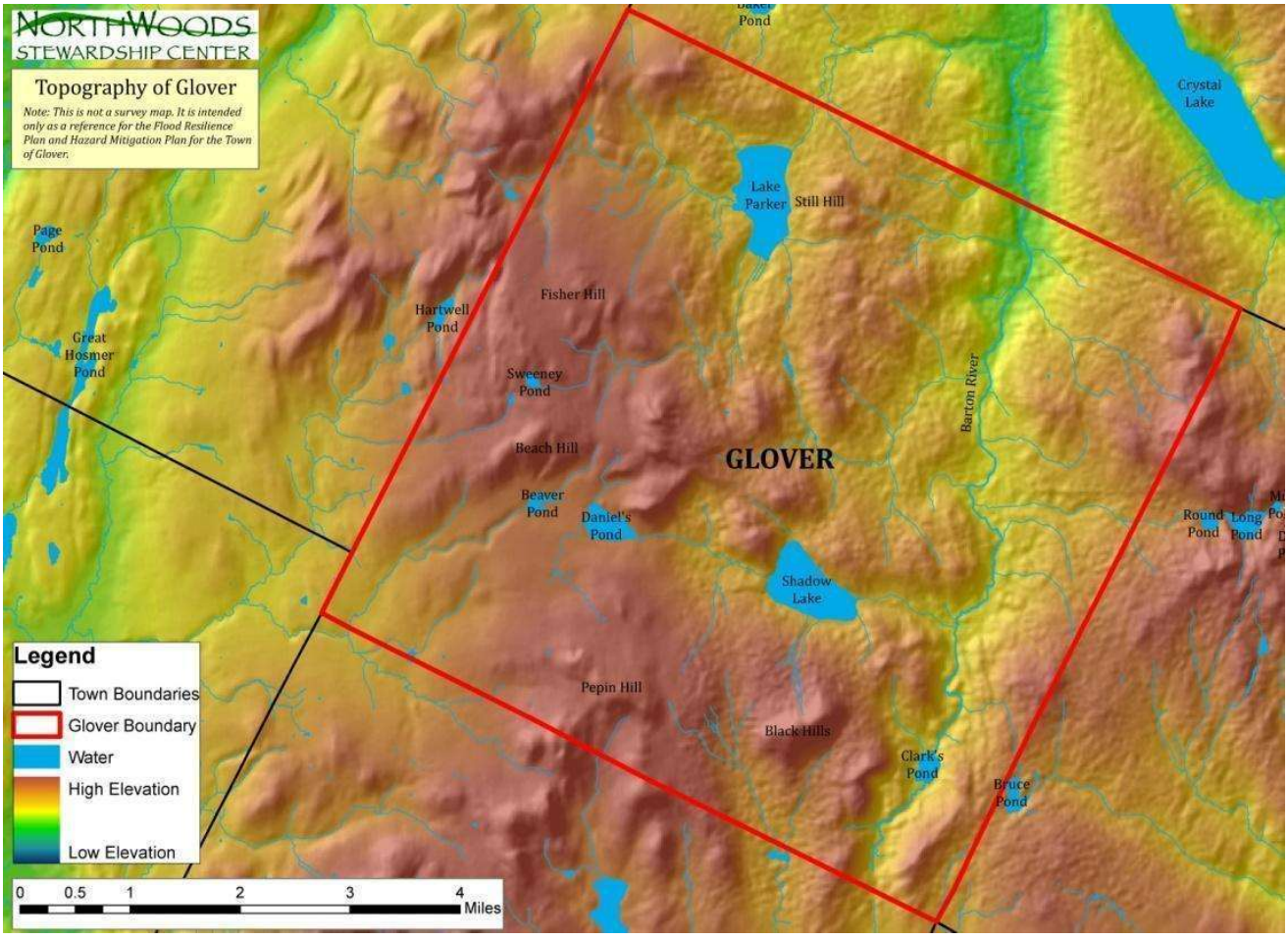
Hazard mitigation principles have also informed updates to the Town Plan and emergency management planning efforts, ensuring that flood risk, erosion hazards, infrastructure resilience, and climate-related trends are considered in land use discussions and long-term municipal decision-making.

Through these documented efforts, information from the previously approved mitigation plan has been actively integrated into municipal planning, budgeting, infrastructure management, and emergency preparedness processes, demonstrating continued progress in local hazard mitigation implementation.

Appendices

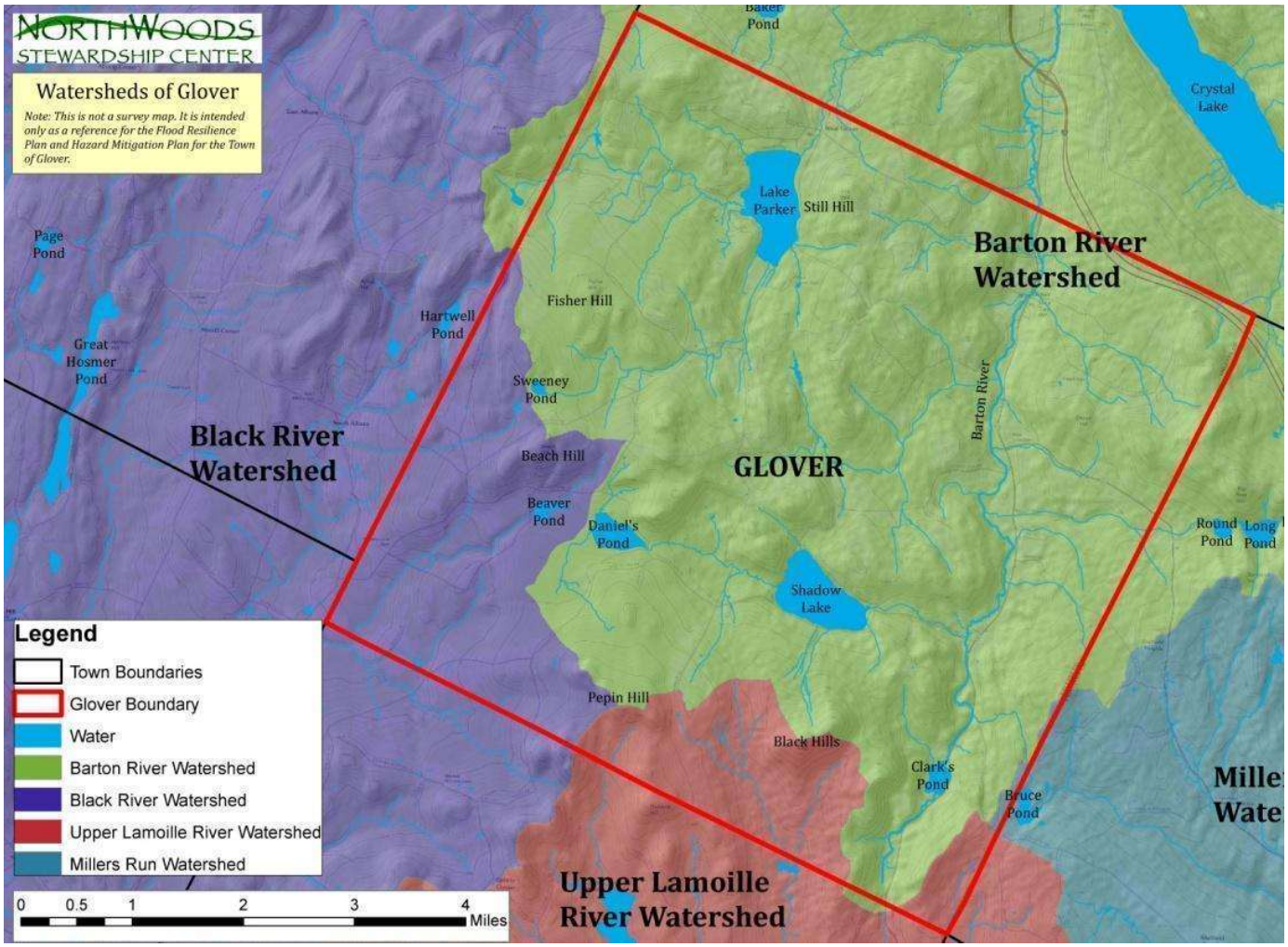
Appendix A: MAPS

GLOVER TOPOGRAPHY



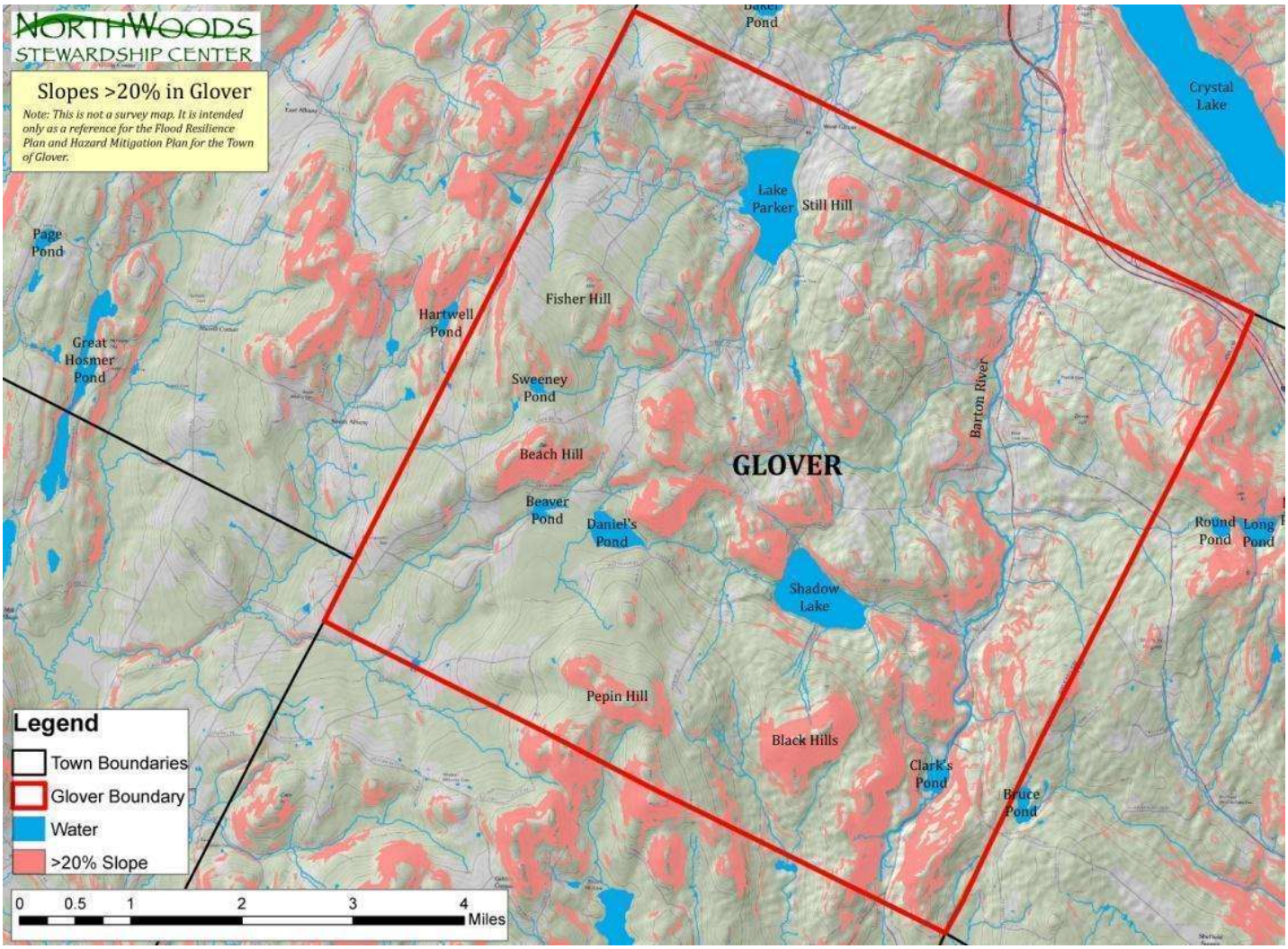
(Courtesy of Meghann Carter, NorthWoods Stewardship Center)

GLOVER WATERSHEDS



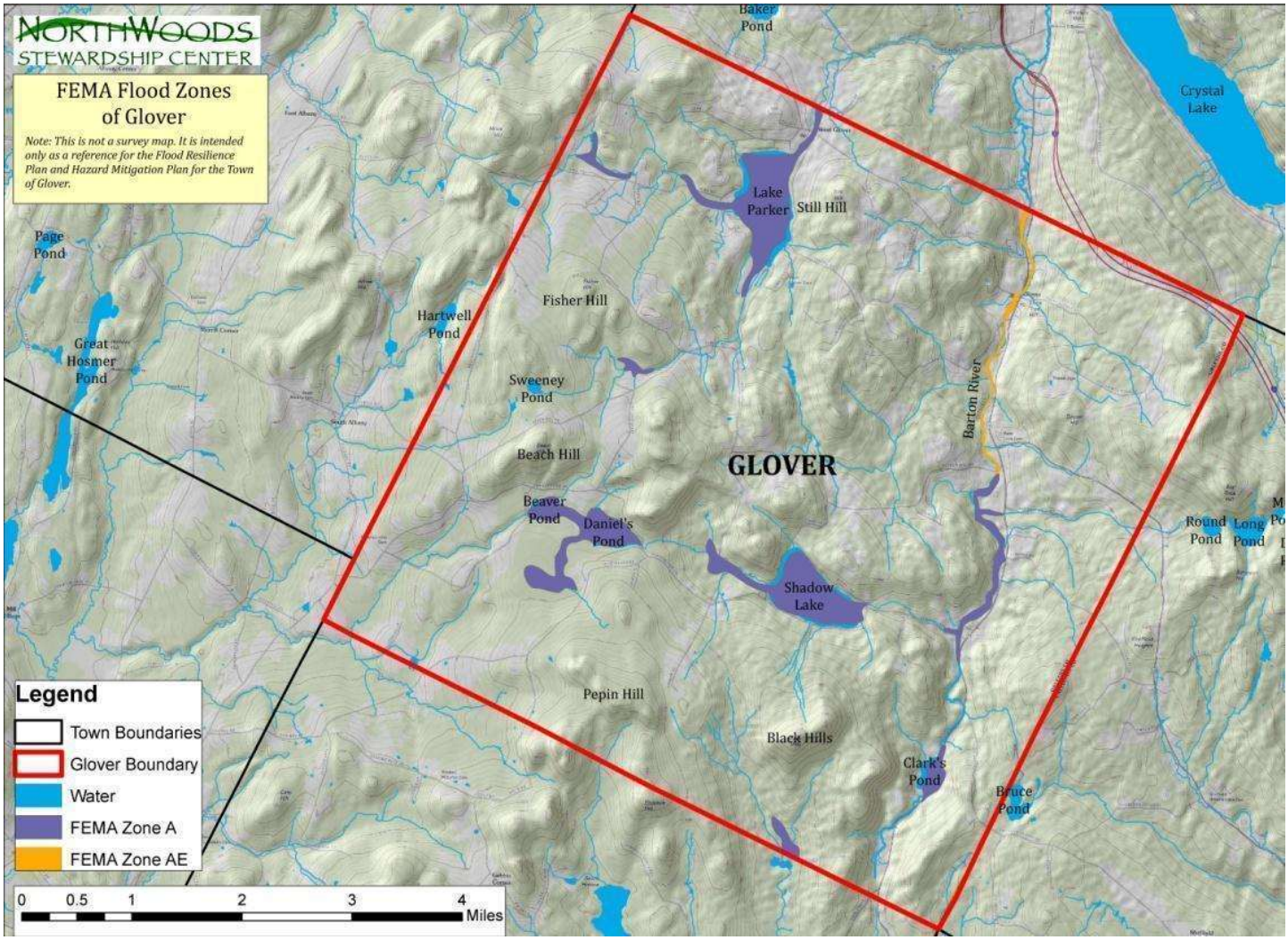
(Courtesy of Meghann Carter, NorthWoods Stewardship Center)

GLOVER SLOPES OVER 20%



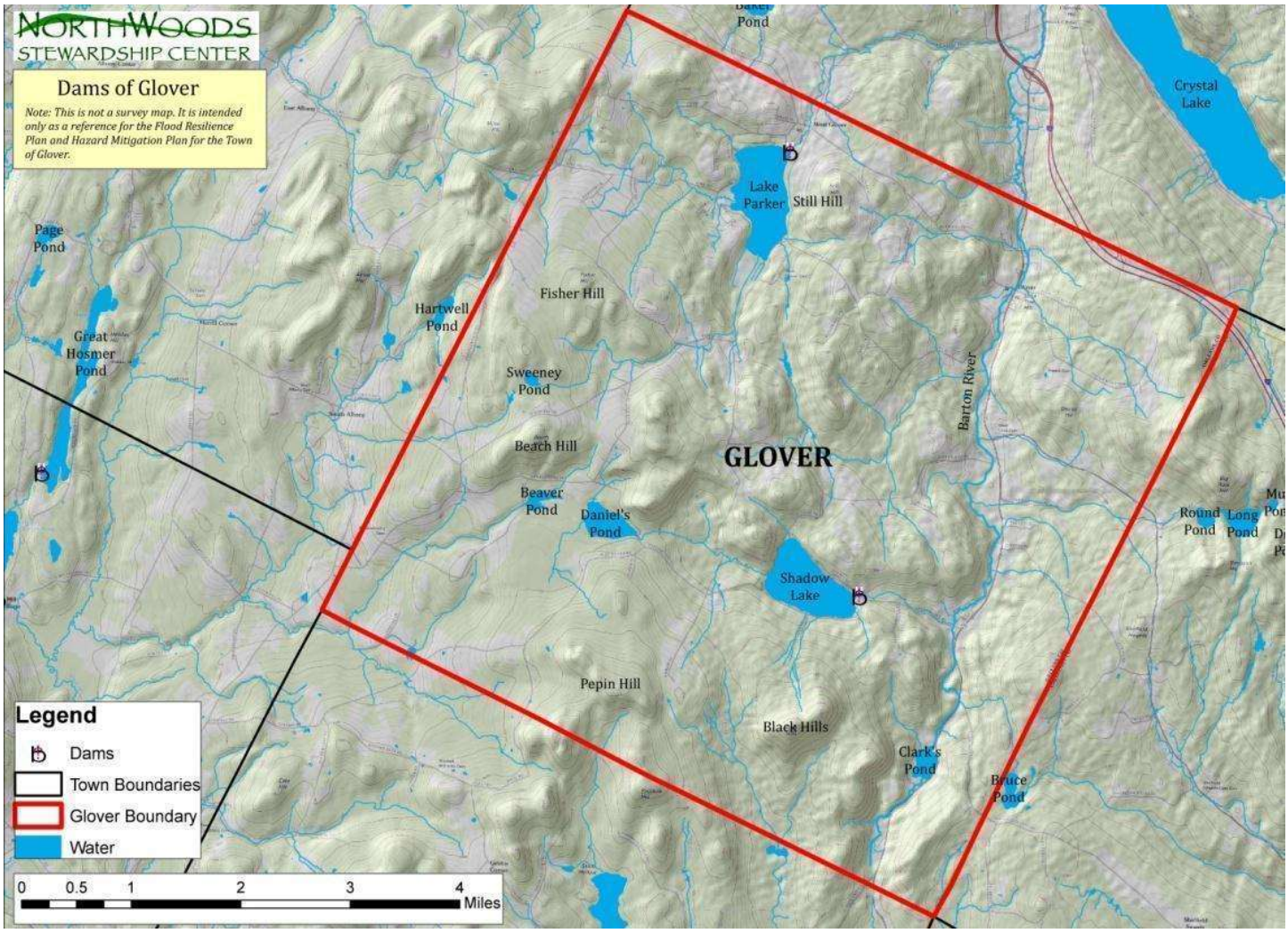
(Courtesy of Meghann Carter, NorthWoods Stewardship Center)

GLOVER FLOOD ZONES



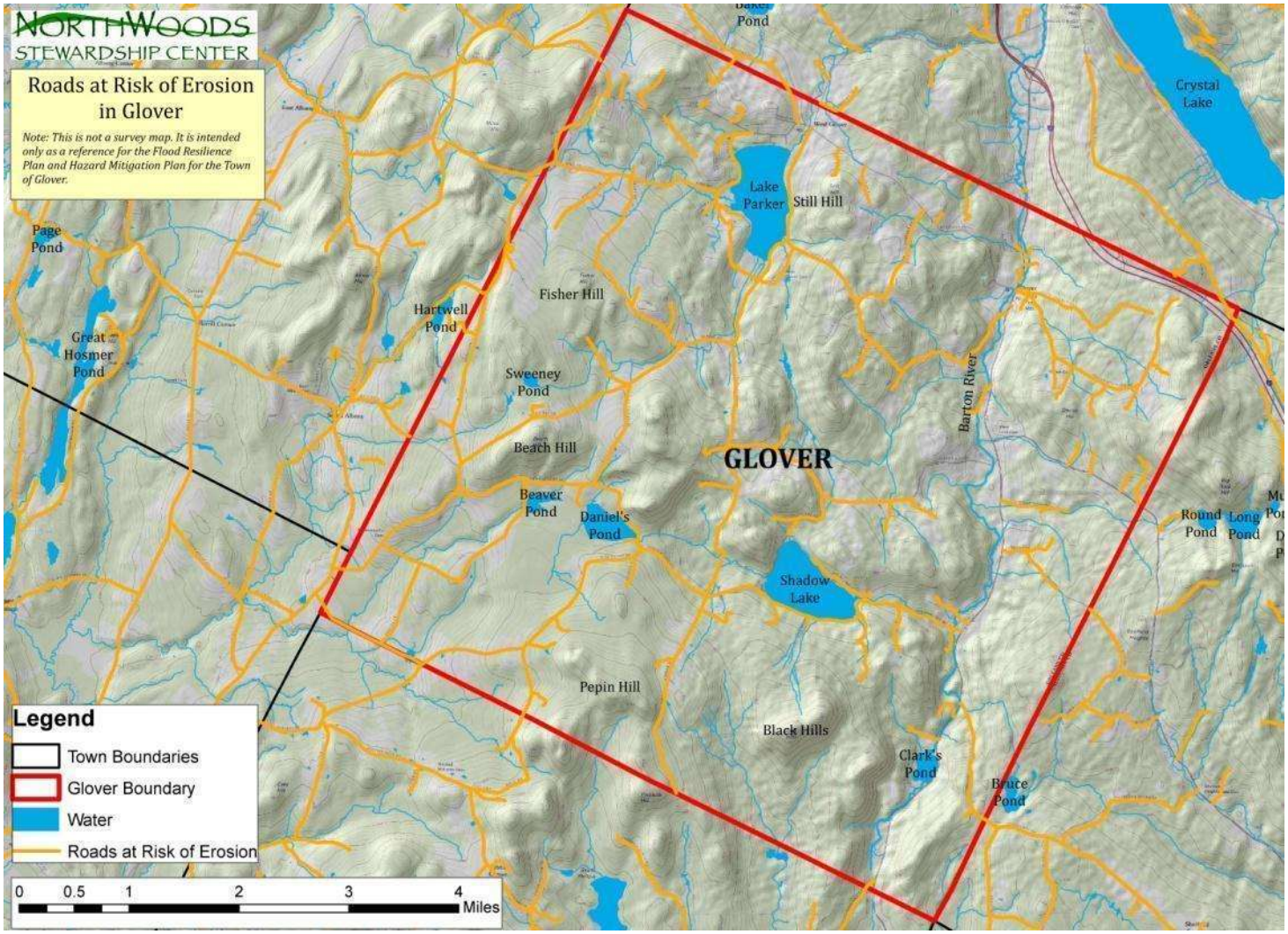
(Courtesy of Meghann Carter, NorthWoods Stewardship Center)

GLOVER LAKES & DAMS



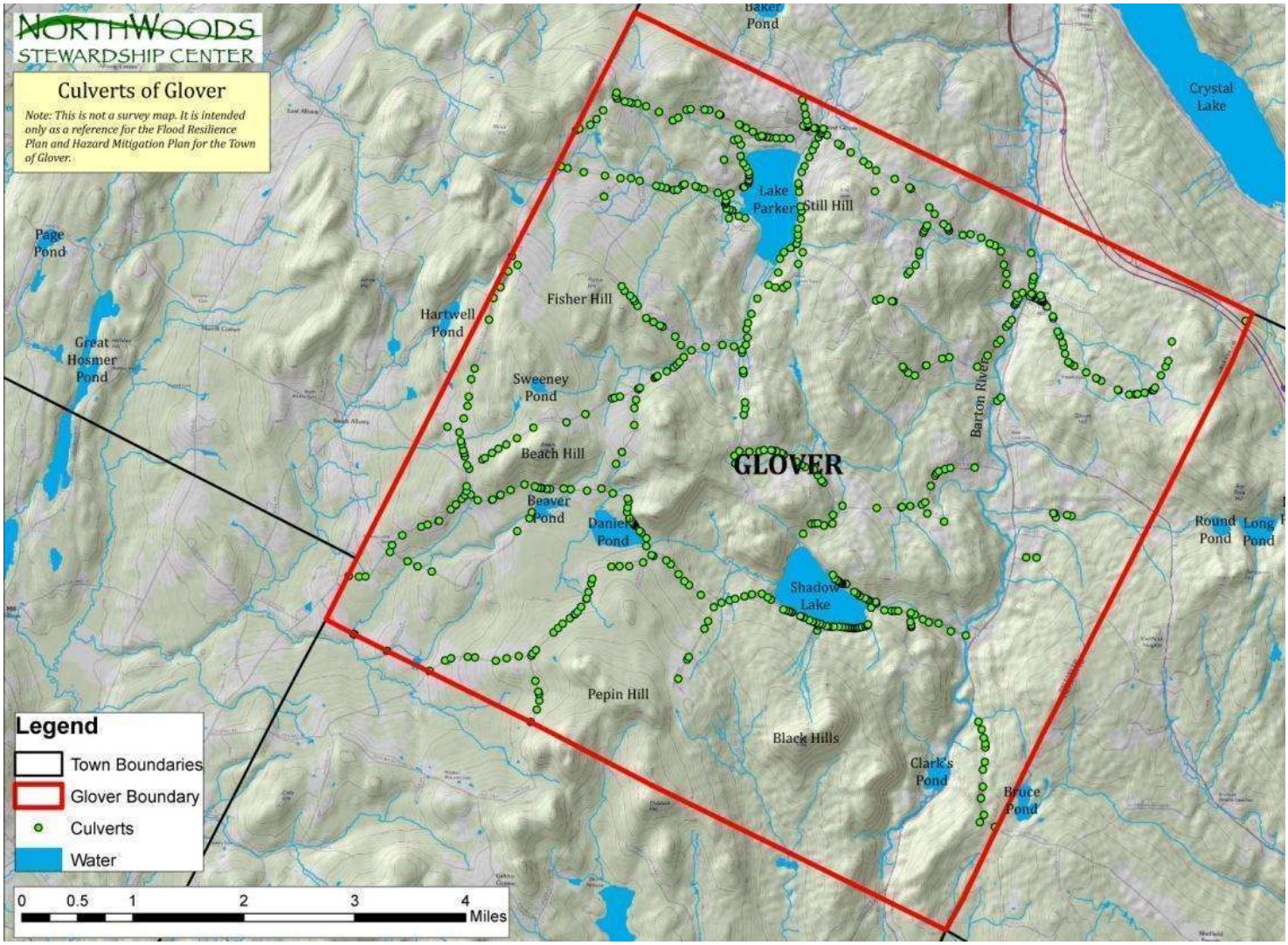
(Courtesy of Meghann Carter, NorthWoods Stewardship Center)

GLOVER ROADS



(Courtesy of Meghann Carter, NorthWoods Stewardship Center)

GLOVER CULVERTS



(Courtesy of Meghann Carter, NorthWoods Stewardship Center)

Appendix B – Public Outreach Documentation

Public Review Opportunity

The Town of Glover provided an opportunity for public and stakeholder review of the draft 2026 All Hazards Local Hazard Mitigation Plan (LHMP) Update prior to formal adoption and submission to the Vermont Department of Emergency Management and Homeland Security (DEMHS) and FEMA.

Members of the public and community stakeholders were invited to review the draft and provide feedback to ensure that the plan reflects local priorities, hazard concerns, and community needs.

Public comments could be submitted through the following methods:

- Email to: theresa@townofglover.com
- Phone: 802-525-7199
- Written correspondence delivered to: Town of Glover, 51 Bean Hill Rd., Glover, VT 05839

Outreach Strategy

Consistent with the requirements of 44 CFR §201.6, the Town conducted targeted outreach to neighboring municipalities, local institutions, and organizations serving vulnerable populations to provide an opportunity for review and input on the draft LHMP update.

Outreach specifically requested feedback regarding:

- Identified natural hazards and their impacts on the community
- Vulnerable populations and community assets that may be disproportionately affected
- Proposed mitigation strategies and priority actions
- Additional risks, projects, or concerns that should be considered

This targeted outreach approach was intended to strengthen equitable hazard mitigation planning and ensure that vulnerable populations were considered in mitigation strategy development.

Availability of Draft Plan

Due to file size limitations, the full draft Local Hazard Mitigation Plan was not attached directly to outreach emails. However, recipients were informed that the draft plan was available upon request.

Copies of the draft plan were available electronically via email transmission or in hard copy at the Town Office upon request. This approach ensured that stakeholders and members of the public had a meaningful opportunity to review the draft plan prior to adoption.

Copy of Outreach Email

Good Afternoon,

The Town of Glover is currently in the drafting stage of its **2026 All Hazards Local Hazard Mitigation Plan (LHMP) Update**, which is required under FEMA regulations (44 CFR § 201.6) to maintain eligibility for certain hazard mitigation funding programs.

As part of the planning process, the Town is providing the public and community partners with an opportunity to review and provide feedback on the draft plan prior to formal submission and adoption.

We are specifically requesting input on:

- Identified natural hazards and their impacts on the community
- Vulnerable populations and community assets that may be disproportionately affected
- Proposed mitigation strategies and priority actions
- Any additional risks, projects, or concerns that should be considered

Comments may be submitted by:

- Email to: theresa@townofglover.com
- Phone: 802-525-7199
- Written comment delivered to: Town of Glover, 51 Bean Hill Rd., Glover, VT 05839

The Town is particularly interested in feedback from organizations serving:

- Seniors
- Individuals with disabilities
- Low-income households
- Renters
- Individuals without reliable transportation
- Households dependent on electricity for medical equipment
- Non-English-speaking residents

All comments received will be reviewed by the Planning Team and, where appropriate, incorporated into the final plan update prior to submission.

Your participation helps ensure that the plan reflects community needs and strengthens Glover's resilience to future hazard events.

Thank you for your time and input.

Sincerely, Theresa Perron
Town of Glover

Noah Bond
LHMP Consultant

Outreach Contact Log

Organization	Contact Name	Title	Org. Type	Date Contacted	Method	Contact Information	Response Received
Greensboro	Town Clerk	Clerk	Municipal	02/28/2026	Email	townclerk@greensborovt.gov	No
Irasburg	Town Clerk	Clerk	Municipal	02/28/2026	Email	irasburgtc@comcast.net	No
Barton	Town Clerk	Clerk	Municipal	02/28/2026	Email	bartontown2@gmail.com	No
Union House Nursing Home	TBD	Healthcare Admin	Healthcare	02/28/2026	Email	[Insert]	Pending
Wheelock	Town Clerk	Clerk	Municipal	02/28/2026	Email	wheelocktown@gmail.com	No
Westmore	Town Clerk	Clerk	Municipal	02/28/2026	Email	clerk@westmoreonline.org	No
Glover Community School	Mark Fiorentino	Administrator	School	02/28/2026	Email	mfiorentino@ocsu.org	No

Method of Public Notice

Public notice was conducted through direct email outreach to neighboring municipalities, healthcare providers, and local institutions. The Town also made the draft plan available upon request through the Town Office.

While the Town does not maintain a formal municipal website posting system for LHMP updates, direct outreach ensured that community partners and stakeholders were notified and provided with an opportunity to participate in the planning process.

Appendix C

Mitigation Strategy Implementation Guide

This appendix provides detailed implementation guidance for each mitigation action identified in the Town of Glover Local Hazard Mitigation Plan. While the Mitigation Strategy section of the Plan includes structured action tables, this appendix expands upon those tables to provide narrative clarification regarding responsibilities, timeframes, funding strategies, and administrative coordination.

The purpose of this appendix is to ensure transparency, accountability, and clarity regarding how mitigation actions will be implemented during the five-year plan cycle following adoption.

How to Read the Mitigation Action Tables

Each action table in the Mitigation Strategy includes the following sections:

1. Specific Identified Task

This column describes the discrete mitigation activity to be undertaken. These tasks are practical implementation steps designed to reduce long-term risk to people, property, infrastructure, municipal services, and natural resources.

Tasks may include:

- Planning and assessment activities
- Engineering evaluations
- Infrastructure upgrades
- Public education initiatives
- Emergency management protocol development
- Coordination with state or regional agencies

Some actions are multi-phased and may involve several tasks occurring over multiple years.

2. Hazard Addressed

This column identifies the primary natural hazard(s) the task is intended to mitigate. Hazards profiled in the Plan include flooding, fluvial erosion, high wind, severe winter storm, extreme cold, extreme heat, wildfire, drought, hail, earthquake, landslide, infectious disease, dam failure, and invasive species.

Many tasks address multiple hazards simultaneously. For example, culvert upgrades may reduce both inundation flooding and fluvial erosion risk.

3. Responsible Office

This column identifies the municipal office, department, or authority primarily responsible for implementing or administering the mitigation task.

Titles listed in the tables refer to positions rather than individual names to ensure continuity over time. However, implementation responsibility rests with the individual currently holding that office at the time of plan adoption.

For example:

- "Road Foreman" refers to the Highway Department head responsible for infrastructure operations and technical project execution.
- "Selectboard" refers to the governing body responsible for policy approval, budget authorization, and grant acceptance.
- "Planning Commission" refers to the municipal planning authority responsible for hazard mapping, land use coordination, and public outreach.
- "Fire Chief" refers to the municipal fire service leader responsible for emergency response coordination and public safety programming.

In many cases, multiple offices are listed. This reflects the collaborative nature of mitigation implementation. For example:

- The Road Foreman may lead technical design and field work.
- The Selectboard may be responsible for funding approval and grant applications.
- The Treasurer may provide financial oversight and reporting.

Where more than one office is listed, the first office named is generally considered the primary lead, with others serving supporting or oversight roles.

4. Specific Funding Source(s)

This column identifies potential funding mechanisms available to support implementation of the mitigation task.

Funding sources may include:

- Municipal General Fund allocations
- Highway Budget lines
- Capital Reserve Funds
- Vermont Better Roads Grants
- Vermont Agency of Transportation (VTrans) programs
- Vermont Department of Environmental Conservation (VT DEC) grants
- FEMA Hazard Mitigation Assistance (HMGP, BRIC, FMA)
- FEMA Emergency Management Performance Grant (EMPG)
-

- Vermont Community Development Program (VCDP)
- Municipal Planning Grants

Funding sources listed represent potential opportunities and do not guarantee award. The Town will pursue appropriate funding cycles during the five-year implementation period.

Where grant funding is unavailable, projects may be phased or incorporated into capital planning cycles.

5. Timeframe

The timeframe column identifies the expected period of implementation following formal plan adoption.

All timeframes are measured from the official date of adoption of the Local Hazard Mitigation Plan by the Town of Glover.

Timeframe categories are defined as follows:

- **1 Year**: Initiated and completed within the first year following adoption.
- **1–2 Years**: Initiated within the first year and completed within two years.
- **2–3 Years / 2–5 Years**: Multi-year implementation requiring phased funding, design, or grant cycles.
- **Annual**: Action will occur once per year during the five-year plan cycle.
- **Ongoing**: Continuous responsibility maintained throughout the five-year cycle.

Timeframes are estimates and may shift depending on funding availability, regulatory requirements, emergency events, or changing municipal priorities.

Implementation Coordination

Implementation of mitigation actions requires coordination between municipal departments, regional planning partners, state agencies, and federal grant programs.

The Selectboard maintains overall administrative oversight of the mitigation strategy and is responsible for:

- Approving budgets
- Authorizing grant applications
- Accepting grant awards
- Integrating mitigation priorities into capital planning

Department heads are responsible for:

- Technical execution
- Reporting progress

- Coordinating with state agencies
- Identifying emerging risks

This structure ensures both operational accountability and fiscal oversight.

Relationship to Plan Maintenance

This appendix supports compliance with 44 CFR §201.6(c)(3) and §201.6(c)(4) by clearly identifying:

- Who is responsible for implementing actions
- How actions will be funded
- When actions will occur
- How multi-department coordination will occur

Progress on these actions will be monitored annually and evaluated as part of the Plan Maintenance process described in the main body of the Plan.

ACTION 1 – Improve Infrastructure Protection Programs

This action focuses on strengthening the Town's transportation and drainage infrastructure to reduce long-term vulnerability to flooding, fluvial erosion, severe storms, and dam failure. The tasks outlined under Action 1 prioritize data collection, capital planning, infrastructure hardening, and regulatory preparedness to reduce risk to municipal assets and the traveling public.

Responsible Parties

Primary responsibility for implementation lies with:

• Road Foreman (Highway Department) – responsible for technical evaluation, project scoping, cost estimation, and field implementation.
• Selectboard Chair – responsible for budget approval, grant authorization, policy oversight, and coordination with state and federal agencies.
• Town Treasurer – responsible for financial tracking and grant administration where applicable.

The Road Foreman is responsible for the operational and engineering aspects of infrastructure improvements. The Selectboard is involved because infrastructure projects require municipal budget approvals, capital planning decisions, and grant acceptance. Financial oversight and compliance responsibilities require coordination with the Treasurer.

Timeframe Clarification

Timeframes listed in the mitigation table (e.g., 1–2 years, 2–5 years, Ongoing, Annual) are measured from the official date of plan adoption.

• 1–2 years: Actions are expected to begin within the first year following adoption and be completed within two years, subject to funding availability.
• 2–5 years: These projects require phased funding, engineering design, and/or grant cycles. Implementation is expected to occur over multiple fiscal years following adoption.
• Ongoing: These activities represent continuous municipal responsibilities that will be maintained throughout the five-year plan cycle.
• Annual: These actions will occur once per year following plan adoption.

Funding Strategy

Funding sources include municipal Highway General Funds, Capital Reserve Funds, Vermont Better Roads Grants, VTrans Structures Programs, FEMA BRIC and HMGP grants, and VT DEC technical assistance programs. Grant funding will be pursued where eligible to reduce burden on local taxpayers. Local funds may be used as match where required.

ACTION 3 – Enhance Cold Weather Resilience

This action reduces vulnerability to extreme cold and winter storm impacts, particularly for vulnerable populations and emergency shelter operations. Tasks include coordination with utilities, identification of vulnerable residents, public education, and maintaining shelter readiness.

Responsible Parties

Primary responsibility lies with:

• Selectboard Chair – oversight of emergency management policy and coordination with regional partners.
• Planning Commission Chair – responsible for community outreach and identification of vulnerable populations.
• Fire Chief – responsible for shelter operations and emergency response readiness.

Multiple offices are involved because winter resilience requires policy direction (Selectboard), community planning coordination (Planning Commission), and operational execution (Fire Department).

Timeframe

All timeframes are measured from the date of adoption:

• 1–2 years: Development of coordination protocols and identification of vulnerable populations will occur within two years.

• Annual: Public education efforts will occur annually.
• Ongoing: Shelter readiness will be maintained continuously.

Funding sources include Vermont Department of Public Service Energy Resilience Programs, DEMHS LEPC grants, FEMA EMPG, and municipal emergency management funds.

ACTION 4 – Enhance Mobile Home Resilience

This action targets flood and wind vulnerabilities associated with mobile homes and manufactured housing.

Responsible Parties

• Planning Commission Chair – mapping, vulnerability assessment, and outreach materials.
• Selectboard Chair – coordination with housing resilience programs and financial approvals.

The Planning Commission leads because this action involves hazard mapping and land-use planning. The Selectboard participates due to funding coordination and policy oversight.

Timeframe

• 1–2 years: Mapping and exposure ranking will be completed within two years of plan adoption.
• 1 year: Mitigation brochures will be developed within the first year.
• Ongoing: Outreach coordination will continue through the five-year cycle.

Funding may include FEMA BRIC Planning funds, Municipal Planning Grants, Vermont Community Development Program, and General Fund allocations.

ACTION 5 – Enhance Public Awareness

This action increases community awareness across all profiled hazards.

Responsible Parties

• Fire Chief – public safety materials and fire prevention programming.
• School Administration – integration of mitigation education.
• Selectboard Chair – oversight of outreach campaigns.

The Fire Department leads for hazard-specific public education. Schools participate for long-term resilience education. The Selectboard ensures policy consistency and funding.

Timeframe

• 1 year: Development of materials.
• Annual: Outreach and participation efforts.
• 1–3 years: Integration into school programs.

ACTION 6 – Mitigate High Wind Vulnerability

This action reduces infrastructure damage and power outage risk from high wind events.

Responsible Parties

• Planning Commission Chair – GIS database development and construction outreach.
• Selectboard Chair – vegetation management coordination and policy enforcement.
• Utility Provider Representative (in coordination with Selectboard) – pole resistance evaluation.

Multiple entities are involved due to jurisdictional authority and utility ownership responsibilities.

Timeframe

• 1–2 years: Database development.
• 2–5 years: Pole resistance evaluations.
• Ongoing: Vegetation management standards and outreach.

ACTION 7 – Fluvial Geomorphology & River Corridor

This action strengthens floodplain and river corridor planning.

Responsible Parties

• Planning Commission Chair – mapping and outreach strategy.
• Selectboard Chair – regulatory and grant decisions.
• Road Foreman – implementation of erosion mitigation projects.

The Planning Commission leads planning efforts, while the Road Foreman executes infrastructure improvements. The Selectboard provides financial authorization.

Timeframe

• 1–3 years: Mapping and outreach.
• 3–5 years: Implementation of erosion mitigation projects.

ACTION 8 – Wildfire / Forest Fire Mitigation

Responsible Parties

• Fire Chief – defensible space guidance and response coordination.
• Planning Commission Chair – outreach in forested residential areas.
• Road Foreman – apparatus access assessment.

Multiple offices are involved because wildfire mitigation includes emergency response, public education, and infrastructure considerations.

Timeframe

• 1 year: Development of guidance materials.
• Annual: Outreach efforts.
• 1–2 years: Access assessment and mutual aid review.

ACTION 9 – Drought Resilience

Responsible Parties

• Selectboard Chair – development of drought protocol and coordination with state agencies.
• Planning Commission Chair – public outreach.

The Selectboard is responsible for emergency declarations and water policy decisions. The Planning Commission supports public education.

Timeframe

• 1–2 years: Monitoring protocol development.
• Annual: Outreach.
• Ongoing: Agricultural coordination.

ACTION 10 – Extreme Heat Preparedness

Responsible Parties

• Selectboard Chair – advisory protocol and cooling center policy.
• Fire Chief – cooling center operations.
• Planning Commission Chair – outreach to vulnerable populations.

Timeframe

• 1 year: Advisory protocol.
• 1–2 years: Cooling center capability.
• Annual: Public education.

ACTION 11 – Hail Risk Reduction

Responsible Parties

• Planning Commission Chair – roofing resilience education.
• Selectboard Chair – insurance review and capital reserve decisions.

Timeframe

• Annual: Educational materials.
• 1–2 years: Insurance review.
• 2–5 years: Roof upgrades.

ACTION 12 – Earthquake Preparedness

Responsible Parties

• Selectboard Chair – building inventory and structural evaluation contracts.
• Fire Chief – tabletop exercise coordination.
• Road Foreman – bridge and culvert assessment.

Timeframe

• 1–2 years: Exercise.
• 2–3 years: Structural inventory.
• 3–5 years: Seismic vulnerability assessment.

ACTION 13 – Landslide Risk Reduction

Responsible Parties

• Road Foreman – identification and engineering evaluation.
• Selectboard Chair – budget approval and reporting system establishment.

Timeframe

• 1–2 years: Identification.
• 2–3 years: Engineering evaluation.
• Ongoing: Integration into road planning.

ACTION 14 – Infectious Disease Preparedness

Responsible Parties

• Selectboard Chair – COOP development and coordination with Vermont Department of Health.
• Planning Commission Chair – communication protocols.

Timeframe

• 1–2 years: COOP development.
• Annual: Communication updates.
• Ongoing: Health department coordination.

ACTION 15 – Invasive Species Management

Responsible Parties

• Planning Commission Chair – mapping and public education.
• Selectboard Chair – coordination with Vermont ANR.
• Road Foreman – integration into road maintenance.

Timeframe

• 1–3 years: Mapping.
• Annual: Public education.
• Ongoing: Monitoring and coordination.

ACTION 1 – Improve Infrastructure Protection Programs

Town of Glover Local Hazard Mitigation Plan

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Conduct stormwater vulnerability assessment of municipal roads and culverts	Flooding	Road Foreman	Highway General Fund – Engineering Line; Vermont Better Roads Category A; FEMA BRIC (Capability & Capacity Building)	1–2 years
Conduct fluvial erosion and streambank assessment	Fluvial Erosion	Road Foreman + VT DEC River Management Program	VT DEC River Corridor Planning Grant; FEMA HMGP (Planning); Highway General Fund	1–2 years
Develop phased culvert replacement schedule	Flooding / Fluvial Erosion	Road Foreman	VTrans Structures Grant Program; VTrans Town Highway Bridge Program; FEMA HMGP; Highway Capital Line; Bridge & Culvert Reserve	2–5 years
Bridge inventory and flood impact documentation	Flooding	Road Foreman	Highway General Fund – Maintenance; VTrans Hydraulics Unit Technical Assistance	Ongoing
Re-engineer vulnerable road segments	Severe Storms / Erosion	Road Foreman	VTrans Class 2 Roadway Grant; Vermont Better Roads Construction Grant; FEMA Public Assistance Section 406 Mitigation	2–5 years
Develop hazard mitigation documentation protocol	All Hazards	Selectboard + Treasurer	General Fund – Administrative Services	1 year
ICS training and SOP updates	Severe Storms	Selectboard + Highway Dept	FEMA Emergency Management Performance Grant (EMPG); DEMHS LEPC Grant; Fire Training Line	1–2 years
Shadow Lake Dam inspection and maintenance	Dam Failure	Road Foreman	VT DEC Dam Safety Technical Assistance; Capital Reserve Fund; FEMA BRIC	Ongoing
Annual Emergency Action Plan review (Dam)	Dam Failure	Selectboard	General Fund – Emergency Management; VT DEC Dam Safety Program	Annual

ACTION 2 – Enhance Winter Storm Resilience

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Upgrade shelter notification procedures	Winter Storm	Selectboard	General Fund – Emergency Management; FEMA EMPG	1 year
Shelter management training	Winter Storm	Fire Chief	American Red Cross Shelter Initiative; Fire Training Line; DEMHS LEPC Grant	1–2 years
Utility outage mitigation coordination	Ice Storm	Selectboard	Utility Vegetation Management Program; General Fund – Administrative Services	Ongoing
Maintain sand, salt & diesel reserves	Winter Storm	Road Foreman	Highway General Fund – Sand & Salt Line; Fuel & Diesel Line; VTrans Winter Maintenance Support	Annual
Vehicle maintenance documentation	Winter Storm	Road Foreman	Highway Equipment Fund; Equipment Replacement Reserve	Ongoing
Develop formal winter communications plan	Winter Storm	Selectboard	FEMA EMPG; General Fund – Office Operations	1 year

ACTION 3 – Enhance Cold Weather Resilience

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Formalize utility coordination for heating emergencies	Extreme Cold	Selectboard	Vermont Department of Public Service Energy Resilience Programs; General Fund – Emergency Management	1–2 years
Identify vulnerable populations	Extreme Cold	Planning Commission	Planning Commission Budget Line; DEMHS LEPC Support	1–2 years
Public education on freeze prevention	Extreme Cold	Planning Commission	General Fund – Public Notices; Vermont Dept of Health Outreach	Annual
Maintain shelter readiness	Extreme Cold	Fire Department	Fire Department Operating Budget; FEMA EMPG	Ongoing

ACTION 4 – Enhance Mobile Home Resilience

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Map mobile home locations	Flooding / Wind	Planning Commission	Municipal Planning Grant; FEMA BRIC Planning	1–2 years
Develop mitigation brochures	Flooding / Wind	Planning Commission	FEMA FMA (Planning); General Fund – Printing	1 year
Conduct flood and wind exposure ranking	Flooding / Wind	Planning Commission + NVDA	FEMA BRIC Capability & Capacity; Planning Budget Line	1–2 years
Outreach coordination	Flooding	Selectboard	Vermont Community Development Program (VCDP); ACCD Housing Resilience Programs	Ongoing

ACTION 5 – Enhance Public Awareness

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Develop property mitigation materials	All Hazards	Fire Chief	General Fund – Emergency Management; FEMA HMGP Outreach	1 year
HMGP outreach participation	Flooding	Selectboard	FEMA HMGP Planning	Annual
Integrate mitigation education into school programs	All Hazards	School Administration	School Operating Budget; LEPC Grant	1–3 years
Continue National Fire Prevention Week	Fire	Fire Department	Fire Operating Budget; VLCT PACIF Loss Prevention Support	Annual
Public health hazard awareness materials	Infectious Disease	Selectboard	Vermont Dept of Health Public Health Emergency Preparedness (PHEP) Funds	Ongoing

ACTION 6 – Mitigate High Wind Vulnerability

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Develop GIS wind vulnerability database	High Wind	Planning Commission	Municipal Planning Grant; FEMA BRIC Planning	1–2 years
Coordinate vegetation management standards	High Wind	Selectboard	Utility Vegetation Management Program; VLCT Risk Management	Ongoing
Utility pole wind resistance evaluation	High Wind	Utility Provider (coordinated by Selectboard)	Utility Capital Improvement Program	2–5 years
Wind-resistant construction outreach	High Wind	Planning Commission	General Fund – Outreach; VLCT PACIF Loss Prevention Grant	Ongoing

ACTION 7 – Fluvial Geomorphology & River Corridor

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Review Basin ID 15 findings	Fluvial Erosion	Selectboard	VT DEC River Corridor Program	1–2 years
Develop SGAT hazard maps	Fluvial Erosion	Planning Commission	FEMA BRIC Planning; Municipal Planning Grant	1–3 years
River corridor outreach strategy	Flooding	Planning Commission	FEMA FMA; VT DEC Technical Assistance	1–3 years
Implement erosion mitigation projects	Fluvial Erosion	Road Foreman	VTrans Structures Grant; Vermont Better Roads Construction; FEMA HMGP	3–5 years

ACTION 8 – Wildfire / Forest Fire Mitigation

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Develop defensible space guidance for residents in wildland-urban interface areas	Wildfire	Fire Chief	Fire Department Operating Budget; Vermont Urban & Community Forestry Program	1 year
Conduct outreach to high-risk forested residential areas	Wildfire	Planning Commission	General Fund – Public Notices; U.S. Forest Service State & Private Forestry Grant	Annual
Assess and document fire apparatus access limitations on narrow/gravel roads	Wildfire	Road Foreman + Fire Chief	Highway General Fund – Maintenance Line; VTrans Class 2 Roadway Grant (if upgrades required)	1–2 years
Coordinate mutual aid agreement review and wildfire response capacity	Wildfire	Fire Chief	Fire Training Line Item; DEMHS LEPC Grant	1–2 years
Evaluate municipal building fire-resistant material standards	Wildfire	Selectboard	VLCT PACIF Loss Prevention Grant; General Fund – Professional Services	2–3 years

ACTION 9 – Drought Resilience

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Develop drought monitoring protocol and trigger thresholds	Drought	Selectboard	General Fund – Emergency Management; Vermont Emergency Management Technical Assistance	1–2 years
Public water conservation outreach campaign	Drought	Planning Commission	General Fund – Public Outreach; Vermont Dept of Environmental Conservation Education Support	Annual
Coordinate with agricultural producers on drought resilience practices	Drought	Selectboard	Vermont Agency of Agriculture – Working Lands Enterprise Fund; USDA Farm Service Agency Drought Programs	Ongoing
Review municipal well and water infrastructure vulnerability	Drought	Selectboard	General Fund – Professional Services; FEMA BRIC Infrastructure Planning	2–3 years
Promote private well resilience guidance to residents	Drought	Planning Commission	General Fund – Printing & Notices	Annual

ACTION 10 – Extreme Heat Preparedness

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Develop heat advisory notification protocol	Extreme Heat	Selectboard	FEMA EMPG; General Fund – Emergency Management	1 year
Identify and equip cooling center capability	Extreme Heat	Fire Department	Fire Operating Budget; Vermont Dept of Health PHEP Funds	1–2 years
Outreach to elderly and medically vulnerable populations	Extreme Heat	Planning Commission	Vermont Dept of Health Partnership; General Fund – Outreach	Annual
Assess backup power capability for cooling centers	Extreme Heat	Selectboard	FEMA BRIC; Capital Reserve Fund	2–3 years
Public education on heat illness prevention	Extreme Heat	Planning Commission	General Fund – Public Notices	Annual

ACTION 11 – Hail Risk Reduction

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Develop roofing resilience educational materials	Hail	Planning Commission	General Fund – Printing & Notices; VLCT PACIF Loss Prevention Grant	Annual
Review municipal building insurance coverage for hail damage	Hail	Selectboard	General Fund – Insurance Line; VLCT PACIF Risk Management Services	1–2 years
Coordinate agricultural hail impact mitigation guidance	Hail	Selectboard	Vermont Agency of Agriculture Partnership Programs	Ongoing
Assess municipal roof condition and upgrade needs	Hail	Selectboard	Capital Reserve Fund; FEMA HMGP (if post-disaster trigger)	2–5 years

ACTION 12 – Earthquake Preparedness

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Inventory municipal buildings for structural vulnerability	Earthquake	Selectboard	General Fund – Professional Services; VLCT PACIF Risk Assessment Assistance	2–3 years
Conduct earthquake response tabletop exercise	Earthquake	Selectboard + Fire Department	FEMA EMPG; DEMHS LEPC Grant	1–2 years
Develop public earthquake safety education materials	Earthquake	Planning Commission	General Fund – Outreach	Annual
Evaluate bridge and culvert seismic vulnerability	Earthquake	Road Foreman	VTrans Structures Grant Program; VTrans Bridge Inspection Support	3–5 years

ACTION 13 – Landslide Risk Reduction

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Identify steep slope road segments at risk	Landslides	Road Foreman	Highway General Fund – Maintenance Line	1–2 years
Integrate slope stabilization into road improvement planning	Landslides	Road Foreman	Highway Capital Improvement Line; VTrans Emergency Relief & Assistance Fund	Ongoing
Develop public reporting system for slope instability	Landslides	Selectboard	General Fund – Administrative Services	1 year
Seek engineering evaluation for high-risk embankments	Landslides	Selectboard	FEMA Public Assistance Section 406 Mitigation; General Fund – Professional Services	2–3 years

ACTION 14 – Infectious Disease Preparedness

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Develop municipal Continuity of Operations Plan (COOP)	Infectious Disease	Selectboard	General Fund – Administrative Services; FEMA EMPG	1–2 years
Coordinate planning with Vermont Dept of Health	Infectious Disease	Selectboard	Vermont Dept of Health Public Health Emergency Preparedness (PHEP) Funding	Ongoing
Cross-train municipal staff for service continuity	Infectious Disease	Selectboard	Town Office Operating Budget	1–2 years
Update public health emergency communication protocols	Infectious Disease	Planning Commission	Vermont Dept of Health Collaboration; General Fund – Outreach	Annual

ACTION 15 – Invasive Species Management

Specific Identified Task	Hazard Addressed	Responsible Office	Specific Funding Source(s)	Time-frame
Map invasive plant and aquatic species presence	Invasive Species	Planning Commission	Municipal Planning Grant; Vermont ANR Invasive Species Grant	1–3 years
Coordinate with ANR on mitigation strategies	Invasive Species	Selectboard	Vermont ANR Technical Assistance Program	Ongoing
Develop public education on invasive prevention	Invasive Species	Planning Commission	General Fund – Public Outreach; Vermont Urban & Community Forestry Grant	Annual
Monitor aquatic invasive risk in local waterways	Invasive Species	Selectboard	Aquatic Nuisance Control Grant; General Fund – Environmental Monitoring	Ongoing
Incorporate invasive species monitoring into road maintenance planning	Invasive Species	Road Foreman	Highway General Fund – Maintenance Line	Ongoing

Town of Glover, VT

A Resolution Adopting the All-Hazards Mitigation Plan Update 2026

Town of Glover, Orleans County, Vermont

RESOLUTION NO.

A RESOLUTION OF THE TOWN OF GLOVER, ADOPTING THE *All-Hazards Mitigation Plan Update, 2026*.

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

WHEREAS, the Town of Glover has prepared a multi-hazard mitigation plan, hereby known as *All-Hazards Mitigation Plan Update, 2026* 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, *All-Hazards Mitigation Plan Update, 2026* identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Town of Glover from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Glover demonstrates its commitment to hazard mitigation and achieving the goals outlined in the *All-Hazards Mitigation Plan Update, 2026*.

NOW THEREFORE, BE IT RESOLVED BY THE TOWN OF GLOVER, VT THAT:

Section 1. In accordance with (local rule for adopting resolutions) These rules typically require a written document, formal motion and second, and a majority vote, the Glover Selectboard adopts the *All-Hazards Mitigation Plan Update, 2026*. While content related to Glover Selectboard may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the Glover Selectboard 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 2 in favor and _____ against, and _____ abstaining,

this 12 day of February, 2026.

By:

Anne Eldridge, Selectboard Chair Member

ATTEST: By: _____ Cynthia Epinette

APPROVED AS TO FORM: By: _____ Cynthia Epinette

NOTES AND UPDATES: