

BARTLETT & HART'S LOCATION, NH

Multi-jurisdictional

Hazard Mitigation Plan Update 2026



This Plan integrates the following:

- **Hazard Mitigation Plan Update (FEMA)**
- **Community Wildfire Protection Plan (DNCR)**

February 19, 2026
Draft for Town Review

Prepared for the Towns of Bartlett and Hart's Location and NH Homeland Security & Emergency Management

By
The Bartlett & Hart's Location Hazard Mitigation Planning Team

With assistance from Mapping and Planning Solutions

“Plans are worthless, but planning is everything. There is a very great distinction because when you are planning for an emergency you must start with this one thing: The very definition of “emergency” is that it is unexpected, therefore it is not going to happen the way you are planning.”

-Dwight D. Eisenhower

HAZARD MITIGATION PLAN DEFINITIONS

“A natural hazard is a source of harm or difficulty created by a meteorological, environmental, or geological event.”

“Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards (44CFR 201.2). Hazard mitigation activities may be implemented prior to, during, or after an event. However, it has been demonstrated that hazard mitigation is most effective when based on an inclusive, comprehensive, long-term plan that is developed before a disaster occurs.”

(Source: Local Mitigation Plan Review Guide, FEMA, October 1, 2011)



Plan Prepared and Authored By

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Cover Photos (clockwise): Flood damage on Route 302 in Hart's Location (Crawford Notch), residential flooding in Bartlett, high water on the Saco River in Bartlett, and field flooding in Bartlett

Photo Credit: <https://www.nhpr.org/nh-news/2017-10-30/update-n-h-sees-widespread-damage-from-severe-wind-rainstorm, and the Town of Bartlett>

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Acknowledgments

This Plan integrates elements to qualify it as a Community Wildfire Protection Plan (CWPP), as defined by the US Forest Service and the New Hampshire Department of Natural & Cultural Resources (DNCR). The Plan was created through a grant from the New Hampshire Homeland Security & Emergency Management (HSEM). The following organizations have contributed invaluable assistance and support to this project:

- NH Homeland Security & Emergency Management (HSEM)
- Federal Emergency Management Agency (FEMA)
- NH Office of Strategic Initiatives (OSI)
- Mapping and Planning Solutions (MAPS)
- NH Forests & Lands (DNCR)
- White Mountain National Forest (WMNF)

This Plan is an update to the most recent Bartlett & Hart's Location Hazard Mitigation Plan, approved on July 25, 2018

This Plan was funded under the Hazard Mitigation Grant Program 4516 (HMGP 4516)

Approval Notification Dates for 2026 Update

Approved Pending Adoption (APA)....._____, 2026
Jurisdiction Adoptions
 Hart's Location_____, 2026
 Bartlett_____, 2026
CWPP Approval_____, 2026
***Plan Approval Date (FEMA):_____, 2026**
Receipt of FEMA Letter_____, 2026
Plan Distribution (MAPS):....._____, 2026

**The start of the next five-year clock*

TOWNS OF BARTLETT & HART'S LOCATION HAZARD MITIGATION PLANNING TEAM (HMPT)

The Towns of Bartlett & Hart's Location would like to thank the following people for the time and effort spent to complete this project. The following people have attended meetings or been instrumental in completing this Plan:

- Gene Chandler Bartlett – Select Board Chair & Emergency Management Director
- Mary Miller Bartlett – Administrative Assistant
- Vicki Garland Bartlett - Select Board Member & Health Officer
- Ron Munro Bartlett – Select Board Member
- Jeff Currier Bartlett – Fire Chief
- Travis Chick Bartlett – Road Agent
- Louise Burns Bartlett – Planning Board Member
- Jeff Rothen Bartlett – Citizen
- Val Rothen Bartlett – Citizen
- Guy Putnam Hart's Location – Emergency Management Director
- Mark Dindorf Hart's Location – Select Board Member Chair
- John Gallagher Hart's Location – Select Board Member
- David Walker Hart's Location – Select Board Member
- Rick Murnick Bartlett-Jackson Ambulance Director
- Rob Reiners Bartlett-Jackson Ambulance Director
- Dean Jore NH Homeland Security & Emergency Management (HSEM) Stakeholder Liaison
- Chris Szatynsk NH HSEM Stakeholder Liaison
- Austin Steinsick White Mountain National Forest (WMNF)
- Nicholas Jeros White Mountain National Forest (WMNF)
- Lynne Ryan NH HSEM State Hazard Mitigation Planner
- June Garneau Mapping and Planning Solutions (MAPS) Owner/Planner
- Olin Garneau MAPS Senior Planner

Many thanks for all the hard work and effort you provided. This Plan would not exist without your knowledge and experience. Bartlett & Hart's Location would also like to thank FEMA and NH HSEM as the primary funding sources for this Plan.

Executive Summary



The Bartlett & Hart's Location, NH Multijurisdictional Hazard Mitigation Plan Update 2026 was compiled to assist the Town in reducing and mitigating future losses from natural and other hazardous events. The Bartlett & Hart's Location Hazard Mitigation Planning Team (HMPT) developed the Plan in collaboration with interested stakeholders, the general public, and Mapping and Planning Solutions (MAPS). The Plan contains the tools necessary to identify specific hazards and aspects of existing and future mitigation efforts.

This Plan is an **update** to the Bartlett & Hart's Location Multijurisdictional Hazard Mitigation Plan Update 2018. To produce an accurate and current planning document, the HMPT used the 2018 plan as a foundation, building upon that plan to provide more timely information.

This Plan focuses on mitigation action items for natural hazards. NH Homeland Security & Emergency Management (HSEM) determined the natural hazards when writing the 2023 NH Hazard Mitigation Plan. However, this Plan also addresses technological and human-caused hazards, as shown below. The Bartlett and Hart's Location planning teams determined the same hazards for each community, but placed them at different risk levels. For a more detailed analysis of hazards in each community, please refer to Table 3.1, Hazard Analysis & Risk Assessment (for each community).

NATURAL HAZARDS – AS DETERMINED BY NH HSEM AND THE JURISDICTION

- Inland Flooding
- Severe Winter Weather
- Wildfire
- Extreme Temperatures
- Lightning
- High Wind Events
- Infectious Disease
- Dam Failure
- Tropical/Post Tropical Cyclones
- Drought
- Landslides
- Avalanche
- Earthquake
- Solar Storms & Space Weather

TECHNOLOGICAL & HUMAN-CAUSED HAZARDS – AS DETERMINED BY NH HSEM AND THE JURISDICTION

- Transport Accidents
- Terrorism & Violence
- Hazardous Materials
- Mass Casualty Incidents
- Conflagration
- Long-Term Utility Outage
- Cyber Events
- Known & Emerging Contaminants
- Aging Infrastructure

Some hazards listed in the 2023 New Hampshire Hazard Mitigation Plan were excluded from this Plan because the team deemed them unlikely to occur in Bartlett & Hart’s Location or not applicable. An explanation for excluding these hazards from this Plan can be found in Chapter 3, Section A.

This Plan also provides a list of Critical Infrastructure & Key Resources (CIKR) categorized as follows: Emergency Response Facilities (ERF), Non-Emergency Response Facilities (NERF), Facilities & Populations to Protect (FPP), and Potential Resources (PR). It also addresses the Town's involvement in the National Flood Insurance Program (NFIP).

Communities can sometimes cope with the impact of particular natural hazards. For example, although severe winter weather is a common hazard in the State, most New Hampshire communities handle two- to three-foot snowstorms with little to no disruption of services. On the other hand, an unexpected ice storm can have disastrous effects on a community. Mitigation for sudden storms, such as ice storms, is difficult to achieve. Establishing warming and cooling centers, creating notification systems, providing public outreach, trimming trees, opening shelters, and possibly burying overhead power lines are just a few actions that may be implemented.

In summary, finding mitigation action items for every hazard that affects a community can be difficult. With economic constraints, cities and towns are less likely to have the financial ability to complete certain mitigation action items, such as burying power lines. In preparing this Plan, the Bartlett & Hart’s Location HMPT (the Team) has considered a comprehensive list of mitigation action items that could diminish the impact of hazards. The Team has also decided to maintain a list of preparedness action items for future reference and action.

To simplify the language in the Plan, the following abbreviations and acronyms will be used:

Bartlett & Hart’s Location, NH Multijurisdictional Hazard Mitigation Plan Update 2026	the Plan or this Plan
Bartlett & Hart’s Location	the Jurisdiction or Communities
Hazard Mitigation Planning Team.....	the Team or HMPT
Hazard Mitigation Plan.....	HMP
Emergency Operations Plan.....	EOP
Mapping and Planning Solutions	MAPS
Mapping and Planning Solutions Planner.....	the Planner
NH Homeland Security & Emergency Management	HSEM
Federal Emergency Management Agency	FEMA

For more acronyms, please refer to Appendix E: Acronyms.

Mission Statement:
To make Bartlett & Hart’s Location less vulnerable to the effects of hazards through the effective administration of hazard mitigation planning, wildfire hazard assessments, and a coordinated approach to mitigation policy and planning activities.

Vision Statement:
The Towns of Bartlett & Hart’s Location will reduce the impacts of natural hazards and other potential disasters through implementing mitigation measures, public education, and deliberate capital expenditures within the Community. Homes and businesses will be safer and the Community’s International Organization for Standardization (ISO) rating may be improved.

Chapter 1: Hazard Mitigation Planning Process

A. AUTHORITY & FUNDING

The Bartlett & Hart's Location, NH Hazard Mitigation Plan Update 2026 was prepared following the Disaster Mitigation Act of 2000 (DMA), specifically Section 322 Mitigation Planning, which was signed into law by President Clinton on October 30, 2000. This hazard mitigation plan was prepared by the Bartlett & Hart's Location Hazard Mitigation Planning Team (HMPT) under contract with New Hampshire Homeland Security & Emergency Management (HSEM), operating under the guidance of Section 206.405 of 44 CFR Chapter 1 (10-1-97 Edition) and with the assistance and professional services of Mapping and Planning Solutions (MAPS). HSEM funded this Plan through Federal Emergency Management Agency (FEMA) grants. Matching funds for team members' time were also part of the funding formula.

B. PURPOSE & HISTORY OF THE FEMA MITIGATION PLANNING PROCESS

The ultimate purpose of the Disaster Mitigation Act of 2000 (DMA) is to:

"...establish a national disaster hazard mitigation program -

- To reduce the loss of life and property, human suffering, economic disruption and disaster assistance costs resulting from natural disasters; and*
- To provide a source of pre-disaster hazard mitigation funding that will assist States and local governments (including Indian tribes) in implementing effective hazard mitigation measures that are designed to ensure the continued functionality of critical services and facilities after a natural disaster".¹*

DMA 2000 amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act by, among other things, adding a new section, "322 – Mitigation Planning", which states:

"As a condition of receipt of an increased Federal share for hazard mitigation measures under subsection (e), a State, local, or tribal government shall develop and submit for approval to the President a mitigation plan that outlines processes for identifying the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the government."²

HSEM's goal is to have all New Hampshire communities complete a local hazard mitigation plan to reduce future losses from natural hazards before they occur. HSEM outlined a process whereby communities throughout the State may be eligible for grants and other assistance upon completing this hazard mitigation plan.

The Bartlett & Hart's Location Hazard Mitigation Plan Update 2025 is a planning tool to reduce future losses from natural, technological, and human-caused hazards as required by the Disaster Mitigation Act of 2000. This Plan does not constitute a section of the Town's Master Plan. However, mitigation action items from this Plan may be incorporated into future Master Plan updates.

The DMA emphasizes local mitigation planning. It requires local governments to prepare and adopt jurisdiction-wide hazard mitigation plans as a condition for receiving grants under the Hazard Mitigation Grant Program (HMGP). Local governments must review this Plan annually and update it every five years to maintain program eligibility.

¹ Disaster Mitigation Act (DMA) of 2000, Section 101, b1 & b2

² Disaster Mitigation Act (DMA) of 2000, Section 322a

C. JURISDICTION

This Plan addresses two Communities – the Towns of Bartlett & Hart's Location, Carroll County, New Hampshire.

D. SCOPE OF THE PLAN AND FEDERAL & STATE PARTICIPATION

A community's hazard mitigation plan typically identifies numerous natural hazards and is generally broad in scope and outline. The scope and effects of this Plan were assessed based on the impact of hazards on Critical Infrastructure & Key Resources (CIKR), current residential buildings, other structures within the Town, future development, administrative, technical, and physical capacity of emergency response services, and response coordination between federal, state, and local entities.

In seeking approval as a Hazard Mitigation Plan (HMP) and a Community Wildfire Protection Plan (CWPP), the planning effort included the participation of the Federal Emergency Management Agency (FEMA), NH Homeland Security & Emergency Management (HSEM), the United States Department of Agriculture-Forest Service (USDA-FS), and the NH Department of Natural & Cultural Resources (DNCR), as well as routine notification of upcoming meetings to other state and federal entities. Designation as a CWPP may enable a community to secure state or federal funding for hazardous fuel reduction and other mitigation projects, as supported by the USDA-FS and NH-DNCR. By merging the two federal planning processes (hazard and wildfire), duplication is eliminated, and the Town has access to a larger pool of resources for pre-disaster planning.

The Healthy Forest Restoration Act (HFRA) of 2003 includes statutory incentives for the USDA-Forest Service to consider local communities as it develops and implements forest management and hazardous fuel reduction projects. However, a community must prepare a CWPP to take advantage of this opportunity. This hazard mitigation planning process not only satisfies FEMA's criteria regarding wildfires and all other hazards but also addresses the minimum requirements for a CWPP:

- **Collaboration:** *Local and state government representatives must collaboratively develop a CWPP in consultation with federal agencies and other interested parties.*
- **Prioritized Fuel Reduction:** *A CWPP must identify and prioritize areas for hazardous fuel reduction treatments, recommending the types and treatment methods that will protect one or more at-risk communities and essential infrastructure.*
- **Treatment of Structural Ignitability:** *A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the Plan.³*

Finally, as required under the Code of Federal Regulations (CFR), Title 44, Part 201.6(c) (2) (ii) and 201.6(c) (3) (ii), the Plan must address the Community's participation in the National Flood Insurance Program (NFIP) and its continued compliance with the program, or its lack of membership. The Plan must address NFIP-insured structures and repetitive loss as part of a vulnerability assessment.

³ Healthy Forest Restoration Act; HR 1904, 2003; Section 101-3-a.b.c; <https://www.govinfo.gov/content/pkg/BILLS-108hr1904enr/pdf/BILLS-108hr1904enr.pdf>

E. PUBLIC & STAKEHOLDER INVOLVEMENT

Public and stakeholder involvement was emphasized during the initial meeting, and community officials were provided with a list of potential team members (see below). Community officials were encouraged to reach out to as many people as possible to participate in the planning process, including residents, local officials, and representatives from surrounding communities. The Town of Bartlett & Hart's Location understands that natural hazards do not recognize political boundaries.

The Team provided excellent public and stakeholder notification. Many interested citizens and stakeholders had the opportunity to become aware of the hazard mitigation planning in Bartlett & Hart's Location. A press release (see below) was posted at the Bartlett Post Office and on the Town's website (see following page), and on the Hart's Location Town Hall Bulletin Board and at the Notchland Inn. The press release was used to notify academia, businesses, and private and nonprofit organizations that work with underserved communities and socially vulnerable populations about upcoming meetings, inviting them to attend. Local school officials were also invited to attend.

- HAZARD MITIGATION POTENTIAL TEAM MEMBERS**
- FEDERAL
- USDA Forest Service
- STATE
- Department of Transportation (DOT)
 - Department of Natural & Cultural Resources (DNCR)
 - Bureau of Economic Affairs (BEA)
- LOCAL
- Select Board Member(s)
 - Town Manager/Administrator
 - Planning Board Member(s)
 - Town Planner
 - Police Chief
 - Fire Chief
 - Emergency Management Director
 - Emergency Medical Services
 - Education/School
 - Recreation Director
 - DPW Director or Road Agent
 - Water & Waste Management
 - Public Utilities
 - Dam Operator(s)
 - Major Employer(s)
 - Senior Citizen Facilities
 - Vulnerable populations
 - Academia
- OTHER OR SPECIAL INTEREST
- Landowners
 - Homeowners Association(s)
 - Forest Management
 - Developers & Builders
 - Major Businesses

*Mapping and Planning Solutions
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Press Release

FOR IMMEDIATE RELEASE
Updated: September 12, 2024

Contact: June Garneau
603-991-9664

**THE TOWN OF BARTLETT & HART'S LOCATION COMMENCES
HAZARD MITIGATION PLANNING**

The Bartlett & Hart's Location Emergency Management Directors (EMDs) will meet with June Garneau of Mapping and Planning Solutions and other Community members to work on the required five-year update to the **2018 Bartlett & Hart's Location Multijurisdictional Hazard Mitigation Plan**. The Town and Mapping and Planning Solutions are conducting a series of hazard mitigation meetings to develop the Plan over the next few months.

During these public meetings, the Hazard Mitigation Planning Team (HMPT) will address natural, technological, and human-caused hazards such as Inland Flooding, Long-Term Utility Outages, and Transport Accidents; the Team will also determine "Action Items" to help mitigate the effects of these hazards. The Team will also review shelter sites and the need for generators at those sites.

By examining critical infrastructure and key resources, along with past hazards, the Team will establish priorities for future mitigation projects and steps that can be taken to increase public awareness of hazards in general.

As mandated by the Disaster Mitigation Act of 2000, all municipalities must complete a local hazard mitigation plan to qualify for Federal Emergency Management Administration (FEMA) funding should a natural disaster occur. FEMA grants make the planning processes possible.

The HMPT is currently being formed. Bartlett & Hart's Location citizens and any interested stakeholders are invited to participate. The first meeting is scheduled for **Tuesday, September 17, 2024, from 10:00 AM to 12:00 PM** via "Zoom". The public is encouraged to attend all meetings. To be included in the process, all interested parties should contact Mary Miller, Bartlett's Secretary/Bookkeeper at townofbartlett@gmail.com or Guy Putnam at guyputnam@gmail.com. Interested parties will be added to the Zoom meeting invitation list. Future meetings are scheduled for October 8, November 19, December 10, 2024, and January 14 and February 11, 2025.

More information on the hazard mitigation planning process is available from June Garneau at [Mapping and Planning Solutions, jgarneau@mappingandplanning.com](mailto:jgarneau@mappingandplanning.com).

IMPORTANT NOTICES TO ALL RESIDENTS AND PROPERTY OWNERS

Please read these notices:

Click to view .pdf files

* Hazard Mitigation Planning for Bartlett & Hart's Location



hartslocation.com

[https://hartslocation.com > uploads > 2024/09 > B...](https://hartslocation.com/uploads/2024/09/B...) PDF

June Garneau Updated - Hart's Location

Sep 12, 2024 — Twin Mountain, NH 03595 ... required five-year update to the 2018 Bartlett & Hart's Location Multijurisdictional Hazard. Mitigation Plan.

Lastly, the Planner sent a monthly calendar (see below) and an email inviting stakeholders to participate in MAPS' planning meetings. EMDs, Police Chiefs, Fire Chiefs, Rangers, and other state, federal, and private officials were included in this email blast. Bartlett & Hart's Location's neighbors, Carroll, Jackson, Conway, Livermore, Chattham, and Albany, are also part of MAPS' monthly email.



Upcoming Zoom Meetings

Colored by county
January 20, 2025 to June 19, 2025



Day	Date	Time	Town/Location	Plan Type	County
Thursday	1/23/25	10:00 AM	Grafton Zoom Meeting	HMP	Grafton
Thursday	1/23/25	6:00 PM	Springfield Zoom Meeting	HMP	Sullivan
Tuesday	2/4/25	10:00 AM	Clarksville Zoom Meeting	HMP	Coos
Wednesday	2/5/25	1:00 PM	Northumberland Zoom Meeting	HMP	Coos
Tuesday	2/11/25	10:00 AM	Bartlett & Hart's Location Zoom Meeting	HMP	Carroll
Thursday	2/13/25	2:00 PM	Pittsburg Zoom Meeting	HMP	Coos
Thursday	2/20/25	10:00 AM	Grafton Zoom Meeting	HMP	Grafton
Thursday	2/20/25	6:00 PM	Springfield Zoom Meeting	HMP	Sullivan
Wednesday	2/26/25	2:00 PM	Dalton Zoom Meeting	HMP	Coos
Tuesday	3/4/25	10:00 AM	Clarksville Zoom Meeting	HMP	Coos
Wednesday	3/5/25	1:00 PM	Northumberland Zoom Meeting	HMP	Coos
Tuesday	3/11/25	10:00 AM	Bartlett & Hart's Location Zoom Meeting	HMP	Carroll
Thursday	3/13/25	2:00 PM	Pittsburg Zoom Meeting	HMP	Coos

Team composition can be impacted in some communities due to lower population and because many people “wear more than one hat”. It is often challenging to attract citizens to participate in town government. In smaller communities, those working in town government generally hold full-time jobs and volunteer in various town positions. Depending on the population, the percentage of interested citizens in a town’s planning processes may be diminished. Due to the availability of jobs, a high senior citizen population, and other economic factors, smaller communities have a dwindling number of young people interested in town planning.

Bartlett & Hart's Location had excellent participation in developing this Plan. Emergency management, fire, police, EMS, health, and public works personnel participated in meetings. Town staff, including the Administrative Assistant, and members of the Select Board and Planning Board, also attended meetings. Two citizens of Bartlett also made it to every meeting. Comments made by all team members, including the public, were integrated into the narrative discussion and incorporated into the document.

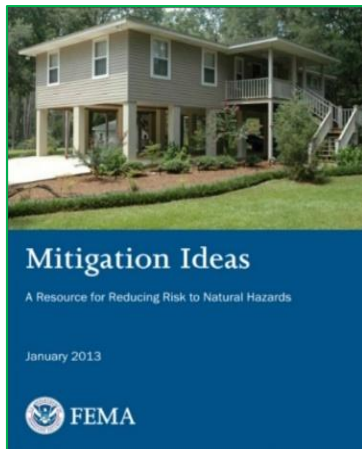
§201.6(b) requires that there be an open public involvement process in the formation of a plan. This process shall provide an opportunity for the public to comment on the Plan during its formation as well as an opportunity for any neighboring communities, businesses, and others to review any existing plans, studies, reports, and technical information and incorporate those into the Plan, to assist in the development of a comprehensive approach to reducing losses from natural disasters.

F. INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS, AND TECHNICAL INFORMATION

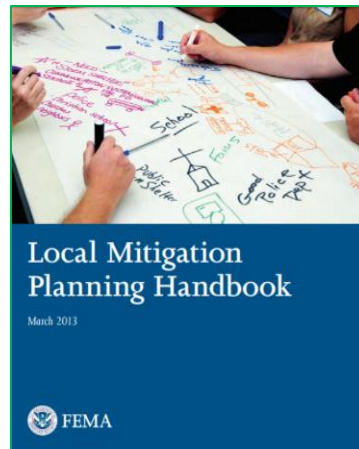
The planning process included a comprehensive review of the 2018 Bartlett & Hart's Location Multijurisdictional Hazard Mitigation Plan for updates, development changes, and accomplishments. The Team worked with the Planner to identify pertinent information from the reviewed documents; this information was then added to the appropriate place in the Plan. Additionally, as noted in the bibliography and footnotes throughout the Plan, numerous other documents were consulted to create this mitigation plan. Some, but not all, of those plans and documents are listed below:

The Bartlett & Hart's Location Multijurisdictional Hazard Mitigation Plan 2018.....	Compare & Contrast
The Bartlett Master Plan (2016).....	Community Information
The Hart's Location Master Plan (2000).....	Community Information
The Bartlett & Hart's Location Annual Reports (2024 & 2025).....	Fire Report & Development
Other Hazard Mitigation Plans (Conway, Franconia, Pittsburg).....	Formats & Mitigation Ideas
The Bartlett Subdivision Regulations (2017).....	New Development Regulations
The Bartlett Site Plan Review Regulations (2006).....	Commercial Regulations
The Bartlett Zoning Ordinance (2022).....	Zoning Regulations
The Hart's Location Land Use Ordinance.....	Land Use Regulations
The Bartlett Floodplain Development Ordinance (2012).....	Floodplain Regulations
The Hart's Location Floodplain Development Ordinance (part of LUO).....	Floodplain Regulations
Census 2020 Redistricting Data.....	Population Data
The NH DRA Summary of Inventory of Valuation MS-1 2024 for Bartlett & Hart's Location Structure Evaluation	
The Economic & Labor Market Information Bureau Community Profile.....	Population Trends
The American Community Survey (ACS2023, 2019-2023).....	Population Trends
Mitigation Ideas, FEMA, January 2013.....	Mitigation Strategies
The Department of Cultural & Natural Resources (DNCR).....	DNCR Fire Report
Property Tax Valuation (Department of Revenue Administration).....	Property Information

Other technical manuals, federal and state laws, and research data were combined with these elements to produce this integrated hazard mitigation plan. Please refer to *Appendix A: Bibliography* and the Plan's footnotes.



https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf



https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf

G. HAZARD MITIGATION GOALS

Before identifying new mitigation action items, the Team reviewed and agreed to the State of New Hampshire Multi-Hazard Mitigation Plan Update 2023 goals.⁴ The goals below have been modified for grammatical purposes but are otherwise quoted directly from the State plan.

OVERARCHING GOALS

1. Minimize loss and disruption of human life, property, the environment, and the economy due to natural hazards and high-hazard potential dam failure through coordinated and collaborative efforts between federal, state, and local authorities to implement appropriate and cost-effective hazard mitigation measures.
2. Enhance the protection of the general population, citizens, and guests of the Town before, during, and after a hazard event through public education about disaster preparedness and resilience and expanded awareness of the threats and hazards that face the State.
3. Promote comprehensive hazard mitigation planning at the local level to encourage data integration, plan alignment, and identification of funding and other resources.
4. Identify how climate change impacts natural hazards and mitigation strategies.
5. Strengthen the Continuity of Operations and Continuity of Government across the local level to ensure the continuation of essential services through training, outreach, and education.
6. Promote equity by challenging municipalities to incorporate whole community concepts during the planning and execution of mitigation projects, encouraging the identification and inclusion of vulnerable populations in the planning process.

NATURAL HAZARD OBJECTIVES

1. Reduce long-term risks through assessment, identification, and strategic mitigation of at risk/vulnerable infrastructure (high hazard potential and other dams, stream crossings, roadways, coastal levees, etc.)
2. Minimize illnesses and deaths related to events that present a threat to human and animal health
3. Assist communities with plan development, outreach, and public education in order to reduce the impact from natural disasters
4. Ensure mitigation strategies consider the protection and resiliency of natural, historical, and cultural resources.
5. Effectively collaborate between federal, State, and local agencies as well as private partners, NGOs, and VOADs
6. Ensure that grant related funding processes allow for expedient and effective actions to take place at the Community and State-level

TECHNOLOGICAL AND HUMAN-CAUSED HAZARD OBJECTIVES

The State recognizes that technological and human-caused hazards are important to consider at the state and local level. The State and local jurisdictions must prepare to respond to and monitor for these types of hazards. As such, they will remain included in this Plan as an Annex for reference purposes. Strategies and action items for these hazards will not be included in this Plan so that the focus can remain on natural hazards.

⁴ New Hampshire State Hazard Mitigation Plan, 2023 Update; <https://prd.blogs.nh.gov/dos/hsem/wp-content/uploads/2023/10/2023-NH-State-Hazard-Mitigation-Plan-Signed-10.5.23.pdf>

H. HAZARD MITIGATION PLANNING PROCESS & METHODOLOGY

The planning process consisted of twelve steps; some were accomplished independently, while others were interdependent. Many factors affected the planning process's sequence, such as the number of meetings, community preparation, attendance, and other community needs. The planning process resulted in significant crosstalk regarding natural, technological, and human-caused hazards.



All steps were included, but not necessarily in the numerical sequence listed. The steps are as follows:

PLANNING STEPS

Step 01: Team formation, orientation, and goals

Step 02: Identify hazards and their risk and probability

Table 3.1 – Hazard Identification & Risk Assessment (HIRA)

Step 03: Profile and list historic and potential hazards

Table 3.2 – Historic Hazard Identification

Step 04: Profile, list, and establish risk for Critical Infrastructure & Key Resources (CIKR)

Tables 4.1 to 4.4 – Critical Infrastructure & Key Resources

Step 05: Assess the Community's participation in the National Flood Insurance Program (NFIP)

Chapter 3, Section D

Step 06: Prepare an introduction to the Community, discuss emergency service capabilities, and development trends, and review statistical information about the Town

Chapter 2, Sections A, B, and C & Table 2.1, Town Statistics

Step 07: Review current plans, policies, and mutual aid, and brainstorm to identify improvements

Table 6.1 – Capabilities Assessment

Step 08: Examine the status of the mitigation action items from the last plan

Table 7.1 – Accomplishments since the last Plan

Step 09: Evaluate and categorize potential mitigation action items

Tables 8.1 - Potential Mitigation Strategies & the STAPLEE

Step 10: Prioritize mitigation action items to determine an action plan

Table 9.1 – The Mitigation Action Plan

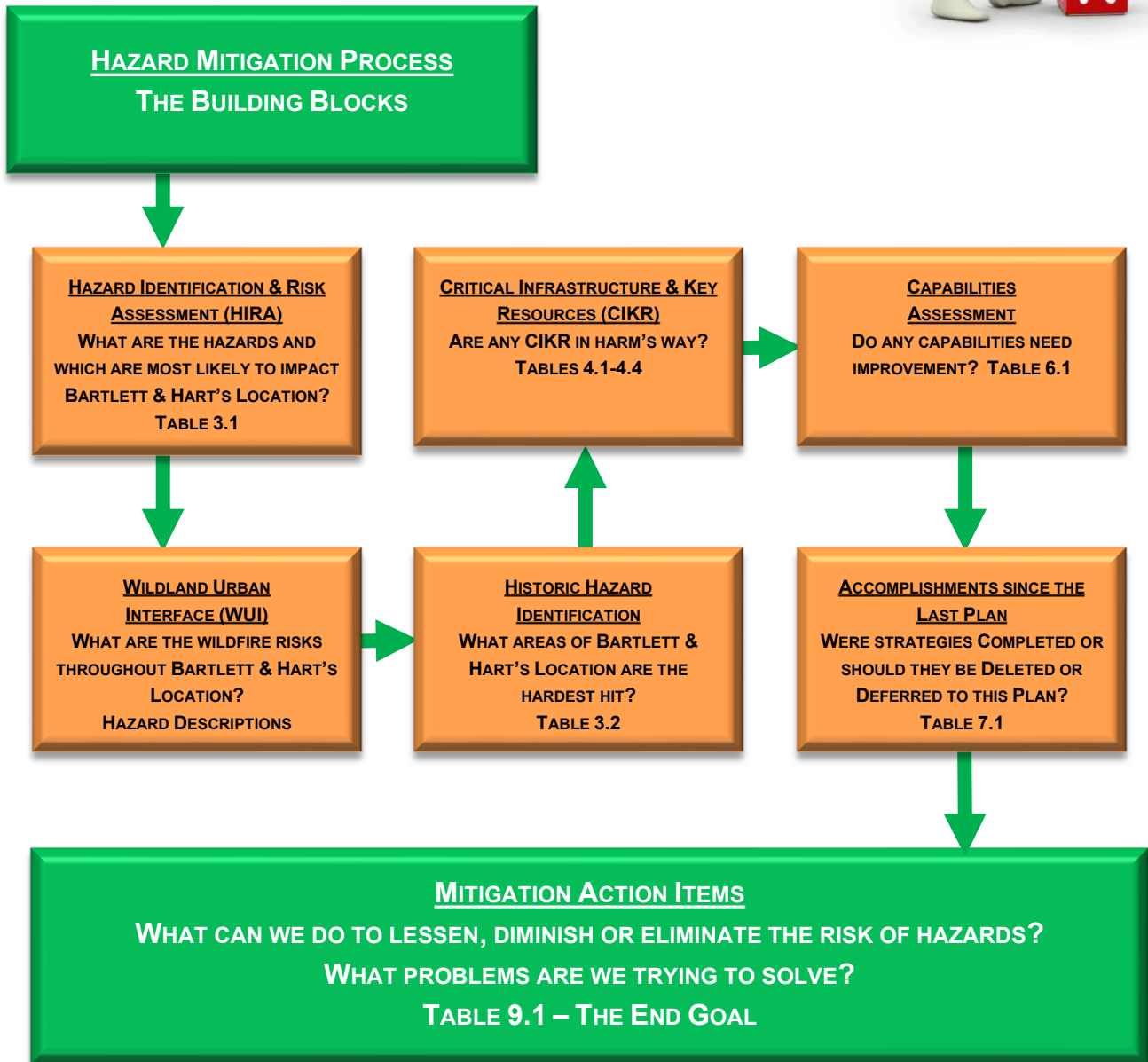
Step 11: Review the Plan before submission to HSEM for APA (Approved Pending Adoption)

Step 12: Adopt and monitor the Plan

I. HAZARD MITIGATION BUILDING BLOCKS & TABLES

The previous plan was the foundation for this mitigation plan; each completed table started with the last hazard mitigation plan completed by the Community.

Using a building block approach, each table led to the next table. The final goal was to develop prioritized action items that would lessen or diminish the impact of natural hazards on the Town when put into an action plan.



J. NARRATIVE DESCRIPTION OF THE PROCESS

Completion of this new multi-jurisdictional hazard mitigation plan required significant preparation. The Plan was developed with substantial local, state, and federal coordination. All meetings were geared to accommodate brainstorming, open discussion, and increased awareness of potentially hazardous conditions in the Jurisdiction.

The planning process included a complete 2018 Bartlett & Hart's Location Multi-Jurisdictional Hazard Mitigation Plan review. Using the 2018 plan as a base, each element of the old plan was examined and revised to reflect changes in development and the Jurisdiction's priorities. Strategies from the past were also reassessed and improved upon for the future.

The following narrative explains how the 2018 Bartlett & Hart's Location Multi-Jurisdictional Hazard Mitigation Plan was used during each step of the planning process to make revisions that resulted in this Plan.

MEETING 1, SEPTEMBER 17, 2024

The first virtual meeting with the Bartlett & Hart's Location Hazard Mitigation Team was held on September 17, 2024. Meeting attendance included Mary Miller (Bartlett Administrative Assistant), Gene Chandler (Bartlett Select Board Chair), John Gallagher (Hart's Location Select Board Member), Rick Murnick (Bartlett-Jackson Ambulance Service), Rob Reiners (Bartlett-Jackson Ambulance Service), Jeff Currier (Bartlett Fire Chief), Jeff Rothen (Bartlett Citizen), Vicki Garland (Bartlett Select Board Member and Health Officer), Val Rothen (Bartlett Citizen), David Walker (Hart's Location Select Board Member), Louise Burns (Bartlett Planning Board Secretary), Mark Dindorf (Hart's Location Select Board Chair), Olin Garneau (Planner, Mapping & Planning Solutions), and June Garneau (Planner, Owner, Mapping & Planning Solutions).

To introduce the Team to the planning process, the Planner reviewed the evolution of hazard mitigation plans, funding, the 12-step process, collaboration with other agencies, and goals. The Planner also explained the need to sign in, track time, and provide public notice to encourage community involvement.⁵

Work then began on *Table 2.1, Town Statistics*. Most of the work on this table was completed at this meeting. The Planner agreed to determine the remaining items through GIS or get them later. There was some discussion about the seasonal population change in Bartlett and Hart's Location with summer and winter homes. It was determined that both Bartlett and Hart's Location have a significant influx of seasonal tourists.

Meeting 1 - September 17, 2024

1) Introduction

- a) Evolution of Hazard Mitigation Plans & Community Wildfire Protection Plans
- b) Reasons for Hazard Mitigation and Update
- c) Community involvement to solicit input on how to mitigate the effects of hazards
- d) Devise a plan that lessens, diminishes, or eliminates the threat of Hazards to the town

2) The Process

- a) Funding
- b) Review of 12 Step Process & the team
- c) Collaboration with other agencies (i.e., HSEM, WMNF)

3) Meetings

- a) Community Involvement - Public Notice & Press Release
- b) Stakeholders
- c) Signing In, Tracking Time, Agendas & Narrative

4) Today's Topics

- a) Table 2.1, Town Statistics
- b) Table 3.1, Hazard Identification & Risk Analysis (HIRA)
- c) Hazard Descriptions
- d) Tables 4.1-4.4, Critical Infrastructure & Key Resources (CIKR)

5) Homework

- a) Homework – Critical Infrastructure & Key Resources (CIKR)
- b) Digital Photos – contributions welcome

6) Future Meetings

- a) Tuesday, October 8, 2024, @ 10:00 AM
- b) Tuesday, November 19, 2024, @ 10:00 AM
- c) Tuesday, December 10, 2024, @ 10:00 AM
- d) Tuesday, January 14, 2025, @ 10:00 AM
- e) Tuesday, February 11, 2025, @ 10:00 AM

⁵ Documents emailed to the Team pre-meeting: agenda, process, acronyms & abbreviations, goals, work record, and 2023 state hazards

Next on the agenda was *Table 3.1, Hazard Identification & Risk Assessment (HIRA)*. The Team assessed which hazards could affect the Jurisdiction using the last HMP and the State of New Hampshire Multi-Hazard Mitigation Plan Update 2023.

After the hazards had been identified, the Team then assessed the risk severity and probability by ranking each hazard on a scale of 1-5 (5 being very high or catastrophic) based on the following:

- The Human Impact What is the probability of death or Injury?
- The Property Impact What is the probability of physical losses and damages?
- The Business Impact What is the probability of interruption of service?
- The Probability What is the likelihood of this occurring within 25 years?

The rankings were then calculated to reveal the hazards that pose the Jurisdiction’s most significant risks. Fourteen natural hazards and nine technological and human-caused hazards were identified in each town. After analyzing the natural hazards in *Table 3.1, Inland Flooding, Severe Winter Weather, and Wildfire* were designated as the highest-risk natural hazards for the Jurisdiction.

With time running out, the Planner explained what would occur at the next meeting, including an analysis of critical infrastructure and descriptions of each hazard the Jurisdiction identified in *Table 3.1*. The next session was scheduled for October 8, 2024, and the meeting was adjourned.

MEETING 2, OCTOBER 8, 2024

Virtual meeting attendance included Mary Miller, Gene Chandler, John Gallagher, Rob Reiners, Jeff Rothen, Vicki Garland, Val Rothen, Louise Burns, Mark Dindorf, Ron Munro (Bartlett Select Board Member), Olin Garneau, and June Garneau.

The meeting began with a review of the work done at the previous meeting. First, the Planner reviewed *Table 2.1, Town Statistics*, to ensure the data was accurate. Next, the Planner reviewed *Table 3.1, Hazard Identification & Risk Assessment (HIRA)*, to ensure the Team felt the Town's hazards were in the correct order; no changes were made to these tables.

Having completed *Table 3.1* at the previous meeting, the Team started working on descriptions of each hazard and how they could impact the Community.

To gain more knowledge of the impact of these hazards, the Planner asked the Team to describe each hazard as it relates to Bartlett & Hart’s Location.

Meeting 2 – October 8, 2024

- 1) Last Meeting**
 - a) Discussed...
 - i) Planning process, purpose, funding & collaboration
 - ii) Community involvement & stakeholders
 - b) Worked on...
 - i) *Table 2.1, Town Statistics*
 - ii) *Table 3.1, Hazard Identification & Risk Assessment (HIRA)*
- 2) Today’s Topics**
 - a) Review...
 - i) *Table 2.1, Town Statistics*
 - ii) *Table 3.1, Hazard Identification & Risk Assessment (HIRA)*
 - b) Work on...
 - i) Hazard Descriptions
 - ii) *Table 3.2, Historic Hazard Identification*
 - iii) *Tables 4.1-4.4, Critical Infrastructure & Key Resources*
- 3) Homework**
 - a) Review materials sent by MAPS
 - b) Digital Photos – contributions welcome
- 4) Future Meetings**
 - a) Tuesday, November 19, 2024, @ 10:00 AM
 - b) Tuesday, December 10, 2024, @ 10:00 AM
 - c) Tuesday, January 14, 2025, @ 10:00 AM
 - d) Tuesday, February 11, 2025, @ 10:00 AM

For example, some of the questions asked were:

- *How often do these hazards occur?*
- *Do the hazards damage either the roads or structures?*
- *Have the hazards resulted in the loss of life?*
- *Are the elderly, functional needs, and other vulnerable populations at risk?*
- *What has been done in the past to cope with the hazards?*
- *Was outside help requested?*
- *Are the hazards further affected by an extended power failure?*
- *What mitigation actions can we take to eliminate the hazard or diminish its impact?*

These questions raised awareness of the hazards and provided additional information to analyze their impact on the Community. The Planner noted that these descriptions would be used in Chapter 5. The Planner also took some time to discuss development trends in the Town.

Lastly, the Team worked on *Table 3.2, Historic Hazard Identification*, which lists past and potentially hazardous locations and events. This table had been prepopulated with information from past hazard mitigation plans, Major Disaster Declarations (DRs), and Emergency Declarations (EMs) reported by FEMA that have occurred statewide, specifically in Carroll County. The Team described the events during each disaster in both Bartlett and Hart's Location.

With time running out, the Planner thanked the Team for their work and explained what would occur at the next session. The next session was scheduled for Tuesday, November 19, 2024, and the meeting was adjourned.

MEETING 3, NOVEMBER 19, 2024

Virtual meeting attendance included Mary Miller, John Gallagher, Rick Murnick, Jeff Currier, Jeff Rothen, Vicki Garland, Val Rothen, David Walker, Louise Burns, Mark Dindorf, Guy Putnam (Hart's Location Emergency Management Director), Travis Chick (Bartlett Road Agent), Olin Garneau, and June Garneau.

First on the agenda was a review of the last meeting, including *Table 3.2, Historic Hazard Identification*. While reviewing Table 3.2, the Planner took the opportunity to explain the Wildland Urban Interface (WUI); this area is determined to be where the urban environment interfaces with the wildland environment and is the most prone area to the risk of wildfires. In Bartlett & Hart's Location, it was noted that the WUI would cover the entire Town due to the abundance of forested land. Mitigation strategies were discussed to protect structures and educate citizens about wildfire risk.

Table 7.1, Accomplishments since the Last Plan, pre-populated with data from the 2018 plan, was the next agenda item. The Planner discussed each strategy to determine which had been "Completed", should be "Deleted", or should be "Deferred" to this Plan as a new mitigation action item. Some of the action items from the 2018 plan had been completed or partially completed by the Town. Some were deleted as they were no longer useful or considered

Meeting 3 – November 19, 2024

1) Last Meeting

- a) Reviewed...
 - i) Table 2.1, Town Statistics
 - ii) Table 3.1, Hazard Identification & Risk Assessment (HIRA)
- b) Worked on...
 - i) Hazard Descriptions
 - ii) Table 3.2, Historic Hazard Identification

2) Today's Topics

- a) Review...
 - i) Table 3.2, Historic Hazard Identification
- b) Work on...
 - i) Tables 4.1-4.4, Critical Infrastructure & Key Resources
 - ii) Table 7.1, Past Hazard Mitigation Plan Assessment

3) Homework

- a) Review materials sent by MAPS
- b) Digital Photos – contributions welcome

4) Future Meetings

- a) Tuesday, December 10, 2024, @ 10:00 AM
- b) Tuesday, January 14, 2025, @ 10:00 AM
- c) Tuesday, February 11, 2025, @ 10:00 AM

emergency preparedness, not mitigation. Still, others were deferred for consideration as new action items for this Plan. The Planner promised to translate her notes into paragraphs to review at the next meeting.

Next on the agenda were *Tables 4.1–4.4, Critical Infrastructure & Key Resources (CIKR)*. The Emergency Response Facilities (ERFs), the Non-Emergency Response Facilities (NERFs), the Facilities & Populations to Protect (FPPs), and the Potential Resources (PRs) from the 2018 plan were examined. A few minor adjustments were made for this Plan. In addition, the evacuation routes, helicopter landing zones, and bridges on the evacuation routes were discussed. Lastly, each Critical Infrastructure & Key Resource was analyzed for its “Hazard Risk” (see Chapter 4).

With time running out, the Planner thanked the Team for their work and assigned homework to team members, requesting that the Bartlett Road Agent prepare a list of road and culvert projects that should be completed within the next five years. The Planner also asked the Team to consider current plans, policies, and mutual aid. The next meeting was scheduled for Tuesday, December 10, 2024, and the meeting was adjourned.

MEETING 4 – DECEMBER 10, 2024

Virtual meeting attendees included Gene Chandler, Mary Miller, John Gallagher, Jeff Currier, Jeff Rothen, Vicki Garland, Val Rothen, David Walker, Mark Dindorf, Guy Putnam, Dean Jore (HSEM Liaison), Chris Szatynski (HSEM Liaison), and June Garneau.

The Planner first brought the Team through a review of what had occurred at the previous meetings: Table 2.1, Table 3.1, and Table 3.2. Special reviews were done on Tables 4.1-4.4 and Table 7.1 to ensure the accuracy of the data. A few changes were made with this review, leaving additional items from Table 7.1 deferred to become new mitigation action items for this Plan. Although several strategies from the last plan were determined to be emergency preparedness and not mitigation, the Team kept them as reminders to complete these important action items.

Then, the Team worked on *Table 6.1, Capabilities Assessment*; like other tables, this table was also pre-populated with information from the 2018 plan. Looking closely at the existing policies from the last plan and current mechanisms, the Team determined whether each plan, policy, or mutual aid system should be designated as “No Improvements Needed” or “Improvements Needed” based on the “Key to Effectiveness” found in Chapter 6.

It was explained to the Team that the items that needed improvement would become new action items for this Plan, and they would be discussed again and prioritized when we got to the final table, *Table 9.1, The Mitigation Action Plan*. With time running out, the Planner promised to write statements supporting the concepts and ideas in Table 6.1 for review at the next meeting on January 14, 2025.

Meeting 4 – December 10, 2024

- 1) Last Meeting**
 - a) Reviewed....
 - i) Table 3.2, Historic Hazard Identification
 - b) Worked on....
 - i) Table 4.1-4.4, Critical Infrastructure & Key Resources
 - ii) Table 7.1, Accomplishments since the prior Plan
- 2) Today's Topics**
 - a) Review....
 - i) Table 4.1-4.4, Critical Infrastructure & Key Resources
 - ii) Table 7.1, Accomplishments since the prior Plan
 - b) Work on....
 - i) Table 6.1, Capabilities Assessment
- 3) Homework**
 - a) Review materials sent by MAPS
 - b) Digital Photos – contributions welcome
- 4) Future Meetings**
 - a) Tuesday, January 14, 2025, @ 10:00 AM
 - b) Tuesday, February 11, 2025, @ 10:00 AM

Documentation for the planning process, including public involvement, is required to meet DMA 2000 (44CFR§201 (c) (1) and §201.6 (c) (1)). The Plan must include a description of the planning process used to develop the Plan, including how it was prepared, who was involved in the process, and how other agencies participated. A description of the planning process should include how the planning team or committee was formed, how input was sought from individuals or other agencies who did not participate on a regular basis, what the goals and objectives of the planning process were, and how the Plan was prepared. The description can be in the Plan itself, or contained in the cover memo or an appendix.

MEETING 5 – JANUARY 14, 2025

Virtual meeting attendance included John Gallagher, Rick Murnick, Rob Reiners, Jeff Currier, Jeff Rothen, Vicki Garland, Val Rothen, David Walker, Louise Burns, Mark Dindorf, Austin Steinsick (WMNF), and June Garneau.

The meeting began with an overall recap of the work already done. The recap included a brief look at each of the completed tables. This review helped the Team understand how these tables serve as building blocks for the final two tables, *Table 8.1, Potential Mitigation Strategies & the STAPLEE*, and *Table 9.1, The Mitigation Action Plan*. The STAPLEE method analyzes a project's **S**ocial, **T**echnical, **A**dministrative, **P**olitical, **L**egal, **E**conomic, and **E**nvironmental characteristics and helps evaluate the efficacy of the action item.

The Planner provided virtual handouts detailing a comprehensive list of possible mitigation action items (see Chapter 8, Sections A & B, and Appendix F). The Planner also encouraged the Team members to explore the link on their agendas for the FEMA Mitigation Idea booklet to see if any of the strategies in this book would be helpful in Bartlett & Hart's Location (see right).

In addition to the action items identified in Tables 6.1 and 7.1, the Team reviewed additional potential action items, including a comprehensive list of mitigation strategies derived from several sources and the Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards, January 2013. (See Chapter 8, Sections A & B, and Appendix F).

Next, the Team worked on *Table 8.1, Potential Mitigation Action Items & the STAPLEE*, and *Table 9.1, The Mitigation Action Plan*. The Planner explained that these tables were combined for the meeting and would become separate tables in the final plan. Having pre-populated the tables with the action items that had been deferred from Tables 6.1 and 7.1, the Team looked carefully at each action item to assign responsibility, the time frame for completion, the type of funding that would be required, and the estimated cost of the action (see Chapter 9, Section B).

Work on this table included the STAPLEE process, as shown in Chapter 8. Using virtual handouts provided by the Planner, the Team could go through the STAPLEE process for the identified action items. The STAPLEE analysis would then become *Table 8.1, Potential Mitigation Action Items & the STAPLEE*. Most importantly, the STAPLEE process enabled the Team to consider the cost-benefit of each action item.

Although most of Tables 8.1 and 9.1 were complete, there were a few action items to discuss at the next meeting, and the ranking and prioritizing of each action item. The Planner agreed to email one last document that explained the ranking and prioritizing methodology (Chapter 9, Section A).

The Planner explained to the Team what would occur during the next meeting, which was set for February 11, 2025. The meeting was adjourned.

Meeting 5 – January 14, 2025

1) Last Meeting

- a) Reviewed....
 - i) Tables 4.1-4.4, Critical Infrastructure & Key Resources
 - ii) Table 7.1, Accomplishments since the prior Plan
- b) Worked on....
 - i) Table 6.1, Capabilities Assessment

2) Today's Topics

- a) Review....
 - i) Table 6.1, Capabilities Assessment
- b) Work on....
 - i) Table 9.1, Mitigation Action Plan
 - ii) STAPLEE

3) Homework

- a) Review materials sent by MAPS
- b) Digital Photos – contributions welcome

4) Future Meetings

- a) February 11, 2025, @ 10:00 AM

Link to explore – FEMA Mitigation Ideas:

https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf

MEETING 6 – FEBRUARY 11, 2025

Virtual meeting attendees included Gene Chandler, John Gallagher, Jeff Currier, Jeff Rothen, Vicki Garland, Val Rothen, David Walker, Louise Burns, Mark Dindorf, Austin Steinsick, Nick Jeros (WMNF), and June Garneau.

After a quick review, the meeting began where we had left off in Tables 9.1 and 8.1. After considering each strategy forwarded from prior tables, the Team considered additional mitigation items. These additional action items were derived from earlier work on hazard descriptions and other plans. Several new action items resulted.

After much discussion and a careful review, the Team ultimately settled on multiple “Mitigation Action Items” that they felt were achievable and could help diminish the impact of natural hazards in the future. However, there were a few loose ends in Table 9.1, and the possibility that additional stormwater projects could be added.

As there was still work to do on Table 9.1, the Team could not effectively work on the Ranking & Prioritizing of each Action Item. The Planner explained that she would complete the necessary work in Table 9.1 and check with the Road Agent for additional culvert or ditching projects before the next meeting.

After one hour, the meeting was adjourned. The next meeting was scheduled for March 11, 2025

Meeting 6 – February 11, 2025

- 1) Last Meeting**
 - a) Reviewed....
 - i) Table 6.1, Capabilities Assessment
 - b) Worked on...
 - i) Table 9.1, Mitigation Action Plan
 - ii) STAPLEE
- 2) Today's Topics**
 - a) Work on....
 - i) Table 9.1, Mitigation Action Plan
 - ii) STAPLEE
 - iii) Ranking & Prioritizing
- 3) Homework**
 - a) Review materials sent by MAPS
 - b) Digital Photos – contributions welcome
- 4) Future Meetings**
 - a) Tuesday, March 11, 2025, @10:00 AM (proposed)

MEETING 7 – MARCH 11, 2025

Virtual meeting attendees included Gene Chandler, John Gallagher, Jeff Currier, Vicki Garland, David Walker, Mark Dindorf, Rick Murnick, Rob Reiners, and June Garneau.

The meeting began with a quick recap of our prior work and a discussion about the loose ends, particularly the flood mitigation in Bartlett and the culvert improvements anticipated on Fowler Street.

Upon clearing up the loose ends, determining the mitigation action items, and completing the STAPLEE process, the Team was ready to rank and prioritize the identified action items.

Before the meeting, the Planner had pre-ranked the action items based on the time frame, the Town's authority to accomplish the strategy, the type of strategy, and the STAPLEE score. The action items were placed in four categories, as shown in Chapter 9, Section A, and assigned a priority within each category. The pre-ranked action items were shown to the Team using a digital presentation to enable the Team to see the action items, determine any changes needed, and adjust the rank. In this fashion, the Team determined which action items were the most important within their rank and in which order they would be accomplished.

The Team's work was complete, except for the final review and adoption. No additional meetings were scheduled. The Planner agreed to prepare the draft plan and email a copy for review. The Planner explained the process from this point forward and thanked the Team for their hard work.

Meeting 7 – February 11, 2025

- 1) Last Meeting**
 - a) Reviewed....
 - i) Building Blocks & Tables
 - b) Worked on...
 - i) Table 9.1, Mitigation Action Plan
 - ii) STAPLEE
- 2) Today's Topics**
 - a) Work on....
 - i) Tie up loose ends
 - ii) Ranking & Prioritizing
- 3) Homework**
 - a) Review materials sent by MAPS
 - b) Digital Photos – contributions welcome
- 4) Future Meetings**
 - a) Not needed

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Chapter 2: Community Profile

A. INTRODUCTION

Bartlett and Hart's Location are beautiful communities in Carroll County in the east-central part of New Hampshire. The Jurisdiction is bordered by Jackson, Conway, Albany, Chatham, Hale's Location, Carroll, Livermore, and a few Unincorporated Places (Hadley's Purchase, Cutt's Grant, Beans Grant, and Sargent's Purchase). The Jurisdiction is in the "White Mountains" tourism region of New Hampshire, which offers much recreation and shopping, and tourist venues in nearby Conway.

TOWN GOVERNMENT

A three-member Select Boards govern the Town of Bartlett. Bartlett's departments include, but are not limited to, Fire, Police, Highway, Planning, Recreation, Zoning, Conservation, and Library. The largest employer in Bartlett is Attitash Mountain, with 360 employees, followed by Morrell Corporation with 255 employees.

A three-member Select Board governs the Town of Hart's Location as well. Hart's Location has a Planning Board and a Road Agent. The largest employers in Hart's Location are Notchland Inn and the Crawford Notch Store & Campground, each with 8 employees.

DEMOGRAPHICS & HOUSING

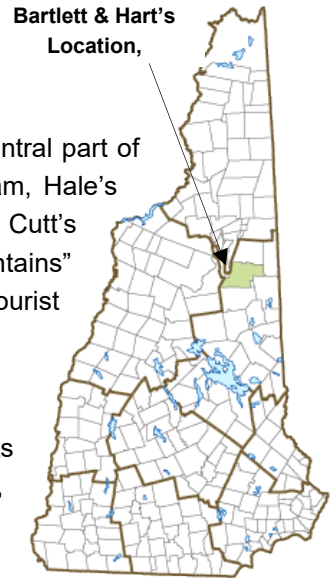
Bartlett's population has increased from 2,298 in 1990 to 3,200 in 2020, showing an increase of 902, according to the US Census 2020. This data represents a growth rate of approximately 39.5%. Hart's Location's population has increased as well, from 35 in 1990 to 68 in 2020, showing an increase of 33, according to the US Census 2020.⁶ This data represents a growth rate of approximately 94.29%.

In Bartlett, there are an estimated 4,613 housing units, most of which are occupied (1,722), while vacant housing units total 2,891, thus confirming the presence of second and occasional-use homes. The estimated median household income is \$55,833, and the median age is 58.6 years.

In Hart's Location, there are an estimated 69 housing units, most of which are occupied (43), while vacant housing units total 26, also confirming the presence of second and occasional-use homes. The estimated median household income is \$77,049, and the median age is 64.8 years.⁷

EDUCATION & CHILD CARE

Bartlett and Hart's Location students in grades PreK-8 attend Josiah Bartlett Elementary School. Bartlett and Hart's Location students in grades 9-12 are tuitioned to Conway. The Josiah Bartlett Elementary School (grades Pre-K-8) is the only school in the Jurisdiction. There are no licensed child care facilities in Bartlett or Hart's Location, nor are there any colleges or universities.



⁶ US Census 2020

⁷ American Community Survey (ACS 2023) 5-Year Estimate Data

NATURAL FEATURES

The Jurisdiction covers approximately 94 square miles of land area (Hart's Location/19.2; Bartlett/74.8). Vegetation is typical of northern New England, including both deciduous and conifer forests, open fields, swamps, and riverine areas. Bartlett and Hart's Location's terrain lends itself to an abundance of lakes, ponds, streams, and rivers, most notably, the Saco River in Bartlett and Hart's Location.

TRANSPORTATION

Two major roadways travel through Bartlett: US Route 302 and NH Route 16. US Route 302 runs east-west from Hart's Location in the west to Conway in the east. NH Route 16 runs north-south from Route 302 in the center of Bartlett to Jackson in the north. There are 55 miles of local roads, 1-2 miles of which are gravel.

There is one major roadway that travels through Hart's Location: US Route 302. US Route 302 runs north-south from Carroll in the north to Bartlett in the southwest. There are two miles of local paved roads in Hart's Location.

B. EMERGENCY SERVICES

EMERGENCY OPERATIONS CENTER & EMERGENCY MANAGEMENT DIRECTOR

The Towns of Bartlett and Hart's Location have designated Emergency Management Directors (EMDs). The EMDs maintain Emergency Operations Centers (EOCs) as part of the Jurisdiction's emergency preparedness program. The EOCs are where the EMDs, department heads, government officials, and volunteer agencies gather to coordinate their response to a major emergency or disaster. In Bartlett, the designated EOC is the Glen Fire Station, and in Hart's Location, the designated EOC is the Notchland Inn.

FIRE SERVICES & EMS

The Bartlett Fire Department provides quality fire and emergency medical services to the residents and visitors of Bartlett and Hart's Location 24 hours a day, 365 days a year. The department staffs a full-time Chief and 24 paid-on-call firefighters. Bartlett-Jackson Ambulance Service provides Emergency Medical Services (EMS) and medical transportation to the Jurisdiction.

The Mount Washington Valley Mutual Aid Association supports the Bartlett Fire Department. The Carroll County HazMat Team is available for hazardous materials incidents.

LAW ENFORCEMENT SERVICES

The Bartlett Police Department is a full-time department providing quality law enforcement services to the residents and visitors of Bartlett and Hart's Location. The department staffs a part-time Chief and four full-time officers. The Bartlett Police Department has mutual aid agreements with the NH State Police – Troop F, the Carroll County Sheriff's Office, and the surrounding towns' police departments.

PUBLIC WORKS

The Bartlett Highway Department operates on a year-round, 24-hour basis as needed. The department staffs a full-time Road Agent and 4 full-time crew members. The department's mission is to support the citizens of Bartlett through the safe operation, proper maintenance, and future development of highways, supporting infrastructure, and utilities in a cost-conscious manner without sacrificing quality. The department belongs to the NH Public Works Mutual Aid Association.

Hart's Location has a part-time Road Agent who is responsible for one mile of town-owned roads.

MEDICAL FACILITIES

Bartlett and Hart's Location's closest medical facility is Maine Health Memorial Hospital in Conway (9 miles). If the need arises, alternative medical facilities are Littleton Regional Healthcare in Littleton (44 miles) and Androscoggin Valley Hospital in Berlin (35), both a considerable distance from Bartlett and Hart's Location. Patients are often transported to Maine Medical Center in Portland, where more extensive medical services are available.

EMERGENCY SHELTER(S)

The primary shelter is where evacuees are directed during an emergency. In Bartlett, the designated primary shelter is the Josiah Bartlett Elementary School. The school offers a large sleeping area, restrooms, showers, a kitchen, and a permanent generator.

In Hart's Location, the designated primary shelter is the Notchland Inn. The inn offers rooms for sleeping, restrooms, showers, a kitchen, and a permanent generator. Hart's Location has a Memorandum of Understanding with the Notchland Inn to use the facility during disasters.

C. BARTLETT & HART'S LOCATION'S CURRENT & FUTURE DEVELOPMENT TRENDS

Nearly every New Hampshire community experienced a significant drop in new home construction after the 2008 Great Recession. Bartlett & Hart's Location were no exception. Between 2009 and 2020, single-family new home construction in Bartlett & Hart's Location was slower than in the mid-2000s, consistent with New Hampshire trends. Building construction increased in the pandemic years, as shown in the charts from City-Data.com⁸⁹, and has continued its steady growth in both Hart's Location and Bartlett. Both communities in the jurisdiction have seen considerable increases in single-family home construction in recent years. In addition, the cost of building has increased dramatically; in Hart's Location, average new home construction has risen from \$150,000 (1998) to \$500,000 (2024), and in Bartlett from \$133,300 (1997) to \$416,700 (2024).

Single-family new house Construction building permits-Hart's Location
• 2024: 3 buildings, average cost: \$500,000
• 2023: 1 building, cost: \$500,000
• 2018: 2 buildings, average cost: \$325,000
• 2017: 3 buildings, average cost: \$180,000
• 2012: 1 building, cost: \$190,000
• 2010: 1 building, cost: \$187,000
• 2009: 1 building, cost: \$150,000
• 2008: 1 building, cost: \$150,000
• 2003: 1 building, cost: \$400,000
• 2000: 3 buildings, average cost: \$59,200
• 1999: 2 buildings, average cost: \$275,000
• 1998: 1 building, cost: \$150,000

Single-family new house Construction building permits-Bartlett
• 2024: 30 buildings, average cost: \$416,700
• 2023: 31 buildings, average cost: \$416,400
• 2022: 31 buildings, average cost: \$418,200
• 2021: 34 buildings, average cost: \$408,800
• 2020: 19 buildings, average cost: \$505,300
• 2019: 18 buildings, average cost: \$275,000
• 2018: 15 buildings, average cost: \$303,300
• 2017: 14 buildings, average cost: \$304,100
• 2016: 12 buildings, average cost: \$185,000
• 2015: 13 buildings, average cost: \$303,800
• 2014: 29 buildings, average cost: \$199,500
• 2013: 26 buildings, average cost: \$248,100
• 2012: 17 buildings, average cost: \$280,900
• 2011: 9 buildings, average cost: \$253,700
• 2010: 15 buildings, average cost: \$253,700
• 2009: 9 buildings, average cost: \$271,700
• 2008: 25 buildings, average cost: \$240,200
• 2007: 15 buildings, average cost: \$230,300
• 2006: 50 buildings, average cost: \$261,400
• 2005: 46 buildings, average cost: \$378,300
• 2004: 66 buildings, average cost: \$209,800
• 2003: 48 buildings, average cost: \$236,500
• 2002: 62 buildings, average cost: \$138,300
• 2001: 43 buildings, average cost: \$125,000
• 2000: 35 buildings, average cost: \$107,100
• 1999: 32 buildings, average cost: \$150,000
• 1998: 26 buildings, average cost: \$200,000
• 1997: 3 buildings, average cost: \$133,300

⁸ City-Data.com; <http://www.city-data.com/city/Bartlett-New-Hampshire.html>
⁹City-Data.com; <https://www.city-data.com/city/Hart-s-Location-New-Hampshire.html>

Since the pandemic's beginning in 2020, development in New England has undergone several changes. One of the most significant changes was that occasionally used homes were modified as permanent residences for those wishing to flee the cities. Lot line adjustments and minor subdivisions were also quite common. Then, real estate boomed, at least during 2021 and through most of 2022, only to settle to more moderate levels by the fall.

In Bartlett & Hart's Location, development has been steady and very well-regulated. The Team reported that no large subdivisions or new town-owned facilities have been built since the last hazard mitigation plan that compromised the Town's hazard vulnerability, and that no new town-owned facilities are planned in the near future. The Bartlett Team reported that new developments are in the process, including a 32-unit and a 19-unit development. The Bartlett Team also reported that no new developments are being built in hazardous areas that need mitigation, and that they continuously monitor new growth on large parcels of land that have the potential to be developed.

Building in Hart's Location, although increased in 2024, remains very slow. The Hart's Location Team reported that there is not a lot of private land available for development, as much of Hart's Location is within the national and state forests. There is a limited number of large parcels in Hart's Location, but there have been no plans to develop them.

The Bartlett & Hart's Location Planning Board's process for all subdivision, site plan, and excavation applications is extensive. It involves on-site examinations and the expertise of other departments and commissions as appropriate. Local regulations are designed to meet state regulations and maintain the Community's local character. Bartlett & Hart's Location's regulations address wetland areas, stormwater flow, and fire protection. Regulations require all large subdivisions and commercial enterprises to address water availability, and the planning mechanisms that are in place require adequate fire protection to be installed. All development that has occurred or is proposed in hazard-prone areas has been closely monitored and mitigated to reduce the Town's hazard vulnerability.



The Town recognizes the importance of growth and understands the impact of hazards on new facilities and homes if built within the Jurisdiction's hazard-prone areas. The Towns' Planning Boards, Zoning Boards, and Select Boards will monitor and guide growth and development using Master Plans, Subdivision Regulations, the Site Plan Review processes, and the Zoning Ordinances. Building permits are required.

The local boards and other town officials are almost always aware of construction that is taking place. The Planning Boards will follow town regulations to ensure that any construction in hazardous areas will be built to minimize vulnerability to the hazards identified in this Plan.

TABLE 2.1: TOWN STATISTICS - BARTLETT

Table 2.1 - Town Statistics - Bartlett				
Census Population Data	2020	2010	2000	1990
Bartlett, NH - Census Population Data	3,200	2,788	2,721	2,298
Carroll County	50,107	47,818	43,918	35,526
<i>30-year Growth Rate</i>	39.25%	<i>Growth Rate = 2020POP-1990POP/1990POP</i>		
<i>Elderly Population-% over 65 (2023 ACS 5-Year)</i>	34.9%			
<i>Median Age (2023 ACS 5-Year)</i>	57.4			
<i>Median Household Income (2023 ACS 5-Year)</i>	\$60,147			
<i>Poverty Rate (2023 ACS 5-Year)</i>	7.3%			
<i>Change in Population-Summer (%)</i>	400% (campgrounds, Story Land, second homes, condos, etc.)			
<i>Change in Population-Winter (%)</i>	300% (Attitash, second homes, condos, etc.)			
Housing Statistics (2023 ACS 5-Year)				
<i>Total Housing Units</i>	4,616			
<i>Occupied Housing Units</i>	1,712			
<i>Vacant Housing Units</i>	2,904			
Assessed Building Values				
Building types	Value	1% Damage	5% Damage	
<i>Residential</i>	\$1,484,505,300	\$14,845,053	\$74,225,265	
<i>Manufactured Housing</i>	\$4,341,000	\$43,410	\$217,050	
<i>Commercial</i>	\$114,930,300	\$1,149,303	\$5,746,515	
<i>Discretionary Preservation Easement</i>	\$0	\$0	\$0	
<i>Tax Exempt</i>	\$16,680,100	\$166,801	\$834,005	
<i>Utilities</i>	\$18,400,000	\$184,000	\$920,000	
<i>Totals</i>	\$1,638,856,700	\$16,388,567	\$81,942,835	
<i>The above chart shows the 2024-MS1 structure values. These values estimate structure loss due to natural hazards (see Chapter 5) based on a loss of 0-1% or 1-5% of structures in the Community—source: Town of Bartlett; 9/19/24</i>				
Regional Coordination				
<i>County</i>	Carroll			
<i>Tourism Region</i>	White Mountain Region			
Municipal Services & Government				
<i>Town Hall</i>	Town Hall			
<i>Town Manager or Administrator</i>	No			
<i>Select Board (3-member)</i>	Yes			
<i>Planning Board</i>	Yes			
<i>School Board</i>	Yes			
<i>Zoning Board of Adjustment</i>	Yes			

Table 2.1 - Town Statistics - Bartlett	
<i>Conservation Commission</i>	Yes
<i>Master Plan</i>	Yes, April 19, 2016
<i>Emergency Operation Plan (EOP)</i>	Yes, September 24, 2018
<i>Hazard Mitigation Plan (HMP)</i>	Yes, July 25, 2018
<i>Zoning Ordinances</i>	Yes, March 8, 2022
<i>Subdivisions Regulations</i>	Yes, May 1, 2017
<i>Site Plan Review Regulations</i>	Yes, October 17, 2006
<i>Capital Improvement Plan (CIP)</i>	No
<i>Capital Reserve Funds (CRF)</i>	Yes, reviewed annually
<i>Building Permits Required</i>	Yes
<i>Adopted IBC & IRC</i>	No
<i>Town Website</i>	Yes, www.townofbartlettnh.org
<i>Floodplain Ordinance</i>	Yes, March 13, 2012 (stand-alone)
<i>National Flood Insurance Program (NFIP) Member</i>	May 1, 1979
<i>Flood Insurance Rate Maps (DFIRMs)</i>	March 19, 2013
<i>Flood Insurance Rate Study (FIS)</i>	March 19, 2013
Percent of Local Assessed Valuation by Property Type - 2024 (NH Department of Revenue)	
<i>Residential Land & Buildings</i>	91.2%
<i>Commercial Land & Buildings</i>	7.8%
<i>Other (including Utilities)</i>	0.9%
Emergency Services	
<i>Town Emergency Warning Systems</i>	Genasys (formerly CodeRED)
<i>School Emergency Warning System</i>	SchoolMessenger
<i>Emergency Page</i>	No
<i>Facebook</i>	Firefighter's Association (private)
<i>ListServ</i>	No
<i>Local Newspapers</i>	Conway Daily Sun
<i>Public Access TV</i>	PAT Channel 3 (Conway)
<i>Local TV Stations</i>	WMUR Channel 9 & WCAX Channel 3
<i>Local Radio Stations</i>	WMWV 93.5 FM, NHPR 99.5 PM, WPKQ 103.7 FM, WVMJ 104.5 FM & WHOM 94.9 FM
<i>Police Department</i>	Yes, part-time Chief & four full-time officers
<i>Police Dispatch</i>	Carroll County Dispatch
<i>Police Mutual Aid</i>	NH State Police - Troop E, Carroll County Sheriff's Office & surrounding towns' police departments
<i>Animal Control Officer</i>	No, the Police Department handles animal control
<i>Fire Department</i>	Yes, full-time Chief & 24 paid-on-call firefighters

Table 2.1 - Town Statistics - Bartlett	
<i>Fire Dispatch</i>	Carroll County Dispatch
<i>Fire Mutual Aid</i>	Mount Washington Valley Mutual Aid
<i>Fire Stations</i>	Two
<i>Forest Fire Warden</i>	Yes
<i>Emergency Medical Services (EMS)</i>	Bartlett-Jackson Ambulance Service
<i>EMS Dispatch</i>	Carroll County Dispatch
<i>Emergency Medical Transportation</i>	Bartlett-Jackson Ambulance Service
<i>HazMat Team</i>	Carroll County HazMat Team
<i>Established Emergency Management Director (EMD)</i>	Yes
<i>Established Deputy EMD</i>	No
<i>Line of Succession (if EMD is unavailable)</i>	Unified Command with fire, police & EMS
<i>Public Health Network</i>	Carroll County Coalition for Public Health
<i>Health Officer</i>	Yes
<i>Deputy Health Officer</i>	No
<i>Building Inspector</i>	No (Select Board)
<i>Established Public Information Officer (PIO)</i>	No
<i>Nearest Hospital</i>	Maine Health Memorial Hospital, Conway (9 miles)
<i>Alternative Hospitals</i>	Littleton Regional Healthcare, Littleton (44 miles)
	Androscoggin Valley Hospital, Berlin (35 miles)
<i>Primary EOC</i>	Glen Fire Station (generator)
<i>Secondary EOC</i>	Bartlett Village Fire Station (portable generator)
<i>Primary Shelter</i>	Josiah Bartlett Elementary School (generator)
<i>Secondary Shelter</i>	Glen Fire Station (generator)
<i>Cooling & Warming Shelter</i>	Josiah Bartlett Elementary School (generator)
<i>Household Pet Shelter</i>	Josiah Bartlett Elementary School & Glen Fire Station
<i>Local Humane Society & Veterinarians</i>	Conway Area Humane Society (Conway) & True North (Bartlett)
Utilities	
<i>Town Sewer</i>	Private septic
<i>Highway Department</i>	Yes, full-time Road Agent & four full-time crewmen
<i>Miles of Class V Roads</i>	58 total miles (98% paved)
<i>NH Public Works Mutual Aid</i>	Yes
<i>Water Supply</i>	Bartlett Village/Lower Bartlett Water & North Conway Water
<i>Wastewater Treatment Plant</i>	No
<i>Electric Supplier</i>	NH Electric Coop
<i>Natural Gas Supplier</i>	None
<i>Cellular Telephone Access</i>	Yes, some dead spots remain

Table 2.1 - Town Statistics - Bartlett	
<i>Alternative Energy Projects</i>	No
<i>Pipelines or Gaslines</i>	No
<i>High-Speed Internet</i>	Yes
<i>Telephone Company</i>	Consolidated Communications
Transportation	
<i>Primary Evacuation Routes</i>	US Route 302, NH Routes 16, NH Route 16A & West Side Road
<i>Secondary Evacuation Routes</i>	Bear Notch Road (seasonal), Jericho Road (Rocky) to Glen Ledge Road, Thorn Hill Road & Conway Scenic Railway
<i>Nearest Interstate</i>	I-93, Exits 32 or 24 (46 & 56 miles)
<i>Nearest Airstrip</i>	Easton Slopes Regional Airport (4,200 ft. asphalt runway)
<i>Nearest Commercial Airport(s)</i>	Portland International Jetport, Portland, ME (69 miles)
	Lebanon Municipal Airport, Lebanon (99 miles)
	Manchester-Boston Regional Airport, Manchester (120 miles)
<i>Public Transportation</i>	No
<i>Railroad</i>	Conway Scenic (seasonal)
Education & Childcare	
<i>Elementary/Middle Schools</i>	Grades K-8 attend Josiah Bartlett School
<i>High Schools</i>	Grades 9-12 are tuitioned to Kennett High School (Conway)
<i>School Administrative Unit (SAU)</i>	SAU 9
<i>Private Schools</i>	No
<i>Colleges/Universities</i>	No
<i>Licensed Child Care Facilities</i>	No
Fire Statistics (NH Division of Forests & Lands, Fire Warden Report, and the Town)	
<i>Wildfire Fires (2023-2024)</i>	None
<i>Carroll County Fire Statistics (2024)</i>	1 fire, 22 acres
<i>State Forest Fires Statistics (2024)</i>	123 fires, 125 acres
<p><i>Unless otherwise noted, the information in Table 2.1 was derived from the Town, the US Census 2020, and the Economic & Labor Market Information Bureau, NH Employment Security, October 2025. Community Response Received 5/8/2025, https://www2.nhes.nh.gov/GraniteStats/SessionServlet?page=Community.jsp&SID=1&city=000202&cityName=Bartlett</i></p>	

TABLE 2.1: TOWN STATISTICS – HART'S LOCATION

Table 2.1 - Town Statistics - Hart's Location				
Census Population Data	2020	2010	2000	1990
Hart's Location, NH - Census Population Data	68	41	38	35
Carroll County	50,107	47,818	43,918	35,526
<i>30-year Growth Rate</i>	94.29%	<i>Growth Rate = 2020POP-1990POP/1990POP</i>		
<i>Elderly Population-% over 65 (2023 ACS 5-Year)</i>	51.0%			
<i>Median Age (2023 ACS 5-Year)</i>	66.3			
<i>Median Household Income (2023 ACS 5-Year)</i>	\$75,455			
<i>Poverty Rate (2023 ACS 5-Year)</i>	0.0%			
<i>Change in Population-Summer (%)</i>	600% (including campgrounds and daytime visitors)			
<i>Change in Population-Winter (%)</i>	50%			
Housing Statistics (2023 ACS 5-Year)				
<i>Total Housing Units</i>	66			
<i>Occupied Housing Units</i>	40			
<i>Vacant Housing Units</i>	26			
Assessed Building Values				
Building types	Value	1% Damage	5% Damage	
<i>Residential</i>	\$11,807,700	\$118,077	\$590,385	
<i>Manufactured Housing</i>	\$0	\$0	\$0	
<i>Commercial</i>	\$2,183,400	\$21,834	\$109,170	
<i>Discretionary Preservation Easement</i>	\$0	\$0	\$0	
<i>Tax Exempt</i>	\$565,900	\$5,659	\$28,295	
<i>Utilities</i>	\$744,100	\$7,441	\$37,205	
<i>Totals</i>	\$15,301,100	\$153,011	\$765,055	
<i>The above chart shows the 2024-MS1 structure values. These values estimate structure loss due to natural hazards (see Chapter 5) based on a loss of 0-1% or 1-5% of structures in the Community—source: Town of Hart's Location.</i>				
Regional Coordination				
<i>County</i>	Carroll			
<i>Tourism Region</i>	White Mountain Region			
Municipal Services & Government				
<i>Town Hall or Town Office</i>	Town Hall			
<i>Town Manager or Administrator</i>	No			
<i>Select Board (3-member)</i>	Yes			
<i>Planning Board</i>	Yes			
<i>School Board</i>	Yes			
<i>Zoning Board of Adjustment</i>	Yes			

Table 2.1 - Town Statistics - Hart's Location	
<i>Conservation Commission</i>	No
<i>Master Plan</i>	Yes, 2000
<i>Emergency Operation Plan (EOP)</i>	Yes, September 24, 2018
<i>Hazard Mitigation Plan (HMP)</i>	Yes, July 25, 2018
<i>Land Use Ordinances</i>	Yes, March 10, 2009
<i>Subdivisions Regulations</i>	Yes, part of the Land Use Ordinance
<i>Site Plan Review Regulations</i>	No
<i>Capital Improvement Plan (CIP)</i>	No
<i>Capital Reserve Funds (CRF)</i>	Yes, reviewed annually
<i>Building Permits Required</i>	Yes
<i>Adopted IBC & IRC</i>	No
<i>Town Website</i>	Yes, www.hartslocation.com
<i>Floodplain Ordinance</i>	Yes, part of the Land Use Ordinance
<i>National Flood Insurance Program (NFIP) Member</i>	March 2, 1988
<i>Flood Insurance Rate Maps (DFIRMs)</i>	March 19, 2013 (the Town has its own maps on the website)
<i>Flood Insurance Rate Study (FIS)</i>	March 19, 2013 (the Town has its own maps on the website)
Percent of Local Assessed Valuation by Property Type - 2024 (NH Department of Revenue)	
<i>Residential Land & Buildings</i>	85.2%
<i>Commercial Land & Buildings</i>	11.3%
<i>Other (including Utilities)</i>	3.5%
Emergency Services	
<i>Town Emergency Warning Systems</i>	Genasys (formerly CodeRED)
<i>School Emergency Warning System</i>	SchoolMessenger
<i>Emergency Page</i>	No
<i>Social Media</i>	No
<i>ListServ</i>	No
<i>Local Newspapers</i>	Conway Daily Sun
<i>Public Access TV</i>	PAT Channel 3 (Conway)
<i>Local TV Stations</i>	WMUR Channel 9 & WCAX Channel 3
<i>Local Radio Stations</i>	WMWV 93.5 FM, NHPR 99.5 PM, WPKQ 103.7 FM, WVMJ 104.5 FM & WHOM 94.9 FM
<i>Police Department</i>	No, Carroll County Sheriff (others through mutual aid as needed)
<i>Police Dispatch</i>	N/A
<i>Police Mutual Aid</i>	N/A
<i>Animal Control Officer</i>	No
<i>Fire Department</i>	No, Bartlett Fire Department
<i>Fire Dispatch</i>	N/A

Table 2.1 - Town Statistics - Hart's Location	
<i>Fire Mutual Aid</i>	N/A
<i>Fire Stations</i>	None
<i>Forest Fire Warden</i>	Yes
<i>Emergency Medical Services (EMS)</i>	Bartlett-Jackson Ambulance Service
<i>EMS Dispatch</i>	Carroll County Dispatch
<i>Emergency Medical Transportation</i>	Bartlett-Jackson Ambulance Service
<i>HazMat Team</i>	Carroll County HazMat Team
<i>Established Emergency Management Director (EMD)</i>	Yes
<i>Established Deputy EMD</i>	No
<i>Line of Succession (if EMD is unavailable)</i>	1st...Select Board
	2nd...Forest Fire Warden
	3rd...Deputy Forest Fire Warden
<i>Public Health Network</i>	Carroll County Coalition for Public Health
<i>Health Officer</i>	No (Select Board)
<i>Deputy Health Officer</i>	No
<i>Building Inspector</i>	No, the Town uses the Jackson Building Inspector
<i>Established Public Information Officer (PIO)</i>	No
<i>Nearest Hospital</i>	Maine Health Memorial Hospital, Conway (9 miles)
<i>Alternative Hospitals</i>	Littleton Regional Healthcare, Littleton (44 miles)
	Androscoggin Valley Hospital, Berlin (35 miles)
<i>Primary EOC</i>	Notchland Inn (generator)
<i>Secondary EOC</i>	Town Hall
<i>Primary Shelter</i>	Notchland Inn (generator)
<i>Secondary Shelter</i>	Town Hall
<i>Cooling & Warming Shelter</i>	Notchland Inn (generator)
<i>Household Pet Shelter</i>	TBD
<i>Local Humane Society & Veterinarians</i>	Conway Area Humane Society (Conway) & True North (Bartlett)
Utilities	
<i>Town Sewer</i>	Private septic
<i>Highway Department</i>	Yes, part-time Road Agent
<i>Miles of Class V Roads</i>	1 mile of gravel road
<i>NH Public Works Mutual Aid</i>	No
<i>Water Supply</i>	Private wells
<i>Wastewater Treatment Plant</i>	No (Forest Service lagoons)
<i>Electric Supplier</i>	NH Electric Coop
<i>Natural Gas Supplier</i>	None

Table 2.1 - Town Statistics - Hart’s Location	
<i>Cellular Telephone Access</i>	Limited (10 miles of no service)
<i>Alternative Energy Projects</i>	No
<i>Pipelines or Gaslines</i>	No
<i>High-Speed Internet</i>	No
<i>Telephone Company</i>	Consolidated Communications
Transportation	
<i>Primary Evacuation Routes</i>	US Route 302
<i>Secondary Evacuation Routes</i>	Conway Scenic (seasonal)
<i>Nearest Interstate</i>	I-93, Exit 35 (27 miles)
<i>Nearest Airstrip</i>	Twin Mountain Airport, Twin Mountain (2,640 ft. asphalt runway)
<i>Nearest Commercial Airport(s)</i>	Portland International Jetport, Portland, ME (74 miles)
	Lebanon Municipal Airport, Lebanon (93 miles)
	Manchester-Boston Regional Airport, Manchester (120 miles)
<i>Public Transportation</i>	No
<i>Railroad</i>	Conway Scenic (seasonal)
Education & Childcare	
<i>Elementary/Middle Schools</i>	Grades K-8 are tuitioned at Josiah Bartlett School
<i>High Schools</i>	Grades 9-12 are tuitioned to Kennett High School (Conway)
<i>School Administrative Unit (SAU)</i>	SAU 9
<i>Private Schools</i>	No
<i>Colleges/Universities</i>	No
<i>Licensed Child Care Facilities</i>	No
Fire Statistics (NH Division of Forests & Lands, Fire Warden Report, and the Town)	
<i>Wildfire Fires (2023-2024)</i>	No, none since the Bemis Fire
<i>Carroll County Fire Statistics (2024)</i>	1 fire, 22 acres
<i>State Forest Fires Statistics (2024)</i>	123 fires, 125 acres
<small>Unless otherwise noted, the information in Table 2.1 was derived from the Town, the US Census 2020, and the Economic & Labor Market Information Bureau, NH Employment Security, October 2025. Community Response Received 7/23/2021, https://www2.nhes.nh.gov/GraniteStats/SessionServlet?page=Community.jsp&SID=1&city=000210&cityName=Hart%27s%20Location</small>	

Chapter 3: Hazard Identification, Risk Assessment & Probability

A. HAZARD IDENTIFICATION

The first step in hazard mitigation is to identify hazards. The Bartlett and Hart’s Location Teams determined that fourteen natural hazards can potentially affect their communities. *Table 3.1, Hazard Identification & Risk Assessment (HIRA)*, estimates the level of impact that each listed hazard could have on humans, property, and business, and averages them to establish an index of severity. The probability estimate for each hazard is multiplied by its severity to establish an overall relative threat factor. Table 3.1 for each community within the Jurisdiction is on the following pages.

Some hazards in Table 3.1 include subcategories of hazards. For instance, Severe Winter Weather includes snowstorms, ice storms, blizzards, and nor’easters. In such instances¹⁰, the analysis included a discussion of the subcategories. However, ultimately, the final analysis was based on the category in general, as shown in Table 3.1.

The NH State Hazard Mitigation Plan includes many of the same potential hazards identified in Bartlett & Hart’s Location. However, several of the State’s hazards were excluded from this Plan - these hazards scored a zero during the HIRA process and were excluded from Table 3.1 on pages 39 and 40. The reasons for exclusion are further explained below.

<u>State Hazard</u>	<u>Reason for Exclusion from this Plan</u>
*Coastal Flooding	Distance away from the sea
Radiological	Distance away from radiological sites

Specific hazards that have affected the Town, the region, and the State in the past are detailed in *Table 3.2, Historic Hazard Identification*, and Chapter 5. *=Natural Hazards as identified in this Plan.

B. RISK ASSESSMENT

The hazards listed in Table 3.1 were classified based on the "Relative Threat" score as calculated in Column F; these were then separated into three categories using Jenks Optimization, also known as the natural breaks classification.¹¹ The "Relative Threat" score was then labeled into three categories: *High Risk, Medium Risk, and Low Risk*, as shown in Table 3.1, Column G; these categories are also indicated in Chapter 5, Sections B-D. The Plan demonstrates each hazard’s likelihood of occurrence and its potential effect on the Town. This process illustrates a comprehensive hazard statement and helps the Town understand which hazards should receive the most attention.

In addition to the relative threat analysis in Table 3.1, the Team used *Tables 4-1-4.4, Critical Infrastructure & Key Resources (CIKR)*, to identify and analyze the potential hazard risk based on a scale of 1-3 for each CIKR.

¹⁰ Inland Flooding (Riverine, 100-year, local road flooding, ice jams, dam failure); Extreme Temperatures (hot & cold); High Wind Events (Tornadoes & Downbursts); Infectious Diseases (too many to list)

¹¹ The natural breaks classification process is a method of manual data classification partitions data into classes based upon natural groups within the data distribution; ESRI, <https://pro.arcgis.com/en/pro-app/latest/help/mapping/layer-properties/data-classification-methods.htm>

C. PROBABILITY

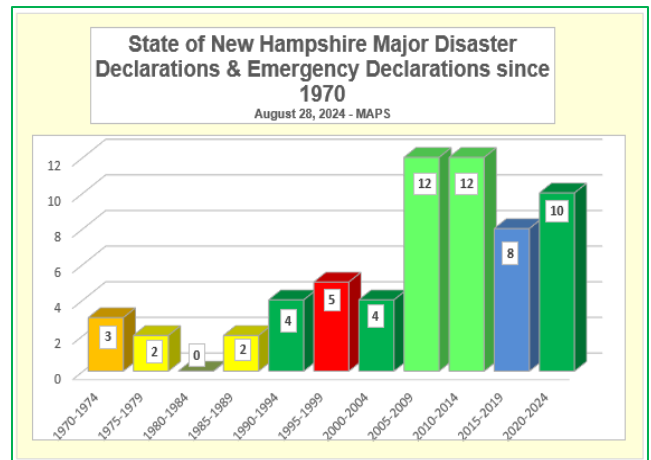
The determination of the probability of occurrence is contained within Column D in Table 3.1, which assesses hazards based on the likelihood that the hazards will occur within 25 years. The probability scores indicate whether the identified hazard has a *Very Low, Low, Moderate, High, or Very High* probability. Probability categories are also indicated in Chapter 5, Sections B-D.

The Jurisdiction is relatively safe from natural, technological, and human-caused hazards. However, due to Bartlett & Hart's Location's geographic location, within the high peaks of the White Mountains, forested lands, hills, heavy snowpack, and topography, there is always a probability that future hazards will occur.

HAZARD PROBABILITY & CLIMATE CHANGE

Although not identified as a natural hazard in this Plan, no plan can be considered complete without discussing climate change's impact on weather patterns. *"Climate change increases the frequency, duration, and intensity of natural hazards, such as wildfires, extreme heat, drought, storms, heavy precipitation, and sea level rise. Communities are feeling the impacts of a changing climate now,"* FEMA stated in its State Mitigation Plan Mitigation Policy Guide¹². FEMA recognizes climate change by including it in this guide for state planners.

The chart to the right shows the increased frequency of Major Disaster Declarations (DR) and Emergency Declarations (EM) in New Hampshire, possibly indicating the impact of climate change.¹³ The decade beginning in 2020 includes ten disaster declarations: DR-4516 and EM-3445, DR-4622, DR-4624, DR-4693, DR-4740, DR-4761, DR-4771, DR-4799, and DR-4812.



Communities in New Hampshire, such as Bartlett & Hart's Location, should become increasingly aware of climate change's impact on the hazards they have already experienced and anticipate an increase in their probability.

HAZARD PROBABILITY COMBINED WITH LONG-TERM UTILITY OUTAGE

Any potential disaster in Bartlett & Hart's Location is particularly impactful if combined with a long-term utility outage, as would most likely be true with severe winter storms, blizzards, ice storms, hurricanes, tropical storms, and windstorms. An outage could result in frozen pipes and a lack of water and heat during the winter, a concern for the Town's senior and vulnerable citizens. The food supply of individual citizens could quickly become depleted should a power failure last for a week or more. When combined with a long-term utility outage, any hazard's effects could have a higher probability of damaging impacts on the Jurisdiction.

¹² State Mitigation Planning Policy Guide, FEMA, Released April 19, 2022, page 6

¹³ Derived from FEMA's record of disasters; categorized by decade since 1970 by the Planner

TABLE 3.1: HAZARD IDENTIFICATION & RISK ASSESSMENT (HIRA) - BARTLETT

Table 3.1 - Hazard Identification & Risk Assessment (HIRA)							
Scoring for Probability	Column A	Column B	Column C	Column D	Column E	Column F	Risk
1=Very Low (0-20%)	Probability				Severity	Relative Threat	Very High 16.0 & up
2=Low (21-40%)	Human Impact	Property Impact	Business Impact	Occurrence within 25 years	Average of Human, Property & Business Impact (A+B+C)/3	Risk Severity x Occurrence D x E	High 12.0-15.9
3=Moderate (41-60%)							Medium 8.0-11.9
4=High (61-80%)							Low 4.0-7.9
5=Very High (81-100%)							Very Low 0.0-3.9
Natural Hazards - as determined by NH HSEM and the Town							
1) Inland Flooding	3.00	5.00	4.00	5.00	4.00	20.00	Very High
2) Severe Winter Weather	2.00	4.00	2.00	5.00	2.67	13.33	High
3) Wildfire	3.00	4.00	2.00	4.00	3.00	12.00	High
4) Extreme Temperatures	2.00	2.00	2.00	5.00	2.00	10.00	Medium
5) Lightning	2.00	3.00	2.00	4.00	2.33	9.33	Medium
6) High Wind Events	2.00	3.00	2.00	4.00	2.33	9.33	Medium
7) Infectious Disease	4.00	1.00	3.00	3.00	2.67	8.00	Medium
8) Dam Failure	4.00	4.00	4.00	2.00	4.00	8.00	Medium
9) Tropical/Post Tropical Cyclones	2.00	2.00	2.00	2.00	2.00	4.00	Low
10) Drought	1.00	1.00	2.00	3.00	1.33	4.00	Low
11) Landslides	2.00	2.00	1.00	2.00	1.67	3.33	Very Low
12) Avalanche	2.00	2.00	1.00	2.00	1.67	3.33	Very Low
13) Earthquake	2.00	2.00	2.00	1.00	2.00	2.00	Very Low
14) Solar Storms & Space Weather	1.00	2.00	2.00	1.00	1.67	1.67	Very Low
Hazards that scored a zero in this analysis can be seen in Chapter 3, Section A.							
Technological & Human-caused Hazards							
1) Transport Accidents	3.00	3.00	3.00	3.00	3.00	9.00	Medium
2) Terrorism & Violence	5.00	4.00	3.00	2.00	4.00	8.00	Medium
3) Hazardous Materials	4.00	3.00	3.00	2.00	3.33	6.67	Low
4) Mass Casualty Incidents	4.00	3.00	3.00	2.00	3.33	6.67	Low
5) Conflagration	4.00	3.00	3.00	2.00	3.33	6.67	Low
6) Long-Term Utility Outage	3.00	2.00	4.00	2.00	3.00	6.00	Low
7) Cyber Events	2.00	1.00	3.00	2.00	2.00	4.00	Low
8) Known & Emerging Contaminants	2.00	2.00	2.00	2.00	2.00	4.00	Low
9) Aging Infrastructure	1.00	1.00	1.00	1.00	1.00	1.00	Very Low

TABLE 3.1: HAZARD IDENTIFICATION & RISK ASSESSMENT (HIRA) – HART’S LOCATION

Table 3.1 - Hazard Identification & Risk Assessment (HIRA)							
Scoring for Probability	Column A	Column B	Column C	Column D	Column E	Column F	Risk
1=Very Low (0-20%)	Probability				Severity	Relative Threat	Very High 16.0 & up
2=Low (21-40%)	Human Impact	Property Impact	Business Impact	Occurrence within 25 years	Average of Human, Property & Business Impact (A+B+C)/3	Risk Severity x Occurrence D x E	High 12.0-15.9
3=Moderate (41-60%)							Medium 8.0-11.9
4=High (61-80%)							Low 4.0-7.9
5=Very High (81-100%)							Very Low 0.0-3.9
Natural Hazards - as determined by NH HSEM and the Town							
1) Inland Flooding	3.00	4.00	4.00	5.00	3.67	18.33	Very High
2) Wildfire	3.00	4.00	2.00	4.00	3.00	12.00	High
3) Severe Winter Weather	2.00	3.00	2.00	5.00	2.33	11.67	Medium
4) Lightning	2.00	3.00	2.00	4.00	2.33	9.33	Medium
5) Tropical/Post Tropical Cyclones	3.00	3.00	3.00	3.00	3.00	9.00	Medium
6) Infectious Disease	4.00	1.00	3.00	3.00	2.67	8.00	Medium
7) Extreme Temperatures	2.00	2.00	2.00	4.00	2.00	8.00	Medium
8) High Wind Events	2.00	2.00	1.00	4.00	1.67	6.67	Low
9) Dam Failure	2.00	2.00	2.00	3.00	2.00	6.00	Low
10) Landslides	2.00	2.00	1.00	3.00	1.67	5.00	Low
11) Avalanche	2.00	2.00	1.00	3.00	1.67	5.00	Low
12) Drought	1.00	1.00	1.00	3.00	1.00	3.00	Very Low
13) Solar Storms & Space Weather	1.00	2.00	3.00	1.00	2.00	2.00	Very Low
14) Earthquake	2.00	2.00	2.00	1.00	2.00	2.00	Very Low
Hazards that scored a zero in this analysis can be seen in Chapter 3, Section A.							
Technological & Human-caused Hazards							
1) Transport Accidents	3.00	3.00	3.00	4.00	3.00	12.00	High
2) Terrorism & Violence	4.00	4.00	2.00	2.00	3.33	6.67	Low
3) Mass Casualty Incidents	4.00	3.00	3.00	2.00	3.33	6.67	Low
4) Hazardous Materials	3.00	3.00	3.00	2.00	3.00	6.00	Low
5) Aging Infrastructure	2.00	2.00	2.00	3.00	2.00	6.00	Low
6) Long-Term Utility Outage	2.00	2.00	4.00	2.00	2.67	5.33	Low
7) Cyber Events	2.00	1.00	3.00	2.00	2.00	4.00	Low
8) Known & Emerging Contaminants	2.00	2.00	2.00	2.00	2.00	4.00	Low
9) Conflagration	1.00	1.00	1.00	1.00	1.00	1.00	Very Low

D. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) STATUS

BARTLETT

Bartlett has been a member of the National Flood Insurance Program (NFIP) since May 1, 1979. Bartlett actively monitors the NFIP and related compliance issues and participates in offered trainings by the State of NH or FEMA that address flood hazard planning.

According to FEMA, there are 62 NFIP policies in effect in Bartlett, including 33 single-family, 14 other residential building, and 15 non-residential policies. There have been 51 paid losses for \$797,795, including 11 single-family, one other residential, and 11 non-residential properties. FEMA also reports 12 repetitive losses among six properties, all of which were single-family homes.¹⁴ The latest Flood Insurance Rate Studies (FIRS) and Digital Flood Insurance Rate Maps (DFIRMS) are dated March 19, 2013. The latest DFIRM and FIRS are incorporated by reference when amended in the Floodplain Development Ordinance.

The Town of Bartlett Floodplain Development Ordinance (revised March 13, 2012) states that permits are required for all proposed development in special flood hazard zones and that the following would apply to all new construction and substantial improvements:

- Structures in flood hazard areas must be securely anchored to withstand flood forces.
- They should use materials that resist flood damage.
- Construction methods should minimize potential flood damage.
- All utility and service equipment must be installed or located to prevent water intrusion during floods.

The ordinance mandates that water and sewer systems be designed to prevent floodwater infiltration and maintain sanitary conditions during floods. It also requires certification of floodproofing and ensures that building permits are not issued until all necessary governmental approvals are obtained. Additionally, the ordinance prohibits any encroachments or developments within the floodway that could increase flood levels during base flood events.

Item VIII of the floodplain regulations specifies that new construction or significant developments in Special Flood Hazard Areas must either have the lowest floor (including basements) elevated above the 100-year flood elevation or be floodproofed to remain watertight below that elevation. Floodproofing requirements include having walls resistant to water penetration, structural components capable of withstanding flood forces, and certification by a registered professional engineer or architect that construction meets accepted standards for flood protection. The Bartlett floodplain ordinance further outlines regulations regarding manufactured housing and recreational vehicles, and other provisions for constructing or improving in fully enclosed areas below the lowest floor that are subject to flooding. Lastly, the ordinance discusses variances and the appeals process.

¹⁴ FEMA, November 2024



In 1968, although well-intentioned government flood initiatives were already in place, Congress established the National Flood Insurance Program (NFIP) to address both the need for flood insurance and the need to lessen the devastating consequences of flooding. The goals of the program are twofold: to protect communities from potential flood damage through floodplain management, and to provide people with flood insurance.

For decades, the NFIP has been offering flood insurance to homeowners, renters, and business owners, with the one condition that their communities adopt and enforce measures to help reduce the consequences of flooding.

Source: http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.w.jsp

Severe Repetitive Loss (SRL) Properties-- NFIP-insured buildings that, on the basis of paid flood losses since 1978, meet either of the loss criteria described on page SRL 1. SRL properties with policy effective dates of January 1, 2007, and later will be afforded coverage (new business or renewal) only through the NFIP Servicing Agent's Special Direct Facility so that they can be considered for possible mitigation activities.

Source: <http://www.fema.gov/national-flood-insurance-program/definitions#R>

HART'S LOCATION

Hart's Location has been a member of the National Flood Insurance Program since March 2, 1998. The Community actively monitors the NFIP and related compliance issues and participates in offered trainings by the State of NH or FEMA that address flood hazard planning.

According to FEMA, there are five NFIP policies in effect in Hart's Location, including four single-family and one non-residential policies. There have been two paid losses for \$3,624, which include two single-family properties. FEMA also reports no repetitive losses in Hart's Location.¹⁵ The latest Flood Insurance Rate Studies (FIRS) and Digital Flood Insurance Rate Maps (DFIRMS) are dated March 19, 2013. The latest DFIRM and FIRS are incorporated by reference when amended in the Floodplain Development Ordinance.

In an effort to comply with the NFIP, Hart's Location has included regulations regarding flood hazard areas as an Appendix to their Land Use Ordinance. Among other items, these *regulations "are intended to control and guide the uses in land areas subject to flooding"*.¹⁶

The Land Use Ordinance outlines the primary objectives of floodplain regulations: to protect public health and safety by restricting land use in flood-prone areas, prevent construction in hazardous or unsanitary locations, minimize financial losses from flooding, allow only suitable uses that do not disrupt floodwater flow or threaten life and property, and preserve natural conditions that help manage water runoff and maintain groundwater supplies throughout the year. Other parts of the flood plain ordinance state that any building in the Flood Plain District must have at least one acre of land without any alluvial soils. Additionally, right-of-ways, access roads, driveways, bridges, and similar structures must be built following both state and federal regulations.

Permitted Uses within the flood plain are detailed in the Flood Plain Ordinance, as are Conditional Uses and Prohibited Uses. In Section 5, Prohibited Uses, the ordinance states:

- Structures and buildings are generally prohibited, except for flood retention dams, culverts, and bridges that meet all municipal and state rules.
- Wetland filling, topsoil removal, or altering watercourses is not allowed unless all required municipal and state approvals are obtained.
- Sanitary landfills, dumps, junkyards, and outdoor storage of vehicles or materials are not permitted.
- On-site sewage disposal systems and designating areas in the floodplain for future replacement leach fields are prohibited.
- Unsealed public or private water supply wells are not allowed.

The ordinance specifies that the Board of Selectmen must not issue a building permit until applicants confirm all required permits are secured. It also notes that granting a variance to build below the base flood level can lead to significantly higher insurance premiums and increased risks to life and property.

¹⁵ FEMA, November 2024

¹⁶ Town of Hart's Location, Land Use Ordinance, Appendix B, Flood Plain Conservation District Ordinance, March 2009

SUMMARY FOR THE JURISDICTION & THE FLOODPLAIN ADMINISTRATOR

As small and close-knit communities, the Boards of Selectmen, Planning Boards of Bartlett and Hart's Location, and the Hazard Mitigation Planning Team are always aware of new construction and/or substantial improvements that take place in the Jurisdiction. The Towns of Bartlett and Hart's Location, through their respective Floodplain Management Ordinances and other best practices, comply with the National Flood Insurance Program requirements. The Towns will continue to work with state officials and will carefully monitor their continued compliance with the NFIP.

Bartlett & Hart's Location's Floodplain Administrators (the Select Boards) are responsible for determining substantial improvement and damage. These determinations are made for all development in a special flood hazard area that proposes to improve an existing structure, including alterations, movement, enlargement, replacement, repair, additions, rehabilitations, renovations, repairs of damage from any origin (such as, but not limited to flood, fire, wind, or snow) and any other improvement of or work on such structure including within its existing footprint.

The Floodplain Administrator, in coordination with any other applicable community official(s), shall be responsible for the following:

- Determine if a substantial damage (SD) determination needs to be made and communicate SD and permit requirements to property owners.
- Verify the cost of repairs to the structure.
- Verify the market value of the structure.
- Make the SD determination and issue it to the property owner.
- Permit development/ensure compliance with community ordinance.
- Inspect development and maintain as-built compliance documentation post-construction.

The Team understands that the NFIP's benefits extend to structures not in the 100-year floodplain. They felt it worthwhile to have NFIP brochures and information available at the Town Hall for current homeowners and potential developers. Several flood-related mitigation strategies have been added to this Plan. The Town will continue to work with the Bureau of Economic Affairs and carefully monitor its compliance with the NFIP.

Table 3.1, Table 3.2 and Chapter 5, Section B provide more information on past and potential hazards in Bartlett & Hart's

TABLE 3.2: HISTORIC HAZARD IDENTIFICATION

Key for Table 3.2

- 2012 HMPT** 2012 Hazard Mitigation Planning Team
- 2018 HMPT** 2018 Hazard Mitigation Planning Team
- 2026 HMPT** 2026 Hazard Mitigation Planning Team
- DR** Major Disaster Declarations (DR) since 1953
- EM** Emergency Declarations (EM) since 1953
- FM** Fire Management Assistance Declaration (FM) since 1953

Table 3.2 includes the following sections:

A. Inland Flooding	D. Severe Winter Weather	G. Miscellaneous Hazards
B. Wildfire	E. Earthquake	H. Other Hazards
C. High Wind Events	F. Drought	

Type of Event	Date of Event	Location	Description	Source
A. Inland flooding includes flooding caused by 100-year rain events, heavy rainfall, rapid snowmelt, ice jam flooding, dam failure, and local road flooding: Riverine flooding is the most common disaster event in NH. Significant riverine flooding in some areas of the State occurs in less than ten-year intervals and increases with climate change. The entire State of NH has a high flood risk. Flood events have the potential to impact the Community townwide. Since the December 17-21, 2023 storm, no significant flooding has occurred in Bartlett or Hart's Location.				
A summary of flood events, including Major Disaster and Emergency Declarations in the State and region				
Inland Flooding before 1970	1927, 1936, 1938, 1943 (2), 1953, 1955, 1959		Spring and fall flooding events resulting from severe storms and heavy snowmelt	See below
Inland Flooding 1970-1979	1972 (DR-327), 1973 (DR-399), 1974 (DR-411), 1976, 1978 (DR-549), 1979 (EM-3073)			
Inland Flooding 1980-1989	1986 (DR-771), 1987 (DR-789)			
Inland Flooding 1990-1999	1990 (DR-876), 1991 (DR-923), 1991 (DR-917), 1995, 1996 (DR-1077), 1996 (DR-1144), 1998 (DR-1231)			
Inland Flooding 2000-2009	2003 (DR-1489), 2005 (DR-1610), 2006 (DR-1643), 2007 (DR-1695), 2008 (DR-1787), 2008 (DR-1799)			
Inland Flooding 2010 - 2019	2010 (DR-1892), 2010 (DR-1913), 2011 (DR-4006), 2012 (DR-4065), 2013 (DR-4139), 2015 (DR-4206), 2017 (DR-4329), 2017 (DR-4355), 2018 (DR-4370), 2019 (DR-4457)			
Inland Flooding 2020 - Present	2021 (DR-4622), 2021 (DR-4624), 2022 (DR-4693), 2023 (DR-4740), 2023 (DR-4761), 2024 (DR-4771), 2024 (DR-4812)			
A detailed summary of flood events in the Community				
Inland Flooding (Heavy Rain)	Annually	Bartlett & Hart's Location	Due to rapid snowmelt and heavy rains, flooding occurs annually along the Saco River and its tributaries in Bartlett and Hart's Location .	FEMA, 2018 HMPT & 2026 HMPT
Inland Flooding (Heavy Rain) Landslide	1937	Bartlett	Heavy rains caused road washouts on Sleepy Hollow Road and damage to homes in Bartlett . A landslide on West Side Road also resulted in one fatality.	2012 HMPT & 2026 HMPT

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Type of Event	Date of Event	Location	Description	Source
Inland Flooding (Heavy Rain)	March 15, 1979	Bartlett	Presidential Emergency Declaration EM-3073: Bartlett experienced flooding on the Saco River due to heavy rains and ice jams. West Side Road was closed for some time, and livestock had to be rescued.	FEMA, 2018 HMPT & 2026 HMPT
Inland Flooding (Heavy Rain)	1980, 1990 & present	Bartlett	Heavy rains and flooding undermined the bridge supports on the River Street Bridge in Bartlett. The bridge eventually failed, stranding residents on the other side of the river. This occurred again in 1990 and is still an issue today.	FEMA, 2018 HMPT & 2026 HMPT
Inland Flooding (Heavy Rain)	August 7-11, 1990	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack, & Sullivan	Major Disaster Declaration DR-876: Heavy rains washed out Cow Hill Road in Bartlett.	FEMA, 2018 HMPT & 2026 HMPT
Inland Flooding (Heavy Rain)	October 20- November 15, 1995	Carroll, Cheshire, Coos, Grafton, Merrimack & Sullivan	Major Disaster Declaration DR-1077: Heavy rains caused flooding on the East Branch River at Town Hall Road in Bartlett. The road was shut down due to water over the bridge.	FEMA, 2018 HMPT & 2026 HMPT
Inland Flooding (Heavy Rain)	May 12-23, 2006	Belknap, Carroll, Grafton, Hillsborough, Merrimack, Rockingham & Strafford	Major Disaster Declaration DR-1643: Flooding occurred in most of southern NH from May 12-23, 2006 (Mother's Day Storm). There was no significant impact in Bartlett or Hart's Location.	FEMA, 2018 HMPT & 2026 HMPT
Inland Flooding (Heavy Rain)	April 15-23, 2007	All Ten NH Counties	Major Disaster Declaration DR-1695: FEMA & SBA obligated more than \$27.9 million in disaster aid for flood damages following the April nor'easter (Tax Day Storm). There was no significant impact in Bartlett or Hart's Location.	FEMA, 2018 HMPT & 2026 HMPT
Inland Flooding (Heavy Rain & Tornado)	July 24- August 14, 2008	Belknap, Carroll & Grafton & Coos	Major Disaster Declaration DR-1787: A period of severe storms and flooding from July 24 to August 14; a tornado occurred on July 24, 2008. There was no significant impact in Bartlett or Hart's Location.	FEMA, 2018 HMPT & 2026 HMPT
Inland Flooding (Tropical Storm Irene)	August 26- September 6, 2011	EM 3333: All Ten NH Counties DR-4026: Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan	Major Disaster Declaration DR-4026 & Emergency Declaration EM-3333: See below, Section C	FEMA & 2026 HMPT
Inland Flooding (Ice Jam)	January 2012	North of Bartlett Village	An ice jam caused minor flooding north of Bartlett Village.	2026 HMPT
Inland Flooding (Heavy Rain)	July 1, 2017	Coos & Grafton	Presidential Disaster Declaration DR-4329: The Federal Emergency Management Agency (FEMA) announced that federal disaster assistance is available to the state of New Hampshire to supplement state and local recovery efforts in the areas affected by severe storms and flooding from July 1, 2017, to July 2, 2017, in Grafton and Coos County. Although this storm did not include Carroll County, Bartlett and Hart's Location received considerable flood damage from this storm in many of the usual flood locations in both communities.	FEMA, 2018 HMPT & 2026 HMPT

Type of Event	Date of Event	Location	Description	Source
Inland Flooding (Heavy Rain)	October 29- November 1, 2017	Sullivan, Grafton, Coos, Carroll, Belknap & Merrimack	Major Disaster Declaration, DR-4355: The Federal Emergency Management Agency (FEMA) announced that federal disaster assistance is available to NH to supplement state and local recovery efforts in the areas affected by severe storms and flooding from October 29-November 1, 2017, in five counties. Bartlett and Hart's Location received considerable damage from this storm, resulting in several road closures, a washout of the tracks used by Conway Scenic Railroad, and the flooding of at least one campground (Bartlett); several homes also experienced flooding during this storm. Bartlett submitted a "Letter of Intent" to look into potential HMGP funding for affected locations along the Saco River at various locations near Bartlett Village, along the Rocky Branch River near Jericho and Sleepy Hollow Roads in Glen, and along the East Branch River from Town Hall Road to Route 16A for flood mitigation. Hart's Location experienced a road washout in Crawford Notch State Park, similar to Hurricane Irene. An undersized culvert failed, creating an impact to property, undermining road shoulders, and causing debris in US Route 302 north of the Willey House.	FEMA, 2018 HMPT & 2026 HMPT
Inland Flooding (Heavy Rain) Long-Term Utility Outage	December 22-25, 2022	Belknap, Grafton, Coos & Carroll	Major Disaster Declaration, DR-4693: A severe storm occurred December 22-25, 2022. Most communities saw heavy rain and wind, causing culvert damage, road washouts, and power outages. The northern communities saw heavy, wet snow, causing trees and power lines to fall, creating power outages. The declaration was declared in four of the State's ten counties. Bartlett experienced flooding of the Saco and East Branch Rivers. Several roads sustained washouts, and multiple houses were flooded. The Town received FEMA disaster aid for this storm. Hart's Location experienced minor road flooding.	FEMA & 2026 HMPT
Inland Flooding (Heavy Rain)	December 17-21, 2023	Coos, Grafton & Carroll	Major Disaster Declaration, DR-4761: A significant rain storm, likened to a 100-year flood event, struck multiple areas in New Hampshire, causing widespread damage to rivers, roads, and bridges. Bartlett experienced flooding of the Saco and East Branch Rivers. Several roads sustained washouts, multiple houses were flooded, and one person was injured. The Town received FEMA disaster aid for this storm. Hart's Location experienced flooding of the Saco River and its tributaries. A significant washout at the Bemis Brook crossing closed US Route 302 for four days.	FEMA & 2026 HMPT

B. Wildfire: New Hampshire is heavily forested and is therefore vulnerable to wildfire, particularly during periods of drought. The proximity of many populated areas to the State's forested land exposes these areas to the potential impact of wildfire. Wildfires have the potential to impact the Community townwide. Since the Bemis Fire in Crawford Notch, no significant wildfire events have occurred in Bartlett or Hart's Location.

A summary of wildfire events, including Major Disaster and Emergency Declarations in the State, and other recent large fires

Wildfire (Fire of 1947)	October 21, 1947	Strafford County	This fire, caused by drought conditions and a spark from the Boston & Maine Railroad, burned a swath 9.5 miles long and 1.5 miles wide, starting in Farmington; the fire was widespread enough to cause significant damage in Maine. Spaulding High School was used to serve meals to the hundreds of firefighters and volunteers who assisted. Around a thousand people were evacuated in Rochester; the fire resulted in one death, an 18-year-old UNH student. This fire did not reach Carroll County, Bartlett , or Hart's Location .	Local Resources & 2026 HMPT
Wildfire (Shaw Mountain Fire)	July 2, 1953	Carroll County	Major Disaster Declaration DR-11: This wildfire occurred in Carroll County at Shaw Mountain. This fire did not reach Bartlett or Hart's Location .	FEMA & 2026 HMPT

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Type of Event	Date of Event	Location	Description	Source
Wildfire (Table Mountain)	October 16, 1984	Carroll County	Table Mountain Fire: This Class D fire burned 100 acres in Carroll County before being extinguished. This fire was partially in Bartlett but did not reach Hart's Location .	Local Resources & 2026 HMPT
Wildfire (Lucy Brook)	November 16, 2004	Carroll County	Lucy Brook Fire: 136 acres burned in the Lucy Brook Fire before it was extinguished. This fire did not reach Bartlett or Hart's Location .	Local Resources & 2026 HMPT
Wildfire	2011	Hart's Location	Nine fires occurred in one day in Hart's Location due to sparks thrown from the Conway Scenic Railroad.	2018 HMPT & 2026 HMPT
Wildfire	2013	Bartlett	A wildfire burned for a few days on Glen Ridge in Bartlett before being controlled; no structure damage occurred.	2018 HMPT & 2026 HMPT
Wildfire (Bayle Mountain Fire)	May 2015	Carroll County	The Bayle Mountain Fire: This Class D fire burned 275 acres and took five days to put out on rocky and steep terrain in Ossipee, NH. Military and private helicopters and fire crews from all over the State assisted in extinguishing this fire. The Bayle Mountain Fire did no damage to homes. This fire did not reach Bartlett or Hart's Location .	Local Resources & 2026 HMPT
Wildfire (Stoddard Fire)	April 2016	Cheshire County	Fire Management Assistance Declaration, FM-5123: Stoddard, NH. The Stoddard Fire burned 190 acres in April 2016 and caused the evacuation of 17 homes; Class D fire. This fire did not reach Carroll County, Bartlett , or Hart's Location .	FEMA & 2026 HMPT
Wildfire (Covered Bridge Fire)	November 2016	Carroll County	The Covered Bridge Fire: A brush fire near the Albany Covered Bridge grew to 329 acres, primarily on White Mountain National Forest land. No structures were lost; Class E fire. This fire did not reach Bartlett or Hart's Location .	Local Resources & 2026 HMPT
Wildfire (Dilly Cliff Fire)	October 2017	Grafton County	The Dilly Cliff Fire: This fire occurred on the Lost River Gorge Trail in North Woodstock off Route 112 (Lost River Road); Class C: Human-caused; 75 acres. The Dilly Cliff Fire was determined to be extinguished 36 days later. This fire did not reach Carroll County, Bartlett , or Hart's Location .	Local Resources & 2024 HMPT
Wildfire (Centennial Fire)	May 9, 2022	Coos County	The Centennial Fire, caused by an out-of-control campfire, burned 48 acres along the Appalachian Trail (state land) in Shelburne. There was a multi-agency response, but no structural damage or injuries. This fire did not reach Carroll County, Bartlett , or Hart's Location .	Local Resources & 2026 HMPT
Wildfire (Bemis Fire)	May 14, 2022	Carroll County	The Bemis Fire lasted six days, burning 106 acres on the steep terrain around Bemis Brook in Crawford Notch State Park. Local firefighters, the NH Division of Forest and Lands, and members of the US Forest Service from Maine, Colorado, and Virginia all responded to extinguish the fire. There were no structures damaged or injuries to the public or responders. This fire was in Hart's Location but did not reach Bartlett . Hart's Location sustained a heavy financial burden from this fire.	Local Resources & 2026 HMPT

Since 1953, **Bartlett** and **Hart's Location** have had several small fires, ranging from 0.1 to 2.5 acres. For more details, please refer to previous hazard mitigation plans and other wildfire data.

Type of Event	Date of Event	Location	Description	Source
<p>C. High Wind Events, including Tropical/Post Tropical Cyclones, Tornadoes, Downbursts, and Windstorms: Tornadoes are spawned by thunderstorms and occasionally hurricanes; tornadoes may occur singularly or in multiples. A downburst is a severe localized wind blasting down from a thunderstorm. Downbursts happen throughout NH and are becoming more prevalent with climate change; most downbursts go unrecognized unless significant damage occurs. Hurricanes develop from tropical depressions, which form off the coast of Africa. New Hampshire's exposure to direct and indirect impacts from hurricanes is prevalent but modest compared to other states in New England. A hurricane downgraded to a Tropical Storm is more likely to impact New Hampshire. Tornadoes and other wind events can impact the Community townwide. Since the prior hazard mitigation plan, no significant high wind events have occurred in Bartlett or Hart's Location.</p>				
<p>A summary of high wind events and tropical/post-tropical cyclone events, including Major Disaster and Emergency Declarations in the State and region</p>				
Tropical/Post Tropical Cyclones	1804, 1869, 1938, 1944, 1954 (2), 1960, 1976, 1978, 1985, 1991 (DR-917), 1999 (DR-1305), 2005 (EM-3258), 2011 (EM-3333 & DR-4026), 2012 (EM-3360)		Number 4 (1938), Number 7 (1944), Carol (1954), Edna (1954), Donna (1960), Belle (1976), Amelia (1978), Gloria (1985), Bob (1991), Floyd (1999), Katrina (2005), Irene (2011), Sandy (2012)	See below
High Wind Events (Tornadoes)	1814, 1890, 1951, 1953, 1957, 1961, 1963, 2008 (DR-1782)		All listed tornadoes were reported as F2, except for the June 1953 tornado, reported as an F3.	See below
<p>A detailed summary of high wind and tropical/post-tropical cyclone events in the Community</p>				
Tropical/Post Tropical Cyclone (Great New England Hurricane)	September 21, 1938	All Ten NH Counties	<p>The Great New England Hurricane: Statewide, multiple deaths occurred, and damages in NH were about \$12.3 million in 1938 (about \$200 million now). This storm damaged 20,000 structures, 26,000 automobiles, 6,000 boats, and 325,000 sugar maples throughout New England. 80% of the people lost power. Although there was no local recollection, it was expected that the damage would have been similar to the rest of the State in Bartlett and Hart's Location.</p> <p>(Source http://nhpr.org/post/75th-anniversary-new-englands-greatest-hurricane)</p>	FEMA, 2018 HMPT & 2026 HMPT
High Wind Event (Downburst)	1979	Bartlett	A downburst in Bartlett caused downed trees, the closing of Jericho Road, and some minor property damage.	2018 HMPT & 2026 HMPT
Tropical/Post Tropical Cyclone (Hurricane Bob)	August 18-20, 1991	Carroll, Hillsborough, Rockingham & Strafford	Major Disaster Declaration DR-917: Hurricane Bob brought rain to Bartlett and Hart's Location , but no significant damage occurred.	FEMA, 2018 HMPT & 2026 HMPT
High Wind Event (Downburst)	1995	Bartlett & Hart's Location	A high wind event in Bartlett and Hart's Location caused downed trees in both communities. Fifteen trees were down on one property alone. The damage was isolated and didn't hit everywhere.	2018 HMPT & 2026 HMPT
Tropical/Post Tropical Cyclone (Hurricane Katrina evacuation)	August 29-October 1, 2005	All Ten NH Counties	Emergency Declaration EM-3258: Assistance was provided to evacuees from the areas struck by Hurricane Katrina; emergency assistance to those areas began on August 29, 2005. The President's action made federal funding available to all 10 New Hampshire counties. No pets or evacuees to Bartlett or Hart's Location .	FEMA, 2018 HMPT & 2026 HMPT
High Wind Events (Tornado)	July 24, 2008	Belknap, Carroll, Merrimack, Strafford & Rockingham	Major Disaster Declaration DR-1782: Tornado damage to several New Hampshire counties. The tornado did not reach Bartlett or Hart's Location .	FEMA, 2018 HMPT & 2026 HMPT

Type of Event	Date of Event	Location	Description	Source
Tropical/Post Tropical Cyclone (Tropical Storm Irene)	August 26-September 6, 2011	EM 3333: All Ten NH Counties DR-4026: Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan	Major Disaster Declaration DR-4026 & Emergency Declaration EM-3333: Tropical Storm Irene, August 26 to September 6, 2011, occurred in seven New Hampshire counties, causing flood and wind damage. In addition, an Emergency Declaration was declared for all ten New Hampshire counties. In Bartlett , Tropical Storm Irene caused significant damage to roads, buildings, bridges, and levees. Part of the community was cut off when the River Street bridge was affected (mitigated with FEMA money). All four rivers in Bartlett, the Rocky Branch, Ellis, Saco, and East Branch, flooded, causing structure damage and loss of land. Portions of US 302 were impassable, and the railroad trestle at Stony Brook was washed out. In Hart's Location , Tropical Storm Irene caused the Sawyer River Bridge and parts of US Route 302 to be washed out in the northern part of the Town from Dry River flooding. Hart's Location was cut off on both ends. Campgrounds were damaged, and land loss occurred.	FEMA, 2018 HMPT & 2026 HMPT
Tropical/Post Tropical Cyclone (Hurricane Sandy)	October 26-November 8, 2012	DR-4095: Belknap, Carroll, Coos, Grafton, Rockingham & Sullivan EM-3360: All Ten NH Counties	Major Disaster Declaration DR-4095 & Emergency Declaration EM-3360: The declaration covers damage to property from the storm that spawned heavy rains, high winds, high tides, and flooding from October 26 to November 8, 2012. Hurricane Sandy came ashore in New Jersey, bringing high winds, power outages, and heavy rain to six New Hampshire counties. Bartlett and Hart's Location received heavy rains, but no significant damage occurred.	FEMA, 2018 HMPT & 2026 HMPT
D. Severe Winter Weather, including Nor'easters, Blizzards, and Ice Storms: Severe winter weather in NH may include heavy snowstorms, blizzards, nor'easters, and ice storms, particularly at elevations over 1,000 feet above sea level. Generally speaking, NH will experience at least one of these hazards during any winter season; however, most NH communities are well prepared for such hazards. Severe winter weather and ice storms can impact the Community townwide. Since the April 3-5, 2024 storm, no significant winter weather events have occurred in Bartlett and Hart's Location.				
A summary of severe winter weather events, including Major Disaster and Emergency Declarations in the State and region				
Severe Winter Weather (Ice Storms)	1942, 1969, 1970, 1979, 1991, 1998 (DR-1199), 2008 (DR-1812)		The major ice storms that have occurred and caused significant disruptions to power, transportation, and public and private utilities.	FEMA & 2026 HMPT
Severe Winter Weather (Snowstorms)	1920, 1929, 1940, 1950, 1952, 1958 (2), 1960, 1961, 1969, 1978, 1982, 1993 (EM-3101), 2001 (EM-3166), 2003 (EM-3177), 2003 (EM-3193), 2004, 2005 (EM-3207), 2005 (EM-3208), 2005 (EM-3211), 2008 (EM-3297), 2009, 2011 (EM-3344 & DR-4049), 2013 (EM-1405), 2015 (DR-4209), 2017 (DR-4316), 2018 (DR-4371), 2024 (DR-4799)		The major severe winter weather events with snowfalls exceeding 2' in parts of the State. Power and transportation systems were disrupted.	FEMA & 2026 HMPT
A detailed summary of severe winter storm events in the Community				
Severe Winter Weather (Snowstorm)	Winter of 1968-69	All Ten NH Counties	The winter of 1968-69 brought record snow to New Hampshire. Pinkham Notch at the base of Mount Washington recorded more than 75" of snowfall in four days at the end of February 1969, and snow that had already fallen in previous storms. NH experienced difficulty with snow removal because of the great depths that had fallen from December 1968 to April 1969. Bartlett and Hart's Location reported incredible snow accumulations, but NH DOT and the Bartlett Highway Department handled the heavy snow.	2018 HMPT & 2026 HMPT

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Type of Event	Date of Event	Location	Description	Source
<p>Severe Winter Weather (Snowstorm)</p> <p>High Wind Events</p> <p>Coastal Flooding</p>	February 16, 1978	All Ten NH Counties	Major Disaster Declaration DR-549: The Blizzard of '78, a regionwide storm severely affecting southern New England, resulted in high snow accumulations throughout New Hampshire. This storm also brought hurricane-force winds, making this one of the most intense storms this century across the northeastern United States. Recorded accumulations show up to 28" in northeast New Hampshire, 25" in west-central New Hampshire, and 33" along the coast of New Hampshire. Bartlett and Hart's Location reported heavy snow, but NH DOT and the Bartlett Highway Department handled the accumulations.	FEMA, 2018 HMPT & 2026 HMPT
<p>Severe Winter Weather (Snowstorm)</p> <p>High Wind Events</p>	March 13-17, 1994	All Ten NH Counties	Emergency Declaration EM-3101: Bartlett and Hart's Location reported heavy snow, but NH DOT and the Bartlett Highway Department handled the accumulations.	FEMA & 2026 HMPT
<p>Severe Winter Weather (Ice Storm)</p>	January 7-25, 1998	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack, Strafford & Sullivan	Major Disaster Declaration DR-1199: A major ice storm struck nearly every part of the State, impacting northern communities and areas over 1,000 feet above sea level. Many trees were down, and there was a massive loss of timber and a large amount of slash on the forest floor. Bartlett and Hart's Location had multiple road closures and power outages for up to ten days.	FEMA, 2018 HMPT & 2026 HMPT
<p>Severe Winter Weather (Snowstorm)</p>	December 6-7, 2003	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack & Sullivan	Emergency Declaration EM-3193: The emergency declaration covers jurisdictions with record and near-record snowfall that occurred throughout December 6-7, 2003, and affected eight New Hampshire counties. Bartlett and Hart's Location reported heavy snow, but NH DOT and the Bartlett Highway Department handled the accumulations.	FEMA, 2018 HMPT & 2026 HMPT
<p>Severe Winter Weather (Snowstorms)</p>	January 22-23, 2005 February 10-11, 2005 March 11-12, 2005	<p>EM-3208-002 (Jan, Feb & Mar): All Ten NH Counties</p> <p>EM-3207 (Jan): Nine NH Counties</p> <p>EM-3208 (Feb): Five NH Counties</p> <p>EM-3211 (Mar): Five NH Counties</p>	<p>Emergency Declaration EM 3208-002: The Federal Emergency Management Agency (FEMA) had obligated more than \$6.5 million to reimburse state and local governments for costs incurred in three snowstorms. The total aid for all three storms was \$6,892,023.</p> <p>Emergency Declaration EM-3207: The total aid for the January storm in Carroll was \$52,864. Emergency Declaration EM-3208: The total aid for the January storm in Carroll was \$91,832. Emergency Declaration EM-3211: The total aid for the March storm in Carroll was \$73,964. Bartlett and Hart's Location reported heavy snow throughout the 2005 winter, but NH DOT and the Bartlett Highway Department handled the accumulations.</p>	FEMA, 2018 HMPT & 2026 HMPT
<p>Severe Winter Weather (Snowstorm & Ice Storm)</p>	December 11-23, 2008	All Ten NH Counties	Major Disaster Declaration DR-1812 & Emergency Declaration EM-3297: A damaging ice storm impacted the State, including all 10 New Hampshire counties, resulting in fallen trees and large-scale power outages. Nearly \$15 million in federal aid had been obligated by May 2009. Bartlett and Hart's Location reported heavy snow, but NH DOT and the Bartlett Highway Department handled the accumulations.	FEMA, 2018 HMPT & 2026 HMPT
<p>Severe Winter Weather (Snowstorm)</p>	October 29-30, 2011	<p>DR-4049: Hillsborough & Rockingham</p> <p>EM-3344: All Ten NH Counties</p>	Major Disaster Declaration DR-4049 & Emergency Declaration EM-3344: A severe winter storm occurred in two New Hampshire counties on October 29-30, 2011. EM-3344: The emergency declaration for snow removal and damage repair included all ten NH counties (Snowtober). Leaves were still on trees, contributing to multiple power outages in Bartlett and Hart's Location. Bartlett and Hart's Location reported heavy snow, but NH DOT and the Bartlett Highway Department handled the accumulations.	FEMA, 2018 HMPT & 2026 HMPT

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Type of Event	Date of Event	Location	Description	Source
Severe Winter Weather (Snowstorm)	February 8, 2013	All Ten NH Counties	Major Disaster Declaration DR-4105: A severe winter storm resulted in heavy snow in February 2013 in all ten New Hampshire counties (Nemo). Bartlett and Hart's Location reported heavy snow, but NH DOT and the Bartlett Highway Department handled the accumulations.	FEMA, 2018 HMPT & 2026 HMPT
Severe Winter Weather (Snowstorm)	March 14-15, 2017	Belknap & Carroll	Major Disaster Declaration DR-4316: A severe winter storm and snowstorm occurred on NH's Town Meeting Day in two New Hampshire counties, resulting in disaster aid supplementing state and local recovery efforts. Bartlett and Hart's Location reported heavy snow, but NH DOT and the Bartlett Highway Department handled the accumulations. Hart's Location canceled Town Meeting, but Bartlett did not.	FEMA, 2018 HMPT & 2026 HMPT
Severe Winter Weather (Snowstorm)	March 13-14, 2018	Carroll, Strafford & Rockingham	Major Disaster Declaration, DR 4371: A severe winter storm and snowstorm occurred on NH's Town Meeting Day in three New Hampshire counties, resulting in disaster aid supplementing state and local recovery efforts. Bartlett and Hart's Location reported heavy snow, but NH DOT and the Bartlett Highway Department handled the accumulations. Town Meeting was held in both communities.	FEMA & 2026 HMPT
Severe Winter Weather (Extreme Temperatures)	February 3-4, 2023	Regionwide	Dangerously cold temperatures struck most of New Hampshire in early February 2023, the coldest recorded temperatures in five years. Wind chills on top of Mount Washington were recorded at -109°. Bartlett and Hart's Location also reported dangerously cold temperatures, but there were no deaths or injuries reported.	2026 HMPT
Severe Winter Weather (Snowstorm)	April 3-5, 2024	Carroll, Belknap, Sullivan & Rockingham	Major Disaster Declaration, DR-4799: A late winter snowstorm on April 4, 2024, brought heavy wet snow with accumulations up to two feet in some parts of the State. Bartlett and Hart's Location reported heavy snow, but NH DOT and the Bartlett Highway Department handled the accumulations.	2026 HMPT
E. Earthquake: According to the NH State Hazard Mitigation Plan, New Hampshire lies in an area of "Moderate" seismic activity compared to other areas of the United States. "Major" activity areas border New Hampshire to the north and southwest. Generally, earthquakes in NH cause little or no damage and have not exceeded a magnitude of 5.5 since 1940. Earthquakes have the potential to impact the Community townwide. Since the Hollis earthquake in 2012, no significant earthquakes have been felt in Bartlett and Hart's Location.				
A summary of earthquakes with a magnitude of 4.0 or more significant in the State and region				
Earthquakes	3/5/1905 (Lebanon, NH, Unknown), 8/30/1905 (Rockingham County, Unknown), 11/09/1925 (Ossipee, NH, 4.0), 3/18/1926 (New Ipswich, NH, Unknown), 11/10/1936 (Laconia, NH, Unknown), 12/20/1940 (Tamworth, NH, 5.3), 12/24/40 (Tamworth, NH, 5.6), 1/19/1982 (Sanbornton, NH, 4.5), 10/16/2012 (Hollis Center, ME, 4.7)		Occurrences of earthquakes with a magnitude of 4.0 or greater since 1900.	State of NH Multi-Hazard Mitigation Plan, Update 2023
A summary of most earthquakes with a magnitude over 2.0 that may have been felt in New Hampshire since 1960				
Earthquake	June 26, 1964	Salisbury, NH	Magnitude 3.2	United States Geological Society (USGS), State of NH Multi-Hazard Mitigation Plan Update, 2018 HMPT & 2026 HMPT
Earthquake	June 15, 1973	Quebec/ME border	Magnitude 4.8	
Earthquake	December 25, 1977	Hopkinton, NH	Magnitude 3.2	
Earthquake	June 28, 1981	Sanbornton, NH	Magnitude 3.0	
Earthquake	January 19, 1982	Sanbornton, NH	Magnitude 4.5	
Earthquake	October 25, 1986	Northfield, NH	Magnitude 3.9	
Earthquake	October 20, 1988	Milan, NH	Magnitude 3.9	

Type of Event	Date of Event	Location	Description	Source
Earthquake	November 22, 1988	Milan, NH	Magnitude 3.2	United States Geological Society (USGS), State of NH Multi-Hazard Mitigation Plan Update, 2018 HMPT & 2026 HMPT
Earthquake	April 6, 1989	Berlin, NH	Magnitude 3.5	
Earthquake	October 6, 1992	Canterbury, NH	Magnitude 3.4	
Earthquake	August 21, 1996	Livermore, NH	Magnitude 3.8	
Earthquake	June 16, 1995	Lisbon, NH	Magnitude 3.8	
Earthquake	January 10, 1999	Merrimac, MA	Magnitude 3.1 & 3.0	
Earthquake	January 27, 2000	Fremont, N	Magnitude 3.0	
Earthquake	September 26, 2010	Canterbury, NH	Magnitude 3.2	
Earthquake	October 16, 2012	Hollis Center, ME	Magnitude 4.7; felt in the Jurisdiction , but no damage was reported.	
Earthquake	February 15, 2018	East Kingston, NH	Magnitude 2.7	
Earthquake	February 4, 2022	Gorham, NH	Magnitude 2.9	
Earthquake	April 25, 2023	Center Sandwich	Magnitude 2.9	
Earthquake	May 31, 2023	Andover, NH	Magnitude 2.2	
Earthquake	December 23, 2023	Chichester, NH	Magnitude 2.7	
Earthquake	January 3, 2024	Loudon, NH	Magnitude 2.0	
Earthquake	March 28, 2024	Gilford, NH	Magnitude 2.2	
Earthquake	June 18, 2024	Haverhill, NH	Magnitude 2.6	
Earthquake	January 25, 2025	Portsmouth, NH	Magnitude 3.8; felt in the Jurisdiction, but no damage was reported.	

F. Drought: Drought is generally not as damaging or disruptive as floods and other hazards and is more challenging to define. A drought is a natural hazard that evolves over months or even years and can last as long as several years or as short as a few months. According to the NH State Hazard Mitigation Plan, New Hampshire has a low probability, severity, and overall risk for drought. Droughts have the potential to impact the Community townwide. Since the 2022 drought, no significant droughts have occurred in Bartlett and Hart's Location.

A summary of drought in the State and region

Drought	1775, 1840, 1882, 1910's, 1929-1936, 1939-1944, 1947-1950, 1960-1969, 1999; 2001-2002, 2016-2017, 2020-2021, 2022	Occurrences of severe droughts in recorded New Hampshire history.	State of NH Multi-Hazard Mitigation Plan, Update 2023
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A summary of drought in the Community since 1929

Drought	1929-1936	Statewide	Regional	State of NH Multi-Hazard Mitigation Plan, Update 2023, 2018 HMPT & 2026 HMPT
Drought	1939-1944	Statewide	Severe in the southeast and moderate elsewhere	
Drought	1947-1950	Statewide	Moderate	
Drought	1960-1969	Statewide	The lengthiest recorded regional continuous spell of less-than-average precipitation	
Drought	2001-2002	Statewide	The third-worst drought on record	
Drought	2016-2017	Statewide	A declared drought for the summers of 2016 and 2017, moderating from extreme in southern New Hampshire to dry in the northern communities. Hart's Location reported the loss of several dug wells; however, Bartlett did not.	
Drought	2020-2021	Statewide	A declared drought for 2020-2021, with NH's north country being impacted more than the southern communities. Bartlett and Hart's Location did not report any loss of wells or water for fire suppression.	

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Type of Event	Date of Event	Location	Description	Source
Drought	2022	Statewide	A declared drought in the summer and fall of 2022 waned as fall and winter approached, and after several periods of rain. This drought moderated from south to north. Significant drought conditions had nearly abated by January 2023. Bartlett and Hart's Location did not report any loss of wells or water for fire suppression.	State of NH Multi-Hazard Mitigation Plan, Update 2023, 2018 HMPT & 2026 HMPT
Drought	2024	Statewide	A declared drought in the summer and fall of 2024 waned as fall and winter approached, and after several periods of rain. This drought moderated from south to north. Bartlett and Hart's Location did not report any loss of wells or water for fire suppression.	
Drought	2025-2026	Statewide	A declared drought in the summer and fall of 2025 that continued into 2026. Dry conditions were prevalent in Bartlett and Hart's Location , but there was no report of any loss of wells or water for fire suppression.	
<p>G. Miscellaneous Past or Potential Hazards: Natural, technological, and human-caused hazards and other unusual hazardous events have been noted throughout New Hampshire and can impact the Community townwide. One concern is transporting hazardous material through communities by rail and tractor-trailer. Since COVID-19 ended in May of 2023, no significant miscellaneous hazards have occurred in Bartlett and Hart's Location.</p>				
Landslides	1826	Hart's Location	A landslide on Mount Willey destroyed the Willey House, killing seven people (the total population of Hart's Location at that time).	2012 HMPT & 2026 HMPT
Conflagration	1896	Bartlett Village	Half of Bartlett burned down. The Town was made up of cluster housing from the logging industry and the railroad; the cause of the fire is unknown.	2012 HMPT & 2026 HMPT
Landslides	1937	Bartlett	A landside on West Side Road at Humphrey's Ledge took out buildings and resulted in a single fatality.	2012 HMPT & 2026 HMPT
High Wind Event	Late 1979	Bartlett & Hart's Location	Powerful winds leveled the forests in Bartlett and Hart's Location .	2012 HMPT & 2026 HMPT
Terrorism & Violence	2006	Bartlett	The manager of the Moose Tracks Restaurant in Bartlett intentionally set the building on fire. The cook was found dead inside.	2012 HMPT & 2026 HMPT
Infectious Disease	January 2020-May 11, 2023	All Ten NH Counties	Major Disaster Declaration, DR-4516: The Federal Emergency Management Agency ("FEMA") within the US Department of Homeland Security is giving public notice of its intent to assist the State of New Hampshire, local and tribal governments, and specific private nonprofit organizations under the major disaster declaration issued by the President on April 3, 2020, as a result of the Coronavirus Disease 2019 ("COVID-19").	FEMA & 2026 HMPT
Infectious Disease	January 2020-May 11, 2023	All Ten NH Counties	Emergency Declaration EM-3445: Ten-county declaration to provide individual assistance and public assistance as a result of the impact of COVID-19	FEMA & 2026 HMPT
Solar Storms & Space Weather	May 3-9, 2024	Statewide	NASA's Solar Dynamics Observatory observed 82 solar flares from May 3-9, 2024. These flares caused minor utility and emergency service interruptions throughout the State and the region. Bartlett and Hart's Location did not experience communications issues.	NASA & 2026 HMPT

Type of Event	Date of Event	Location	Description	Source
H. Other Hazards: Identified hazards with no specific example of occurrence.				
Natural Hazards			<p>Although the Team did not identify specific examples or past occurrences of these hazards, it felt worthwhile to list them as potential hazards to the Town. These hazards can potentially impact the Community either locally or townwide.</p> <p>See <i>Table 3.1, Hazard Threat Analysis</i>, and Chapter 5 for more details on these hazards.</p>	
Lightning				
Dam Failure				
Avalanche				
Technological & Human-caused Hazards				
Transport Accidents				
Hazardous Materials				
Mass Casualty Incidents				
Cyber Events				
Known & Emerging Contaminants				
Aging Infrastructure				

Chapter 4: Critical Infrastructure & Key Resources (CIKR)

Team discussion and brainstorming identified Critical Infrastructure & Key Resources (CIKR) within Bartlett & Hart's Location. The Hazard Risk rating was based on a scale of 1-3, with 1 indicating little or no risk.

TABLE 4.1 - EMERGENCY RESPONSE FACILITIES (ERFs) & EVACUATION

Emergency Response Facilities (ERF)				
ERFs are primary facilities and resources that may be immediately needed during an emergency response.				
Town	Facility	Expected Use of the Facility	Hazard Risk	
Bartlett	Glen Fire House	Fire services & primary EOC	All Hazards & Inland Flooding	1
Bartlett	Josiah Bartlett Elementary School	School & primary shelter	All Hazards & Inland Flooding	1
Bartlett	Bartlett-Jackson Ambulance Service	EMS & medical transportation	All Hazards	1
Bartlett	Bartlett Police Department	Law enforcement services	All Hazards	1
Bartlett	Bartlett Village Fire Station	Fire services & secondary EOC	All Hazards	1
Bartlett	Bartlett Highway Department	Heavy equipment, fuel, sand & gravel	All Hazards	1
Bartlett	NH Department of Transportation	Heavy equipment, diesel, sand & gravel	All Hazards	1
Bartlett	Bartlett Town Hall	Town government & records	All Hazards	1
Bartlett	Lower Bartlett Water Precinct	Water storage & supply	All Hazards	1
Bartlett	Bartlett Village Precinct	Water storage & supply	All Hazards & Transport Accidents	1
Bartlett	USDA-Forest Service	Fire services	All Hazards & Wildfire	1
Hart's Location	Town Hall	Town government & records	All Hazards & Wildfire	2
Hart's Location	Notchland Inn	Primary EOC & primary shelter	All Hazards & Wildfire	2
Ossipee	Carroll County Sheriff	Dispatch	All Hazards	1
Conway	Memorial Hospital	Hospital	All Hazards	1
Conway	North Conway Water Precinct	Water Supply	All Hazards	1
Jackson	Link on top of Tyrol	Communication	All Hazards, Severe Winter Weather, High Wind Events & Lightning	1
Helicopter Landing Zones				
Bartlett	Davis Path Parking Lot	Heli-landing Zone	All Hazards	1
Bartlett	Josiah Bartlett Elementary School Field	Heli-landing Zone	All Hazards	1
Bartlett	Hodgekin's Park	Heli-landing Zone	All Hazards	1
Bartlett	Black Fly Ball Field	Heli-landing Zone	All Hazards	1
Bartlett	Story Land Parking Lot	Heli-landing Zone	All Hazards	1
Bartlett	Fields at Attitash	Heli-landing Zone	All Hazards & Inland Flooding	1

Emergency Response Facilities (ERF)				
ERFs are primary facilities and resources that may be immediately needed during an emergency response.				
Town	Facility	Expected Use of the Facility	Hazard Risk	
Bartlett	Bear Peak Parking Lot	Heli-landing Zone	All Hazards	1
Bartlett	Field at Cobb Farm Road	Heli-landing Zone	All Hazards	1
Hart's Location	Entrance to Crawford Notch State Park	Heli-landing Zone	All Hazards	1
Hart's Location	Arethusa Falls Parking Lot	Heli-landing Zone	All Hazards	1
Evacuation Routes & Bridges				
Bartlett & Hart's Location	US Route 302		All Hazards, Inland Flooding & Transport Accidents	2
Bartlett & Hart's Location	Conway Scenic Railroad		All Hazards & Wildfire	1
Bartlett	NH Route 16		All Hazards, Inland Flooding & Transport Accidents	2
Bartlett	NH Route 16A		All Hazards, Inland Flooding & Transport Accidents	1
Bartlett	West Side Road		All Hazards, Inland Flooding & Transport Accidents	1
Bartlett	Jericho Road (Rocky) to Glen Ledge Road		All Hazards & Inland Flooding	2
Bartlett	Thorn Hill Road		All Hazards	1
Bartlett	Bear Notch Road (seasonal)		All Hazards	1
Active Dams				
Bartlett	Goodrich Falls Dam	Low Hazard Dam	All Hazards	1
Bartlett	North Conway Reservoir	Non-menace Dam	All Hazards	1
Bartlett	Fire Protection Pond (1)	Non-menace Dam	All Hazards	1
Bartlett	Fire Protection Pond (2)	Non-menace Dam	All Hazards	1
Bartlett	McKiels Pond	Non-menace Dam	All Hazards	1
Bartlett	Fire Protection Pond (3)	Non-menace Dam	All Hazards	1
Bartlett	Kittredge Pond	Non-menace Dam	All Hazards	1
Bartlett	Kalil Dam	Non-menace Dam	All Hazards	1
Bartlett	Drew Recreation Pond	Non-menace Dam	All Hazards	1
Bartlett	Summit Hotel Detention Pond 1	Non-menace Dam	All Hazards	1
Hart's Location	Willey House Dam	Non-menace Dam	All Hazards	1
DES lists fourteen additional dams in Bartlett. These dams are inactive and classified as either exempt, ruins, or not built.				

TABLE 4.2 – NON-EMERGENCY RESPONSE FACILITIES (NERFs)

Non-Emergency Response Facilities (NERF)				
NERFs are facilities that, although critical, are not necessary for immediate emergency response efforts; this includes facilities to protect public health and safety, utilities, and provide backup to emergency facilities.				
Town	Facility	Expected Use of the Facility	Hazard Risk	
Bartlett	Grand Summit Hotel	Secondary Shelter	All Hazards	1
Bartlett	Linderhof Cell Tower	Communications	All Hazards & High Wind Events	1
Bartlett	Peg Mill Cell tower	Communications	All Hazards	1
Bartlett	Alpendorf Cell Tower	Communications	All Hazards	1
Bartlett	Attitash Cell Tower (summit)	Communications	All Hazards & High Wind Events	1
Bartlett	D Repeater-Top of Attitash	Communications	All Hazards, High Wind Events & Lightning	1
Bartlett	GE Brown Cell Tower	Communication	All Hazards	1
Bartlett	NH Electric Cooperative-Intervale	Substation-Electric Power	All Hazards	1
Bartlett	NH Electric Cooperative-Glen	Substation-Electric Power	All Hazards	1
Bartlett	NH Electric Cooperative-Bartlett Village	Substation-Electric Power	All Hazards	1
Bartlett	Goodrich Falls Dam	Substation-Electric Power	All Hazards	1
Jackson	Black Mountain	Communications	All Hazards & High Wind Events	1

Note on Hart's Location: There is no cell tower in Hart's Location, and no service for a 10-mile stretch of Route 302

TABLE 4.3 – FACILITIES & POPULATIONS TO PROTECT (FPPs)

Facilities & People to Protect (FPP)A71:E106A71:E103A71:E101A70A71:A71:E84				
FPPs are facilities that need protection due to their importance to the Town and residents who may need help during a hazard event.				
Town	Facility	Expected Use of the Facility	Hazard Risk	
Bartlett	Attitash Ski Area	Gathering of people	All Hazards & Wildfire	1
Bartlett	Story Land	Gathering of people	All Hazards, Wildfire & Transport Accidents	1
Bartlett	Green Meadow Campground	Gathering of people	All Hazards, Wildfire & Transport Accidents	1
Bartlett	Jellystone Campground	Gathering of people	All Hazards & Inland Flooding	3
Bartlett	Theatre in the Woods	Gathering of people	All Hazards	1
Bartlett	Josiah Bartlett Elementary School	School	All Hazards	1
Hart's Location	Willey Historic Site	Gathering of people & historic	All Hazards, Inland Flooding, Wildfire, Landslides & Transport Accidents	3
Hart's Location	Crawford Notch Campground	Gathering of people	All Hazards, Inland Flooding & Wildfire	3
Hart's Location	USDA-NF Campground @ 4th Iron & Sawyer River	Gathering of people	All Hazards, Inland Flooding & Wildfire	2
Hart's Location	State-NF Dry River Campground	Gathering of people	All Hazards, Inland Flooding & Wildfire	2
Hart's Location	Notchland Inn	Lodging (32-35 person occupancy)	All Hazards & Wildfire	1

TABLE 4.4 – POTENTIAL RESOURCES (PRs)

Potential Resources (PRs)				
PRs are potential resources that could be helpful for emergency response in the case of a hazard event.				
Town	Facility	Expected Use of the Facility	Hazard Risk	
Bartlett	Grant's Store	Food supply	All Hazards	1
Bartlett	Jackson Food Pantry	Food supply	All Hazards	1
Bartlett	Patch's Market	Food supply & fuel	All Hazards	1
Bartlett	Glen Ledge Corner Store	Food supply & fuel	All Hazards	1
Bartlett	Circle K (Irving)	Food supply & fuel	All Hazards	1
Bartlett	Glen Sand & Gravel	Heavy equipment & gravel	All Hazards	1
Bartlett	LA Drew	Heavy equipment & gravel	All Hazards	1
Bartlett	Lucy Lumber	Lumber, hardware & equipment rental	All Hazards	1
Bartlett	Northern Extremes Snowmobile Rental	Transport assistance & OHRVs	All Hazards	1
Bartlett	Attitash Ski Area	Transportation assistance & OHRVs	All Hazards & Wildfire	1
Bartlett	Josiah Bartlett Elementary School	Food supply, storage & prep	All Hazards	1
Bartlett	Veterans of Foreign Wars Post	Possible shelter & human resources	All Hazards & Inland Flooding	1
Bartlett	Bart's Deli	Food & water supply	All Hazards	1
Hart's Location	Crawford Notch General Store (seasonal)	Food & water supply	All Hazards, Inland Flooding & Wildfire	3
Bartlett & Hart's Location	Ham Radio Operators	Communications		
Conway	WMWV, 93.5 FM	Public information & emergency announcements		
Jackson	NHPR, 99.5 FM	Public information & emergency announcements		
Conway	WPKQ, 103.7 FM	Public information & emergency announcements		
Jackson	WJSK, 101.1 FM	Public information & emergency announcements		
Conway	PA-TV Channel 3	Public information & emergency announcements		
Manchester	WMUR-TV Channel 9	Public information & emergency announcements		
Portland, ME	WMTW-TV Channel 8	Public information & emergency announcements		
North Conway	Furber & White	Funeral Home		
Carroll County	Carroll County HazMat Team	Hazardous materials (HazMat) response		
Concord	NH State Police Bomb Squad	Bomb diffusion		
Concord	NH State Police SWAT Team	SWAT		
State Wide	American Red Cross	Shelter & health assistance		
Regional	Mount Washington Valley Mutual Aid	Emergency response mutual aid		
For additional resources, please refer to the Town's Emergency Operations Plan (EOP)				

Chapter 5: Hazard Effects in Bartlett & Hart's Location

A. IDENTIFYING VULNERABLE CRITICAL INFRASTRUCTURE & KEY RESOURCES (CIKR)

Identifying the Critical Infrastructure & Key Resources (CIKR) that are most likely to be damaged in inland flooding events is important, as inland flooding is the most significant hazard in New Hampshire. Identifying the CIKR with a wildfire risk is also important, as the Jurisdiction is heavily forested.

Overall Flood Risk

All CIKRs in Bartlett & Hart's Location were identified in GIS; this list was then narrowed to those CIKRs that were located in the FEMA floodplain. Fifteen CIKRs were found in the FEMA flood zone, including eleven bridges on the evacuation route and one helicopter landing zone (see chart to the right). Patch's Market and Bart's Deli are on the very edge of the floodplain and are less likely to be affected by flooding. On the other hand, Glen Ellis Campground has seen repeated flooding and will most likely see flooding again in the future. Officials of the Town of Bartlett and the owners of the campground are aware of the flood risk in this area and strive to protect campers, visitors, staff, and structures on site from the ill effects of flooding. No other CIKRs were found to be in the designated FEMA floodplain, although it is expected that many non-CIKR structures are within the FEMA floodplain.

ID	ALL_HAZA	NAME	TOWN	Hazmit_Type
19	ERFH	Fields of Attitash	Bartlett	Emergency Heli Landing Zone
45	PR	Patches Market	Bartlett	Fuel & Food Supply
37	FPP	Glen Ellis Campground	Bartlett	Gathering Place & Tourists
54	PR	Bart's Deli	Bartlett	Food, water
56	ERFB	US Route 302-Evac Bridge	Bartlett	Evac Bridge
56	ERFB	US Route 302-Evac Bridge	Bartlett	Evac Bridge
56	ERFB	US Route 302-Evac Bridge	Bartlett	Evac Bridge
56	ERFB	US Route 302-Evac Bridge	Bartlett	Evac Bridge
56	ERFB	US Route 302-Evac Bridge	Bartlett	Evac Bridge
57	ERFB	NH Route 16-Evac Bridge	Bartlett	Evac Bridge
58	ERFB	Conway Scenic-Bridge	Harts	Evac Bridge
58	ERFB	Conway Scenic-Bridge	Harts	Evac Bridge
58	ERFB	Conway Scenic-Bridge	Bartlett	Evac Bridge
58	ERFB	Conway Scenic-Bridge	Bartlett	Evac Bridge
58	ERFB	Conway Scenic-Bridge	Bartlett	Evac Bridge

In addition, the Jurisdiction's CIKRs were identified and listed in Chapter 4; each CIKR was analyzed for its flooding potential on a scale of 1-3, with three indicating a higher susceptibility. Those CIKRs ranked as a two or three include: US Route 302 (Jurisdiction), in Bartlett, Route 16, Jericho Road, Jellystone Campground, and in Hart's Location, the Willey Historic Site, Crawford Notch Campground, the 4th Iron Campground (USDA-NF), the Dry River Campground (USDA-NF), and the Crawford Notch General Store. Please refer to Chapter 4, Tables 4.1-4.4 for more information.

All other CIKRs are outside the floodplain; however, it is expected that there may be many structures and homes within the flood zone. Town officials should consider all at-risk properties when a flood hazard is likely.

Overall Wildfire Risk

CIKRs falling within the Wildland Urban Interface (WUI) were reviewed using the same methodology as flooding. Identifying these facilities helped the Team create and prioritize wildfire mitigation action items.

Traditionally, the WUI is determined using GIS analysis to create a 300' buffer from the centerline of all Class V roads and an additional 1,320' buffer from the first buffer. This area is where the urban environment interfaces with the wildland environment and is the most prone to wildfire risk. The traditional WUI was initially developed to identify human-interface areas that may exceed the typical length of fire hoses. In some rural communities, this would virtually cover the entire town. A different method to determine the WUI in exurban and suburban communities includes identifying developments, streets, roads with limited egress, a high canopy of old-growth softwoods, or older wooden structures.

Many structures were found to be in the traditional WUI; however, only 14 CIKR were found in the WUI, as seen in the chart to the right. An analysis of these CIKR reveals the importance of these facilities and the need to ensure defensible space wherever possible. Many of these CIKR are expected to be in the WUI, such as campgrounds and bridges on the Conway Scenic Railroad; however, others, such as

MAPS_Structures			
ID	ALL	NAME	Hazmit_Type
7	ERF	NH Department of Transportatin	Emergency Assistance
14	ERF	Notchland Inn (if no power at Town Hall)	Hart's Location-Secondary EOC
18	ERFH	Story Land Parking Lot	Emergency Heli Landing Zone
19	ERFH	Fields of Attitash	Emergency Heli Landing Zone
25	NERF	Grand Summit Hotel	Bartlett-Secondary Shelter
36	FPP	Green Meadow Campground	Gathering Place & Tourists
37	FPP	Glen Ellis Campground	Gathering Place & Tourists
41	FPP	USDA-NF Campground @ 4th Iron & Sawyer River	Gathering Place-Tent & Shelters
42	FPP	USDA-NF Dry River Campground	Gathering Place-Tourists
48	PR	Glen Sand & Gravel	Gravel & Heavy Equipment
58	ERFB	Conway Scenic-Bridge	Evac Bridge
58	ERFB	Conway Scenic-Bridge	Evac Bridge
58	ERFB	Conway Scenic-Bridge	Evac Bridge
58	ERFB	Conway Scenic-Bridge	Evac Bridge

Notchland Inn in Hart’s Location and the Grand Summit Hotel in Bartlett, should be closely monitored if a wildfire threatens the area. The rest of the Town’s Critical Infrastructure & Key Resources were found to be within the 300-foot WUI buffer, therefore accessible by fire apparatus and hoses.

Several facilities were noted in Tables 4-1-4.4 with a higher susceptibility to wildfires. In Bartlett, these CIKR include: the USDA Fire Services Facility, the Attitash Ski Area, Story Land, the Green Meadow Campground and in Hart’s Location, these include the Notchland Inn, the Willey Historic Site, the Crawford Notch Campground, the 4th Iron Campground, the Dry River Campground, and the Crawford Notch General Store. It was also noted that sparks from the Conway Scenic Railroad (see image below) could cause wildfires.

Many additional structures in the Jurisdiction are expected to be prone to wildfires, particularly in neighborhoods with limited egress and a canopy of old-growth trees or where forests surround structures. Because Bartlett & Hart’s Location is heavily populated, it can be assumed that nearly every structure in the Jurisdiction is within the Wildland Urban Interface. Mitigation strategies were discussed to protect structures and educate the citizens about the wildfire risk.



Conway Scenic Railroad

B. CALCULATING THE POTENTIAL LOSS

It is difficult to ascertain the dollar amount of damage caused by hazards because the damage will depend on the hazard’s extent and severity, making each hazard event somewhat unique. Therefore, we have assumed that hazards could damage 0-1% or 1-5% of the Town’s structures. Structure damage depends on the nature of the hazard and whether the impact is localized.

MS1-2024, Assessed Building Values - Bartlett			
Building types	Value	1% Damage	5% Damage
<i>Residential</i>	\$1,484,505,300	\$14,845,053	\$74,225,265
<i>Manufactured Housing</i>	\$4,341,000	\$43,410	\$217,050
<i>Commercial</i>	\$114,930,300	\$1,149,303	\$5,746,515
<i>Tax Exempt</i>	\$16,680,100	\$166,801	\$834,005
<i>Utilities</i>	\$18,400,000	\$184,000	\$920,000
<i>Totals</i>	\$1,638,856,700	\$16,388,567	\$81,942,835

This Plan assumes that the potential loss in Bartlett from the identified natural hazards would range from **\$0 to \$16,388,567** or **\$16,388,567 to \$81,942,835**, based on the 2024 MS1 total structure value of **\$1,638,856,700** (See chart to the right (Bartlett)).

MS1-2024, Assessed Building Values – Hart’s Location			
Building types	Value	1% Damage	5% Damage
<i>Residential</i>	\$11,807,700	\$118,077	\$590,385
<i>Manufactured Housing</i>	\$0	\$0	\$0
<i>Commercial</i>	\$2,183,400	\$21,834	\$109,170
<i>Tax Exempt</i>	\$565,900	\$5,659	\$28,295
<i>Utilities</i>	\$744,100	\$7,441	\$37,205
<i>Totals</i>	\$15,301,100	\$153,011	\$765,055

This Plan assumes that the potential loss in Hart’s Location from the identified natural hazards would range from **\$0 to \$153,011** or **\$153,011 to \$765,055**, based on the 2024 MS1 total structure value of **\$15,301,100** (See chart above (Hart’s Location)).

Human loss of life was not included in the potential loss estimates but could be expected to occur depending on the hazard's severity and type. Although descriptions are given for technological and human-caused hazards, no potential loss estimates for these hazards are provided in this Plan.

C. NATURAL HAZARDS

The descriptions below represent the **local impact** on the Community of the hazards identified by the Team. The **extent** of these hazards is shown in *Appendix C, The Extent of Hazards*. Charts such as the Saffir-Simpson Hurricane Wind Scale, the Beaufort Wind Scale, the National Weather Service Heat Index, the Sperry-Piltz Ice Accumulation Index, and the Enhanced Fujita Scale for tornadoes are included in Appendix C.

The “Hazard Identification & Risk Assessment (HIRA)” and the “Probability” noted for each hazard below are taken from the analysis done in *Table 3.1, Hazard Identification & Risk Assessment (HIRA)*. The estimated loss is determined using the methodology and table, as explained in Section B of this chapter. The natural hazards identified in this Plan are listed in Section C; the ranking of the hazards for each town in the Jurisdiction is taken from Table 3.1.

Table 3.1, The Hazard Identification & Risk Assessment (HIRA), is used to evaluate the probability and the potential impact of all hazards.

INLAND FLOODING

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	1	Very High	Very High	\$16,388,567 to \$81,942,835
Hart’s Location	1	Very High	Very High	\$153,011 to \$765,055

100-Year Flood Events, Riverine Flooding & Local Road Flooding

Riverine flooding and 100-year flood events can occur due to hurricanes, tropical and post-tropical cyclones, and heavy summer and fall rains. Local road flooding is often the result of rapid snowmelt and heavy spring or autumn rain events. Heavy rain from tropical downpours, hurricanes, severe thunderstorms, and rapid snowmelt often cause culverts to be overwhelmed and roads to wash out. If conducted improperly, timber harvesting, undersized or aging culverts, and inadequate ditching are possible causes of local road flooding.

Based on the Carroll County Floodplain Map, Bartlett has a significant 100-year floodplain and many structures within the **100-year flood zone**. Hart’s Location, on the other hand, has a very small floodplain in the southernmost part of the community near the Bartlett town line. Aerial imagery and GIS show two structures in the Hart’s Location 100-year floodplain and one structure in the 200-year floodplain. It should be noted that there are other structures along the Saco River in both Bartlett and Hart’s Location that could be threatened by flooding, although they are not on the FEMA floodplain map.

Due to Bartlett’s significant floodplain and heavy rains in the mountains that inundate the Saco River and its tributaries, 100-year flood events are common in Bartlett and Hart’s Location. There have been significant inland flooding events since the prior hazard mitigation plan, including in December 2022 (DR-4693), December 2023 (DR-4761), and January 2024 (DR-4771). Please refer to Table 3.2 for more details and how these storms and others have impacted Bartlett and Hart’s Location.

Riverine flooding and 100-year flood events can occur due to hurricanes, tropical and post-tropical cyclones, and heavy summer and fall rains. Nearly every spring, ice jams, rapid snowmelt, and heavy rain cause the flooding of the Saco River and other smaller rivers such as the Ellis River, Rocky Branch in Bartlett, and the Sawyer River and Dry River in Hart’s Location. With the right combination of conditions, the effects of flooding, particularly along the Saco, could be and have been significant.

Riverine flooding that affected the Jurisdiction during Tropical Storm Irene and again on July 1 and October 30, 2017, occurred in many of the same locations. These three storm events produced large amounts of rainfall on the high peaks of the White Mountains, which quickly found its way down the Saco and its tributaries. The Glen Ellis campground, US Route 302, and several homes were impacted in all three storms. During the October 2017 storm, the Bartlett Emergency Management Director (EMD) opened the Emergency Operations Center and the shelter to accommodate residents who were advised to evacuate. The EMD felt that this storm had an even bigger impact on the community than Tropical Storm Irene; 25 homes had flood damage, and at least three near Glen Junction were significantly damaged. In Hart’s Location, US Route 302 was heavily damaged and required closure and repair.

Local road flooding is often the result of rapid snowmelt and heavy spring or autumn rain events. Heavy rain from tropical downpours, hurricanes, severe thunderstorms, and rapid snowmelt often cause culverts to be overwhelmed and roads to wash out. If conducted improperly, timber harvesting, undersized or aging culverts, and inadequate ditching are possible causes of local road flooding.

While staying within its budget, the Bartlett Highway Department has been proactive in the maintenance and repairs of culverts, reducing the incidence of local road erosion and washouts. The Bartlett Highway Department cares for more than 58 miles of Class V roadways, 98% which are paved, and many culverts. The Hart’s Location Road Agent cares for a one-mile gravel road and one culvert.

The State maintains several major arteries, including NH Route 16 and US Route 302. Nonetheless, significant rain, particularly if combined with rapid snow melt, can cause considerable damage to Bartlett and Hart’s Location’s local roads.

The expected loss value from inland flooding would be based on the cost of repairing roadways and the potential cost of damage to structures. Flooding can be severe enough to take out utilities and create areas that become inaccessible to emergency responders. The economic impact on the Jurisdiction, the loss of accessibility, and the time and cost of road repair also factor into the estimated loss value. Therefore, the estimated loss value was determined to be between 1% and 5% of the total structure value.

SEVERE WINTER WEATHER

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	2	High	Very High	\$16,388,567 to \$81,942,835
Hart’s Location	3	Medium	Very High	\$153,011 to \$765,055

Snowstorms, Blizzards & Nor’easters

Heavy snowstorms typically occur from December through April. New England usually experiences at least one or two heavy snowstorms with varying severity each year. Power outages, extreme cold, and impacts on infrastructure are all effects of past winter storms felt in the Jurisdiction. These impacts are a risk to the citizens of the Jurisdiction, including isolation, especially to senior citizens and other vulnerable populations. In addition, the ability to get in and out of town and emergency service access can be hindered.



Damage caused by severe winter snowstorms varies according to wind velocity, snow accumulation, duration, and moisture content. Seasonal accumulation can also be as significant as an individual snowstorm. Heavy overall winter accumulations can impact the roof load of some buildings. Significant snowstorms, nor’easters, and blizzards could diminish food supplies within two days.

Poor weather conditions often impact the Jurisdiction’s roads, particularly US Route 302 and NH Route 16, and this, combined with steep terrain, can make travel difficult. The topography of Bartlett and Hart’s Location, with large mountains, river valleys, and open farmland, makes winter weather conditions much more threatening. US Route 302 through Crawford Notch in Hart’s Location is dangerous even in good weather; adding snow and ice to this section of the road potentially makes driving through the Notch treacherous. Heavy snow can also cause heart attacks due to overwork from shoveling and carbon monoxide issues within homes.

Severe winter snowstorms or blizzards can temporarily shut all of Bartlett and Hart’s Location’s roads down, thus preventing many of the town’s citizens from going to work and visitors from arriving. In New England, most road crews can handle 2-3’ snowstorms with a little time on their side, and fortunately, the State is responsible for the

Jurisdiction’s two major routes (NH 16 and US 302). As shown in Table 3.2, snowstorms and nor’easters have struck Bartlett and Hart’s Location in the past. Since the last hazard mitigation plan, the Bartlett Highway Department and the Hart’s Location Road Agent have kept up with the accumulation.

Ice Storms

Ice storms are more concerning than 2-4’ snowstorms, though the probability of a significant ice storm is lower than a significant snowstorm. An ice storm can inflict several million dollars of damage on forests and structures. Unlike typical snowstorms, which are generally handled well by local highway departments, ice storms present significant problems. Downed power lines and fallen trees make it difficult for the highway crew and emergency responders. School buses are also at risk.

The 1998 Ice Storm had a significant impact on Bartlett and Hart’s Location, as it did in many other northern New Hampshire communities. This ice storm downed trees, closed roads, and caused power and phone outages for many in northern New Hampshire, particularly at elevations greater than 1,000’. It was reported that some residents in the Jurisdiction were without power for as many as ten days. In Bartlett and Hart’s Location, no significant damage occurred during the 1979, 2008, or 2010 ice storms.

Future ice storms in Bartlett and Hart’s Location could be expected to cause damage ranging from a few thousand dollars to several million, depending on the severity of the storm. Since the last hazard mitigation plan, no damaging or debilitating winter storm events have occurred in Bartlett or Hart’s Location. However, due to the widespread nature of severe winter weather, particularly from ice storms, the potential loss value is estimated to be between 1% and 5% of the total assessed value of all structures in town.

WILDFIRE

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	3	High	High	\$16,388,567 to \$81,942,835
Hart’s Location	2	High	High	\$153,011 to \$765,055



There are two potential losses with a wildfire: the loss of forest land and the threat to the built-up human environment and structures within the Wildland Urban Interface (WUI). In many cases, the only time it is feasible for a community to control a forest fire is when the built-up human environment is threatened.

Any wildfire discussion must include a Wildland Urban Interface (WUI) discussion. The WUI can be determined in various ways; however, it represents the area where the forest and human habitation intersect. At times, the WUI is defined as the area out of reach of available fire hoses and water resources, while other times, it is determined to be areas with substantial tree cover and limited egress. For many New Hampshire communities, entire towns are thought to be in the WUI because of the abundance of hardwood and softwood trees. In more populated areas, the WUI is often determined to be in densely populated neighborhoods where a towering canopy of old-growth trees and limited access make people and structures more vulnerable. All structures within the WUI are assumed to be at some level of risk and, therefore, vulnerable to wildfire. See Section A in this chapter for more discussion on the WUI in Bartlett & Hart’s Location.

The Team described the forests of the Jurisdiction as consisting primarily of mixed forests. Some fires are “duff” fires, the burning of *“the layer of decomposing organic materials lying below the litter layer of freshly fallen twigs, needles, and leaves and immediately above the mineral soil.”*¹⁷ However, drought no longer has a low probability in New Hampshire, and more are likely to be surface fires. Burn permits are required in Bartlett & Hart’s Location, as they are throughout the State, but often, burning occurs without the proper permits. Sometimes, it is difficult for the Bartlett Fire Department to monitor all conditions within the Jurisdiction, and the occasional unauthorized burn will occur.

Due to the abundance of slash on the forest floor left by past ice storms and blowdowns, and the mixture of hardwood and softwood trees throughout the Jurisdiction, there is potential for fast-burning fuels, and a wildfire could potentially occur. Also, outdoor enthusiasts' recreational use of trails creates additional risks. To help mitigate the effects of wildfire, the Bartlett Fire Department strives to improve and maintain firefighting equipment, maintain water resources, and manage a Capital Reserve Fund to help pay costs for new equipment.

Significant wildfires in New Hampshire are common; six large fires have occurred in the State since 2015. These include the Bemis Fire in Crawford Notch (Bartlett responded), the Dilly Cliff Fire in Woodstock, the Covered Bridge Fire in Albany, the Bayle Mountain Fire in Ossipee, the Centennial Fire in Shelburne, and the Stoddard Fire in Stoddard. The Bemis Fire in Crawford Notch had a significant financial impact on Hart’s Location; this fire was fought by state and local fire responders and was managed through a Unified Command Team.

Given the right conditions - drought, lightning, human interface - the potential for a significant wildfire is high. The impact of climate change on drought could also play a role in predicting wildfires. Therefore, the potential loss value was estimated to be between 1% and 5% of the total assessed structure value.

EXTREME TEMPERATURES

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	4	Medium	Very High	Not Estimated
Hart’s Location	7	Medium	High	Not Estimated

Extreme Cold & Heat



Winter temperatures in Bartlett & Hart’s Location can fall below -30°F, and summer temperatures, laden with high humidity, can soar to nearly 100°F. There was more concern about cold temperatures in the past, but with improved heating systems and local communications, most New Hampshire residents can cope with extreme cold. Many New Hampshire residents have also equipped their homes with generators and woodstoves. Many cities and towns offer warming centers or have established a functional needs list to check vulnerable citizens.

More concerning today is extreme heat conditions, which seem to be more likely with climate change; temperatures above 95°F° for a week or more can impact the elderly and other vulnerable populations. Few residents, particularly vulnerable populations, have air conditioners and are less able to cope with extreme heat. The estimated elderly population in Bartlett is 34.9%, and in Hart’s Location it is 51.0%. There is no census-reported poverty in Hart’s

¹⁷ https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fswdev3_009827.pdf

Location, but the estimated poverty rate is 7.3% in Bartlett¹⁸. No deaths or illnesses due to cold or heat have been reported in the Jurisdiction since the prior hazard mitigation plan.

Extreme Temperatures combined with Long-Term Utility Outage



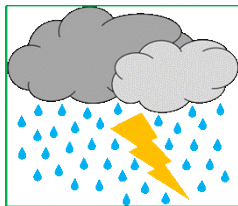
Town officials are concerned during extreme temperatures; they look after their citizens to ensure that extreme temperatures do not create a life or property-threatening disaster. When combined with power failure, extreme temperatures are of the most concern; power failure could result in no water, heat, or air conditioning for the Jurisdiction’s most vulnerable populations.

The Towns provide warnings and recommendations regarding extreme temperatures on their webpages and other social media platforms. The Josiah Bartlett Elementary School and Notchland Inn are designated as “cooling or warming centers ” in Bartlett and Hart’s Location, respectively.

The cost of extreme temperatures is difficult to calculate as it is not based on the loss of structures. The expected loss value would be primarily on the economic impact on the Jurisdiction and the time and cost of emergency response. The structure loss value due to extreme temperatures was not estimated based on the assumption that damage would not occur to structures.

LIGHTNING

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	5	Medium	High	\$0 to \$16,388,567
Hart’s Location	4	Medium	High	\$0 to \$153,011



Lightning strikes have occurred in Bartlett & Hart’s Location as a result of severe summer storms. Some of the Jurisdiction’s structures are older and historic buildings, as detailed in Table 4.3. Forests surround other vulnerable structures. Dry timber on the forest floor, some of which remains from past ice or windstorms, along with the age of many buildings and outbuildings, combined with lightning strikes, can pose a significant disaster threat. Lightning could damage specific structures, but the direct damage would not be widespread.

Although lightning is a potential problem, the Jurisdiction reported few occurrences, none of which were severe. In Bartlett, it was reported that lightning struck the Linderhof Resort, a tree at Story Land, and a building at Christmas Mountain; Story Land has subsequently outfitted nearly every building with lightning rods. Team members from Hart’s Location recalled a lightning strike on a cabin in the early 2000s. Tree and brush trimming to reduce the risk has been added as an action item in this Plan.

The Team noted that summer storms are often more damaging than spring snowmelt and that it appears that severe thunder and lightning storms are happening more often with climate change. Lightning is a potential problem, but one who’s affects would be localized. Based on the localized nature of lightning strikes, the potential loss value was determined to be 0-1% of the total assessed structure value.

¹⁸ American Community Survey, 2023 ACS 5-Year Estimate

Hail

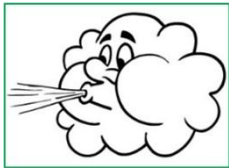
Lightning storms and the accompanying hail could also impact the Jurisdiction. Summer storms may produce hail large enough to damage roofs, siding, and automobiles. Damage from hail could also result in failed crops, thus impacting the local economy and individual citizens. It should be noted that although Bartlett & Hart’s Location are not heavily farmed communities, several small farms could be affected. Overall, it was felt that a hailstorm event would be unlikely and cause minimal damage.

It was noted that severe thunder and lightning storms have been happening more often in recent years. Also concerning are the heavy rains that thunderstorms can produce and the subsequent erosion of ditches and roadways. Based on the localized nature of lightning strikes, the potential loss value was determined to be between 0% and 1% of the total assessed structure value.

HIGH WIND EVENTS

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	6	Medium	High	\$16,388,567 to \$81,942,835
Hart’s Location	8	Low	High	\$153,011 to \$765,055

Isolated High Wind Events



Isolated high winds and downdrafts are likely to occur in Bartlett & Hart’s Location. These unpredictable wind events could fall timber, block roadways, down power lines, and impair emergency response. These unexpected windstorms affect old-growth softwood, especially when the water table is high in the spring. Most of the land cover in the Jurisdiction is forested.

Due to the geographic location of the Jurisdiction and its location in the valley of some of the highest peaks of the White Mountains of New Hampshire, isolated high winds and downdrafts are common occurrences. Wind tends to swoop down the mountainsides, bringing down trees and causing power failures and road closures. The effect of isolated high winds would most likely be localized.

NH Electric Coop, the Barlett Highway Department, and the Hart’s Location Road Agent have aggressively trimmed trees, particularly those near power lines, which could cause damage throughout the community, but the risk still exists.

Tornadoes & Downbursts (microbursts & macrobursts)

The most significant difference between tornadoes and downbursts, also known as microbursts and macrobursts, is the direction, size, and direction from which the wind comes; all winds of these types can cause significant damage.

A tornado generally covers a large area, perhaps even several miles. Its winds blow circularly, leaving behind downed trees in a swirling pattern. Straight-line winds and winds that burst downward indicate a microburst; the fallen trees left behind lay in roughly the same direction. A microburst must be 2.5 miles in width or less, whereas a macroburst is a similar wind event more than 2.5 miles wide and lasting longer than a microburst.



Microbursts are becoming more frequent and often result in damage. Like high winds, the effects would be primarily power outages and blowdowns; however, if a tornado, microburst, or macroburst were severe enough, property damage could also occur. In the Jurisdiction, a microburst would be more likely than a tornado. Since the previous hazard mitigation plan, neither Bartlett nor Hart’s Location has had any reports of downbursts or tornadoes.

Although downbursts are becoming more common, damaging high wind events are rare natural hazards in New Hampshire. Damage from high wind events largely depends on where the hazard strikes. If a high wind event strikes a densely populated or commercial area, the impact could be significant, resulting in personal injury, property damage, and economic hardship. Based on the potential devastation from tornadoes, macrobursts, or microbursts, the potential loss value was estimated to be between 1% and 5% of the total structure value.

INFECTIOUS DISEASE

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	7	Medium	Moderate	Not Estimated
Hart’s Location	6	Medium	Moderate	Not Estimated

“Infectious diseases are disorders caused by organisms — such as bacteria, viruses, fungi or parasites. Many organisms live in and on our bodies. They’re normally harmless or even helpful, but under certain conditions, some organisms may cause disease. Some infectious diseases can be passed from person to person. Some are transmitted by bites from insects or animals. And others are acquired by ingesting contaminated food or water or being exposed to organisms in the environment.”¹⁹

Infectious diseases and epidemics, or pandemics, present a possible threat to Bartlett & Hart’s Location. Bartlett & Hart’s Location is susceptible to an epidemic and subsequent quarantine with worldwide pandemics such as COVID-19, Lyme Disease, SARS, the Zika Virus, H1N1, the Avian Flu, and even the common seasonal flu virus. The United States and the world have been coping with the COVID-19 pandemic for over five years. All non-essential businesses and schools throughout New Hampshire and most of the United States were closed during the pandemic’s early months in the spring of 2020.



The Jurisdiction’s unique geography of mountains, rivers, and lakes provides summer and winter recreation enthusiasts with many opportunities to visit, including Story Land and Attitash Ski Area in Bartlett. This tourist region’s population shows a significant increase throughout the year, with as much as a 600% increase in population during the summer months (see Table 2.1 for Bartlett and Hart’s Location). There is also a particularly high increase in autumn as tourists worldwide visit Bartlett & Hart’s Location’s scenic beauty.

The Jurisdiction’s high school students attend school at Kennett High School, along with students from nine neighboring towns, thus enabling infection and viruses to be transmitted from elsewhere. Churches, meeting houses, and social facilities also invite infectious disease outbreaks. Interactions between students and out-of-town sports teams and clubs can also bring infectious diseases.

¹⁹ Infectious diseases, Overview, <https://www.mayoclinic.org/diseases-conditions/infectious-diseases/symptoms-causes/syc-20351173>

With assistance from public health networks, Bartlett and Hart’s Location did their best to mitigate the onset of COVID-19. To help mitigate the crisis, the Town Halls remained open with mitigation measures in place. Initially, the schools went virtual. The Towns continue to encourage social distancing and protecting the most vulnerable citizens. The CDC recommends that persons, particularly those who are medically compromised or over 65, receive the newest booster shot, which became available in September 2025. Recommendations for children are similar.

The Jurisdiction’s EMDs and other town officials plan extensively to prepare for and respond to infectious diseases in coordination with emergency service personnel. The Team felt that an epidemic or pandemic, like COVID-19, would continue to threaten the Jurisdiction’s citizens. However, because there would be no direct impact on structures, the structure loss value was not estimated.

DAM FAILURE

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	8	Medium	Low	\$0 to \$16,388,567
Hart’s Location	9	Low	Moderate	\$0 to \$153,011

Ten active dams are listed by the Department of Environmental Services (DES) in Bartlett, and one active dam is in Hart’s Location. Of these dams, all are non-menace except for the Goodrich Falls Dam in Bartlett, which is a low-hazard dam. There are no “High Hazard” dams in the Jurisdiction. See Table 4.1 for more details.

Although road damage could occur with the failure of the Goodrich Falls Dam and a few houses are downstream, overall, the risk related to dam failure would primarily be for minor road washouts. The Willey House Dam in Hart’s Location creates the reflection pond; failure would create a surge of water, but of no great concern. Therefore, the potential structure loss value due to dam failure was determined to be between 0% and 1% of the total assessed structure value.

TROPICAL/POST TROPICAL CYCLONES

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	9	Low	Low	\$16,388,567 to \$81,942,835
Hart’s Location	5	Medium	Moderate	\$153,011 to \$765,055

Damaging winds due to tropical and post-tropical cyclones (hurricanes) are considered a moderate probability, primarily because of the Jurisdiction’s abundance of forested land. Significant forest damage could occur, like during the 1938 hurricane. Although tropical and post-tropical cyclones could fit into several categories (wind and flooding), the Team considered tropical and post-tropical cyclones separate events. Tropical and post-tropical cyclones are rare in New Hampshire but should be considered potential hazards. In most cases, tropical cyclones have been downgraded to post-tropical cyclones when they reach central and northern New Hampshire.



Tropical Storm Irene, the remnants of Hurricane Irene, brought heavy rain to Bartlett and Hart’s Location as well as significant road washouts, damage to bridges, and levee damage. River Street in Bartlett Village was affected when the Saco River rose, and levee damage near Bartlett Village eroded the bank of the old town landfill. At one point during Tropical Storm Irene, Bartlett Village was cut off from the rest of the Community.

Heavy rainfall at higher elevations caused significant flash flooding; all of Bartlett's major rivers, the East Branch, Rocky Branch, Ellis, and Saco, experienced flooding during Tropical Storm Irene. Scouring of riverbanks and bridge abutments, structure flooding, and lost land were all a result of this unusually severe August storm. US Route 302 was made impassable in several locations in Bartlett when the Rocky Branch ran down US 302, and the Saco River blocked the road at the Old Silver Springs campground. In addition, a railroad trestle at Stony Brook was washed out. The rescue of 6-8 residents from the Saco River encouraged campground owners to re-establish evacuation plans. Bartlett opened its Primary Shelter and its Emergency Operations Center (EOC) during Irene.

In Hart's Location, Tropical Storm Irene did similar damage, although fortunately, there are fewer roads and rivers within the community. The Saco River, however, experienced significant flash flooding beginning at the top of the Notch at Saco Lake in the town of Carroll. With its steep drop into the Notch, the Saco and its tributaries in Hart's Location became raging rivers, cascading over US Route 302 in two locations, cutting off the residents of Hart's Location in both the north and south. The Sawyer River Bridge and the Conway Scenic Railroad iron trestle were both heavily damaged; rebuilding estimates for the Sawyer River Bridge on US Route 302 were approximately \$3 million.²⁰

Fortunately, Tropical Storm Sandy in 2012 brought about 1" of rain and only minor flooding. Since the prior hazard mitigation plan, no tropical or post-tropical cyclones have reached the Jurisdiction.

The probability that a tropical and post-tropical cyclone would remain a Category 1 or higher in this part of the State is low. Therefore, the potential loss value due to tropical and post-tropical cyclones was determined to be between 1% and 5% of the total assessed structure value.

DROUGHT

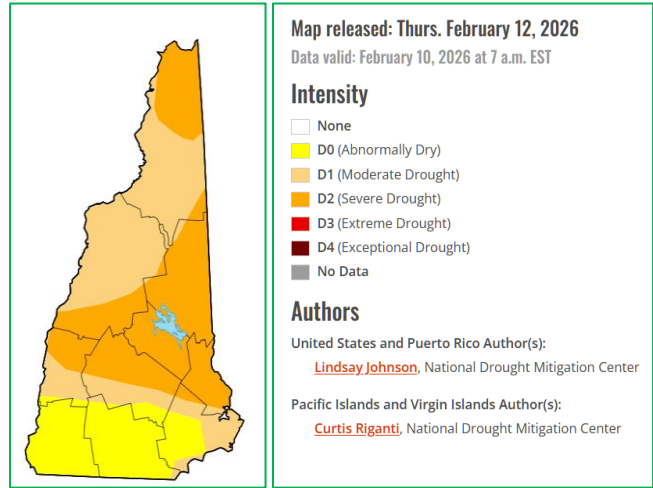
Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	10	Low	Moderate	\$0 to \$16,388,567
Hart's Location	12	Very Low	Moderate	\$0 to \$153,011

A drought, an extended period without precipitation, could elevate the risk of wildfire and blowdowns in the Community's forested areas. With an extreme drought, the water supply and aquifer levels could be threatened.

According to the NH Department of Environmental Services (DES), drought is not rare in New Hampshire. DES states, *"In actuality, New Hampshire experiences drought quite frequently. For example, between the years 2000 and 2020, drought conditions occurred within 11 of those 20 years."*²¹ A concern is that more frequent and longer-lasting droughts will occur. In addition, drought conditions damage the local forests and farms and increase the risk of wildfire. Besides being heavily forested, Bartlett has many open fields, although it is not a predominantly agricultural community.

²⁰ Irene's effects still felt in the White Mountains; Sara Young-Know; August 26, 2012; <http://www.unionleader.com/apps/pbcs.dll/article?AID=20120827/NEWS11/708279963/1013>
²¹ <https://www.des.nh.gov/climate-and-sustainability/>

Only four significant droughts occurred before 2000, while five have occurred in just the past ten years (2016, 2020, 2022, 2024, and 2025). The 2016-2017 drought brought extreme drought conditions in the south and dry or no drought conditions in the north. The 2020-2021 drought was less significant than the 2016 drought in southern NH but more significant in northern NH. During the summer of 2022, yet another drought impacted NH. Once again, this drought was more significant in the southern part of the state; it was over by January 2023. Another shorter drought was reported by some communities in 2024, and then a more significant drought started during the summer of 2025 and continued into 2026.



During the droughts within the past ten years, the Jurisdiction reported the loss of some wells, but no water bans were enacted, and no fire ponds were lost. As of February 12, 2026, drought conditions continue, with severe drought still prevalent in the very northern and the middle of the State (see chart above).²²

The cost of future droughts is challenging to calculate, as any cost would likely result from associated fire risk, crop loss, and diminished water supply. Based on these assumptions, the structure loss value is estimated to be between 0% and 1% of the total assessed structure value.

LANDSLIDES

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	11	Very Low	Low	\$0 to \$16,388,567
Hart’s Location	10	Low	Moderate	\$0 to \$153,011

Landslides and subsequent erosion are often associated with heavy rains, steep terrain, and riverbank overflow. They often occur where unstable slopes threaten to collapse on homes, buildings, and local roads. Landslides and erosion in this section refer primarily to riverbank erosion.

The Jurisdiction has been impacted by these types of events in the past, but most always because of excessive rain and rapid snow melt, causing the Saco River and its tributaries to rise. Erosion and the subsequent loss of land along the river banks, road washouts, overburdened culverts, and changes in the course of rivers have been some of the effects of this type of erosion in the Jurisdiction. See Inland Flooding for more information on local road erosion.

Within the Jurisdiction, particularly in Hart’s Location, there is a substantial amount of steep terrain; in particular, the area through Crawford Notch, where Route 302 descends into the “Notch” at a 13% grade. A landslide in the Notch could have a major impact on the Conway Scenic Railroad and could limit the use of this rail corridor as a potential means of evacuation. In addition, although it is unlikely, a landslide in Crawford Notch could impact US Route 302 and cause isolation of the residents of Hart’s Location, as well as impact the northern road system.

²² <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?NH>

Lastly, minor landslides could result from clear cuts, new development, deforestation, and improper land conservation. An area of particular concern is Glen Ledge in Bartlett, where expensive homes have been built along the top and side of steep terrain.

Although erosion is an issue, no structures currently appear to be in harm’s way within the Jurisdiction. In the unlikely event that structure loss would be experienced, it would be “localized. Therefore, the estimated structure loss value is between 0% and 1% of the total assessed structure value.

AVALANCHE

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	12	Very Low	Low	\$0 to \$16,388,567
Hart’s Location	11	Low	Moderate	\$0 to \$153,011

The steepness of the terrain and heavy snowfall potential within the Jurisdiction lead the Team to feel that snow avalanches should be listed. However, most areas where avalanche is possible are remote and within forested lands. Of these remote areas, the mountains on both sides of Crawford Notch, the road in the Notch itself, and the rail corridor through the Notch are most susceptible to the effects of avalanches. A significant snow avalanche within the “Notch” could cause the isolation of the citizens of Hart’s Location and significantly affect the Conway Scenic Railroad track.

The impact on human life, property, or business would be minimal if any; only with a unique combination of factors could a snow avalanche cause damage to structures within the Jurisdiction, but the possibility does exist.

EARTHQUAKE

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	13	Very Low	Very Low	\$16,388,567 to \$81,942,835
Hart’s Location	14	Very Low	Very Low	\$153,011 to \$765,055

Earthquakes can cause buildings and bridges to collapse, disrupt gas, electric, and phone lines, and are often associated with landslides and flash floods. Since 1940, only two earthquakes with a magnitude greater than 5.0 have occurred in New Hampshire; both earthquakes occurred in Tamworth in December of 1940 (5.5-5.8). Since then, only one earthquake with a magnitude greater than 4.0 has occurred in the State; it occurred in Sanbornton on January 19, 1982.

Many New Hampshire residents felt the most recent large earthquake (over 4.0) in October 2012, with its epicenter in Hollis Center, ME. The Team noted that the Hollis earthquake was felt in Bartlett & Hart’s Location, but no damage occurred. A more recent earthquake, with a magnitude of 3.8, occurred in Portsmouth in January 2025. The Portsmouth quake was felt in Bartlett & Hart’s Location, but again, no damage occurred. Many small earthquakes, such as this, frequently occur in New Hampshire.²³

It is well documented that fault lines run throughout the State, but high-magnitude earthquakes have not been common in New Hampshire’s history. Although historically, earthquakes have been rare, the potential exists, and

²³ United States Geological Survey (USGS), Earthquake Hazards Program (<https://www.usgs.gov/programs/earthquake-hazards>)

depending on the location, the impact could be significant. Therefore, the potential structure loss value due to earthquakes was determined to be between 1% and 5% of the total assessed structure value.

SOLAR STORMS & SPACE WEATHER

Town	Rank	HIRA	Probability	Structure Loss Value
Bartlett	14	Very Low	Very Low	Not Estimated
Hart’s Location	13	Very Low	Very Low	Not Estimated

“Space weather describes the “dynamic conditions in the Earth’s outer space environment, in the same way that “weather” and “climate” refer to conditions in Earth’s lower atmosphere. Space weather includes any and all conditions and events on the sun, in the solar wind, in near-Earth space, and in our upper atmosphere that can affect space-borne and ground-based technological systems and through these, human life and endeavor. Heliophysics is the science of space weather.”²⁴

Solar storms and space weather are direct products of activity on the surface, or corona, of the Sun. As the Sun continuously changes, its wind blows charged particles in every direction, including the direction of Earth. When sudden amounts of stored magnetic energy and ions are discharged from the Sun’s surface, solar flares, high-speed solar wind streams, solar energetic particles, and coronal mass ejections (CMEs) are possible. This magnetic energy sometimes finds its way to Earth by following the Sun’s magnetic field. Then, upon collision with the Earth’s magnetic field, these charged particles enter the Earth’s upper atmosphere, causing Auroras.

These particles can also produce their own magnetic field, disrupting navigation and communication systems and GPS satellites and potentially producing Geomagnetic Induced Currents (GICs), which could affect the power grid and pipelines. An electromagnetic surge from a solar storm has the potential to produce an Electromagnetic Pulse (EMP). An EMP could cause significant damage to critical infrastructures such as nuclear power plants, banking systems, the electrical grid, sewage treatment facilities, cell phones, landlines, and even vehicles.

As part of our discussion about Solar Storms & Space Weather during the making of the 2020 plan, we talked about the Carrington Event. The Carrington Event was a solar storm in early September 1859. According to Christopher Klein in *A Perfect Solar Superstorm: The 1859 Carrington Event*, *“Ice core samples have determined that the Carrington Event was twice as big as any other solar storm in the last 500 years.”* Klein’s report further states, *“According to a 2008 report from the National Academy of Sciences, it could cause “extensive social and economic disruptions” due to its impact on power grids, satellite communications and GPS systems. The potential price tag...between \$1 trillion and \$2 trillion.”²⁵*

We also discussed other solar events that have occurred in the more recent past. NASA’s Solar Dynamics Observatory observed 82 solar flares from May 3-9, 2024. These flares caused minor utility and emergency service interruptions throughout the State and the region; however, the Jurisdiction was not impacted. This 2024 storm and other solar storms have impacted Earth, but none have been as significant as the Carrington Event.

Because a solar storm would not directly impact structures, the estimated loss value was not determined.

²⁴NASA, <https://science.nasa.gov/science-research/heliophysics/space-weather/solar-flares/what-is-a-solar-flare#q2>

²⁵ A Perfect Solar Superstorm: The 1859 Carrington Event, Christopher Klein; <https://www.history.com/news/a-perfect-solar-superstorm-the-1859-carrington-event>

D. TECHNOLOGICAL & HUMAN-CAUSED HAZARDS

The following hazards were also considered while developing this hazard mitigation plan. Though these hazards are not analyzed in more detail as part of this Plan, they are worth mentioning as real and possible hazards that could occur in Bartlett & Hart's Location. The estimated structure loss was not determined for these hazards.

TRANSPORT ACCIDENTS

Town	Rank	HIRA	Probability
Bartlett	1	Medium	Moderate
Hart's Location	1	High	High



The possibility of vehicular accidents involving hazardous materials is identified as potentially significant in Bartlett & Hart's Location. The Jurisdiction's major roads, NH Routes 16 and US Route 302, are known to be used by vehicles carrying hazardous materials; these are common delivery routes for tankers to and from Portsmouth. These roadways traverse the Bartlett & Hart's Location area, traveling through terrain with little or no population and, at other times, through densely populated areas, such as Bartlett Village.

Many of the Jurisdiction's roads are narrow and winding and subject to severe winter weather; they become treacherous when affected by flooding, winter snow conditions, and ice. Vehicular accidents, wildlife collisions, and truck accidents involving hazardous materials are always possible in these conditions. A major ice storm or another significant event can make egress and access difficult for individuals and first responders. All roadways in Bartlett & Hart's Location are susceptible to hazards such as road flooding and high winds, leading to downed trees in the roadways and potential hazardous materials spills.

US Route 302, a major northern New England east-west corridor, crosses through the Jurisdiction, traveling from Vermont in the west to Portland, ME, in the east. US Route 302 is particularly dangerous in Crawford Notch, where steep terrain and winding roads often challenge even the best tractor-trailer drivers. On one occasion, a semi loaded with wood pellets near the Bartlett and Hart's Location townline caused the closure of Route 302 for a short time.

In addition, NH Route 16 passes north-south through Bartlett, veering away from Route 302 in Glen, a part of Bartlett. Route 16 brings traffic from the Gorham-Berlin area in the north to Portsmouth and the seacoast communities in the south. Routes 302 and 16 carry substantial vehicular traffic from other parts of NH, including automobiles, buses, and trucks. Often, these trucks are loaded with chemicals and other dangerous substances, although the volume of this type of traffic has diminished as many of the state's large paper mills have closed. NH Route 16 and US Route 302 are also major traffic routes during the Fall Foliage season, when hundreds of people from around the world visit the White Mountains.

In addition, large and small vehicles make deliveries to the Jurisdiction's citizens, often on steep terrain and winding roads; the contents of some of these vehicles are unknown, while other vehicles, such as trucks hauling fuel and propane, are common. Also, fuel or other hazardous materials spills into the Saco River could significantly affect the Saco River Aquifer, a large aquifer from which multiple communities get their public drinking water.

The Jurisdiction has experienced hazardous material transportation events, but none of significance since the prior hazard mitigation plan. If an incident were to occur, losses could be relatively high in property and structural damage, depending on the scope and location of the incident. However, the losses are expected to be localized and unlikely in densely populated areas, where the speed limit is reduced.

TERRORISM & VIOLENCE

Town	Rank	HIRA	Probability
Bartlett	2	Medium	Low
Hart's Location	2	Low	Low

Terrorism is feared throughout our country and the world; the disruption at soft targets is often the result of terrorist incidents. *“Soft Targets and Crowded Places (ST-CPs) are locations that are easily accessible to large numbers of people and that have limited security or protective measures in place making them vulnerable to attack.”*²⁶

Although Bartlett & Hart’s Location is not host to major terrorist targets such as hydro-dams or nuclear power plants, the possibility of a terrorist event, whether international or home-grown, is still real, as there are many soft targets within the Jurisdiction. The biggest fear would come from school incidents, possible civil unrest, or the targeting of large gatherings of people.

The Team identified violent crime as a medium risk in Bartlett and a low risk in Hart’s Location. Crime may include domestic disagreements, break-ins, assaults, the use of drugs, and other misdemeanors. Many of the Jurisdiction’s crime issues revolve around human issues such as high unemployment rates, drug use, alcoholism, poor mental health services, low education attainment, transient populations, and tourism. The opioid crisis is, of course, an important part of law enforcement today.

Soft targets in Bartlett & Hart’s Location include the Town Halls, the Josiah Bartlett Elementary School, the community buildings, campgrounds, area parks, and tourist venues, such as Story Land, Attitash Ski Area, and the Conway Scenic Railroad. With easy access to and from Canada via major highways, the Jurisdiction could also be a stopping point for would-be terrorists. Other soft targets, such as small businesses and lodging facilities, could also be targeted. Highways could also be targets; any closure of US Routes 302 or 16 would cause statewide disruptions in the transportation system. A recent event near Sawyer River Road in Hart’s Location closed Route 302 for four hours, as Bartlett and the NH State Police responded to an active shooter. Disruption of significant routes could affect Bartlett & Hart’s Location’s businesses and the local economy.

As with many towns, the terrorism threat is minimal; if a terrorist incident were to occur, it would most likely be a homegrown terrorist event. There has been no significant terrorist or violent incident since the prior hazard mitigation plan. The Town continues to monitor and manage potentially violent or terrorism-related events, particularly within critical facilities such as shelters or emergency operations centers.

²⁶Homeland Security *Soft Targets and Crowded Places*, https://www.cisa.gov/sites/default/files/publications/DHS-Soft-Target-Crowded-Place-Security-Plan-Overview-052018-508_0.pdf

HAZARDOUS MATERIALS

Town	Rank	HIRA	Probability
Bartlett	3	Low	Low
Hart's Location	4	Low	Low

Hazardous material in fixed locations is a concern in many New Hampshire communities, and in Bartlett & Hart's Location. Manufacturers, gas stations, fuel depots, small businesses, and even homes can have hazardous chemicals, explosive materials, or poisons on-site. Breaches in the storage, use, production, or disposal can affect the groundwater, aquifers, water supply, soil, and the air we breathe.

Bartlett has several areas that were noted as susceptible to damage from a fixed hazardous material event, particularly when combined with wildfire. These include, but are not limited to, local gas stations, chemicals stored at golf courses, and small fuel supplies at campgrounds and other facilities. There are no hazardous material sites in Hart's Location.

Since the prior hazard mitigation plan, no significant hazardous material events in a fixed location have occurred, but the possibility is real. If hazardous materials ignited, entire buildings could be susceptible to explosion and fire. The resulting losses could be significant, not only in terms of structure loss but also in loss of business revenue for local merchants.

Residents on private property may also store hazardous materials; to help its residents, the Jurisdiction participates in collecting household hazardous waste, such as batteries and some paint types.

MASS CASUALTY INCIDENTS

Town	Rank	HIRA	Probability
Bartlett	4	Low	Low
Hart's Location	3	Low	Low

A Mass Casualty Incident (MCI) is defined as *"any number of casualties that exceed the resources normally available from local resources"*²⁷. MCIs have been known to occur due to bus, auto, train, and aircraft accidents and incidents involving large crowds. MCIs can also result from natural hazards such as hurricanes, floods, earthquakes, and tornadoes.

An MCI could happen anywhere in the Jurisdiction, but is more likely on NH Route 16 and US Route 302. These roads are heavily traveled year-round but are particularly dangerous during winter storms. Animal crossings and poor weather can set up the conditions for an MCI. In addition, with students traveling to and from the Jurisdiction to and from other communities, the potential for an MCI is increased. The Conway Scenic Railroad and other tourist venues could also be subject to an MCI.

There have been no significant MCIs in the Jurisdiction since the last hazard mitigation plan. Except in extraordinary situations, Bartlett's emergency responders can cope with smaller MCIs, relying on mutual aid assistance when necessary.

²⁷ DeValle Institute Learning Center; <https://delvalle.bphc.org/mod/wiki/view.php?pageid=89>

CONFLAGRATION

Town	Rank	HIRA	Probability
Bartlett	5	Low	Low
Hart’s Location	9	Very Low	Very Low

A conflagration is an uncontrolled burning that threatens human life, health, property, or ecology. A conflagration can be accidentally or intentionally created. The main difference between a wildfire and a conflagration is the density of the human interface at the site of the fire. Fire could easily begin as a wildfire and quickly escalate to a conflagration. Alternatively, a conflagration could ignite a major wildfire. The amount of damage from any fire depends on many factors; the location of the fire and emergency accessibility are just two of those factors.

Although there have been no building-to-building conflagrations in Bartlett since 1896, there is a possibility of a large uncontrolled fire in Bartlett Village, at a hotel or inn, or at any of the many condominium complexes. Bartlett Village is an area of older properties, located in closer proximity to one another than in other parts of the Community. Although there is generally ample defensible space around some buildings, the risk of conflagration is relatively high for Bartlett’s accommodations facilities. These factors, if combined with risk elements for fire, such as high winds, drought, and a lack of water resources, could potentially result in a large uncontrolled fire that could spread from building to building or unit to unit.

Any large fire of this sort could result in an explosion(s), affect the transportation infrastructure, hamper communications and power systems, and shut down the numerous businesses along NH Routes 16 and US Route 302. The economic impact could be significant in Bartlett, as these facilities are important not only for the business base in the community but also for the tourism revenue that the Town depends on.

Hart’s Location, with its scattering of buildings, is not at a significant risk of conflagration; however, wildfire is a considerable concern.

LONG-TERM UTILITY OUTAGE

Town	Rank	HIRA	Probability
Bartlett	6	Low	Low
Hart’s Location	6	Low	Low

Although rare, long-term utility outages of five or more days have occurred in the Jurisdiction due to local line damage from high winds, severe storms, and problems with the power grid. A significant or extended power outage lasting more than a week could result in hardship for individual residents, particularly seniors, disabled people, or people experiencing poverty. The Team reported that long-term power outages have diminished due to utility companies’ efforts to trim trees and branches near power lines.

Long-term utility outage is still a concern, particularly when combined with the above natural hazards. An extended power failure’s most significant impact would be the inconvenience caused by the inability to pump water for residents who rely on wells. The Team felt that many residents are self-sufficient and equipped with generators and woodstoves. Driving can be difficult due to weather conditions and steep terrain; many services, including pharmacies and large grocery stores, are located outside the Jurisdiction.

An extended power failure could result in carbon monoxide poisoning with the misuse of generators, a diminished food supply, and increased crime. Some residents who have private wells, particular in Hart’s Location, where there is no public water, would also be impacted by the inability to pump. There would also be a significant business impact; major tourist facilities in Bartlett (Story Land, Attitash Ski Area, campgrounds, and many condominium projects) would be unable to generate revenue.

As close-knit communities, town officials in Bartlett and in Hart’s Location know persons who may need help in emergencies. Nonetheless, a long-term utility outage would have a significant impact. Town officials have designated the Josiah Bartlett School in Bartlett and the Notchland Inn in Hart’s Location as potential warming and cooling shelters.

CYBER EVENTS

Town	Rank	HIRA	Probability
Bartlett	7	Low	Low
Hart’s Location	7	Low	Low

Presidential Policy Directive (PPD-41) describes a cyber incident as *“An event occurring on or conducted through a computer network that actually or imminently jeopardizes the integrity, confidentiality, or availability of computers, information, or communications systems or networks, physical or virtual infrastructure controlled by computers or information systems, or information resident thereon. For purposes of this directive, a cyber incident may include vulnerability in an information system, system security procedures, internal controls, or implementation that could be exploited by a threat source.”*²⁸

With the increased use of computers and the internet, cyber events could include targets such as banks, hospitals, schools, churches, towns, city and state government operations, emergency operations, and critical infrastructure. Cyber events have been known to occur almost anywhere, from very small towns to large facilities in New Hampshire, causing large expenditures, disruption in everyday business practices, and data loss. Several communities in New Hampshire have had their data held for ransom.

Cyber audits, training, extra security, reports, developing a new website, switching to a .gov address, and implementing “Town Cloud” are just some of the Town's efforts to combat cyber events.

KNOWN & EMERGING CONTAMINANTS

Town	Rank	HIRA	Probability
Bartlett	8	Low	Low
Hart’s Location	8	Low	Low

Known contaminants in drinking water occur naturally or are introduced by humans. Damage to the environment, the local flora and fauna, a reduction in land values, restrictions on public water sources, and an increase in short and long-term health issues are just some of the impacts of contaminants. There may also be a need for more robust water treatment equipment. However, emerging contaminants have not been historically monitored due to either a lack of laboratory capabilities or an understanding of the risk posed to human health.

²⁸ PPD-41; <https://obamawhitehouse.archives.gov/the-press-office/2016/07/26/presidential-policy-directive-united-states-cyber-incident>

Naturally occurring contaminants could include trace elements such as arsenic, lead, manganese, and uranium. The most concerning of these for private well water is arsenic; arsenic is naturally occurring and common in groundwater.

Hazardous material spills and other accidental introductions of chemicals into the ground and surface water can affect the safety of public and private water supplies. Human-made contaminants generally include pesticides and metals, impacting groundwater or surface water. Emerging contaminants, such as poly or perfluoroalkyl substances (PFAs), have also been found in ground and surface water in New Hampshire; additional emerging contaminants, such as Methyl Tertiary Butyl Ether (MTBE), have also been found. Increased public awareness and testing of PFAs and MtBEs help counteract emerging contaminants.

In Bartlett, the old dump is monitored and tested yearly for contaminants; repairs are made as necessary. In Hart’s Location, some mitigation efforts have been done to remove railroad ties in the railroad access yard along the Conway Scenic Route. However, there are still some ecological concerns that contaminants could arise from the storage of the ties.

AGING INFRASTRUCTURE

Town	Rank	HIRA	Probability
Bartlett	9	Very Low	Very Low
Hart’s Location	5	Low	Moderate

“Infrastructure is the backbone of our community. While we don’t always acknowledge it, the condition of our infrastructure has a very real impact on our lives. We all depend on roads and bridges to get us where we are going, water infrastructure that delivers clean on-demand water, electricity to light our homes and offices, and schools that will facilitate a learning environment.”²⁹

Aging infrastructure is the continued deterioration of roads, bridges, culverts, ports, railroads, wastewater facilities, airports, dams, utilities, and public water and sewage systems. The State Multi-Hazard Mitigation Plan states that the average lifespan of a bridge is 50 years; the current average age of state-owned bridges in New Hampshire is 52-56 years.³⁰ The American Society of Civil Engineers gave NH an overall C- in its 2017 report card.³¹

The Bartlett Highway Department and the Hart’s Location’s Select Board, with its part-time Road Agent, do an excellent job of maintaining roads and ditches in their respective Communities. There is one red-listed bridge in Bartlett, and none in Hart’s Location, and the dams are in good shape. It was stated by the Team that the biggest concern for infrastructure in both communities are culverts (particularly along US Route 302) and the railroad tracks. Several mitigation action items in Table 9.1 are included in this Plan to address aging infrastructure.

²⁹ <https://www.infrastructurereportcard.org/wp-content/uploads/2016/10/2017-NH-Report-Card-hq-with-cover.pdf>

³⁰ <https://prd.blogs.nh.gov/dos/hsem/wp-content/uploads/2023/11/2023-NH-STATE-HAZARD-MITIGATION-PLAN-APPENDICES-2.pdf>, page 87

³¹ Ibid

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Chapter 6: Current Plans, Policies, and Mutual Aid

A. ANALYSIS OF THE EFFECTIVENESS OF CURRENT PROGRAMS

After researching historic hazards, identifying CIKR, and determining potential hazards, the Team determined what was already being done to protect its citizens and structures. Once identified, the Team addressed each policy or plan to determine its effectiveness and whether improvements were needed. This analysis became one of the tools the Team used to identify mitigation action items for this Plan.

Creating new action items was less challenging, knowing what regulations were already in place. In addition, this process helped identify current plans and policies that are working well, those that should be addressed as a new action item, and the responsible departments. The following table, *Table 6.1, Policies, Plans & Mutual Aid*, shows the analysis resulting from the Team's discussion.

Existing policies, plans and mutual aid that were designated as “Improvements Needed” were added to **Table 9.1, Mitigation Action Items** as new strategies and were reprioritized to meet the current needs of the Town.

TABLE 6.1: CAPABILITIES ASSESSMENT

KEY TO EFFECTIVENESS

- Excellent**..... The existing program works as intended and is exceeding its goals.
- Good** The existing program works as intended and meets its goals.
- Inadequate**..... The existing program does not work as intended or meet its goals.
- Poor** The existing program does not work as intended, often falls short of its goals, or may present unintended consequences.

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
Genasys	Genasys is a reverse calling system that uses residents' landline phone numbers. Genasys does not include cell and unlisted numbers or email addresses.	Emergency Management Directors (B&H)	Not used at this point, so cannot grade effectiveness (B & H)	Improvements Needed: Genasys (formerly CodeRED/NH ENS) is an excellent warning system that only stores residents' landline phone numbers. This strategy was deferred to provide public outreach to encourage all residents to contact Genasys to add cell numbers, emails, and unlisted numbers, and verify their information. Use the Town's website, a possible brochure at each Town Hall (B & H), social media platforms, or a sign-up at a Town Meeting. Action Item #12 (also in Table 7.1) (Barlett & Hart's Location)
Public Education & Awareness	Bartlett and Hart's Location are well situated to provide public information and outreach to its citizens.	Emergency Management Directors & Other Departments (B&H)	Good (B & H)	Improvements Needed: The Towns (B & H) have websites but lack emergency-related links and information, and do not have dedicated Emergency Management webpages. Emergency webpages are a great way to provide outreach to residents on emergency preparedness and mitigation techniques that property owners can use to reduce or eliminate the impact of natural hazards. This strategy was deferred to this Plan to develop and provide vital information and links on Emergency Management webpages to educate the public on general and seasonal mitigation techniques. The Jurisdiction can also get information via social media platforms and town emails (see Table 2.1 for each community). Action Item #11 (also in Table 7.1) (Barlett & Hart's Location)

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
NIMS & ICS Training	The National Incident Management System (NIMS) and the Incident Command System (ICS) provide training that can help ensure effective command, control, and communications during emergencies.	Emergency Management Directors (B&H)	Good (B & H)	Improvements Needed: NIMS and ICS training have been done by most first responders. Although this is preparedness, this strategy was deferred to this Plan to continue providing NIMS (IS-700) and ICS (ICS 100 and ICS 200) training to new first responders and town officials as they become elected/appointed. Action Item #9 (also in Table 7.1) (Bartlett & Hart's Location)
E-911 Signage Compliance	E-911 signage compliance includes markers at driveway entrances that identify residence locations in conjunction with the E-911 alerting system.	Fire Department & Police Department (B)	Good (B & H)	Improvements Needed: Bartlett is about 40% compliant with E-911 signage. Hart's Location is also about 50% compliant with E-911 signage. This strategy was deferred to this Plan to consider ways to get this signage more compliant so that emergency responders can better assist the public in need. Use public outreach opportunities, such as an Emergency Management webpage or social media, to promote better compliance and develop other means of increasing compliance. The Bartlett Firefighters' Association will make and supply compliant signs for the Town's citizens. Action Item #5 (also in Table 7.1) (Bartlett & Hart's Location)
National Flood Insurance Program (NFIP) & Floodplain Ordinance	The National Flood Insurance Program (NFIP) addresses both the need for flood insurance and the need to lessen the devastating consequences of flooding. The goals of the NFIP are to protect communities from potential flood damage through floodplain management and provide people with flood insurance. A community's floodplain ordinance regulates all new and substantially improved structures located in the 100-year floodplain, as identified on the FEMA Flood Maps.	Planning Board & Select Board (B&H)	Good (B) Excellent (H)	Improvements Needed: The Towns developed flood ordinances and became National Flood Insurance Program (NFIP) members on May 1, 1979 (Bartlett) and March 2, 1988 (Hart's Location). Hart's Location has also paid for its own floodplain mapping. The Towns' Flood Ordinances work well to successfully prohibit or force compliance with the ordinance for building and substantial improvements to structures within the FEMA flood zone. The Flood Ordinances were last amended in 2012 (Bartlett) and 2009 (Hart's Location). This strategy was deferred to this Plan to continue compliance with the NFIP, obtain NFIP brochures to have available at the Town Offices, and provide public outreach regarding the benefits of membership in the NFIP, whether or not properties are in the FEMA floodplain. This strategy was also deferred to provide vital information on flood mitigation techniques that can be taken to protect individual homes and properties using the Town's websites or social media pages. Provide links to the NFIP, Ready.gov, and other pertinent websites. Action Item #13 (also in Table 7.1) (Bartlett & Hart's Location)
Pressurized, Dry Hydrants & other Water Resources	Bartlett has multiple pressurized hydrants, dry hydrants, and locations for water drafting that help mitigate wildfires and structure fires. Hart's Location has no hydrants; water drafting is done out of the Saco River.	Lower Bartlett Water, Bartlett Village, Village Water Department (B)	Lower Bartlett Excellent Bartlett Village's status is unknown. Hart's not applicable.	Improvements Needed: Pressurized hydrants (maintained by Lower Bartlett Water, Bartlett Village, and the Village Water Department), a private cistern, dry hydrants, and drafting sites throughout the Jurisdiction provide water resources for firefighting. There are no hydrants in Hart's Location; drafting is done out of the Saco River. This strategy was deferred to maintain all Bartlett hydrants and determine possible sites for a dry hydrant in Hart's Location (Saco River). Action Items #3 & #4 (also in Table 7.1) (Bartlett & Hart's Location)

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
Tree Removal Program	Tree Removal Program reduces damage from fallen trees and limbs to power lines, stormwater ditches, and structures. It also helps reduce the wildfire risk.	Highway Department (B) & Road Agent (H)	Excellent (H) Good (B)	Improvements Needed: As trees become damaged and threaten structures and town roads, the Bartlett Highway Department removes them. The NH DOT and NH Electric Coop (Asplundh) do this for state roads as needed. In Hart's Location, there is only one town road, which is cared for by residents. This strategy was deferred to continue local tree and brush removal efforts to help mitigate the effects of high wind events, ice storms, wildfires, and other natural hazards. Action Item #1 (also in Table 7.1) (Bartlett & Hart's Location)
Mutual Aid Agreements (Fire, Police, Highway & EMS)	Mutual Aid agreements provide communications capabilities and cooperative assistance between area cities and towns; mutual aid provides access to resources appropriate to the scope of the emergency.	Police Department, Fire Department & Highway Department & Bartlett-Jackson Ambulance Service (B)	Excellent (H & B)	Improvements Needed: The Bartlett Fire Department has a mutual aid agreement with the Mount Washington Valley Mutual Aid. The Bartlett Police Department has mutual aid agreements with surrounding towns, the NH State Police (Troop E), the Carroll County Sheriff's Office, and Fish & Game. The Bartlett Highway Department is an NH Public Works Mutual Aid Association member. Bartlett-Jackson Ambulance performs EMS services and medical transportation and has its own mutual aid. All mutual aid systems in Bartlett work well. Hart's Location receives all services from Bartlett and other mutual aid members. This strategy was deferred to maintain all mutual aid activities. Action Item #2 (also in Table 7.1) (Bartlett & Hart's Location)
Burning Index & Fire Danger Sign	NH Forests & Lands (DNCR) has a burning index that measures the wildfire risk and how likely fires are to start on a given day. It also evaluates the potential damage wildfires can create, the number of people needed to fight them, and the type of equipment that might be needed. Fire Danger Signs provide current fire warnings for residents and visitors.	NH Forests & Lands (DNCR) & Fire Department (B)	Good (H & B)	Improvements Needed: The Bartlett Fire Department receives regular notification of the burning index via email from NH Forests & Lands. This notification is made daily during the fire danger season. There is one fire danger sign in Bartlett Village and another in the White Mountain National Forest near the 4th Iron. This strategy was deferred to work with NH Forests & Lands (DNCR) to obtain a Fire Danger Sign in both towns based on suitable locations to better inform residents and visitors of the daily fire danger. Action Item #20 (also in Table 7.1) (Bartlett & Hart's Location)
Capital Reserve Fund (CRF)	A Capital Reserve fund is a type of account on a town's balance sheet reserved for long-term capital investment projects or any other significant and anticipated expense(s) that will be incurred. Reserve funds are set aside to partially ensure adequate funding to finance future projects, equipment, and other expenditures.	Select Board	Excellent (H) & Good (B)	Improvements Needed: The Town's Capital Reserve Funds are set aside each year at budget time to assist the Town's departments with planned purchases of equipment and supplies or in emergencies. An emergency management fund has not been established, as the prior hazard mitigation plan suggested in Bartlett; however, there is one in Hart's Location. This strategy was deferred to work with the Bartlett Select Board to establish a Capital Reserve Fund (CRF) for Emergency management. Action Item #25 (also in Table 7.1) (Bartlett & Hart's Location)
Emergency Operation Plan (2018)	An emergency operations plan identifies the response procedures and capabilities of the Town in the event of a disaster.	Emergency Management Director	Good (H & B)	Improvements Needed: Bartlett & Hart's Location Multi-Jurisdictional Emergency Operations Plan (EOP) was last updated in 2018 and is overdue for an update based on the State's 5-year recommendation. The new EOP should include an EOC Call Alert List, a detailed Resource Inventory List, and Player Packets. This strategy was deferred to this Plan to update the EOP. Action Item #26 (also in Table 7.1) (Bartlett & Hart's Location)

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
Emergency Generators	Bartlett has emergency backup power at some of the Town's Critical Infrastructure & Key Resources (CIKR), including the Fire Station and Elementary School. Hart's Location's CIKR (Town Hall) does not have a generator. Generators are important for the continuity of government.	Emergency Management Directors (B&H)	Good (B) & Inadequate (HL)	Improvements Needed: Bartlett has emergency backup power at some of the Town's CIKR, including the Fire Station and the Elementary School. Bartlett could benefit from a permanent generator for the Town Hall/Police Station, which will also provide power for the Highway Garage. Hart's Location could benefit from a generator at the Town Hall. This strategy was deferred to obtain and install an emergency generator for the Town Hall/Police Station in Bartlett and the Town Hall in Hart's Location to improve the effectiveness of these facilities during a disaster. Action Items #27 & #28 (also in Table 7.1) (Bartlett & Hart's Location)
Subdivision Regulations, Zoning Ordinance, Site Plan Review Regulations, & Floodplain Regulations	The purpose of subdivision regulations is to provide for the Town's orderly present and future development by promoting public health, safety, convenience, and welfare. Zoning regulations deal with land use, including rural, residential, flood zone, agriculture, and timber management. Zoning regulations often include drainage and infrastructure provisions. The Site Plan Review Regulations allow the Town to regulate commercial development.	Select Boards & Planning Boards (BH)	Excellent (B&H)	Improvements Needed: Bartlett and Hart's Location's regulations address setbacks, road frontage, and the size of the lot. Regulations also address driveways, structures, roads, erosion and sediment control, and maintaining adequate stormwater flow. This strategy was deferred to review the Jurisdiction's planning mechanisms (as applicable), including but not limited to the Subdivision, Zoning, Site Plan Review, Floodplain Regulations, and the New Hampshire Groundwater Protection Plan, and to discuss changes that may mitigate the occurrence of and damage from the natural hazards identified in this Plan. Action Item #29 (also in Table 7.1)
Master Plan	A Master Plan includes goals, objectives, and expectations for the future development of the Town.	Planning Boards (B&H)	Good (B) & Inadequate (H)	Improvements Needed: The Bartlett Master Plan was last updated in 2016 and will be ready for a recommended complete update in 2026. The Hart's Location Master Plan was last updated in 2000 and is overdue for an update. This strategy was deferred to update both Town's Master Plans according to the State's 10-year recommendation and consider including a natural hazards section, a discussion on climate change, and action items from this Plan in future updates. Action Item #30 (also in Table 7.1) (Bartlett & Hart's Location)
Culvert & Stormwater Maintenance Plan	A Culvert & Storm Water Maintenance Plan includes an inventory of all culverts and ditches in the Community and a record of the location, size, etc. The Bartlett Highway Department and the NH DOT clean the drainage basins once a year, and after significant flooding events, culverts are repaired as needed.	Highway Department (B)	Good (B)	Improvements Needed: Although the Bartlett Highway Department and NH Department of Transportation do an excellent job cleaning and repairing drainage basins and culverts, a written Culvert & Stormwater Maintenance Plan should be developed to ensure continuity of actions and efficient stormwater management. This strategy was deferred for continued maintenance and to develop a written Culvert & Stormwater Maintenance Plan in Bartlett detailing the size, material, installation date, recommended date for improvement, GPS location, and any associated problems (i.e., flooding). Several culverts and drainage systems in the Town need improvement. There is no need to defer this action item in Hart's location, as the Road Agent maintains only one culvert. Action Item #7 (also in Table 7.1) (Bartlett)

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
Bridge Maintenance Program	There is currently one red-listed bridge in Bartlett. Inspection and clean-up of bridges occur annually. The State inspects all bridges every other year and maintains them regularly. There are no town-owned bridges in Hart's Location.	Highway Department (B)	Good (B)	Improvements Needed: The Bartlett Highway Department has established a short and long-term bridge maintenance and replacement schedule. Currently, there is one red-listed bridge in Bartlett. There are no town-owned bridges in Hart's Location. This strategy was deferred to repair the Foster Street Bridge over Albany Brook. Action Item #23 (Bartlett)
Emergency Training	Fire, Police, and EMS personnel training for all fire, law enforcement, and EMS situations.	Fire Chief, Police Chief Bartlett-Jackson Ambulance Service & Emergency Management Director (B)	Excellent (B)	Improvements Needed: Training of all fire responders includes many aspects of emergency response, including EMS, confined space, wildfire, and HazMat training. Fire & EMS training is done locally or through mutual aid, the State of New Hampshire Fire & EMS Training Facilities, or the Fire Academy. Police training includes many aspects of law enforcement response, including active shooters and terrorism. Police training is done locally or through the NH Police Academy. Although training is preparedness, not mitigation, emergency responder training was deferred to continue for the life of the Plan and to protect the Continuity of Operations. Action Item #10 (Bartlett)
Bartlett & Hart's Location Hazard Mitigation Plan (2018)	A hazard mitigation plan is designed to address natural and other hazards and understand the risks these pose to the Community. A hazard mitigation plan aims to create action items that will make the Community safer by lessening or eliminating the effects of hazards.	Emergency Management Directors (B&H)	Good (B&H)	Improvements Needed: Bartlett & Hart's Location Multi-jurisdictional Hazard Mitigation Plan (2018) is being updated to this Plan. This strategy was deferred to review this Plan, the Bartlett-Hart's Location Hazard Mitigation Plan 2025, annually, and to update the Plan again in 2030. Action Item #19 (Bartlett & Hart's Location)
Building Code & Permits	The Towns require builders to follow the State-adopted codes for new construction to meet national standards for flood, wind, earthquake, fire, and snow load.	Select Boards & Planning Boards (BH)	Good (B&H)	No Improvements Needed: Bartlett and Hart's Location do not have Building Inspectors or Code Enforcement Officers, although Hart's Location will hire the Jackson Building Inspector if needed. The permitting process in both communities requires builders to abide by the International Building Codes (IBC) and the International Residential Codes (IRC), which the State of New Hampshire has adopted. (Bartlett & Hart's Location)
Local Road Design Standards	Local road design standards are specifications for constructing new roads in a community.	Select Boards & Highway Department (B&H)	Good (B&H)	No Improvements Needed: Local road standards have been established to provide specifications for building new roads to ensure that Bartlett and Hart's Location do not assume ownership of substandard roads. The Towns will not assume ownership of roads not built to Class V standards. Acceptance of new roads is voted on at a Town Meeting as a warrant article. (Bartlett & Hart's Location)
NH Forest & Lands & Fire Permits	NH Forest & Lands, a division of the NH Department of Natural & Cultural Resources (DNCR), regulates open burning and permits.	NH Forests & Lands (DNCR) & Local Fire Warden	Good (B&H)	No Improvements Needed: The system with NH Forests & Lands (DNCR) and the local fire warden works well. The public knows fire permitting requirements and can get permits online (\$5.50 fee). (Bartlett & Hart's Location)

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
Emergency Action Plan (Dams)	Dam emergency action plans are designed to notify and outline evacuation procedures should a dam failure occur.	Emergency Management Director (B)	Excellent (B)	No Improvements Needed: No high-hazard dams exist in either Bartlett or Hart's Locations. Therefore, no dam Emergency Action Plan is required. The highest classified dam in Bartlett is the Goodrich Falls Dam (private). However, it is a low-hazard dam. Only one non-menace dam is in Hart's Location, the Willey House Dam, but it is on state property. (Bartlett)
Life Safety & Fire Codes	Guides all buildings for life safety and fire codes	Fire Department	Good (B)	No Improvements Needed: The National Fire Protection Association (NFPA) and the NH Safety and Fire Codes guide the Bartlett Fire Department to inspect all commercial, public assembly, and rental properties (3 units or more). The Bartlett Fire Department does its best to provide timely inspections based on available staffing. (Bartlett)
Public Health Plan	The State Health Department wrote the "Influenza, Pandemic, Public Health Preparedness, and Response Plan" to be prepared for any public health emergency; the Town is part of the Carroll County Coalition for Public Health.	Carroll County Coalition for Public Health	Good	No Improvements Needed: The State Public Health Plan assists the Community as part of the services provided by the Carroll County Coalition for Public Health. The Bartlett and Hart's Location Health Officer representatives attend public health meetings whenever possible. (Bartlett & Hart's Location)

Chapter 7: Last Mitigation Plan

A. DATE OF LAST PLAN

Based on the Disaster Mitigation Act (DMA) of 2000, Bartlett & Hart’s Location has developed hazard mitigation plans in the past. The most recent update was formally approved in 2018. The Bartlett & Hart’s Location Hazard Mitigation Plan Update 2026 updates the 2018 plan.

Below are the action items that were identified in the 2018 plan. The Team identified the current status of each strategy based on three sets of questions:

COMPLETED

- Has the strategy been completed?
- If so, what was done?

Strategies “deferred” from the prior plan, were added to **Table 9.1, Mitigation Action Plan** as new strategies and were reprioritized to meet the current needs of the Town.

DELETED

- Should the strategy be deleted?
- Is the strategy mitigation or preparedness?
- Is the strategy useful to the Town under the current circumstances?

DEFERRED

- Should the strategy be deferred for consideration in this Plan?
- Should this strategy be reconsidered and included as a new action item for this Plan if the strategy was not completed?

In *Table 7.1: Accomplishments since the Last Plan*, the Team assessed what had been accomplished and determined what additional work may be needed. Columns in red font were extracted word-for-word from the 2020 Hazard Mitigation Plan. Additional columns not shown here – *Type of Hazard, Responsible Department, Funding or Support, Estimated Cost, and TTL* – can be found in the 2018 Hazard Mitigation Plan.

TABLE 7.1: ACCOMPLISHMENTS SINCE THE LAST PLAN

Rank	Mitigation Action Item	Time Frame	Completed, Deleted, or Deferred
0-1	Action Item #1: Provide public outreach to encourage all residents to contact NH ENS to add cell numbers, unlisted numbers, and to verify information; use the website, a possible brochure, or sign up at Town Meeting. (MU14) (Table 6.1) (Bartlett & Hart’s Location)	Short Term Ongoing for the life of the Plan	Completed & Deferred: Genasys (formerly CodeRED/NH ENS) is an excellent warning system, but it only stores residents' landline phone numbers. The Jurisdiction has continuously provided information to residents about CodeRED in the past. This strategy was deferred to provide public outreach to encourage all residents to contact Genasys to add cell numbers, emails, and unlisted numbers, and verify the information. Use the Town's websites, a possible brochure at the Town Offices, social media platforms, or a sign-up at Town Meetings. Action Item #12 (also in Table 6.1) (Bartlett & Hart’s Location)

Rank	Mitigation Action Item	Time Frame	Completed, Deleted, or Deferred
0-2	Action Item #2: Provide robust information on the Towns' Emergency websites for educating the public on hazard mitigation and preparedness measures (MU14) by adding to the Towns' website a webpage that will include such information as emergency contacts, shelter locations, evacuation routes (SW7, WF11 & T3), methods of emergency alerting, 911 compliance, water saving techniques (D9), earthquake risk and mitigation activities that can be taken in residents' homes (EQ7), steps homeowners can take to protect themselves and their properties when extreme temperatures occur (ET1 & ET4), safety measures that can be taken during hail (HA3) and lightning storms (L2), mitigation techniques for property protection and links to available sources; educate homeowners regarding the risks of building in hazard zones and encourage homeowners to install carbon monoxide monitors and alarms (WW5); continue to develop ways to provide notification to citizens. (Tables 6.1) (Bartlett & Hart's Location)	<u>Short Term</u> Ongoing for the life of the Plan	Completed & Deferred: The Towns have websites, but they lack emergency-related links and information, and they do not have dedicated "Emergency Management" webpages. Emergency webpages are a great way to provide outreach to residents on emergency preparedness and mitigation techniques that property owners can use to reduce or eliminate the impact of natural hazards. This strategy was deferred to this Plan to develop and provide vital information and links on "Emergency Management" webpages to educate the public on general and seasonal mitigation techniques. The Jurisdiction can also get information via social media platforms and town emails (see Table 2.1). Action Item #11 (also in Table 6.1) (Bartlett & Hart's Location)
0-3	Action Item #3: EMDs in both Hart's Location and Bartlett to encourage all town officials and new hires to take NIMS 700 and ICS 100 and 200. (Tables 6.1 & 7.1) (Bartlett & Hart's Location)	<u>Short Term</u> Ongoing for the life of the Plan	Completed & Deferred: NIMS and ICS training have been done by most first responders. Although this is preparedness, this strategy was deferred to this Plan to continue providing NIMS (IS-700) and ICS (ICS 100 and ICS 200) training to new first responders and town officials as they become elected/appointed. Action Item #9 (also in Table 6.1) (Bartlett & Hart's Location)
0-4	Action Item #4: Consider ways to improve 911 signage compliance so that emergency responders can better assist the public at the time of need; encourage all residents of both communities to increase the signage compliance levels; use the Towns' websites and other mechanisms to improve compliance. (Table 6.1) (Bartlett & Hart's Location)	<u>Short Term</u> Ongoing for the life of the Plan	Completed & Deferred: Bartlett is about 40% compliant with E-911 signage. Hart's Location is also about 50% compliant with E-911 signage. This strategy was deferred to this Plan to consider ways to get this signage more compliant so that emergency responders can better assist the public in need. Use public outreach opportunities, such as an Emergency Management webpage or social media, to promote better compliance and develop other means of increasing compliance. The Bartlett Firefighters' Association will make and supply compliant signs. Action Item #5 (also in Table 6.1) (Bartlett & Hart's Location)
0-5	Action Item #5: Continue to seek a location and adjust zoning regulations for a cell tower to be located in Hart's Location to eliminate 10± miles of no coverage. (Table 7.1) (Hart's Location)	<u>Short Term</u> Ongoing for the life of the Plan	Partially Completed & Deferred: Hart's Location has tried getting a cell tower to eliminate the 10+/- miles of no coverage, including changing their ordinances to allow for a new cell tower. This strategy was deferred to continue seeking locations and opportunities to install one or more cell towers as needed. Action Item #31 (Hart's Location)
0-6	Action Item #6: As part of ongoing public education on the dangers of household hazards, continue to publicize and offer a hazardous materials collection day (Conway) and to educate homeowners on the dangers of hazardous materials in their homes and on their properties. (Bartlett & Hart's Location) (Table 7.1)	<u>Short Term</u> Ongoing for the life of the Plan	Completed & Deferred: Bartlett and Hart's Location have provided outreach to their citizens regarding the dangers of household hazards. This strategy was deferred to publicize and offer a hazardous materials collection day (Conway) and educate homeowners on household hazardous material dangers. Action Item #6 (Bartlett & Hart's Location)

Rank	Mitigation Action Item	Time Frame	Completed, Deleted, or Deferred
0-7	Action Item #7: Continue to lobby the Department of Environmental Services (NH DES) (last done in 2016) to seek a determination of responsibility for at least one levee (and possibly more) that could cause flooding along the Saco River; determine possible solutions to this problem and work with DES to develop an engineering assessment of the problem. (Table 7.1) (Bartlett)	Short Term Ongoing for the life of the Plan	Completed & Deferred: Although the conversation with the Department of Environmental Services (DES) has continued since the last hazard mitigation plan, more work must be done to mitigate failing levees in Bartlett. The Saco River and its tributaries have flood control levees that have deteriorated over time and require repairs and improvements. Failures of these levees have caused significant flooding with resultant damage to public and private property, personal injury, and loss of access to emergency services. Bartlett has paid for hydrology studies, and there are several potential solutions. This action item is deferred to submit letters of intent to FEMA regarding rebuilding and improving the Saco River and tributary levees and pursue funding opportunities and permit acquisitions through State and Federal Agencies. Action Item #22 (Bartlett)
0-8	Action Item #8: Advise the public about the local flood hazard, flood insurance and flood protection measures (F10) by obtaining and keeping on hand a supply of NFIP brochures to have available in the Town Offices; give NFIP materials to homeowners and builders when proposing new development or substantial improvements; encourage property owners to purchase flood insurance (F22) , whether or not they are in the flood zone and provide appropriate links to the NFIP and Ready.gov on the Towns' websites; educate homeowners regarding the risks of building in flood zone and measures that can be taken to reduce the chance of flooding, such as securing debris, propane tanks, yard items or stored objects that may otherwise be swept away, damaged, or pose a hazard if picked up and washed away by floodwaters; add links and info to website; continue to actively work with residents to ensure they are in compliance with the each Town's Floodplain Ordinance. (F23) (Table 7.1) (Bartlett & Hart's Location)	Short Term Ongoing for the life of the Plan	Completed & Deferred: The Towns developed flood ordinances and became National Flood Insurance Program (NFIP) members on May 1, 1979 (Bartlett) and March 2, 1988 (Hart's Location) . Hart's Location has also paid for its own floodplain mapping. The Towns' Flood Ordinances work well to successfully prohibit or force compliance with the ordinance for building and substantial improvements to structures within the FEMA flood zone. The Flood Ordinances were last amended in 2012 (Bartlett) and 2009 (Hart's Location) . This strategy was deferred to this Plan to continue compliance with the NFIP, obtain NFIP brochures to have available at the Town Offices, and provide public outreach regarding the benefits of membership in the NFIP, whether or not properties are in the FEMA floodplain. This strategy was also deferred to provide vital information on flood mitigation techniques that can be taken to protect individual homes and properties using the Town's websites or social media pages. Provide links to the NFIP, Ready.gov, and other pertinent websites. Action Item #13 (also in Table 6.1) (Bartlett & Hart's Location)
0-9	Action Item #9: Routinely inspect the functionality of fire hydrants and continue the maintenance and repair of all hydrants and other water resources in Bartlett; consider other areas of the Community that have limited water resources and address these issues by installing new hydrants, fire ponds and/or cisterns; consult with the Bartlett FD to determine the most suitable locations for new hydrants. (WF8) (Bartlett)	Short Term Ongoing for the life of the Plan	Completed & Deferred: Pressurized hydrants (lower Bartlett Water, Bartlett Village, Village Water Department), a private cistern, dry hydrants, and drafting sites throughout the Jurisdiction provide water resources for firefighting. There are no hydrants in Hart's Location; drafting is done out of the Saco River. Action Items #3 & #4 (also in Table 6.1) (Bartlett & Hart's Location)
0-10	Action Item #10: Advise residents of Bartlett & Hart's Location who live on private roads of the importance of maintaining their roads for first responders (WF8) ; perhaps using the Towns' websites or other venues. (Bartlett & Hart's Location)	Short Term Ongoing for the life of the Plan	Completed & Deferred: The Jurisdiction has promoted private mitigation efforts and provided public outreach to the citizens on the importance of maintaining private roads and culverts to allow for safe access for fire apparatus into wildland-urban interface neighborhoods and properties. This education helps ensure accessibility for emergency response, decreases the wildfire risk, and protects local roads from flooding caused by poorly functioning private culverts. This strategy was deferred to continue promoting private road mitigation efforts. Action Item #15 (Bartlett & Hart's Location)

Rank	Mitigation Action Item	Time Frame	Completed, Deleted, or Deferred
0-11	Action Item #11: Continue program to mow roadsides and cut limbs and branches in an effort to mitigate the effects of wind damage to power lines and structures and to ensure defensible space for mitigating wildfires; continue tree maintenance program to reduce or eliminate the damage that may result during a natural hazard such as a wildfire, windstorm, hurricane, or tropical storm. (SW4 & WF7) (Bartlett & Hart's Location)	<u>Short Term</u> Ongoing for the life of the Plan	Completed & Deferred: As trees become damaged and threaten structures and town roads, the Bartlett Highway Department removes them. The NH DOT and NH Electric Coop (Asplund) do this for state roads as needed. In Hart's Location, there is only one town road, which is cared for by the Road Agent. This strategy was deferred to continue local tree and brush removal efforts to help mitigate the effects of high wind events, ice storms, wildfires, and other natural hazards. Action Item #1 (also in Table 6.1) (Bartlett & Hart's Location)
0-12	Action Item #12: Post important information on the Towns' websites with notices of red flag burning days; obtain and have available "Firewise" brochures to educate homeowners on methods to reduce fire risk around their homes (WF10); provide "Firewise" brochures to those residents seeking burn permits; advise residents of the importance of maintaining defensible space, the safe disposal of yard and household waste and the removal of dead or dry leaves, needles, twigs, and combustible materials from roofs, decks, eaves, porches and yards. (WF12) (Table 7.1) (Bartlett & Hart's Location)	<u>Short Term</u> Ongoing for the life of the Plan	Completed & Deferred: The Jurisdiction has posted important information on the Town's websites and notices of red flag burning days. This strategy was deferred to continue having Firewise® brochures available to educate homeowners on methods to reduce fire risk around their homes and provide a link to Firewise® on the Town's websites. Provide Firewise® brochures to those residents seeking burn permits (if not obtained online); advise residents of the importance of maintaining defensible space, the safe disposal of household waste, and the removal of dead or dry leaves, needles, twigs, and combustible materials from roofs, decks, eaves, porches, and yards. Action Item #14 (Bartlett & Hart's Location)
1-1	Action Item #13: Review and update all mutual aid agreements to ensure readiness and cooperation at the time of an emergency in either Hart's Location or Bartlett. (Table 6.1) (Bartlett & Hart's Location)	<u>Short Term</u> Less than 1 year (0-12 months)	Completed & Deferred: The Bartlett Fire Department has a mutual aid agreement with the Mount Washington Valley Mutual Aid. The Bartlett Police Department has mutual aid agreements with surrounding towns, the NH State Police (Troop E), the Carroll County Sheriff's Office, and Fish & Game. The Bartlett Highway Department is an NH Public Works Mutual Aid Association member. Bartlett-Jackson Ambulance performs EMS services and medical transportation. All mutual aid systems in Bartlett work well. Hart's Location receives all services from Bartlett and other mutual aid members. However, the Carroll County Sheriff's Office (CCSO) provides law enforcement for Hart's Location; this usually results in a mutual aid call from the CCSO to the Bartlett Police. This strategy was deferred to maintain all mutual aid activities. Action Item #2 (also in Table 6.1) (Bartlett & Hart's Location)
1-2	Action Item #14: Improve the flow of storm water by upgrading the granite box culvert on Thorn Hill Road with a more modern and efficient culvert system to control the active running stream that passes through the current culvert. (F13) (Bartlett)	<u>Short Term</u> Less than 1 year (0-12 months)	Deferred: As suggested in the prior hazard mitigation plan, upgrading the culvert on Thorn Hill Road was not completed. This action item was deferred to replace the aging granite box culvert with a more modern and efficient plastic culvert of a larger size to improve stormwater flow. Action Item #24 (Bartlett)
1-3	Action Item #15: Work with NH Forests & Lands (DNCR) to obtain a fire status board or Smokey the Bear Sign and determine the best locations in both Towns for installment. (Table 7.1) (Bartlett & Hart's Location)	<u>Short Term</u> Less than 1 year (0-12 months)	Completed & Deferred: The Bartlett Fire Department receives regular notification of the burning index via email from NH Forests & Lands. This notification is made daily during the fire danger season. There is one fire danger sign in Bartlett Village and another in the White Mountain National Forest near the 4th Iron. This strategy was deferred to work with NH Forests & Lands (DNCR) to obtain a Fire Danger Sign in both towns based on suitable locations to better inform residents and visitors of the daily fire danger. Action Item #20 (also in Table 6.1) (Bartlett & Hart's Location)

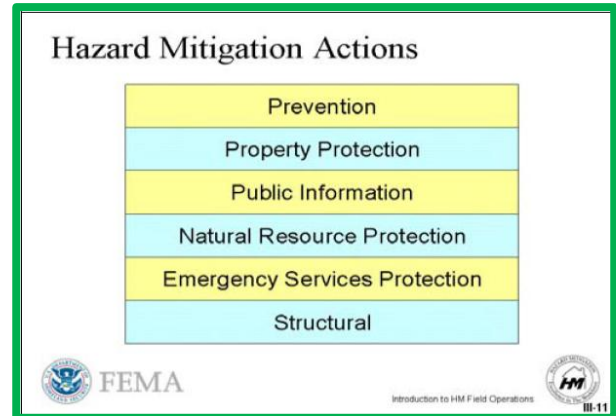
Rank	Mitigation Action Item	Time Frame	Completed, Deleted, or Deferred
1-4	Action Item #16: Work with the Boards of Selectmen to establish capital reserve funds for emergency management. (Table 6.1) (Bartlett & Hart's Location)	Short Term Less than 1 year (0-12 months)	Deferred: The Towns' Capital Reserve Funds are set aside each year at budget time to assist the Towns' departments with planned purchases of equipment and supplies or in emergencies. An emergency management fund has not been established, as the prior hazard mitigation plan suggested in Bartlett; however, there is one in Hart's Location. This strategy was deferred to work with the Select Board to establish a Capital Reserve Fund (CRF) for Emergency management. Action Item #25 (also in Table 6.1) (Bartlett)
1-5	Action Item #17: Develop a Memorandum of Understanding (MOU) to obtain written permission to use the Notchland Inn as the primary shelter in Hart's Location. (Table 7.1) (Hart's Location)	Short Term Less than 1 year (0-12 months)	Deferred: The action item from the prior plan was not completed. This strategy was deferred to develop a Memorandum of Understanding (MOU) with the Notchland Inn to be used as the primary shelter during emergencies. Action Item #21 (Hart's Location)
1-6	Action Item #18: As stated in Bartlett's "Letter of Intent", look into potential HMGP funding for affected locations along the Saco River at various locations near Bartlett Village, along the Rocky Branch River near Jericho and Sleepy Hollow Roads in Glen, and along the East Branch River from Town Hall Road to Route 16A for flood mitigation. (F13) (Bartlett)	Short Term Less than 1 year (0-12 months)	Deferred: Flooding occurs often in Bartlett, along the Rocky Branch River near Jericho, Route 302, Sleepy Hollow Road in Glen, along the East Branch River from Town Hall Road to Route 16A, Razor Brook at the Saco, Cobb Farm Road, the Saco River Street berm, the Rocky Branch berm, and Waterfront Road. This strategy was deferred to submit letters of intent to HSEM/FEMA regarding rebuilding and improving these areas, pursuing funding opportunities, and permitting acquisitions through State and Federal Agencies. Engage the relevant parties to ensure their participation. Action Item #8 (Bartlett)
2-1	Action Item #19: Update the Emergency Operations Plan and consider a Multi-jurisdictional Plan as Hart's Location relies on Bartlett for the majority of its emergency response. (Tables 6.1 & 7.1) (Bartlett & Hart's Location)	Medium Term 2-3 Years (13-36 months)	Completed & Deferred: The Bartlett & Hart's Location Multi-Jurisdictional Emergency Operations Plan (EOP) was last updated in 2018 and is overdue for an update based on the State's 5-year recommendation. The new EOP should include an EOC Call Alert List, a detailed Resource Inventory List, and Player Packets. This strategy was deferred to this Plan to update the EOP. Action Item #26 (also in Table 6.1) (Bartlett & Hart's Location)
2-2	Action Item #20: Improve the flow of storm water by upgrading the two 24" culverts on Rolling Ridge Road to either a single arch or oval structure. (F13) (Bartlett)	Medium Term 2-3 Years (13-36 months)	Completed & Deleted: Two 24" metal culverts were replaced with the same size plastic culverts to improve stormwater flow. This action item was completed; therefore, it was deleted. (Bartlett)
2-3	Action Item #21: Obtain funding and install a permanent generator at the Bartlett Town Hall/Police Station that can also provide emergency power for the Highway Garage; these are critical facilities within the Community. (Table 6.1) (Bartlett)	Medium Term 2-3 Years (13-36 months)	Deferred: Bartlett has emergency backup power at some of the Town's CLKR, including the Fire Station and the Elementary School. Bartlett could benefit from a permanent generator for the Town Hall/Police Station, which will also provide power for the Highway Garage, and Hart's Location could benefit from a generator at the Town Hall. This strategy was deferred to obtain and install an emergency generator for the Town Hall/Police Station in Bartlett and the Town Hall in Hart's Location to improve the effectiveness of these facilities during a disaster. Action Items #27 (also in Table 6.1) (Bartlett & Hart's Location)
2-4	Action Item #22: Obtain funding and install a permanent generator at the Hart's Location Town Offices, as this is a critical facility within the Community. (Table 6.1) (Hart's Location)	Medium Term 2-3 Years (13-36 months)	Deferred: Obtain funding and install a permanent generator at the Hart's Location Town Hall to improve the effectiveness of this facility during a disaster. This action item is combined with the one above, Action Item #28 , in this Plan. (Hart's Location)
2-5	Action Item #23: Consider the creation of a database to track those individuals at high risk of death, such as the elderly, homeless, etc., by developing a new and updated survey of the functional needs population and a method of maintaining the data. (ET3 & WW6) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)	Medium Term 2-3 Years (13-36 months)	Deleted: A database was not created as it was determined that the Bartlett-Jackson Ambulance, visiting nurses, and the local EMS staff are very involved and understand the needs of most functionally challenged people. Therefore, this strategy was deleted. (Bartlett & Hart's Location)

Rank	Mitigation Action Item	Time Frame	Completed, Deleted, or Deferred
2-6	Action Item #24: Review both Towns' ordinances and regulations to consider requirements for the development of water resources (fire ponds, cisterns, draft sites, etc.) in new subdivisions, to assess the impact of new developments on the Saco River Aquifer and the impact new development will have on current water resources in both communities and within the Bartlett water precincts (2). (Tables 6.1 & 7.1) (Bartlett & Hart's Location)	Medium Term 2-3 Years (13-36 months)	Completed & Deferred: Bartlett and Hart's Location's regulations address setbacks, road frontage, and the size of the lot. Regulations also address driveways, structures, roads, erosion and sediment control, and maintaining adequate stormwater flow. This strategy was deferred to review the Jurisdiction's planning mechanisms (as applicable), including but not limited to the Subdivision, Zoning, Site Plan Review, Floodplain Regulations, and the New Hampshire Groundwater Protection Plan, and to discuss changes that may mitigate the occurrence of and damage from the natural hazards identified in this Plan. Action Item #29 (also in Table 6.1)
2-7	Action Item #25: Consider the development of a new Master Plan for Hart's Location and incorporate a Natural Hazards section and mitigation action items from this Plan. (MU6) (Table 6.1) (Hart's Location)	Medium Term 2-3 Years (13-36 months)	Deferred: The Bartlett Master Plan was last updated in 2016 and will be ready for a recommended complete update in 2026. The Hart's Location Master Plan was last updated in 2000 and is overdue for an update. This strategy was deferred to update both Towns' Master Plans according to the State's 10-year recommendation and consider including a natural hazards section, a discussion on climate change, and action items from this Plan in future updates. Action Item #30 (also in Table 6.1) (Bartlett & Hart's Location)
2-8	Action Item #26: Consider the development of new regulations or ordinances in both Bartlett & Hart's Location that could further define requirements for timber cutting to lessen the potential for erosion, landslide, and blow downs. (ER2, SW4 & MU4) (Bartlett & Hart's Location)	Medium Term 2-3 Years (13-36 months)	Deleted: There are no timber-cutting issues in either Bartlett or Hart's Location. State timber-cutting regulations and the Shoreland Water Quality Protection Act are adhered to to ensure proper activity near shorelines. (Bartlett & Hart's Location)
3-1	Action Item #27: Improve the flow of storm water by upgrading the granite box culvert on Spring Avenue with a more modern and efficient culvert system to control the active running stream that passes through the current culvert. (F13) (Bartlett)	Long Term 4-5 Years (37-60 months)	Partially Completed & Deleted: As suggested in the prior plan, the culvert system improvement on Spring Avenue was not done. However, some work has been completed to shore up the granite box culvert. No further work is needed; therefore, this strategy was deleted. (Bartlett)
3-2	Action Item #28: Continue maintenance of culverts and ditches in the Communities, and develop a written stormwater maintenance plan in order to ensure more efficient stormwater management; include the location (GPS if possible), type, size, age, and expected replacement date of all culverts, catch basins, and drainage ditches in the Communities. (F5) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)	Short Term Ongoing for the life of the Plan	Deferred: Although the Bartlett Highway Department and NH Department of Transportation do an excellent job cleaning and repairing drainage basins and culverts, a written Culvert & Stormwater Maintenance Plan should be developed to ensure continuity of actions and efficient stormwater management. This strategy was deferred for continued maintenance and to develop a written Culvert & Stormwater Maintenance Plan in Bartlett detailing the size, material, installation date, recommended date for improvement, GPS location, and any associated problems (i.e., flooding). Several culverts and drainage systems in the Town need improvement. There is no need to defer this action item in Hart's location, as the Road Agent maintains only one culvert on one road. Action Item #7 (also in Table 6.1) (Bartlett & Hart's Location)
3-3	Action Item #29: With the next review of the Bartlett Master Plan, consider the incorporation of a Natural Hazards section and mitigation action items from this Plan. (MU6) (Table 6.1) (Bartlett)	Medium Term 2-3 Years (13-36 months)	Deferred: This strategy from the prior plan (Action Item #29) was combined with Action Item #25 from this Plan. Action Item #30 (also in Table 6.1)

Chapter 8: New Mitigation Strategies & STAPLEE

A. MITIGATION STRATEGIES BY TYPE

The following list of mitigation categories and possible strategy ideas was compiled from several sources, including the USFS, FEMA, other planners, and past hazard mitigation plans. This list was used during a brainstorming session to discuss the issues in town. Team involvement and the brainstorming sessions proved helpful in bringing new ideas, better relationships, and more in-depth knowledge of the Community.



Prevention

- Forest fire fuel reduction programs
- Special management regulations
- Fire Protection Codes NFPA 1
- Firewise® landscaping
- Culvert and hydrant maintenance
- Planning and zoning regulations
- Building Codes
- Density controls
- Driveway standards
- Slope development regulations
- Master Plan
- Capital Improvement Plan
- Rural Fire Water Resource Plan
- NFIP compliance

Public Education & Awareness

- Hazard information centers
- Public education and outreach programs
- Emergency website creation
- Firewise® training
- National Flood Insurance Program (NFIP)
- Public hazard notification
- Defensible space brochures

Emergency Service Protection

- Critical facilities protection
- Critical infrastructure protection
- Emergency training for town officials
- Ongoing training for first responders

Property Protection

- Current use or other conservation measures
- Transfer of development rights
- Firewise® landscaping
- Water drafting facilities
- High-risk notification for homeowners
- Structure elevation
- Real estate disclosures
- Floodproofing
- Building codes
- Development regulations

Natural Resource Protection

- Best management practices within the forest
- Forest and vegetation management
- Forestry and landscape management
- Development regulations for wetlands
- Watershed management
- Erosion control
- Soil stabilization
- Open space preservation initiatives

Structural Projects

- Structure acquisition and demolition
- Structure acquisition and relocation
- Bridge replacement
- Dam removal
- Culvert upsize or realignment

B. POTENTIAL MITIGATION STRATEGIES BY HAZARD

To further promote the concept of mitigation, the Team was provided with a handout developed by Mapping and Planning Solutions and used to determine what additional mitigation action items might be appropriate for the Town. The mitigation action items from that handout are listed below and on the following page. The Team considered each item from this comprehensive list of possible mitigation action items to determine if any could be implemented for Bartlett & Hart’s Location, emphasizing new and existing buildings and infrastructure.

Strategies that may apply to more than one hazard	Type of Project
• <i>Community Outreach and Education</i>	<i>Public Awareness</i>
• <i>Changes to Zoning Regulations</i>	<i>Prevention</i>
• <i>Changes to Subdivision Regulations</i>	<i>Prevention</i>
• <i>Steep Slopes Ordinance</i>	<i>Prevention</i>
• <i>Density Controls</i>	<i>Prevention</i>
• <i>Driveway Standards</i>	<i>Prevention</i>
• <i>Emergency Website Creation</i>	<i>Public Awareness</i>
• <i>Critical Infrastructure & Key Resources</i>	<i>Emergency Service Protection</i>
• <i>Emergency Training for Town Officials</i>	<i>Emergency Service Protection</i>
• <i>High-risk Notification to Homeowners</i>	<i>Property Protection</i>
• <i>Master Plan Update or Development</i>	<i>Prevention</i>
• <i>Capital Improvement Plan</i>	<i>Prevention</i>
Flood Mitigation Ideas	Type of Project
• <i>Stormwater Management Ordinances</i>	<i>Prevention</i>
• <i>Floodplain Ordinances</i>	<i>Prevention</i>
• <i>Updated Floodplain Mapping</i>	<i>Prevention</i>
• <i>Watershed Management</i>	<i>Natural Resource Protection</i>
• <i>Drainage Easements</i>	<i>Prevention</i>
• <i>Purchase of Easements</i>	<i>Prevention</i>
• <i>Wetland Protection</i>	<i>Natural Resource Protection</i>
• <i>Structural Flood Control Measures</i>	<i>Prevention</i>
• <i>Bridge Replacement</i>	<i>Structural Project</i>
• <i>Dam Removal</i>	<i>Structural Project</i>
• <i>NFIP Compliance</i>	<i>Prevention</i>
• <i>Acquisition, Demolition & Relocation</i>	<i>Structural Project</i>
• <i>Structure Elevation</i>	<i>Structural Project</i>
• <i>Floodproofing</i>	<i>Property Protection</i>
• <i>Erosion Control</i>	<i>Natural Resource Protection</i>
• <i>Floodplain/Coastal Zone Management</i>	<i>Prevention</i>
• <i>Building Codes Adoption or Amendments</i>	<i>Prevention</i>
• <i>Culvert & Hydrant Maintenance</i>	<i>Prevention</i>
• <i>Culvert & Drainage Improvements</i>	<i>Structural Protection</i>
• <i>Transfer of Development Rights</i>	<i>Property Protection</i>

Natural Hazard Mitigation Ideas	Type of Project
Landslide & Erosion	
• Slide-Prone Area Ordinance.....	Prevention
• Drainage Control Regulations.....	Prevention
• Grading Ordinances.....	Prevention
• Hillside Development Ordinances.....	Prevention
• Open Space Initiatives.....	Prevention
• Acquisition, Demolition & Relocation.....	Structural Project
• Vegetation Placement and Management.....	Natural Resource Protection
• Soil Stabilization.....	Natural Resource Protection
Lightning & Hail	
• Building Construction.....	Property Protection
High Wind Events	
• Construction Standards and Techniques.....	Property Protection
• Safe Rooms.....	Prevention
• Manufactured Home Tie Downs.....	Property Protection
• Building Codes.....	Property Protection
Wildfire	
• Building Codes.....	Property Protection
• Defensible Space.....	Prevention
• Forest Fire Fuel Reduction.....	Prevention
• Burning Restriction.....	Property Protection
• Water Resource Plan.....	Prevention
• Firewise® Training & Brochures.....	Public Awareness
• Woods Roads Mapping.....	Prevention
Extreme Temperatures	
• Warming & Cooling Stations.....	Prevention
Severe Winter Weather	
• Snow Load Design Standards.....	Property Protection
Subsidence	
• Open Space.....	Natural Resource Protection
• Acquisition, Demolition & Relocation.....	Structural Project
Earthquake	
• Construction Standards and Techniques.....	Property Protection
• Building Codes.....	Property Protection
• Bridge Strengthening.....	Structural Project
• Infrastructure Hardening.....	Structural Project
Drought	
• Water Use Ordinances.....	Prevention

C. STAPLEE METHODOLOGY

Table 8.1, *Potential Mitigation Items & the STAPLEE*, reflects the newly identified potential hazard mitigation action items and the results of the STAPLEE evaluation, as explained below. Many of these potential mitigation action items overlap. Some areas identified as “All Hazards” would also apply indirectly to wildfire response.

Each proposed mitigation action item aims “to reduce or eliminate the long-term risk to human life and property from hazards”. To determine the effectiveness of each mitigation action item in accomplishing this goal, a set of criteria that was developed by FEMA, the STAPLEE method, was applied to each proposed action item.

The STAPLEE method analyzes a project's social, technical, administrative, political, legal, economic, and environmental characteristics; public administration officials and planners commonly use it to make planning decisions. The following questions were asked about the proposed mitigation action items discussed in Table 8.1.

- Social**..... Is the proposed action item socially acceptable to the Community? Is there an equity issue that would result in one segment of the Community being treated unfairly?
- Technical**..... Will the proposed action item work? Will it create more problems than it solves?
- Administrative** Can the Community implement the action item? Is there someone to coordinate and lead the effort?
- Political** Is the action item politically acceptable? Is there public support both to implement and maintain the project?
- Legal**..... Is the Community authorized to implement the proposed action item? Is there a clear legal basis or precedent for this activity?
- Economic** What are the costs and benefits of this action item? Does the cost seem reasonable for the size of the problem and the potential benefits?
- Environmental** How will the action item impact the environment? Will it need environmental regulatory approvals?

Each proposed mitigation action item was evaluated and scored based on the above criteria. Each of the STAPLEE categories was discussed and was awarded one of the following scores:

1 - Poor 2 - Average..... 3 - Good

An evaluation chart with total scores for each new action item is shown in Table 8.1.

The “Type” of Action Item was also considered (see section A of this chapter for reference):

- **Prevention**
- **Public Education & Awareness**
- **Emergency Service Protection**
- **Property Protection**
- **Natural Resource Protection**
- **Structural Projects**

D. TEAM'S UNDERSTANDING OF HAZARD MITIGATION ACTION ITEMS

The Team determined that any strategy designed to reduce personal injury or damage to property that could be done before an actual disaster would be listed as a potential mitigation action item. This decision was made even though not all projects listed in Table 8.1 and Table 9.1, *The Mitigation Action Plan*, are fundable under FEMA pre-mitigation guidelines. The Team determined that this Plan was primarily a management document designed to assist the Select Board and other town officials in managing and tracking potential emergency planning action items. For instance, the Team knew some action items were more appropriately identified as preparedness or readiness issues. As no other established planning mechanism recognizes some of these issues, the Team did not want to lose the ideas discussed during these planning sessions and thought this method was the best way to achieve that objective.

The Town understands that the action items for a town of 10,000 may not be the same as those for 30,000. Also, the action items for a town in the middle of predominantly hardwood forests are not the same as those for a town on the Jersey Shore. Therefore, the Town of Bartlett & Hart's Location has accepted the **Mitigation Action Items** in Tables 8.1 and 9.1 as the complete list of action items for this town and only this town. Furthermore, the Town of Bartlett & Hart's Location indicates that, having considered a comprehensive list of possible mitigation action items (see sections A & B of this chapter) for this Plan, there are no additional action items to add now.

TABLE 8.1: POTENTIAL MITIGATION ACTION ITEMS & THE STAPLEE

Potential mitigation action items in Table 8.1 are listed in numerical order and indicate if they were derived from prior tables in this Plan, i.e., (Table 7.1). Items in green, such as (MU14), represent mitigation action items taken from Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards, FEMA, January 2013; see *Appendix F: Potential Mitigation Ideas*, for more information.

Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
Action Item #1: In addition to work done by and with local utility companies, monitor and maintain brush cutting, drainage system maintenance, and tree removal as part of a tree maintenance program. Create defensible space around power lines, oil and gas lines, and other infrastructure. Work to reduce the effects of invasive species, high wind events, ice storms, wildfires, and other natural hazards by clearing dead vegetation and cutting the Community's high grass and other fuel loads. (SW4, WF7, WF9 & F14) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)	<p>Affected Location -Jurisdiction-wide</p> <p>Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection</p>	3	3	3	2	3	2	3	19
		<i>Political: Some folks may resist tree-cutting Environmental: Environmentalists may show some concern for animals and tree protection</i>							
Action Item #2: Review, update, and maintain mutual aid agreements for the Fire, Police, and Highway Departments. Although this pertains specifically to Bartlett, it is also advantageous for Hart's Location, as all emergency services, except Law Enforcement, are received from Bartlett. (Emergency Preparedness) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)	<p>Affected Location -Jurisdiction-wide</p> <p>Type of Activity -Prevention -Emergency Service Protection</p>	3	3	3	3	3	3	3	21
		<i>No apparent difficulty with this action item</i>							
Action Item #3: Inspect the functionality of all hydrants and maintain and repair all hydrants and other water resources in Bartlett. Consider other community areas with limited water resources and address these issues by installing new hydrants, fire ponds, and cisterns. Work with local landowners to gain access to available water resources to help mitigate the effects of wildfires. (WF8, MU12 & MU13) (Tables 6.1 & 7.1) (Bartlett)	<p>Affected Location -Bartlett Dry & Pressurized Hydrants -Water resources</p> <p>Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection</p>	3	3	3	3	2	3	3	20
		<i>Legal: Dry hydrants are owned privately; it ties the hands of the FD to get them maintained and replaced as needed.</i>							

Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
<p>Action Item #4: Determine possible sites for a dry hydrant in Hart's Location (Saco River) or a 30,000-gallon cistern. (WF8, MU12 & MU13) (Tables 6.1 & 7.1) (Hart's Location)</p>	<p>Affected Location -Saco River-Hart's Location</p> <p>Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection</p>	3	1	2	1	1	1	1	10
		<p>Technical: Big challenge in Hart's because of the geography to put in a cistern or to draft</p> <p>Administrative: May need to bring outside help, must identify potential sites.</p> <p>Political: Will need the cooperation of the WMNF & State.</p> <p>Legal: No legal challenge for maintenance, property belongs to the State and Federal.</p> <p>Economical: Dry Hydrant/Cistern will have budget constraints; the cistern may need grants.</p> <p>Environmental: Will need WMNF approvals</p>							
<p>Action Item #5: Consider ways to get E-911 signage more compliant so that emergency responders can better assist the public in their time of need. Use public outreach opportunities such as the Town's websites or available social media to promote better compliance, promote general awareness, and develop other means of increasing compliance. (MU14) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	<p>Affected Location -Jurisdiction-wide</p> <p>Type of Activity -Prevention -Public Education & Awareness -Emergency Service Protection -Property Protection -Natural Resource Protection</p>	3	3	3	2	3	3	3	20
		<p>Political: Some people want their own signs.</p>							
<p>Action Item #6: Publicize and offer a hazardous materials collection day (through Conway) and educate homeowners on household hazardous materials dangers. (MU16) (Table 7.1) (Bartlett & Hart's Location)</p>	<p>Affected Location -Jurisdiction-wide</p> <p>Type of Activity -Prevention -Public Education & Awareness</p>	3	3	3	3	3	3	3	21
		<p>No apparent difficulty with this action item</p>							
<p>Action Item #7: Maintain culverts and ditches in the Community and develop and maintain a written stormwater maintenance plan to ensure more efficient stormwater management. In this plan or "inventory", include the location, installation date, GPS coordinates, material, type, size, age, and expected replacement date of all culverts, catch basins, and drainage ditches in the Community. (F5) (Tables 6.1 & 7.1) (Bartlett)</p>	<p>Affected Location -Culverts & Ditches</p> <p>Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection</p>	3	3	2	3	3	2	3	19
		<p>Administrative: Finding time to execute this action item may be short.</p> <p>Economical: Budget constraints</p>							
<p>Action Item #8: Submit letters of intent to HSEM/FEMA regarding rebuilding and improving all areas along the Rocky Branch River that are subject to flooding, including along the Rocky Branch River near Jericho, Route 302, and Sleepy Hollow Roads in Glen, along the East Branch River from Town Hall Road to Route 16A, Razor Brook at the Saco, Cobb Farm Road, the Saco River Street berm, the Rocky Branch berm, and Waterfront Road. Pursue funding opportunities and permit acquisitions through State and Federal Agencies. Engage the relevant parties to ensure their participation. (F13) (Table 7.1) (Bartlett)</p>	<p>Affected Location -Bartlett</p> <p>Type of Activity -Prevention -Emergency Service Protection -Property Protection -Structural Project</p>	3	2	1	3	2	2	3	16
		<p>Administrative: Engineering will be required</p> <p>Political: Some may disagree on the type of mitigation that is proposed.</p> <p>Economical: Budget constraints</p> <p>Environmental: DES approvals may be needed.</p>							
<p>Action Item #9: The Emergency Management Directors (EMD) to encourage all town officials who may be required to respond to an emergency and any new emergency responders to take NIMS 700 (S-700) & ICS (ISC100 & ISC200). Additionally, the EMDs should encourage key personnel to learn about and become adept with WEB-EOC. (Emergency Preparedness) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	<p>Affected Location -Jurisdiction-wide</p> <p>Type of Activity -Prevention -Emergency Service Protection</p>	3	3	2	3	3	3	3	20
		<p>Administrative: Some people may want to be paid for their time.</p>							

Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
<p>Action Item #10: The Fire Chief, Police Chief, EMS Director (Bartlett-Jackson Ambulance), and the EMD to provide ongoing training for all emergency responders. Training to include the many aspects of emergency response, including EMS, wildfire suppression, confined spaces, HazMat, active shooter, and terrorism. Training is done locally or through Mount Washington Valley Mutual Aid and the State of New Hampshire at the NH Fire and Police Academies. (Emergency Preparedness) (Table 6.1) (Bartlett)</p>	<p><u>Affected Location</u> -Bartlett</p> <p><u>Type of Activity</u> -Prevention -Emergency Service Protection</p>	3	3	3	3	3	3	3	21
		<p><i>No apparent difficulty with this action item</i></p>							
<p>Action Item #11: Provide robust information on the Emergency Management webpage and social media platforms to educate the public on hazard mitigation and preparedness measures. Include preparedness information such as shelter locations, evacuation routes, methods of emergency alerting, and 911 compliance. Include mitigation strategies for flooding, earthquakes, tornadoes, severe winter weather, lightning, and climate change. Provide information on infectious diseases, encourage homeowners to install carbon monoxide monitors and alarms, and monitor radon in their homes. Offer residents and business owners reminders to clear snow from roofs during high accumulation snow years. (MU14, SW7, WF11, D9, T3, EQ7, ET1, ET4, L2, HA3, WW5) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	<p><u>Affected Location</u> -Jurisdiction-wide</p> <p><u>Type of Activity</u> -Prevention -Public Education & Awareness -Property Protection</p>	3	3	3	1	3	3	3	19
		<p><i>Political: Some residents don't use or understand technology, so they may resist changes.</i></p>							
<p>Action Item #12: Provide public outreach to encourage all residents to contact Genasys (formerly CodeRED) to add cell numbers, unlisted numbers, and emails, and verify their information. Use the Town's websites, possible brochures, available social media platforms, local newsletters, or sign up at a Town Meeting. (MU14) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	<p><u>Affected Location</u> -Jurisdiction-wide</p> <p><u>Type of Activity</u> -Prevention -Public Education & Awareness -Emergency Service Protection</p>	3	3	3	3	3	3	3	21
		<p><i>No apparent difficulty with this action item</i></p>							
<p>Action Item #13: Advise the public about the local flood hazard, flood insurance, and flood protection measures by obtaining and keeping a supply of NFIP brochures available in the Town Offices. When proposing new development or substantial improvements, give NFIP materials to homeowners and builders. Encourage property owners to purchase flood insurance, whether they are in the flood zone, and provide appropriate links to the NFIP and Ready.gov on the Town's website or available social media platforms. Through Public Outreach, educate homeowners regarding the risks of building in the flood zone and measures to reduce flooding. Actively work with residents and builders to ensure they comply with the Town's Floodplain Ordinance. (F10, F22 & F23) (Table 6.1) (Bartlett & Hart's Location)</p>	<p><u>Affected Location</u> -Areas prone to flooding</p> <p><u>Type of Activity</u> -Prevention -Public Education & Awareness -Property Protection</p>	3	3	3	3	3	3	3	21
		<p><i>No apparent difficulty with this action item</i></p>							
<p>Action Item #14: Post important information on the Town's websites and notices of red flag burning days. Obtain and have available Firewise® brochures to educate homeowners on methods to reduce fire risk around their homes and provide a link to Firewise® on the emergency page of the Town's websites. Provide Firewise® brochures to those residents seeking burn permits (if not obtained online); advise residents of the importance of maintaining defensible space, the safe disposal of household waste, and the removal of dead or dry leaves, needles, twigs, and combustible materials from roofs, decks, eaves, porches, and yards. (WF10 & WF12) (Table 7.1) (Bartlett & Hart's Location)</p>	<p><u>Affected Location</u> -Jurisdiction-wide</p> <p><u>Type of Activity</u> -Prevention -Public Education & Awareness -Emergency Service Protection -Property Protection -Natural Resource Protection</p>	3	3	3	3	3	3	3	21
		<p><i>No apparent difficulty with this action item</i></p>							

Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
<p>Action Item #15: To promote private mitigation efforts, provide public outreach to the citizens of Bartlett and Hart's Location on the importance of maintaining private roads and culverts to allow for safe access for fire apparatus into wildland-urban interface neighborhoods and properties. This education will help ensure accessibility for emergency response, decrease the wildfire risk, and may prevent flooding on local roads. (MU16) (Table 7.1) (Bartlett & Hart's Location)</p>	<p>Affected Location -Private Roads</p>	3	3	3	2	3	3	3	20
	<p>Type of Activity -Prevention -Public Education & Awareness -Emergency Service Protection -Property Protection -Natural Resource Protection</p>	<p><i>Political: Some will not heed the recommendations.</i></p>							
<p>Action Item #16: Provide public outreach to the citizens of Bartlett regarding the availability of the Josiah Bartlett School as a "cooling or warming center" during extended high temperatures and severe winter weather. (ET3 & WW6) (Other Plans) (Bartlett)</p>	<p>Affected Location -Josiah Bartlett School</p>	3	3	3	3	3	3	3	21
	<p>Type of Activity -Prevention -Public Education & Awareness</p>	<p><i>No apparent difficulty with this action item</i></p>							
<p>Action Item #17: Provide public outreach to the citizens of Hart's Location regarding the availability of the Notchland Inn as a "cooling or warming center" during extended high temperatures and severe winter weather. (ET3 & WW6) (Other Plans) (Hart's Location)</p>	<p>Affected Location -Notchland Inn</p>	3	3	3	3	3	3	3	21
	<p>Type of Activity -Prevention -Public Education & Awareness</p>	<p><i>No apparent difficulty with this action item</i></p>							
<p>Action Item #18: Implement a program to inform short-term rental owners about the fire permitting requirements set by the State and Town. (WF11) (Bartlett & Hart's Location)</p>	<p>Affected Location -Jurisdiction-wide</p>	3	3	3	3	3	3	3	21
	<p>Type of Activity -Prevention -Public Education & Awareness</p>	<p><i>No apparent difficulty with this action item</i></p>							
<p>Action Item #19: Complete annual reviews of the Bartlett & Hart's Location, NH, Multi-jurisdictional Hazard Mitigation Plan 2025, including a review of the "Action Items" status to encourage completion. Obtain approval from the local elected body annually and provide a complete update of the Plan in five years. (MU11) (Table 6.1) (Bartlett & Hart's Location)</p>	<p>Affected Location -Jurisdiction-wide</p>	3	3	3	3	3	3	3	21
	<p>Type of Activity -Prevention</p>	<p><i>No apparent difficulty with this action item</i></p>							
<p>Action Item #20: Work with NH Forests & Lands (DNCR) or the White Mountain National Forest (WMNF) to obtain a Fire Danger Sign in both towns based on suitable locations to better inform residents and visitors of the daily fire danger. (WF11) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	<p>Affected Location -To be determined</p>	3	3	2	3	3	3	3	20
	<p>Type of Activity -Prevention -Public Education & Awareness -Emergency Service Protection -Property Protection -Natural Resource Protection -Structural Project</p>	<p><i>Administrative: The sign must be changed daily to reflect conditions.</i></p>							
<p>Action Item #21: Secure a Memorandum of Understanding (MOU) with Notchland Inn to outline arrangements should the Inn be needed as the Emergency Operations Center (EOC) and/or the Shelter. (Emergency Preparedness) (Table 7.1) (Hart's Location)</p>	<p>Affected Location -Hart's Location</p>	3	3	3	3	3	3	3	21
	<p>Type of Activity -Emergency Service Protection</p>	<p><i>No apparent difficulty with this action item</i></p>							
<p>Action Item #22: Submit letters of intent to HSEM/FEMA regarding rebuilding and improving the Saco River and tributary levees and pursue funding opportunities and permit acquisitions through State and Federal Agencies. Engage the relevant parties to ensure their participation. (F14) (Table 7.1) (Bartlett)</p>	<p>Affected Location -Town's Levees</p>	3	3	3	2	3	3	3	20
	<p>Type of Activity -Prevention -Property Protection -Natural Resource Protection</p>	<p><i>Political: There may be pushback on the project.</i></p>							

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Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
Action Item #23: Upgrade the aging four-foot metal oval culvert with a concrete box culvert of a larger size to improve stormwater flow on Foster Street. (MU13 & F13) (Table 6.1) (Bartlett)	<u>Affected Location</u> -Foster Street Culvert <u>Type of Activity</u> -Prevention -Emergency Service Protection -Structural Project	2	3	3	1	3	1	2	15
		<i>Social: There will be minor traffic inconveniences. Political: Residents of the area are opposed, as this may bring more development to the area Economical: Budget constraints Environmental: DES approvals will be needed.</i>							
Action Item #24: Upgrade the aging granite box culvert with a more modern and efficient plastic culvert of a larger size to improve stormwater flow on Thorn Hill Road. (MU13 & F13) (Table 7.1) (Bartlett)	<u>Affected Location</u> -Thorn Hill Road <u>Type of Activity</u> -Prevention -Emergency Service Protection -Structural Project	3	3	3	3	3	3	3	21
		No apparent difficulty with this action item							
Action Item #25: Work with the Bartlett Select Board to establish a Capital Reserve Fund (CRF) for Emergency Management. (Emergency Preparedness) (Tables 6.1 & 7.1) (Bartlett)	<u>Affected Location</u> -Bartlett <u>Type of Activity</u> -Emergency Service Protection	3	3	3	2	3	3	3	20
		<i>Political: Some may not see the need for this action item.</i>							
Action Item #26: Update the Bartlett & Hart's Location Multi-Jurisdictional Emergency Operations Plan (EOP) to coincide with the State's 18-ESF format. Include an analysis of the impact of natural hazards on Critical Infrastructure & Key Resources (CIKR) that may be needed during an emergency. Like the current EOP, the new EOP should include an EOC Call Alert List, a detailed Resource Inventory List, and Player Packets. Explore available options to complete this project. (MU6) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)	<u>Affected Location</u> -Jurisdiction-wide <u>Type of Activity</u> -Prevention -Emergency Service Protection	3	3	3	3	3	3	3	21
		No apparent difficulty with this action item							
Action Item #27: Obtain funding and install a permanent generator at the Bartlett Town Hall/Police Station (which would also serve the Highway Garage) to improve the effectiveness of these facilities during a disaster. (Emergency Preparedness & MU13) (Tables 6.1 & 7.1) (Bartlett)	<u>Affected Location</u> -Bartlett Town Hall/Police Station <u>Type of Activity</u> -Prevention -Emergency Service Protection	3	3	3	3	3	2	3	20
		<i>Economical: Budget constraints</i>							
Action Item #28: Obtain funding and install a permanent generator at the Hart's Location Town Hall to improve the effectiveness of this facility during a disaster. (Emergency Preparedness & MU13) (Tables 6.1 & 7.1) (Hart's Location)	<u>Affected Location</u> -Hart's Location Town Hall <u>Type of Activity</u> -Prevention -Emergency Service Protection	3	3	3	3	3	1	3	19
		<i>Economical: Budget constraints</i>							
Action Item #29: Review the Bartlett and Hart's Location Subdivision, Floodplain, Groundwater Protection, Zoning, and Site Plan Review Regulations to consider changes to enhance mitigation efforts across each Community. Update these planning mechanisms and integrate elements from this Plan where possible. (WF2, F1 & MU6) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)	<u>Affected Location</u> -Jurisdiction-wide <u>Type of Activity</u> -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection	3	3	3	3	3	3	3	21
		No apparent difficulty with this action item							

Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
<p>Action Item #30: Update both the Bartlett and the Hart's Location Master Plans according to the State's 10-year recommendation and consider including a natural hazards section, a discussion on climate change, and action items from this Plan in future updates. Review this Plan, the Bartlett & Hart's Location, NH Multi-jurisdictional Hazard Mitigation Plan 2025, when working on the Master Plan. (MU6) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	<p>Affected Location -Jurisdiction-wide</p> <p>Type of Activity -Prevention</p>	3	3	2	2	3	3	3	19
		<p><i>Administrative: Time is limited; personnel are limited</i></p> <p><i>Political: Some people will not see the need.</i></p>							
<p>Action Item #31: Seek locations and opportunities to install one or more cell towers to assist with communications in Hart's Location. Consider Starlink as an alternative. Contact the State for assistance as needed. (Emergency Preparedness) (Table 7.1) (Hart's Location)</p>	<p>Affected Location -To be determined</p> <p>Type of Activity -Prevention -Emergency Service Protection</p>	3	1	1	1	3	3	3	15
		<p><i>Technical: Must find a company that is willing to develop a cell tower in Hart's Location.</i></p> <p><i>Administrative: A site must be found.</i></p> <p><i>Political: May need participation from the WMNF and/or the State.</i></p>							
<p>Action Item #32: Collaborate with local contractors and mutual aid networks to enhance communication infrastructure by installing new repeaters, as advised by certified installers. (Emergency Response) (Bartlett & Hart's Location)</p>	<p>Affected Location -To be determined</p> <p>Type of Activity -Prevention -Emergency Service Protection</p>	3	3	2	3	3	3	3	20
		<p><i>Administrative: Collaboration with several entities may be needed</i></p>							
<p>Action Item #33: With the assistance of qualified personnel, inspect all town facilities to determine if an investment in lightning rods would be beneficial. Install lightning rods as recommended. (L1) (Bartlett)</p>	<p>Affected Location -Town-owned buildings in Bartlett</p> <p>Type of Activity -Prevention -Emergency Service Protection -Property Protection</p>	3	3	3	3	3	3	3	21
		<p><i>No apparent difficulty with this action item</i></p>							

Chapter 9: Implementation Schedule for Prioritized Action Items

A. PRIORITY METHODOLOGY

After reviewing the finalized STAPLEE numerical ratings, the Planner and the Team developed *Table 9.1, The Mitigation Action Plan*. To do this, the Planner created four categories in which to place the potential mitigation action items.

CATEGORY A

Category A includes those items that are being done and will continue to be done in the future.

CATEGORY B

Category B includes those items under the direct control of town officials within the financial capability of the Town using only town funding, those already being done or planned, and those that could generally be completed within one year.

CATEGORY C

Category C includes those items that the Town does not have sole authority to act upon, those for which funding might be beyond the Town's capability, and those generally taking 13-36 months to complete.

CATEGORY D

Category D includes those items that would take a significant funding effort, the Town has little control over the final decision, and those that would take more than 37 months to complete.

Each potential mitigation action item was placed in one of these four categories. Then, those action items were prioritized within each category according to cost-benefit, time frame, and STAPLEE scores. Actual cost estimates were unavailable during the planning process. However, the Team could agree on the cost-benefit for each proposed action item using the STAPLEE process and a Very Low Cost to High-Cost estimate (see the following page).

The following criteria were considered while ranking and prioritizing each action item:

- *Does the action reduce damage?*
- *Does the action contribute to community objectives?*
- *Does the action meet existing regulations?*
- *Does the action protect historic structures?*
- *Does the action keep in mind future development?*
- *Can the action be implemented quickly?*

The prioritization exercise helped the committee evaluate the new hazard mitigation action items they brainstormed throughout the planning process. While all actions would improve the Town's hazard and wildfire responsiveness capability, funding availability will be a driving factor in determining what and when new mitigation action items are implemented.

B. WHO, WHEN & How?

Once this was completed, the Team developed an action plan to outline responsibilities, time frames, and methods for implementing each action item. The following questions were asked to develop a schedule for the identified mitigation action items.

WHO? Who will lead the implementation efforts? Who will put together funding requests and applications?

WHEN? When will these actions be implemented, and in what order?

HOW? How will the Community fund these projects? How will the Community implement these projects? What resources will be needed to implement these projects?

In addition to the prioritized mitigation action items, *Table 9.1, The Mitigation Action Plan*, includes the responsible party (WHO), how the project will be supported (HOW), and what the time frame is for implementation of the project (WHEN).

Once the Plan is approved, the Community will begin working on the action items listed in *Table 9.1, The Mitigation Action Plan* (see below and on the following pages). An estimation of completion for each action item is noted in the “Time Frame” column of Table 9.1. Some projects, including most training and education of residents on emergency and evacuation procedures, could be tied into the emergency operations plan and implemented through that planning effort.

TABLE 9.1: THE MITIGATION ACTION PLAN

Table 9.1, *The Mitigation Action Plan*, beginning on the following page, includes problem statements expressed by the Team. These action items are listed by priority and indicate if they were derived from other tables in this Plan.

Key to the Estimated Cost	
Very Low Cost	\$0-or staff time only
Low Cost	Less than \$20,000
Medium Cost	\$20,000-\$100,000
High Cost	\$100,000-\$1,000,000
Very High Cost	Greater than \$1,000,000

Key to the Time Frame	
Life of Plan	Starting on Plan adoption 2026-2031 (0-60 months)
Short Term	1 year 2026-2027 (0-12 months)
Medium Term	2 years starting in 2027 – 2029 (12 – 36 months)
Long-term	3 years starting in 2029 – 2031 (36 -60 months)

In the following table, “Final R/P” means final rate and priority. Items in green, such as (MU14), represent mitigation action items taken from Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards, FEMA, January 2013; see *Appendix F: Potential Mitigation Ideas* for more information.

Mitigation Action Items are listed in order of priority.

Final R/P	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-1	<p>Problem Statement: As trees become damaged and threaten structures and town roads, the Bartlett Highway Department removes them. The NH DOT and NH Electric Coop (Asplundh) do this for state roads as needed. In Hart's Location, there is only one town road, which is cared for by residents and the Road Agent. There is a need to continue to work to keep this hazard to a minimum.</p> <p>Action Item #1: In addition to work done by and with local utility companies, monitor and maintain brush cutting, drainage system maintenance, and tree removal as part of a tree maintenance program. Create defensible space around power lines, oil and gas lines, and other infrastructure. Work to reduce the effects of invasive species, high wind events, ice storms, wildfires, and other natural hazards by clearing dead vegetation and cutting the Community's high grass and other fuel loads. (SW4, WF7, WF9 & F14) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	High Wind Events, Wildfire, Severe Winter Weather & Inland Flooding	Bartlett Highway Department & Hart's Location Road Agent	Local	Life of the Plan	Very Low Cost
A-2	<p>Problem Statement: The Bartlett Fire Department has a mutual aid agreement with the Mount Washington Valley Mutual Aid. The Bartlett Police Department has mutual aid agreements with surrounding towns, the NH State Police (Troop E), the Carroll County Sheriff's Office, and Fish & Game. The Bartlett Highway Department is an NH Public Works Mutual Aid Association member. Bartlett-Jackson Ambulance performs EMS services and medical transportation and has its own mutual aid. All mutual aid systems in Bartlett work well. Hart's Location receives all services from Bartlett and other mutual aid members. However, the Carroll County Sheriff's Office (CCSO) provides law enforcement for Hart's Location; this usually results in a mutual aid call from the CCSO to the Bartlett Police. Mutual aid systems and agreements should be reviewed, updated, and maintained.</p> <p>Action Item #2: Review, update, and maintain mutual aid agreements for the Fire, Police, and Highway Departments. Although this pertains specifically to Bartlett, it is also advantageous for Hart's Location, as all emergency services, except Law Enforcement, are received from Bartlett. (Emergency Preparedness) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	All Hazards	Bartlett Police, Fire, and Highway Departments & Bartlett-Jackson Ambulance	Local	Life of the Plan	Very Low Cost
A-3	<p>Problem Statement: Pressurized hydrants, dry hydrants, and drafting sites throughout Bartlett provide water resources for firefighting. The maintenance of Bartlett's hydrants needs to continue. In some areas, Bartlett could benefit from additional water resources for firefighting.</p> <p>Action Item #3: Inspect the functionality of all hydrants and maintain and repair all hydrants and other water resources in Bartlett. Consider other community areas with limited water resources and address these issues by installing new hydrants, fire ponds, and cisterns. Work with local landowners to gain access to available water resources to help mitigate the effects of wildfires. (WF8, MU12 & MU13) (Tables 6.1 & 7.1) (Bartlett)</p>	Wildfire	Bartlett Fire Department	Local	Life of the Plan	Very Low Cost (looking for a new) & Medium Cost (installation of a cistern or dry hydrant)

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Final R/P	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-4	<p>Problem Statement: In Hart's Location, drafting is done from the Saco River; there are no dry hydrants or cisterns, and drafting can be difficult.</p> <p>Action Item #4: Determine possible sites for a dry hydrant in Hart's Location (Saco River) or a 30,000-gallon cistern. (WF8, MU12 & MU13) (Tables 6.1 & 7.1) (Hart's Location)</p>	Wildfire & Conflagration	Bartlett Fire Department	Local	Life of the Plan	Very Low Cost (looking for a new) & Medium Cost (installation of a cistern or dry hydrant)
A-5	<p>Problem Statement: The Towns have continuously used public outreach to remind residents of the need for proper E911 signage. However, Bartlett is only about 40% compliant, and Hart's Location is about 50% compliant with the proper E911 signage.</p> <p>Action Item #5: Consider ways to get E-911 signage more compliant so that emergency responders can better assist the public in their time of need. Use public outreach opportunities such as the Town's websites or available social media to promote better compliance, promote general awareness, and develop other means of increasing compliance. (MU14) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	All Hazards	Emergency Management Directors (B&H) & the Bartlett Firefighter's Association	Local	Life of the Plan	Very Low Cost
A-6	<p>Problem Statement: Bartlett and Hart's Location have provided outreach to their citizens regarding the dangers of household hazards.</p> <p>Action Item #6: Publicize and offer a hazardous materials collection day (through Conway) and educate homeowners on household hazardous materials dangers. (MU16) (Table 7.1) (Bartlett & Hart's Location)</p>	Hazardous Materials	Emergency Management Directors & Website Administrators (B&H)	Local	Life of the Plan	Low Cost
A-7	<p>Problem Statement: Although the Bartlett Highway Department and NH Department of Transportation do an excellent job cleaning and repairing drainage basins and culverts, a written Culvert & Stormwater Maintenance Plan should be developed to ensure continuity of actions and efficient stormwater management.</p> <p>Action Item #7: Maintain culverts and ditches in the Community and develop and maintain a written stormwater maintenance plan to ensure more efficient stormwater management. In this plan or "inventory", include the location, installation date, GPS coordinates, material, type, size, age, and expected replacement date of all culverts, catch basins, and drainage ditches in the Community. (F5) (Tables 6.1 & 7.1) (Bartlett)</p>	Inland Flooding	Bartlett Highway Department	Local	Life of the Plan	Low Cost

BARTLETT & HART'S LOCATION, NH HAZARD MITIGATION PLAN UPDATE 2026

Final R/P	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-8	<p>Problem Statement: Flooding occurs often in Bartlett, along the Rocky Branch River near Jericho, Route 302, Sleepy Hollow Road in Glen, along the East Branch River from Town Hall Road to Route 16A, Razor Brook at the Saco, Cobb Farm Road, the Saco River Street berm, the Rocky Branch berm, and Waterfront Road.</p> <p>Action Item #8: Submit letters of intent to HSEM/FEMA regarding rebuilding and improving all areas along the Rocky Branch River that are subject to flooding, including along the Rocky Branch River near Jericho, Route 302, and Sleepy Hollow Roads in Glen, along the East Branch River from Town Hall Road to Route 16A, Razor Brook at the Saco, Cobb Farm Road, the Saco River Street berm, the Rocky Branch berm, and Waterfront Road. Pursue funding opportunities and permit acquisitions through State and Federal Agencies. Engage the relevant parties to ensure their participation. (F13) (Table 7.1) (Bartlett)</p>	Inland Flooding	Bartlett Highway Department	Local & Grants	Life of the Plan	High Cost)
A-9	<p>Problem Statement: Although first responders, including firefighters, have received NIMS & ICS training, not all of either Bartlett or Hart's Location town officials have.</p> <p>Action Item #9: The Emergency Management Directors (EMD) to encourage all town officials who may be required to respond to an emergency and any new emergency responders to take NIMS 700 (S-700) & ICS (ISC100 & ISC200). Additionally, the EMDs should encourage key personnel to learn about and become adept with WEB-EOC. (Emergency Preparedness) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	All Hazards	Emergency Management Directors (B&H)	Local	Life of the Plan	Very Low Cost
A-10	<p>Problem Statement: The Fire Chief, Police Chief, EMS Director, and the EMD coordinate all responders' training, which includes the many aspects of emergency response. This training needs to continue.</p> <p>Action Item #10: The Fire Chief, Police Chief, EMS Director (Bartlett-Jackson Ambulance), and the EMD to provide ongoing training for all emergency responders. Training to include the many aspects of emergency response, including EMS, wildfire suppression, confined spaces, HazMat, active shooter, and terrorism. Training is done locally or through Mount Washington Valley Mutual Aid and the State of New Hampshire at the NH Fire and Police Academies. (Emergency Preparedness) (Table 6.1) (Bartlett)</p>	All Hazards	Bartlett Fire & Police Departments; Bartlett-Jackson Ambulance, and the Emergency Management Director	Local & Grants	Life of the Plan	Low Cost
A-11	<p>Problem Statement: Bartlett and Hart's Location have websites but lack emergency-related links and information. There are no dedicated Emergency Management webpages.</p> <p>Action Item #11: Provide robust information on the Emergency Management webpage and social media platforms to educate the public on hazard mitigation and preparedness measures. Include preparedness information such as shelter locations, evacuation routes, methods of emergency alerting, and 911 compliance. Include mitigation strategies for flooding, earthquakes, tornadoes, severe winter weather, lightning, and climate change. Provide information on infectious diseases, encourage homeowners to install carbon monoxide monitors and alarms, and monitor radon in their homes. Offer residents and business owners reminders to clear snow from roofs during high accumulation snow years. (MU14, SW7, WF11, D9, T3, EQ7, ET1, ET4, L2, HA3, WW5) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	High Wind Events, Drought, Inland Flooding, Earthquakes, Extreme Temperatures, Lightning, Severe Winter Weather, Tornados, Wildfire & Infectious Diseases	Emergency Management Directors & Website Administrators (B&H)	Local	Life of the Plan	Low Cost

BARTLETT & HART'S LOCATION, NH HAZARD MITIGATION PLAN UPDATE 2026

Final R/P	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-12	<p>Problem Statement: Genasys (formerly CodeRED) is an excellent warning system that only stores residents' landline phone numbers. Residents may not be aware that they can add cell numbers, emails, and unlisted numbers.</p> <p>Action Item #12: Provide public outreach to encourage all residents to contact Genasys (formerly CodeRED) to add cell numbers, unlisted numbers, and emails, and verify their information. Use the Town's websites, possible brochures, available social media platforms, local newsletters, or sign up at a Town Meeting. (MU14) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	All Hazards	Emergency Management Directors & Website Administrators (B&H)	Local	Life of the Plan	Very Low Cost
A-13	<p>Problem Statement: Residents and builders may not be aware of flood regulations & the availability of flood insurance through the National Flood Insurance Program (NFIP). They may also not be aware of the risk of building in the floodplain and the steps they can take to reduce flooding.</p> <p>Action Item #13: Advise the public about the local flood hazard, flood insurance, and flood protection measures by obtaining and keeping a supply of NFIP brochures available in the Town Offices. When proposing new development or substantial improvements, give NFIP materials to homeowners and builders. Encourage property owners to purchase flood insurance, whether they are in the flood zone, and provide appropriate links to the NFIP and Ready.gov on the Town's website or available social media platforms. Through Public Outreach, educate homeowners regarding the risks of building in the flood zone and measures to reduce flooding. Actively work with residents and builders to ensure they comply with the Town's Floodplain Ordinance. (F10, F22 & F23) (Table 6.1 & 7.1) (Bartlett & Hart's Location)</p>	Inland Flooding	Emergency Management Directors & Website Administrators (B&H)	Local	Life of the Plan	Very Low Cost
A-14	<p>Problem Statement: Although Bartlett and Hart's Location do a good job using their website to promote preparedness, residents may not be aware of the steps they can take to reduce the fire risk at their homes.</p> <p>Action Item #14: Post important information on the Towns' websites and notices of red flag burning days. Obtain and have available Firewise® brochures to educate homeowners on methods to reduce fire risk around their homes and provide a link to Firewise® on the emergency page of the Town's websites. Provide Firewise® brochures to those residents seeking burn permits (if not obtained online); advise residents of the importance of maintaining defensible space, the safe disposal of household waste, and the removal of dead or dry leaves, needles, twigs, and combustible materials from roofs, decks, eaves, porches, and yards. (WF10 & WF12) (Table 7.1) (Bartlett & Hart's Location)</p>	Wildfire & Conflagration	Bartlett Fire Chief, Emergency Management Directors & Website Administrators (B&H)	Local	Life of the Plan	Very Low Cost
A-15	<p>Problem Statement: Residents may not be aware of the importance of maintaining their private roads to allow emergency responders access and prevent wildfires.</p> <p>Action Item #15: To promote private mitigation efforts, provide public outreach to the citizens of Bartlett and Hart's Location on the importance of maintaining private roads and culverts to allow for safe access for fire apparatus into wildland-urban interface neighborhoods and properties. This education will help ensure accessibility for emergency response, decrease the wildfire risk, and may prevent flooding on local roads. (MU16) (Table 7.1) (Bartlett & Hart's Location)</p>	Inland Flooding, Wildfire & Conflagration	Emergency Management Directors & Website Administrators (B&H)	Local	Life of the Plan	Very Low Cost

BARTLETT & HART'S LOCATION, NH HAZARD MITIGATION PLAN UPDATE 2026

Final R/P	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-16	<p>Problem Statement: Although public outreach has been done to advise the citizens of Bartlett of the possibility of using the Josiah Bartlett School as a cooling shelter in times of extended high temperatures and as a warming center in times of extended cold temperatures, additional public outreach needs to be done.</p> <p>Action Item #16: Provide public outreach to the citizens of Bartlett regarding the availability of the Josiah Bartlett School as a "cooling or warming center" during extended high temperatures and severe winter weather. (ET3 & WW6) (Other Plans) (Bartlett)</p>	Extreme Temperatures & Severe Winter Weather	Emergency Management Director & Website Administrator	Local	Life of the Plan	Very Low Cost
A-17	<p>Problem Statement: Although public outreach has been done to advise the citizens of Hart's Location of the possibility of using the Notchland Inn as a cooling shelter in times of extended high temperatures and as a warming center in times of extended cold temperatures, additional public outreach needs to be done.</p> <p>Action Item #17: Provide public outreach to the citizens of Hart's Location regarding the availability of the Notchland Inn as a "cooling or warming center" during extended high temperatures and severe winter weather. (ET3 & WW6) (Other Plans) (Hart's Location)</p>	Extreme Temperatures & Severe Winter Weather	Emergency Management Director & Website Administrator	Local	Life of the Plan	Very Low Cost
A-18	<p>Problem Statement: The owners of short-term rental properties and those who rent these properties are not aware of fire permitting requirements.</p> <p>Action Item #18: Implement a program to inform short-term rental owners about the fire permitting requirements set by the State and Town. (WF11) (Bartlett & Hart's Location)</p>	Wildfire & Conflagration	Bartlett & Hart's Location Select Boards	Local	Life of the Plan	Very Low Cost
B-1	<p>Problem Statement: This Plan, the Bartlett & Hart's Location, NH Multi-jurisdictional Hazard Mitigation Plan 2025, will require an annual review and a complete update in five years.</p> <p>Action Item #19: Complete annual reviews of the Bartlett & Hart's Location, NH, Multi-jurisdictional Hazard Mitigation Plan 2025, including a review of the "Action Items" status to encourage completion. Obtain approval from the local elected body annually and provide a complete update of the Plan in five years. (MU11) (Table 6.1) (Bartlett & Hart's Location)</p>	All Hazards	Emergency Management Directors	Local	Short Term & Long Term	Low Cost
B-2	<p>Problem Statement: There are two fire danger signs in the Jurisdiction, but additional signs would be beneficial.</p> <p>Action Item #20: Work with NH Forests & Lands (DNCR) or the White Mountain National Forest (WMNF) to obtain a Fire Danger Sign in both towns based on suitable locations to better inform residents and visitors of the daily fire danger. (WF11) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	Wildfire	Emergency Management Directors	Local	Short Term	Low Cost

BARTLETT & HART'S LOCATION, NH HAZARD MITIGATION PLAN UPDATE 2026

Final R/P	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
B-3	<p>Problem Statement: Hart's Location does not have a Memorandum of Understanding (MOU) with Notchland Inn to utilize that property as the primary Emergency Operations Center (EOC) and the primary Shelter.</p> <p>Action Item #21: Secure a Memorandum of Understanding (MOU) with Notchland Inn to outline arrangements should the Inn be needed as the Emergency Operations Center (EOC) and/or the Shelter. (Emergency Preparedness) (Table 7.1) (Hart's Location)</p>	All Hazards	Hart's Location Emergency Management Director	Local	Short Term	Very Low Cost
B-4	<p>Problem Statement: Although the conversation with the Department of Environmental Services (DES) has continued since the last hazard mitigation plan, more work must be done to mitigate failing levees in Bartlett.</p> <p>Action Item #22: Submit letters of intent to HSEM/FEMA regarding rebuilding and improving the Saco River and tributary levees and pursue funding opportunities and permit acquisitions through State and Federal Agencies. Engage the relevant parties to ensure their participation. (F14) (Table 7.1) (Bartlett)</p>	Aging Infrastructure & Inland Flooding	Bartlett Select Board	Local & Grants	Short Term	Very Low Cost
C-1	<p>Problem Statement: The Bartlett Highway Department has established a short and long-term bridge maintenance and replacement schedule. There is one red-listed bridge in Bartlett, although it is actually a large culvert. The aging culvert on Foster Street will occasionally become overwhelmed, causing flooding and affecting homes on the same side as the inlet. There are no town-owned bridges in Hart's Location.</p> <p>Action Item #23: Upgrade the aging four-foot metal oval culvert with a concrete box culvert of a larger size to improve stormwater flow on Foster Street. (MU13 & F13) (Table 6.1) (Bartlett)</p>	Aging Infrastructure & Inland Flooding	Bartlett Highway Department	Local & Grants	Medium Term	Very High Cost
C-2	<p>Problem Statement: The aging culvert on Thorn Hill Road is aging and underperforming.</p> <p>Action Item #24: Upgrade the aging granite box culvert with a more modern and efficient plastic culvert of a larger size to improve stormwater flow on Thorn Hill Road. (MU13 & F13) (Table 7.1) (Bartlett)</p>	Aging Infrastructure & Inland Flooding	Bartlett Highway Department	Local	Medium Term	Medium Cost
C-3	<p>Problem Statement: An emergency management fund has not been established, as the prior hazard mitigation plan suggested in Bartlett; however, there is one in Hart's Location.</p> <p>Action Item #25: Work with the Bartlett Select Board to establish a Capital Reserve Fund (CRF) for Emergency Management. (Emergency Preparedness) (Tables 6.1 & 7.1) (Bartlett)</p>	All Hazards	Bartlett Select Board	Local	Medium Term	Very Low Cost

BARTLETT & HART'S LOCATION, NH HAZARD MITIGATION PLAN UPDATE 2026

Final R/P	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
C-4	<p>Problem Statement: Bartlett & Hart's Location Multi-Jurisdictional Emergency Operations Plan (EOP) was last updated in 2018 and is overdue for an update based on the State's 5-year recommendation.</p> <p>Action Item #26: Update the Bartlett & Hart's Location Multi-Jurisdictional Emergency Operations Plan (EOP) to coincide with the State's 18-ESF format. Include an analysis of the impact of natural hazards on Critical Infrastructure & Key Resources (CIKR) that may be needed during an emergency. Like the current EOP, the new EOP should include an EOC Call Alert List, a detailed Resource Inventory List, and Player Packets. Explore available options to complete this project. (MU6) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	All Hazards	Emergency Management Directors	Local & Grants	Medium Term	Low Cost
C-5	<p>Problem Statement: Although Bartlett has emergency backup power at some of the Town's Critical Infrastructure & Key Resources (CIKR), other CIKR do not have backup emergency power, including the Town Hall/Police Station, which could also provide power for the Highway Garage.</p> <p>Action Item #27: Obtain funding and install a permanent generator at the Bartlett Town Hall/Police Station (which would also serve the Highway Garage) to improve the effectiveness of these facilities during a disaster. (Emergency Preparedness & MU13) (Tables 6.1 & 7.1) (Bartlett)</p>	Long-Term Utility Outages	Emergency Management Director	Local & Grants	Medium Term	Medium Cost
C-6	<p>Problem Statement: Hart's Location has only one town-owned facility, the Town Hall. The Hart's Location Town Hall does not have a generator.</p> <p>Action Item #28: Obtain funding and install a permanent generator at the Hart's Location Town Hall to improve the effectiveness of this facility during a disaster. (Emergency Preparedness & MU13) (Tables 6.1 & 7.1) (Hart's Location)</p>	Long-Term Utility Outages	Emergency Management Director	Local & Grants	Medium Term	Low Cost
C-7	<p>Problem Statement: The Bartlett and Hart's Location Subdivision, Zoning, and Site Plan Review Regulations have been recently updated and are in good shape. However, they should be reviewed when this Plan is complete to discuss changes that may mitigate the occurrence of and damage from the natural hazards identified in this Plan and to integrate action items and mitigation ideas into future planning.</p> <p>Action Item #29: Review the Bartlett and Hart's Location Subdivision, Floodplain, Groundwater Protection, Zoning, and Site Plan Review Regulations to consider changes to enhance mitigation efforts across each Community. Update these planning mechanisms and integrate elements from this Plan where possible. (WF2, F1 & MU6) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	Wildfire & Inland Flooding	Bartlett Planning Board & Hart's Location Planning Board	Local	Medium Term	Very Low Cost

BARTLETT & HART'S LOCATION, NH HAZARD MITIGATION PLAN UPDATE 2026

Final R/P	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
C-8	<p>Problem Statement: The Bartlett Master Plan was last updated in 2016 and will be ready for a recommended complete update in 2026. The Hart's Location Master Plan was last updated in 2000 and is overdue for an update. Neither plan has a "Natural Hazards" section or a discussion of climate change.</p> <p>Action Item #30: Update both the Bartlett and the Hart's Location Master Plans according to the State's 10-year recommendation and consider including a natural hazards section, a discussion on climate change, and action items from this Plan in future updates. Review this Plan, the Bartlett & Hart's Location, NH Multi-jurisdictional Hazard Mitigation Plan 2025, when working on the Master Plan. (MU6) (Tables 6.1 & 7.1) (Bartlett & Hart's Location)</p>	All Hazards	Planning Boards	Local	Medium Term	Low Cost
C-9	<p>Problem Statement: Hart's Location has attempted to get a cell tower to eliminate the 10+/- miles of no coverage. However, a cell tower has not been installed.</p> <p>Action Item #31: Seek locations and opportunities to install one or more cell towers to assist with communications in Hart's Location. Consider Starlink as an alternative. Contact the State for assistance as needed. (Emergency Preparedness) (Table 7.1) (Hart's Location)</p>	All Hazards	Emergency Management Director (Hart's Location)	Local	Medium Term	Very Low Cost
D-1	<p>Problem Statement: The Town's emergency radio capabilities do not reach the entire community. Communications "dead spots" remain in Bartlett and Hart's Location.</p> <p>Action Item #32: Collaborate with local contractors and mutual aid networks to enhance communication infrastructure by installing new repeaters, as advised by certified installers. (Emergency Response) (Bartlett & Hart's Location)</p>	All Hazards	Fire & Police Departments & Emergency Management Directors	Local & Grants	Long Term	Medium Cost
D-2	<p>Problem Statement: Lightning has struck town buildings in the past, damaging electronics and causing power outages.</p> <p>Action Item #33: With the assistance of qualified personnel, inspect all town facilities to determine if an investment in lightning rods would be beneficial. Install lightning rods as recommended. (L1) (Bartlett)</p>	Lightning	Bartlett Fire Department	Local	Long Term	Very Low Cost

Chapter 10: Adopting, Monitoring, Evaluating, and Updating the Plan

A. HAZARD MITIGATION PLAN MONITORING, EVALUATION, AND UPDATES

The Town's Emergency Management Director will call meetings of all responsible town parties to review plan progress annually on the anniversary of plan adoption and, as needed, based on the occurrence of hazard events, and report outcomes to the Select Board. The public will be notified of these meetings by posting the agenda at the Town Hall. Responsible parties identified for mitigation actions will be asked to submit their reports before the meeting. Meetings will entail the following actions:

- Review previous hazard events to discuss and evaluate major issues, the effectiveness of current mitigation, and possible mitigation for future events.
- Assess how the mitigation strategies of the Plan can be integrated with other Town plans and operational procedures.
- Review and evaluate progress toward implementing the current mitigation plan based on reports from responsible parties.
- Amend the current Plan to improve mitigation practices.
- Evaluate and assess the Plan's effectiveness in achieving its goals, stated purpose, and priorities.

The following questions will serve as the criteria that are used to evaluate and update the Plan:

Plan Mission and Goal

- Is the Plan's stated goal and mission still accurate and up to date, reflecting any changes to local hazard mitigation activities?
- Are there any changes or improvements that can be made to the goal and mission?

Hazard Identification and Risk Assessment

- Have there been any new occurrences of hazard events since the Plan was last reviewed? If so, these hazards should be incorporated into the Hazard Identification and Risk Assessment.
- Have any new occurrences of hazards varied from previous occurrences in terms of their extent or impact? If so, the stated impact, extent, probability of future occurrence, or overall risk and vulnerability assessment should be edited to reflect these changes.
- Is there any new data available from local, state, or federal sources about the impact of previous hazard events, or any new data for the probability of future occurrences? If so, this information should be incorporated into the Plan.

Existing Mitigation Strategies

- Are the current strategies effectively mitigating the effects of any recent hazard events?
- Has there been any damage to property since the Plan was last reviewed?
- How could the existing mitigation strategies be improved to reduce the impact of recent occurrences of hazards?

Proposed Mitigation Strategies

- What progress has been accomplished for the previously identified proposed mitigation strategies?
- How have any completed mitigation strategies reduced the Town's vulnerability and impact from hazards since the strategy was completed? If not, and if they have been tested, what changes are needed to make them more effective?
- Should the criteria for prioritizing the proposed strategies be altered in any way?
- Should the priority given to individual mitigation strategies be changed based on any recent changes to financial and staffing resources or recent hazard events?

Review of the Plan and Integration with Other Planning Documents

- Is the current process for reviewing the Hazard Mitigation Plan effective?
- How could it be improved?
- Are there any town plans in the process of being updated that should have the content of this Hazard Mitigation Plan incorporated into them or integrated with other town planning tools and operational procedures, including the Zoning Regulations, the Subdivision Regulations, the Master Plan, and the Capital Improvement Plan?

Following these discussions, it is anticipated that the Planning Team may decide to reassign the roles and responsibilities for implementing mitigation strategies to different town departments or revise the goals and objectives contained in the Plan.

Review forms for post-hazard or annual reviews are available in Chapter 11 of this Plan. The Town is encouraged to use these forms to document any changes and accomplishments after this Plan's development. Forms are available for years 1-4.

B. INTEGRATION WITH OTHER PLANS

This Plan will only enhance mitigation if balanced with all other town plans. Bartlett & Hart's Location completed its last hazard mitigation plan in 2018 and has completed many projects. Examples in Table 7.1 include providing ongoing fire and flood education, installing two culverts on Rolling Ridge Road, lobbying the State to rebuild levees, and notifying residents about hazardous material collection day. As a result, the Towns were able to integrate these actions into other town activities, budgets, plans, and mechanisms.

The Towns of Bartlett & Hart's Location have agreed to incorporate a Community Wildfire Protection Plan (CWPP) into the Bartlett & Hart's Location Hazard Mitigation Plan Update 2018. As part of this Plan, the Town will adopt the CWPP, which will be approved by the Department of Natural and Cultural Resources (DNCR).

The Town will incorporate elements from this Plan into the following documents:

BARTLETT & HART'S LOCATION MASTER PLAN

Traditionally, Master Plans are updated every 5 to 10 years. A complete update of the Bartlett Master Plan was completed in 2016 and is due for a recommended update in 2026. A complete update of the Hart's Location Master Plan was completed in 2000 and is overdue for a recommended update. Neither town's Master Plans include a Natural Hazards section or a discussion on climate change. Future reviews and updates of the Master Plans will consider integrating concepts, ideas, and action items from this Hazard Mitigation Plan (**Action Item #30**).

BARTLETT & HART'S LOCATION MULTI-JURISDICTIONAL EMERGENCY OPERATIONS PLAN 2018 (EOP)

The EOP is designed to allow the Town to respond more effectively to disasters and mitigate the risk to people and property. EOPs are generally reviewed after each hazardous event and updated on a five-year basis. The last Bartlett & Hart's Location EOP was completed in 2018. An update for the Emergency Operations Plan is overdue based on the State's 5-year recommendation. The new EOP will incorporate elements from this hazard mitigation plan (**Action Items #25**).

TOWN BUDGET & CAPITAL RESERVE FUND

The Towns of Bartlett and Hart's Location maintain Capital Reserve Funds (CRFs) for major expenditures. The CRFs are adjusted annually in coordination with the Select Board and other town department heads and committees at budget time. The budget is then voted on at the annual Town Meeting. During the annual budget planning process, specific mitigation actions identified in this Plan that require town fiscal support will be reviewed for incorporation into the budget. **Refer to those Action Items that require local money or match money (multiple Action Items) or address the CRF.**

THE BARTLETT & HART'S LOCATION ORDINANCES & SUBDIVISION REGULATIONS

As time passes and the Town's needs change, the Town's planning mechanisms will be reviewed and updated. In coordination with these actions, the Planning Board will review this Plan and incorporate any changes that help mitigate the Community's susceptibility to the dangers of natural, technical, or human-caused disasters. An example of this integration can be seen in this Plan's mitigation action item (**Action Item #29**).

The local governments will modify other plans and actions to incorporate hazard or wildfire issues. The Select Board ensures this process will be followed in the future.

C. PLAN APPROVAL & ADOPTION

The Emergency Management Director will update the Plan every five years and incorporate the results of the Town's plan monitoring and evaluation procedures. The next anticipated annual update will begin upon the anniversary of the Plan's approval. The next full update of the Plan is scheduled to begin before the fifth anniversary of approval. Plan updates may begin earlier following a significant natural hazard event within the Town and region, such as a federally declared disaster.

The public meetings of the Planning Team shall be publicized through legal notices in local newspapers, posted fliers, and on the town website. Written and email comments shall be directed to the EMD. The updated Plan will incorporate input from the public, other municipalities, and government agencies. The Select Board is responsible for approving the Plan submission to FEMA and for adopting the Plan. The update will follow a similar planning process and outline as the current process, making deviations when needed. The update will be expanded to better address natural hazards, development, climate change, vulnerable populations, regional impacts, and other pertinent issues.

This Plan was completed in a series of open meetings beginning September 17, 2024. The Plan was presented to the Town for review, submitted to HSEM/FEMA for Conditional Approval (*APA, Approved Pending Adoption*), formally adopted by the Select Board, and resubmitted to HSEM/FEMA for Final Approval. Once Final Approval from HSEM/FEMA was met, copies of the Plan were distributed to the Town, HESM, FEMA, DNCR, and the USDA-FS; the Plan was then distributed as these entities saw fit. Copies of the Plan remain on file at Mapping and Planning Solutions (MAPS) in digital and paper formats.

Chapter 11: Signed Community Documents and Approval Letters

A. PLANNING SCOPE OF WORK & AGREEMENT

BARTLETT-HART'S LOCATION MULTIJURISDICTIONAL HAZARD MITIGATION PLAN UPDATE



PARTIES TO THE AGREEMENT

Mapping and Planning Solutions
Towns of Bartlett, NH

Current Plan Expiration: July 24, 2023
HMPG #4516 Grant Expiration: 5/2/26

This document represents an agreement between the Town of Bartlett (the fiscal agent) and Mapping and Planning Solutions (MAPS). Acting as the fiscal agent for the project, Bartlett seeks to enlist MAPS's services for planning assistance in creating the **Bartlett-Hart's Location Multijurisdictional Hazard Mitigation Plan Update** (the Plan). Although Bartlett is the fiscal agent, all work will be done equally per this agreement for Bartlett and Hart's Location (the Towns).

Agreement

This agreement outlines the responsibilities that will ensure plan development with the involvement of town members and local, federal, and state emergency responders and organizations. It identifies the work to be done by detailing the specific tasks, schedules, and finished products resulting from the planning process.

The goal of this agreement is that the Plan and planning process be consistent with town policies and accurately reflect each town's values and individuality; this is accomplished by forming a working relationship between town citizens, the planning team, and MAPS.

The Plan created as a result of this agreement will be presented to the Towns for adoption once conditional approval (also known as Approved Pending Adoption or APA) is received from NH Homeland Security & Emergency Management (HSEM) on behalf of the Federal Emergency Management Agency (FEMA). When adopted, the Plan guides town commissions and departments; adopted plans do not include any financial commitments by the Towns. All adopted plans should address mitigation strategies for reducing the risk of natural, technological, human-caused, and wildfire disasters on life and property and be written to integrate them into other town planning initiatives.

Scope of Work

MAPS - Responsibilities include, but are not limited to, the following:

- MAPS will collect the necessary data to complete the Plan and meet the requirements of the FEMA Plan Review Tool by working with the planning team (the Team) and taking public input.
- With the Team's assistance, MAPS will coordinate and facilitate two-hour virtual meetings to complete the project; generally, meetings are held monthly and do not exceed eight. These meetings will be held online unless unanticipated circumstances prevail. MAPS will provide any materials, handouts, and maps necessary to fully understand each step in the planning process.³²

³² If unanticipated circumstances prevail and meetings are held in person, MAPS will make every effort to proceed. However, the Town shall ensure that attendance at any meeting is adequate to proceed. Mapping and Planning Solutions reserves the right to invoice the Town for travel, meal expenses and staff costs incurred when meeting attendance is inadequate.

- MAPS will assist the Team in developing goals, objectives, and action items and defining the processes needed for plan monitoring, public education, and integration with other town plans and activities.
- MAPS will coordinate and collaborate with other federal, state, and local agencies.
- MAPS will explain and delineate the Wildland Urban Interface (WUI) and, working with the Team, will establish a list of potentially hazardous areas and analyze the risk severity.
- MAPS will author, edit, and prepare the Plan for review by the Team before submitting it to HSEM for conditional approval. Upon conditional approval by HSEM, MAPS will provide the planning team with the necessary documents for plan adoption by the Bartlett and Hart's Location Select Boards and continue to work with them until final approval and distribution of the Plan are complete.
- Once final documents are received, MAPS will print and distribute the Plan. The final documents include the HSEM formal approval email, the FEMA formal letter of approval, and the approved Community Wildfire Protection Plan (CWPP) documents. MAPS will provide Bartlett and Hart's Location, each with one hard copy of the Plan containing all signed documents and approvals, and a flash drive containing these same documents in digital form. Additional flash drives may be requested at an additional cost. Copies of the Plan will be distributed by MAPS to collaborating agencies, including, but not limited to, HSEM, FEMA, the Department of Natural and Cultural Resources (DNCR), and the US Forest Service.
- MAPS will provide all "Quarterly Reports" HSEM requires for this project's duration. These quarterly reports will be done online, and a copy of the report will be forwarded to the primary contact for Bartlett and Hart's Location.
- As long as MAPS is in operation, MAPS will provide annual plan maintenance reminders leading up to the next five-year plan update, provided staffing and time allow.

The Towns - Responsibilities include, but are not limited to, the following:

- The Towns shall ensure that the planning team includes members who can provide pertinent data. The planning team should include, but not be limited to, such town members as the local Emergency Management Director, the Fire, Ambulance, and Police Chiefs, members of the Select Board and the Planning Board, the Public Works Director or Road Agent, representatives from relevant federal and state organizations, other local officials, property owners, and relevant businesses or organizations.
- The Towns shall determine principal contacts to work with MAPS. These contacts shall assist with recruiting participants for planning meetings, including developing mailing lists when necessary, distributing handouts, and placing meeting announcements. These contacts shall also assist MAPS with organizing public meetings to develop the Plan and developing the work program to produce the Plan.
- The Towns shall gain the support of stakeholders for the recommendations found within the Plan.
- The Towns shall provide public access for all meetings and provide public notice at the start of the planning process and at the time of adoption, as required by FEMA and the Code of Federal Regulations (CFRs).
- The proposed Plan shall be submitted to the Select Boards for consideration and adoption.
- After adoption and final approval from HSEM is received, the Towns will:
 - *Distribute copies of the Plan as it sees fit throughout the local community.*
 - *Develop a team to monitor and work toward completing the determined Action Items.*
 - *Publicize the Plan to the community and ensure citizen awareness.*
 - *Encourage integrating priority projects into the Town's Capital Improvement Plan (if available).*
 - *Integrate mitigation strategies and priorities from the Plan into other town planning documents.*

Terms

- **Fees & Payment Schedule:** The contract price is limited to \$9000.00; an invoice will be sent to Bartlett (as the fiscal agent) for each payment, as outlined below. (Level 2, HMPG4516)
 - 1. Initial payment upon receipt of the first invoice, before the first meeting \$4,400.00
 - 2. The second payment upon plan submittal to HSEM for APA (Approve Pending Adoption) \$4,400.00
 - 3. Final payment upon project completion and receipt of the final hard copy of the Plan \$200.00Total Fees..... \$9,000.00

- **Payment Procedures:** The payment procedure is as follows:
 - MAPS will invoice the Town according to the schedule above.
 - The Town will pay MAPS.
 - The Town will forward the MAPS invoice, along with an invoice from the Town on letterhead, to HSEM.
 - HSEM will reimburse the Town for the monies paid to MAPS.

All payments to MAPS are fully reimbursable to the Town by Homeland Security & Emergency Management, provided prescribed match amounts have been met.

- **Required Matching Funds:** This project's total cost under HMPG #4516 is \$10,000, with a federal share of \$9,000 and a matching amount of \$1,000 (90%/10% split). Matching funds are the responsibility of the Towns, not MAPS. The Towns will provide and document all resources used to meet the FEMA-required match. However, Mapping and Planning Solutions will assist the Towns with attendance tracking by asking meeting attendees to sign in at all meetings and log any time spent outside of the meetings working on this project. MAPS will provide the fiscal agent with final attendance records in spreadsheet form at the project's end to use in its match fulfillment.

- **Project Period:** This project shall begin upon grant approval from HSEM and the signing of this agreement with MAPS. It will continue until a date is determined or the planning process is complete. The project period may be extended if required by mutual written agreement between the fiscal agent, MAPS, and Homeland Security. The actual project end date depends on timely adoptions and approvals, which may be outside the control of MAPS and the Towns.

The grant provided for this project is funded through HMGP #4516. Per the grant agreement between the fiscal agent and HSEM, all work must be completed by May 2, 2026, the end of the Period of Performance. The exact dates for this grant round are included in the grant award from HSEM.

- **Ownership of Material:** The Towns shall own all reports, documents, and other materials produced during the project period; each party may keep file copies of any generated work. MAPS shall have the right to use work products collected during the planning process; however, MAPS shall not use any data in such a way as to reveal personal or public information about individuals or groups which could reasonably be considered confidential.

- **Termination:** This agreement may be terminated if both parties agree in writing. In the event of termination, MAPS shall forward all information prepared to date to the Town. MAPS shall be entitled to recover its costs for any completed work.

- **Limit of Liability:** MAPS agrees to perform all work diligently and efficiently according to the terms of this agreement. MAPS' responsibilities under this agreement depend upon the cooperation of the Town of Bartlett. MAPS and its employees, if any, shall not be liable for opinions rendered, advice, or errors resulting from the quality of data supplied. Adoption of the Plan by the Towns and final approval of the Plan by HSEM and FEMA relieve Mapping and Planning Solutions of content liability. MAPS carries general liability insurance.

- **Amendments:** Changes, alterations, or additions to this agreement may be made if agreed to in writing between the fiscal agent and Mapping and Planning Solutions.

- **Mapping and Planning Solutions:** Mapping and Planning Solutions provides hazard mitigation and emergency operations planning throughout New Hampshire. Mapping and Planning Solutions has developed more than 100 Hazard Mitigation Plans and more than 85 Emergency Operations Plans and has completed the following FEMA courses in emergency planning and operations:
 - Introduction to Incident Command System, IS-100.a
 - ICS Single Resources and Initial Action Incidents, IS-200.a
 - National Incident Management System (NIMS) An Introduction, IS-700.a
 - National Response Framework, An Introduction, IS 800.b
 - Emergency Planning, IS-235
 - Homeland Security Exercise & Evaluation Program (HSEEP)
 - IS-547.a – Introduction to Continuity Operations
 - IS-546.a – Continuity of Operations (COOP) Awareness Course
 - G-318; Preparing & Reviewing Hazard Mitigation Plans
 - Climate Change Adaptation Planning, AWR-347
 - ALICE; School Shooting Workshop, Littleton High School
 - L0550 Continuity Planners Workshop (2320EM1216)

➤ **Contacts:**

For Mapping & Planning Solutions


June Garneau
Mapping and Planning Solutions
PO Box 283, 91 Cherry Mountain Place
Twin Mountain, NH 03595
jgarneau@mappingandplanning.com
(603) 991-9664 (cell)

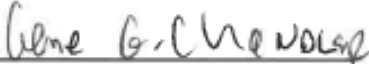
For the Town of Bartlett

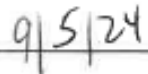
Select Board
Town of Bartlett
56 Town Hall Road
Intervalle, NH 03845
selectmen@townofbartlettnh.org
(603) 356-2950

The signatures below indicate acceptance of and agreement to the details outlined in this agreement.

FOR THE TOWN OF BARTLETT, NH

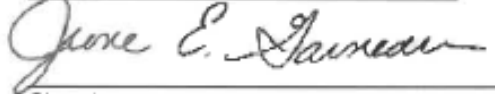


Signature


Printed Name


Date

FOR MAPPING AND PLANNING SOLUTIONS



Signature
June Garneau, Owner
September 4, 2024

Signatures are scanned facsimiles; original signatures are on file.

B. APPROVED PENDING ADOPTION (APA) FROM FEMA

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INSERTION OF APA EMAIL FROM FEMA

Signatures are scanned facsimiles; original signatures are on file.

C. FORMAL APPROVAL LETTER FEMA

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INSERTION OF FINAL APPROVAL LETTER FROM
FEMA

Signatures are scanned facsimiles; original signatures are on file.

D. SIGNED CERTIFICATE OF ADOPTION

CERTIFICATE OF ADOPTION

BARTLETT, NH

SELECT BOARD

**A RESOLUTION ADOPTING THE BARTLETT & HART'S LOCATION, NH MULTI-JURISDICTIONAL HAZARD
MITIGATION PLAN UPDATE 2026**

WHEREAS the Town of Bartlett has historically experienced severe damage from natural hazards, and it continues to be vulnerable to the effects of those natural hazards profiled in this Plan, resulting in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of Bartlett has received Approved Pending Adoption (APA) status from the Federal Emergency Management Agency (FEMA) for its Hazard Mitigation Plan Update 2026 under the requirements of 44 CFR 201.6 and

WHEREAS, public and committee meetings were held between September 17, 2024, and February 11, 2025, regarding the development and review of the Hazard Mitigation Plan Update 2026 and

WHEREAS the Plan specifically addresses hazard mitigation strategies and plan maintenance procedures for the Town of Bartlett and

WHEREAS the Plan recommends several hazard mitigation actions/projects that will provide mitigation for specific natural hazards that impact the Town of Bartlett, with the effect of protecting people and property from loss associated with those hazards, and

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

RESOLVED by the Select Board:

1. The Plan is now adopted as an official plan of the Town of Bartlett.
2. The respective officials identified in the Plan's mitigation action items are directed to pursue the implementation of the recommended actions assigned to them.
3. Future revisions and plan maintenance required by 44 CFR 201.6 and FEMA are now adopted as a part of this resolution for five (5) years from the date of this resolution.
4. The Emergency Management Director shall present an annual report to the Select Board on the progress of the Plan's action items.

Bartlett, Hazard Mitigation Plan Update Certificate of Adoption, page two

Adopted this day, the _____ of _____, 2026

Select Board Chair

Signature

Print Name

Select Board Vice-Chair

Signature

Print Name

Member of the Select Board

Signature

Print Name

Emergency Management Director/FC

Signature

Print Name

IN WITNESS WHEREOF, the undersigned has affixed their signature and notary stamp on this day, **the**
_____ of _____, **2026**

Notary Signature

Expiration



Signatures are scanned facsimiles; original signatures are on file.

CERTIFICATE OF ADOPTION

HART'S LOCATION, NH

SELECT BOARD

**A RESOLUTION ADOPTING THE BARTLETT & HART'S LOCATION, MULTI-JURISDICTIONAL NH HAZARD
MITIGATION PLAN UPDATE 2026**

WHEREAS the Town of Hart's Location has historically experienced severe damage from natural hazards, and it continues to be vulnerable to the effects of those natural hazards profiled in this Plan, resulting in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of Hart's Location has received Approved Pending Adoption (APA) status from the Federal Emergency Management Agency (FEMA) for its Hazard Mitigation Plan Update 2026 under the requirements of 44 CFR 201.6 and

WHEREAS, public and committee meetings were held between September 17, 2024, and February 11, 2025, regarding the development and review of the Hazard Mitigation Plan Update 2026 and

WHEREAS the Plan specifically addresses hazard mitigation strategies and plan maintenance procedures for the Town of Hart's Location and

WHEREAS the Plan recommends several hazard mitigation actions/projects that will provide mitigation for specific natural hazards that impact the Town of Hart's Location, with the effect of protecting people and property from loss associated with those hazards, and

WHEREAS adoption of this Plan will make the Town of Hart's Location eligible for funding to alleviate the impacts of future hazards; now, therefore, be it

RESOLVED by the Select Board:

1. The Plan is now adopted as an official plan of the Town of Hart's Location.
2. The respective officials identified in the Plan's mitigation action items are directed to pursue the implementation of the recommended actions assigned to them.
3. Future revisions and plan maintenance required by 44 CFR 201.6 and FEMA are now adopted as a part of this resolution for five (5) years from the date of this resolution.
4. The Emergency Management Director shall present an annual report to the Select Board on the progress of the Plan's action items.

Bartlett & Hart's Location, Hazard Mitigation Plan Update Certificate of Adoption, page two

Adopted this day, the _____ of _____, 2026

Select Board Chair

Signature

Print Name

Member of the Select Board

Signature

Print Name

Select Board Vice-Chair

Signature

Print Name

Emergency Management Director/FC

Signature

Print Name

IN WITNESS WHEREOF, the undersigned has affixed their signature and notary stamp on this day, **the**
_____ of _____, **2026**

Notary Signature

Expiration



Signatures are scanned facsimiles; original signatures are on file.

E. CWPP APPROVAL LETTER FROM DNCR

**Bartlett & Hart's Location, NH
A Resolution Approving the
Bartlett & Hart's Location, NH Hazard Mitigation Plan Update 2026
As a Community Wildfire Protection Plan**

Several public meetings and committee meetings were held between September 17, 2024, and February 11, 2025 regarding the development and review of the *Bartlett & Hart's Location Multi-Jurisdictional Hazard Mitigation Plan Update 2026*. The *Bartlett & Hart's Location Multi-Jurisdictional Hazard Mitigation Plan Update 2026* contains potential future projects to mitigate hazards and wildfire damage in the Town of Bartlett.

The Bartlett Fire Chief, along with the Board of Selectmen and the Emergency Management Director, desires that this Plan be accepted by the Department of Natural and Cultural Resources (DNCR) as a Community Wildfire Protection Plan, having adhered to the requirements of said Plan.

The Bartlett Board of Selectmen, the Emergency Management Director, and the Bartlett Fire Chief approve the *Bartlett & Hart's Location Multi-Jurisdictional Hazard Mitigation Plan Update 2026* and understand that with approval by DNCR, this Plan will also serve as a Community Wildfire Protection Plan.

For the Town of Bartlett & Hart's Location

APPROVED and SIGNED this day, _____, 2026.

Chairman of the Select Board

Printed Name

Bartlett Fire Chief

Printed Name

Bartlett Emergency Management Director

Printed Name

For the Department of Natural & Cultural Resources (DNCR)

APPROVED and SIGNED this day, _____, 2026.

Forest Ranger – NH Division of Forest and Lands, DNCR

APPROVED and SIGNED this day, _____, 2026.

Steve Sherman, Chief, Forest Protection Bureau – NH Division of Forests & Lands, DNCR

Signatures are scanned facsimiles; original signatures are on file.

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F. ANNUAL OR POST-HAZARD REVIEW FORMS

YEAR ONE - Annual or Post-Hazard Review Form

CHECK ALL THAT APPLY

- Annual Review - **Year One**: _____ (Date)
- Annual Review – Post Hazardous Event: _____ (Event/Date)
- Annual Review – Post Hazardous Event: _____ (Event/Date)

After inviting the public and stakeholders to hearings, the Town's governing body and the designated Emergency Management Director shall execute this page annually.

Bartlett & Hart's Location, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Chairman of the Select Board

Changes and notes regarding the Bartlett & Hart's Location Hazard Mitigation Plan Update 2026

Please use the reverse side for additional notes 

YEAR TWO - Annual or Post-Hazard Review Form

CHECK ALL THAT APPLY

- Annual Review - **Year Two**: _____ (Date)
- Annual Review – Post Hazardous Event: _____ (Event/Date)
- Annual Review – Post Hazardous Event: _____ (Event/Date)

After inviting the public and stakeholders to hearings, the Town's governing body and the designated Emergency Management Director shall execute this page annually.

Bartlett & Hart's Location, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Chairman of the Select Board

Changes and notes regarding the Bartlett & Hart's Location Hazard Mitigation Plan Update 2026

Please use the reverse side for additional notes 

YEAR THREE - Annual or Post-Hazard Review Form

CHECK ALL THAT APPLY

- Annual Review - **Year Three:** _____ (Date)
- Annual Review – Post Hazardous Event: _____ (Event/Date)
- Annual Review – Post Hazardous Event: _____ (Event/Date)

After inviting the public and stakeholders to hearings, the Town's governing body and the designated Emergency Management Director shall execute this page annually.

Bartlett & Hart's Location, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Chairman of the Select Board

Changes and notes regarding the Bartlett & Hart's Location Hazard Mitigation Plan Update 2026

Please use the reverse side for additional notes 

YEAR FOUR - Annual or Post-Hazard Review Form

CHECK ALL THAT APPLY

- Annual Review - **Year Four**: _____ (Date)
- Annual Review – Post Hazardous Event: _____ (Event/Date)
- Annual Review – Post Hazardous Event: _____ (Event/Date)

After inviting the public and stakeholders to hearings, the Town's governing body and the designated Emergency Management Director shall execute this page annually.

Bartlett & Hart's Location, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Chairman of the Select Board

Changes and notes regarding the Bartlett & Hart's Location Hazard Mitigation Plan Update 2026

Please use the reverse side for additional notes 

Chapter 12: Appendices

- Appendix A: Bibliography
- Appendix B: Technical and Financial Assistance for Hazard Mitigation
 - *Hazard Mitigation Grant Program (HMGP)*
 - *Hazard Mitigation Grant Program Post Fire (HMGMP-Post Fire)*
 - *Flood Mitigation Assistance (FMA)*
 - *Building Resilient Infrastructure and Communities (BRIC)*
 - *Pre-Disaster Mitigation (PDM)*
- Appendix C: The Extent of Hazards
- Appendix D: Major Disaster & Emergency Declarations
- Appendix E: Acronyms
- Appendix F: Potential Mitigation Ideas

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APPENDIX A: BIBLIOGRAPHY

Documents

- **Local Hazard Mitigation Planning Policy Guide**, FEMA, April 19, 2023
- **Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards**, FEMA, January 2013
- **Hazard Mitigation Unified Guidance**, FEMA, July 12, 2013
- **Hazard Mitigation Assistance Guidance**, FEMA, February 27, 2015
- **Hazards Mitigation Plans**
 - Bartlett & Hart's Location Hazard Mitigation Plan, 2018
 - Conway, NH Hazard Mitigation Plan Update, 2025
 - Franconia, NH Hazard Mitigation Plan Update, 2025
 - Pittsburg, NH Hazard Mitigation Plan Update, 2025
- **NH State Multi-Hazard Mitigation Plan, 2023**
 - <https://prd.blogs.nh.gov/dos/hsem/wp-content/uploads/2023/10/2023-NH-State-Hazard-Mitigation-Plan-Signed-10.5.23.pdf>
- **Disaster Mitigation Act (DMA) of 2000**, Section 101, b1 & b2, and Section 322a
 - <https://www.fema.gov/emergency-managers/risk-management/hazard-mitigation-planning/regulations-guidance#:~:text=The%20Disaster%20Mitigation%20Act%20of,of%20non%2Demergency%20disaster%20assistance>
- **Economic & Labor Market Information Bureau**, NH Employment Security, October 2025; Community Response for Bartlett, Received, 5/8/25, Census 2000 and Revenue Information derived from this site;
 - <https://www2.nhes.nh.gov/GraniteStats/SessionServlet?page=Community.jsp&SID=1&city=000202&cityName=Bartlett>
- **Economic & Labor Market Information Bureau**, NH Employment Security, October 2025; Community Response for Hart's Location, Received, 7/23/21, Census 2000 and Revenue Information derived from this site,
 - <https://www2.nhes.nh.gov/GraniteStats/SessionServlet?page=Community.jsp&SID=1&city=000210&cityName=Hart%27s%20Location>

Photos

- Photos are taken by MAPS unless otherwise noted.

Map Images

- Map images (screen prints) are created by MAPS using readily available data from NH Granite unless otherwise indicated.

Wildfire Links & Wildfire Grant Assistance Links

- US Forest Service; <https://www.fs.usda.gov/>
- US Fire Administration; <https://www.usfa.fema.gov/>
- Community Wildfire Defense Grant Program: <https://www.fs.usda.gov/managing-land/fire/grants#:~:text=The%20Community%20Wildfire%20Defense%20Program,reduce%20the%20risk%20of%20wildfire>
- Firewise®; <https://www.nfpa.org/Education-and-Research/Wildfire/Firewise-USA>
- Fire Adapted Communities; <https://www.fireadapted.org>
- Ready Set Go; <http://www.wildlandfires.org/>
- Fire education for children; <https://www.smokeybear.com/>
- Funding for Community Wildfire Risk Reduction; <https://wildfirerisk.org/reduce-risk/funding/>
- Pre-Disaster Mitigation (PDM) Grant Program; <https://www.fema.gov/grants/mitigation/learn/pre-disaster>
- Fire Prevention and Safety (FP&S); <https://www.fema.gov/grants/preparedness/firefighters/safety-awards>
- Assistance to Firefighters Grants; <https://www.fema.gov/grants/preparedness/firefighters/assistance-grants>
- Community Wildfire Defense Grant Program; <https://www.fs.usda.gov/managing-land/fire/grants/cwdg>
- Federal Wildfire Resources; <https://www.fs.usda.gov/sites/default/files/2022-08/Fed-Wildfire-Mitigation-Resources.pdf>

Additional Websites

- NH Homeland Security & Emergency Management; <https://www.nh.gov/safety/divisions/hsem/>
- US Geological Survey; <https://www.usgs.gov/mission-areas/water-resources/science/land-subsidence>
- Department of Environmental Services; <https://www.des.nh.gov/>
- The Disaster Center (NH); <https://www.disastercenter.com/newhamp/tornado.html>
- The NFIP; <https://www.floodsmart.gov/>
- NOAA, National Weather Service; <https://w1.weather.gov/glossary/>
- NOAA, Storm Prediction Center; <https://www.spc.noaa.gov/faq/tornado/beaufort.html>
- National Weather Service; <https://www.weather.gov/safety/cold>
- Centers for Disease Control; <https://www.cdc.gov/disasters/winter/index.html>
- Slate; <https://slate.com/news-and-politics/2003/12/outbreaks-vs-epidemics.html>
- NH Bureau of Economic Affairs; <https://www.nheconomy.com/office-of-planning-and-development>
- Code of Federal Regulations; Title 14, Aeronautics and Space; Part 1, Definitions and Abbreviations; <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-A/part-1>
- US Legal, Inc.; <https://definitions.uslegal.com/v/violent-crimes/>

APPENDIX B: HAZARD MITIGATION ASSISTANCE (HMA)

The Federal Emergency Management Agency’s (FEMA’s) HMA programs promote funding for mitigation measures that reduce or eliminate long-term risk to people and property from future disasters. These programs allow communities across the nation to enhance mitigation and take steps that will foster greater resilience and reduce disaster suffering³³:

HAZARD MITIGATION GRANT PROGRAM (HMGP)

HMGP provides funding to rebuild communities in a way that mitigates future disaster losses in those communities. Funding is made available after the President issues a major disaster declaration. It is based on up to 15% or 20% of the estimated federal assistance provided.

HAZARD MITIGATION GRANT PROGRAM POST FIRE (HMGP POST FIRE)

The HMGP Post Fire program provides funding after a Fire Management Assistance Grant (FMAG) is declared and helps communities implement hazard mitigation measures after wildfire disasters. State, local, tribal, and territorial governments can apply for funding. The funding amount is pre-calculated, based on historical FMAG declarations, and reassessed every fiscal year.

FLOOD MITIGATION ASSISTANCE (FMA)

FMA is a competitive grant program funding states, local communities, tribes, and territories. Funds can be used for projects that reduce or eliminate the risk of repetitive flood damage to buildings insured by the National Flood Insurance Program (NFIP). An annual congressional appropriation funds the program and, since 2016, has made \$160 million available for mitigation projects.

MITIGATION PROJECTS	HMGP	HMGP POST FIRE	BRIC	FMA
Property Acquisition	Yes	Yes	Yes	Yes
Structure Elevation	Yes	Yes	Yes	Yes
Mitigation Reconstruction	Yes	Yes	Yes	Yes
Flood Risk Reduction Measures	Yes	Yes	Yes	Yes
Dry Floodproofing Non-Residential Buildings	Yes	Yes	Yes	Yes
Tsunami Vertical Evacuation	Yes	Yes	Yes	–
Safe Rooms Construction	Yes	Yes	Yes	–
Wildfire Mitigation	Yes	Yes	Yes	–
Retrofitting	Yes	Yes	Yes	Yes
Generators	Yes	Yes	Yes	–
Earthquake Early Warning System	Yes	Yes	Yes	–
CAPABILITY AND CAPACITY BUILDING				
New Plan Creation and Updates	Yes	Yes	Yes	Yes
Planning-Related Activities	Yes	Yes	Yes	Yes
Project Scoping/ Advance Assistance	Yes	Yes	Yes	Yes
Financial Technical Assistance	–	–	–	Yes

Note: The table above is not an exhaustive list of eligible activities. Please see program guidance or Notice of Funding Opportunity (NOFO) for more information on eligible activities.

³³ https://www.fema.gov/sites/default/files/documents/fema_hma-trifold_2021.pdf; sections of this appendix are taken directly from this Hazard Mitigation Assistance flier, although not all sections are quoted

BUILDING RESILIENT INFRASTRUCTURE AND COMMUNITIES (BRIC)

BRIC is a competitive grant program that provides funding for mitigation projects to reduce the risks from disasters and natural hazards. The funding is based on a 6% set aside for FEMA's assistance following major disaster declarations through the Public Assistance and Individuals and Households Program. The BRIC program was designed to foster innovation and provide a yearly grant cycle, offering applicants a consistent funding source.

PRE-DISASTER MITIGATION (PDM)

PDM is a grant program that helps state, local, tribal, and territorial governments plan and implement hazard mitigation projects. For 20 years, PDM funded mitigation projects, but in FY 2020, BRIC replaced PDM with any new funding. Any grant awarded in FY 2019 will continue to be managed under PDM for any new funding.

ROLES OF APPLICANTS AND SUBAPPLICANTS

Mitigation project subapplications are developed by local governments (subapplicants) and submitted to their state, territory, or tribal government (applicant). States, territories, and tribes are responsible for selecting the subapplications that align with their mitigation priorities and submitting these in an application to FEMA. FEMA conducts a final eligibility review of all subapplications to ensure compliance with federal regulations. For competitive mitigation grants, FEMA will select projects for funding. All HMA grants have programmatic and administration requirements that are the responsibility of the applicant and subapplicant.

ADDITIONAL RESOURCES

For general questions about the HMA programs, please contact your State Hazard Mitigation Officer or FEMA Region. Other resources are available; see the Hazard Mitigation Assistance flier, FEMA, or go to www.fema.gov/hazard-mitigation-assistance.³⁴

Who is eligible to apply?				
APPLICANTS	HMGP	HMGP POST FIRE	BRIC	FMA
State/territorial agencies	Yes	Yes	Yes	Yes
Federally recognized tribes	Yes	Yes	Yes	Yes

SUBAPPLICANT	HMGP	HMGP POST FIRE	BRIC	FMA
State agencies	Yes	Yes	Yes	Yes
Federally recognized tribes	Yes	Yes	Yes	Yes
Local governments/communities	Yes	Yes	Yes	Yes
Private nonprofit organizations	Yes	Yes	-	-

Cost-share requirements	
PROGRAM	COST SHARE*
HMGP	75 / 25
HMGP Post Fire	75 / 25
BRIC	75 / 25
BRIC (Economically Disadvantaged Rural Communities**)	90 / 10
FMA (Community Flood Mitigation, Project Scoping, Individual Mitigation of Insured Properties, and Planning Grants)	75 / 25
FMA (Repetitive loss properties)	90 / 10
FMA (Severe repetitive loss properties)	100 / 0

* Percent of federal/non-federal cost share
 ** Economically Disadvantaged Rural Communities* is synonymous with small impoverished communities as used in the Stafford Act.

³⁴ https://www.fema.gov/sites/default/files/documents/fema_hma-trifold_2021.pdf

APPENDIX C: THE EXTENT OF NATURAL HAZARDS

Hazards indicated with an asterisk * are included in this Plan.

***SEVERE WINTER WEATHER**

Ice and snow events typically occur during winter and can cause loss of life, property damage, and tree damage.

Snowstorms

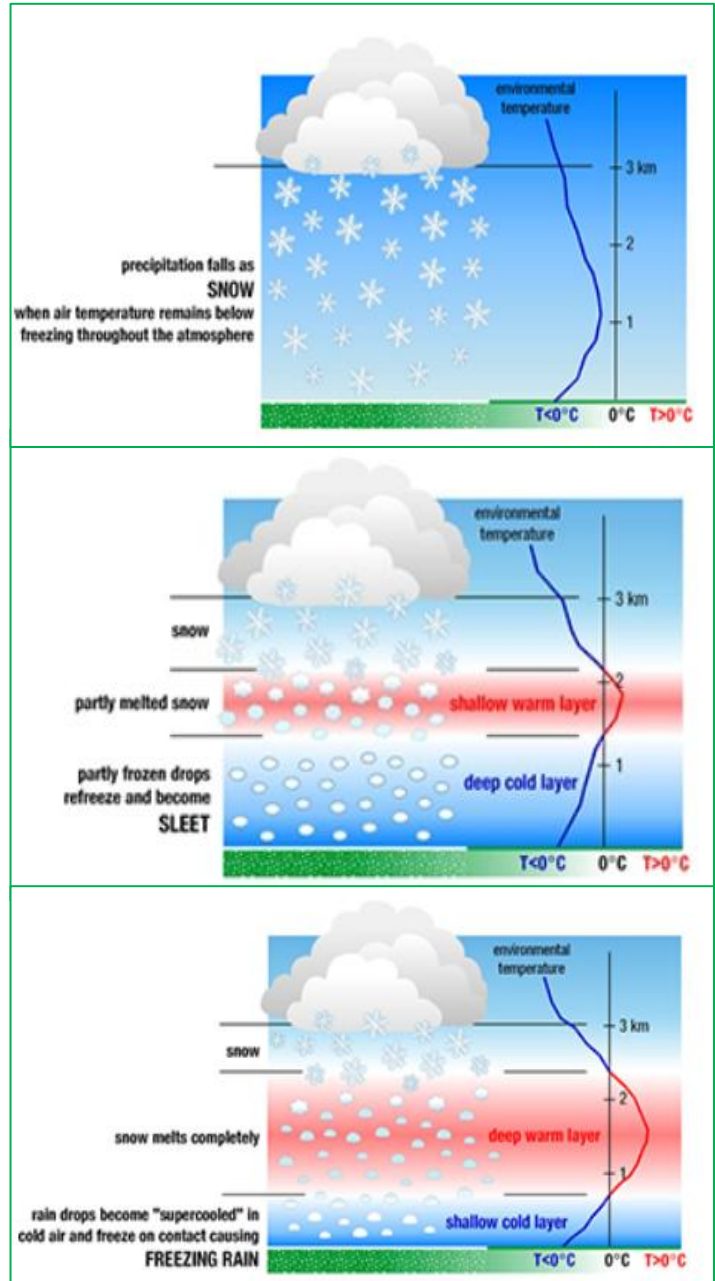
A winter storm can range from moderate snow to blizzard conditions. Blizzard conditions are considered blinding wind-driven snow over 35 mph that lasts several days. A severe winter storm deposits four or more inches of snow for 12 hours or six inches for 24 hours.

Sleet

Snowflakes melt as they fall through a small band of warm air and refreeze when passing through a wider band of cold air. These frozen raindrops then fall to the ground as “sleet”.

Freezing Rain & Ice Storms

Snowflakes melt as they fall through a warm band of air and then fall through a shallow band of cold air close to the ground to become “supercooled”. These supercooled raindrops instantly freeze upon contact with the ground and anything else below 32 degrees Fahrenheit. This freezing accumulates ice on roads, trees, utility lines, and other objects, resulting in an “ice storm”. “Ice coating at least one-fourth inch in thickness is heavy enough to damage trees, overhead wires, and similar objects.”³⁵



Types of Severe Winter Weather
NOAA – National Severe Storms Laboratory

³⁵ NOAA, National Severe Storms Laboratory, <https://www.nssl.noaa.gov/education/svrwx101/winter/types/>

The Sperry-Piltz Ice Accumulation Index (SPIA) (below) is designed to help utility companies better prepare for predicted ice storms.³⁶

The Sperry-Piltz Ice Accumulation Index, or “SPIA Index” – Copyright, February, 2009

ICE DAMAGE INDEX	* AVERAGE NWS ICE AMOUNT (in inches) <small>*Revised-October, 2011</small>	WIND (mph)	DAMAGE AND IMPACT DESCRIPTIONS
0	< 0.25	< 15	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	0.10 – 0.25	15 – 25	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
	0.25 – 0.50	> 15	
2	0.10 – 0.25	25 – 35	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
	0.25 – 0.50	15 – 25	
	0.50 – 0.75	< 15	
3	0.10 – 0.25	> = 35	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
	0.25 – 0.50	25 – 35	
	0.50 – 0.75	15 – 25	
	0.75 – 1.00	< 15	
4	0.25 – 0.50	> = 35	Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 – 10 days.
	0.50 – 0.75	25 – 35	
	0.75 – 1.00	15 – 25	
	1.00 – 1.50	< 15	
5	0.50 – 0.75	> = 35	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.
	0.75 – 1.00	> = 25	
	1.00 – 1.50	> = 15	
	> 1.50	Any	

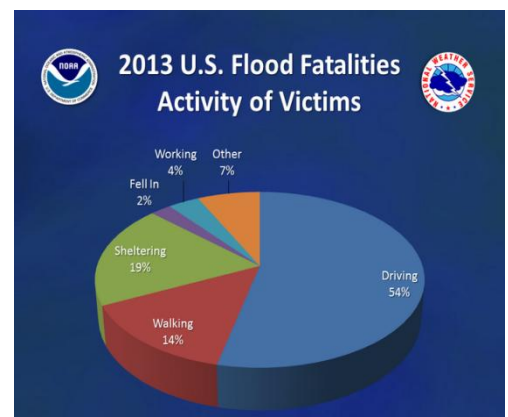
(Categories of damage are based upon combinations of precipitation totals, temperatures and wind speeds/directions.)

***INLAND FLOODING**

General Flooding Conditions

Floods are defined as a temporary overflow of water onto lands not usually covered by water. Flooding results from the overflow of major rivers and tributaries, storm surges, or inadequate local drainage. Floods can cause loss of life, property damage, crop/livestock damage, and water supply contamination. Floods can also disrupt travel routes on roads and bridges.

Inland floods are most likely to occur in the spring due to increased rainfall and snowmelt; however, floods can occur anytime. A sudden thaw in the winter or a major downpour in the summer can cause flooding because there is suddenly too much water in one place with nowhere to go; warm temperatures and heavy rains cause rapid snowmelt, producing prime flood conditions. Also, rising waters in early spring often break the ice into chunks that float downstream and pile up, causing flooding behind them. Small rivers and streams pose unique flooding risks because jams easily block them. Ice in riverbeds and against structures presents a significant flooding threat to bridges, roads, and the surrounding lands.



³⁶ The Weather Channel, <https://weather.com/news/weather-winter/rating-ice-storms-damage-sperry-piltz-20131202>

Flooding (Dam Failure)

Flooding due to dam failure can be small enough to affect the immediate area of the dam or large enough to cause catastrophic results to cities, towns, and human life below the dam. The amount of flooding depends mainly on the dam's size and the water held by the dam. The size of the breach, the amount of water flowing from the dam, and the amount of human habitation downstream are also factors.

A "Dam" means any artificial barrier, including appurtenant works, which impounds or diverts water, has a height of 4 feet or more, or a storage capacity of two acres or more, or is located at the outlet of a great pond³⁷. A dam failure occurs when water overtops the dam or there is a structural failure of the dam, which causes there to be a breach and an unintentional release of water. Dams are classified in the following manner³⁸:

Classification	Description	Inspection Intervals
Non-Menace	A dam is not a menace because it is in a location and size that failure or misoperation of the dam would not result in probable loss of life or property. The dam must be less than six feet in height if the storage capacity is greater than 50 acre-feet or less than 25 feet if it has a storage capacity of 15-50 acre-feet.	Every six years
Low Hazard	A dam that has a low hazard potential because it is in a location and of a size that failure or misoperation of the dam would result in no possible loss of life, low economic loss to structures or property, structural damage to a town or city road or private road accessing property other than the dam owner's that could render the road impassable or otherwise interrupt public safety services, the release of liquid industrial, agricultural, or commercial wastes, septage, or contained sediment if the storage capacity is less two-acre-feet and is located more than 250 feet from a water body or watercourse, and/or reversible environmental losses to environmentally-sensitive sites.	Every six years
Significant Hazard	A dam that has a significant hazard potential because it is in a location and of a size that failure or misoperation of the dam would result in no probable loss of lives; however, there would be a major economic loss to structures or property, structural damage to a Class I or Class II road that could render the road impassable or otherwise interrupt public safety services, major environmental pro-public health losses including one or more of the following: damages to a public water system (RSA 485:1-a, XV) which will take longer than 48 hours to repair, the release of liquid industrial, agricultural, or commercial wastes, septage, sewage, or contaminated sediments if the storage capacity is two acre-feet or more; or damage to an environmentally-sensitive site that does not meet the definition of reversible environmental losses.	Every four years
High Hazard	A dam that has a high hazard potential because it is in a location and of a size that failure or misoperation of the dam would result in probable loss of human life as well as a result of water levels and velocities causing the structural failure of a foundation of a habitable residential structure or commercial or industrial structure which is occupied under normal conditions; water levels rising above the first floor elevation of a habitable residential structure or a commercial or industrial structure, which is occupied under normal conditions when the rise due to a dam failure is greater than one foot; structural damage to an interstate highway, which could render the roadway impassable or otherwise interrupt public safety services; the release of a quantity and concentration of material, which qualify as "hazardous waste" as defined by RSA 147-A:2 VII; or any other circumstance that would more likely than not cause one or more deaths.	Every two years

³⁷ <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/vol2-appC.pdf>

³⁸ <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/db-15.pdf>

Flooding (local, road erosion)

Today, the risk of flooding is a serious concern with changes in land use, aging roads, designs that are no longer effective, and undersized culverts. Heavy rain, rapid snowmelt, and stream flooding often cause culverts to be overwhelmed and roads to wash out. In addition, inadequate and aging stormwater drainage systems create local flooding on asphalt and gravel roads.

Flooding (Riverine)

Floodplains are usually located in lowlands near rivers; floodplains experience flooding regularly. The term 100-year flood does not mean that floods will occur once every 100 years. It is a statement of probability that scientists and engineers use to describe how one flood compares to others that are likely to occur. Using “1% annual chance of flood” is more accurate. Flooding is often associated with hurricanes, heavy rains, ice jams, and rapid snowmelt in the spring.

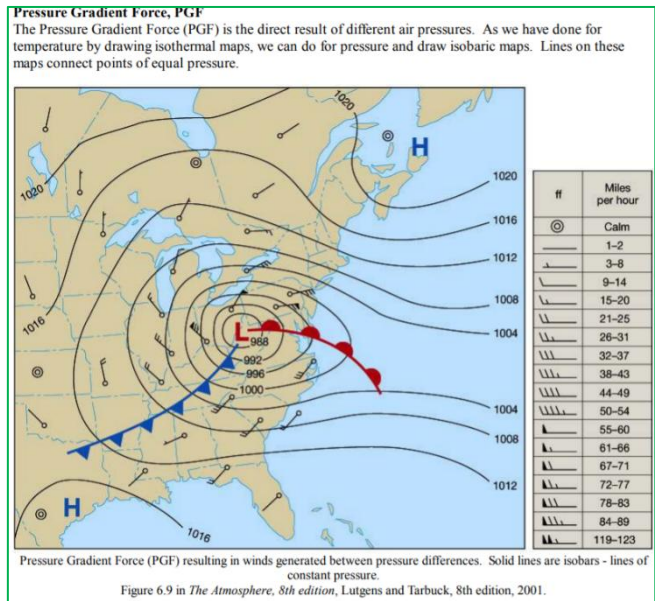
Erosion

Erosion is the wearing away of land, such as riverbank loss, beach, shoreline, or dune material. It is measured as the rate of change in the position or displacement of a riverbank or shoreline over time. Short-term erosion typically results from periodic natural events, such as flooding, hurricanes, storm surges, and windstorms, but may be intensified by human activities. Long-term erosion results from multi-year impacts such as repetitive flooding, wave action, sea-level rise, sediment loss, subsidence, and climate change. Death and injury are not typically associated with erosion; however, erosion can destroy buildings and infrastructure.³⁹

***HIGH WIND EVENTS**

Windstorm

NOAA (National Oceanic & Atmospheric Administration) stated that wind is *“The horizontal motion of the air past a given point.”* Winds begin with differences in air pressures. Air pressures higher in one place than another set up a force pushing from the high pressure toward the low pressure. The more significant the difference in pressures, the stronger the force. The distance between high and low pressure also determines how fast the moving air is accelerated. Meteorologists refer to the force that starts the wind flowing as the “pressure gradient force.” High and low pressures are relative. No set number divides high and low pressure. Wind is used to describe the prevailing direction from which the wind is blowing with speed given usually in miles per hour or knots.” Also, NOAA’s issuance of a Wind Advisory occurs when sustained winds reach 25 to 39 mph and gusts to 57 mph.^{40 41}



³⁹ https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf
⁴⁰ NOAA; <https://w1.weather.gov/glossary/index.php?letter=w>
⁴¹ Pressure Gradient Force Chart “snipped” from *Air Pressure and Wind*; https://www.weather.gov/media/zhu/ZHU_Training_Page/winds/pressure_winds/pressure_winds.pdf

Tornado

A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. The atmospheric conditions required to form a tornado include significant thermal instability, high humidity, and the convergence of warm, moist air at low levels with cooler, drier air aloft. Tornadoes develop when cold air overrides a layer of warm air, causing the warm air to rise rapidly. Most tornadoes remain suspended in the atmosphere, but become a force of destruction if they touch down.

Tornadoes produce the most violent winds on Earth, at 280 mph or more. Also, tornadoes can travel at a forward speed of up to 70 mph. Damage paths can be more than one mile wide and 50 miles long. Violent winds and debris slamming into buildings cause the most structural damage.

The Fujita Scale is the standard scale for rating the severity of a tornado as measured by the damage it causes. A tornado is usually accompanied by thunder, lightning, heavy rain, and a loud “freight train” noise. A tornado covers a much smaller area than a hurricane, but can be more violent and destructive.

“Dr. T. Theodore Fujita developed the Fujita Tornado Damage Scale (F-Scale) to provide estimates of tornado strength based on damage surveys. Since it's practically impossible to make direct measurements of tornado winds, an estimate of the winds based on damage is the best way to classify a tornado. The new Enhanced Fujita Scale (EF-Scale) addresses some of the limitations identified by meteorologists and engineers since introducing the Fujita Scale in 1971. The new scale identifies 28 different free-standing structures most affected by tornadoes considering construction quality and maintenance. The range of tornado intensities remains as before, zero to five, with 'EF-0' being the weakest, associated with very little damage and 'EF-5' representing complete destruction, which was the case in Greensburg, Kansas on May 4th, 2007, the first tornado classified as 'EF-5'. The EF scale was adopted on February 1, 2007.”⁴² The chart (right), adapted from wunderground.com, compares the Fujita Scale to the Enhanced Fujita Scale.

EF SCALE	OLD F-SCALE	TYPICAL DAMAGE
EF-0 (65-85mph)	F0 (65-73 mph)	Light damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF-1 (86-110 mph)	F1 (74-112 mph)	Moderate damage. Roofs are severely stripped; mobile homes are overturned or badly damaged; loss of exterior doors, windows, and other glass is broken.
EF-2 (111-135 mph)	F2 (113-157 mph)	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light object missiles generated; cars lifted off the ground.
EF-3 (136-165 mph)	F3 (158-206 mph)	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF-4 (166-200 mph)	F4 (207-260 mph)	Devastating damage. Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF-5 (>200 mph)	F5 (261-318 mph)	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (109 yards); high-rise buildings have significant structural deformation; incredible phenomena will occur.
EF No rating	F6-F12 (319 mph to speed of sound)	Inconceivable damage. Should a tornado with a maximum wind speed in excess of EF5 occur, the extent and types of damage may not be conceivable. A number of missiles, such as iceboxes, water heaters, storage tanks, and automobiles, will create secondary damage to structures.

⁴² Enhance Fujita Scale, <https://www.wunderground.com/prepare/hurricane-typhoon>

Downburst

According to NOAA, a downburst is a strong downdraft that causes damaging winds on or near the ground. Not to be confused with a downburst, the term "microburst" describes the size of the downburst. Both a microburst and a larger macroburst can cause extreme winds.

A microburst is a downburst with winds extending 2 ½ miles or less, lasting 5 to 15 minutes, and causing damaging winds as high as 168 MPH. A macroburst is a downburst with winds extending more than 2 ½ miles and lasting 5 to 30 minutes. Damaging winds, causing widespread, tornado-like damage, could be as high as 134 MPH.⁴³

Below is the Beaufort Wind Scale, showing expected damage based on the wind (knots), developed in 1805 by Sir Francis Beaufort of England and posted on NOAA's Storm Prediction Center website.⁴⁴

Force	Wind (Knots)	WMO Classification	The appearance of Wind Effects	
			On the Water	On Land
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, smoke rises vertically
1	1-3	Light Air	Scaly ripples, no foam crests	Smoke drift indicates wind direction; still wind vanes
2	4-6	Light Breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes bring to move
3	7-10	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	11-16	Moderate Breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted; small tree branches move
5	17-21	Fresh Breeze	Moderate waves 4-8 ft. taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	Strong Breeze	Larger waves 8-13 ft., whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Sea heaps up, waves 13-20 ft., white foam streaks off breakers	Whole trees moving, resistance felt walking against the wind
8	34-40	Gale	Moderately high (13-20 ft.) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks	Whole trees in motion, resistance felt walking against the wind
9	41-47	Strong Gale	High waves (20 ft.), the sea begins to roll, dense streaks of foam, and the spray may reduce visibility.	Slight structural damage occurs, slate blows off roofs
10	48-55	Storm	Very high waves (20-30 ft.) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility.	Seldom experienced on land, trees broken or uprooted, "considerable structural damage."
11	56-63	Violent Storm	Exceptionally high (30-45 ft.) waves, foam patches cover the sea, visibility is reduced	
12	64+	Hurricane	Air-filled with foam, waves over 45 ft., sea completely white with driving spray, visibility greatly reduced	

⁴³ NOAA - https://www.noaa.gov/jetstream/wind_damage

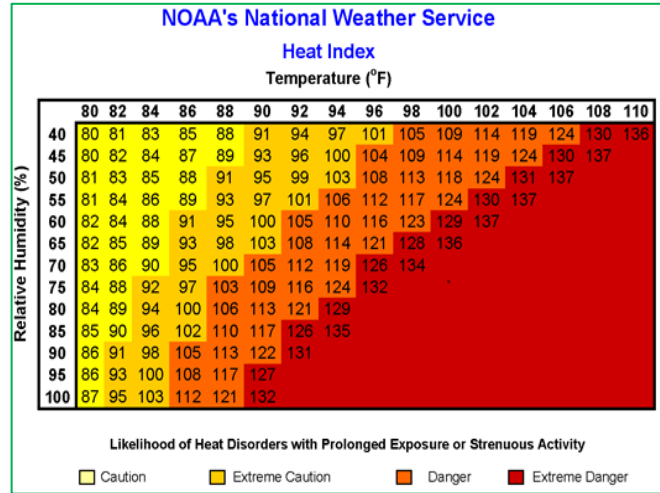
⁴⁴ NOAA, Storm Prediction Center, <https://www.spc.noaa.gov/faq/tornado/beaufort.html>

***EXTREME TEMPERATURES**

Extreme Heat

A heatwave is a “prolonged period of excessive heat, often combined with excessive humidity.” Heat kills by pushing the human body beyond its limits. In extreme heat and high humidity, evaporation is slowed, and the body must work extra hard to maintain a normal temperature.

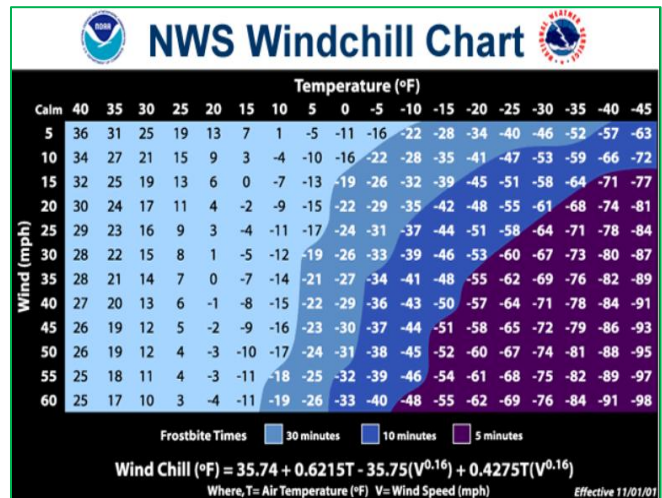
Most heat disorders occur when a victim is overexposed to heat or has overexercised for their age and physical condition. Older adults, young children, and those who are sick or overweight are more likely to succumb to extreme heat.



Conditions that can induce heat-related illnesses include stagnant atmospheric conditions and poor air quality. Consequently, people living in urban areas may be at greater risk from a prolonged heat wave than those in rural areas. Also, asphalt and concrete store heat longer and gradually release heat at night, producing higher nighttime temperatures known as the urban heat island effect. The chart above explains the likelihood of heat disorders that may result from high heat.⁴⁵

Extreme Cold

What constitutes extreme cold and its effects can vary across different areas of the country. In regions relatively unaccustomed to winter weather, near-freezing temperatures are considered “extreme cold.” Whenever temperatures drop decidedly below average and wind speed increases, heat can leave your body more rapidly; these weather-related conditions may lead to serious health problems. Extreme cold is dangerous; it can bring on health emergencies in susceptible people without shelter, those stranded, or those living in poorly insulated homes or without heat. The National Weather Service Chart (to the right) shows wind chill due to wind and temperature.⁴⁶



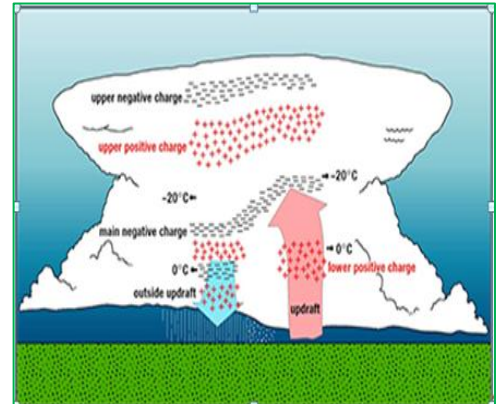
⁴⁵ NOAA; <https://www.weather.gov/safety/heat-index>
⁴⁶ National Weather Service; <https://www.weather.gov/safety/cold-wind-chill-chart>

***LIGHTNING**

Lightning

The NOAA National Severe Storms Laboratory (NSSL) stated, "Lightning is a giant spark of electricity in the atmosphere between clouds, the air, or the ground. In the early stages of development, air acts as an insulator between the positive and negative charges in the cloud and between the cloud and the ground. When the opposite charges build up enough, this insulating capacity of the air breaks down, and there is a rapid discharge of electricity that we know as lightning. The flash of lightning temporarily equalizes the charged regions in the atmosphere until the opposite charges build up again."⁴⁷

Thunder, a result of lightning, is created when the "lightning channel heats the air to around 18,000 degrees Fahrenheit..."⁴⁸ thus causing the rapid expansion of the air and the sounds we hear as thunder. Although thunder heard during a storm cannot hurt you, the lightning associated with the thunder can strike people and strike homes, outbuildings, grass, and trees, sparking disaster. In addition, wildfires and structure loss are at high risk during severe lightning events.



“A conceptual model shows the electrical charge distribution inside deep convection (thunderstorms), developed by NSSL and university scientists. In the main updraft (in and above the red arrow), there are four main charge regions. In the convective region but outside the out draft (in and above the blue arrow), there are more than four charge regions.” - NOAA

Although thunderstorms and their associated lightning can occur any time of year, in New England, they are most likely to occur in the summer and late afternoon or early evening; they may even occur during a winter snowstorm. Trees, tall buildings, and mountains are often lightning targets because their tops are closer to the cloud; however, lightning is unpredictable and does not always strike the tallest thing in the area.

Thunderstorms and lightning occur most commonly in moist, warm climates. Data from the National Lightning Detection Network shows that an average of 20,000,000 cloud-to-ground flashes occur annually over the continental US. Around the world, lightning strikes the ground about 100 times each second, or 8 million times a day.

In general, lightning decreases across the US mainland toward the northwest. Over the entire year, the highest cloud-to-ground lightning frequency is in Florida between Tampa and Orlando. This phenomenon is due to the presence, on many days during the year, of significant moisture content in the atmosphere at low levels (below 5,000 feet) and high surface temperatures that produce strong sea breezes along the Florida coast. The western mountains of the US also produce strong upward motions and contribute to frequent cloud-to-ground lightning. There are also high frequencies along the Gulf of Mexico, the Atlantic coast, and the southeast United States. US regions along the Pacific west coast have the least cloud-to-ground lightning."⁴⁹

⁴⁷ NOAA National Severe Storms Laboratory, <https://www.nssl.noaa.gov/education/svrwx101/lightning>

⁴⁸ Ibid

⁴⁹ Ibid

Lightning Activity Level (LAL) Grid		
The lightning activity level is a common parameter in fire weather forecasts nationwide. LAL is a measure of the amount of lightning activity using values 1 to 6 where:		
LAL	Cloud & Storm Development	Lightning Strikes 15 Minutes
1	No thunderstorms	-
2	Cumulus clouds are common, but only a few reach the towering cumulus stage. A single thunderstorm must be confirmed in the observation area. The clouds produce mainly virga, but light rain will occasionally reach the ground. Lightning is very infrequent.	1-8
3	Towering cumulus covers less than two-tenths of the sky. Thunderstorms are few, but two to three must occur within the observation area. Light to moderate rain will reach the ground, and lightning is infrequent.	9-15
4	Towering cumulus covers two to three-tenths of the sky. Thunderstorms are scattered, and more than three must occur within the observation area. Moderate rain is common, and lightning is frequent.	16-25
5	Towering cumulus and thunderstorms are numerous. They cover more than three-tenths and occasionally obscure the sky. Rain is moderate to heavy, and lightning is frequent and intense.	>25
6	Similar to LAL 3, except thunderstorms are dry.	

<https://graphical.weather.gov/definitions/defineLAL.html>

***WILDFIRE**

According to the International Wildland-Urban Interface Code (IWUIC), the definition of wildfire is “an uncontrolled fire spreading through vegetative fuels exposing and possibly consuming structures”. In addition, the IWUIC defines the Wildland Urban Interface (WUI) area as “that geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels.”⁵⁰

Two major potential losses from wildfire are the forest and the threat to the built-up human environment. In many cases, the only time it is feasible for a community to control a wildfire is when it threatens the built-up human environment.

⁵⁰<https://codes.iccsafe.org/content/IWUIC2021P1/chapter-2-definitions#:~:text=WILDFIRE.,exposing%20and%20possibly%20consuming%20structures>

***TROPICAL/POST TROPICAL CYCLONES**

Cyclones (Hurricanes)

A hurricane is a tropical cyclone with 74 miles per hour or more winds that blow in a large spiral around a relatively calm center. The storm's eye is usually 20-30 miles wide, and the storm may extend over 400 miles. High winds are a primary cause of hurricane-inflicted loss of life and property damage.

“The Saffir-Simpson Hurricane Wind Scale” (on the following page⁵¹) is a 1 to 5 rating based on a hurricane's sustained wind speed. This scale estimates potential property damage. Hurricanes reaching Category 3 and higher are considered major hurricanes because of their potential for significant loss of life and damage. Category 1 and 2 storms are still dangerous and require preventative measures. In the western North Pacific, the term "super typhoon" is used for tropical cyclones with sustained winds exceeding 150 mph.”⁵²

Flooding is often caused by the coastal storm surge of the ocean and torrential rains, both of which may accompany a hurricane; these floods can result in the loss of lives and property.

Post-Tropical Cyclones

A tropical depression becomes a tropical storm with maximum sustained winds between 39 and 73 mph. Although tropical storms have less than 74 miles per hour winds, they can do significant damage like hurricanes. The damage most felt by tropical storms is from the torrential rains, which cause rivers and streams to flood and overflow their banks.

Rainfall from tropical storms has been reported at up to 6 inches per hour; 43 inches of rain in 24 hours was reported in Alvin, TX, due to Tropical Storm Claudette.⁵³

Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	74-95 mph 64-82 kt. 119-153 km/h	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to the roof, shingles, vinyl siding, and gutters. Large branches of trees will snap, and shallowly rooted trees may be toppled. Extensive damage to power lines and poles will likely result in power outages that could last several days.
2	96-110 mph 83-95 kt. 154-177 km/h	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain significant roof and siding damage. In addition, many shallowly rooted trees will be snapped or uprooted, blocking numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3 (major)	111-129 mph 96-112 kt. 178-208 km/h	Devastating damage will occur: Well-built frame homes may incur significant damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130-156 mph 113-136 kt. 209-251 km/h	Catastrophic damage will occur: Well-built frame homes can sustain severe damage by losing most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted, and power poles will be downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	157 mph or higher 137 kt. or higher 252 km/h or higher	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

⁵¹ National Hurricane Center; <https://www.nhc.noaa.gov/aboutsshws.php>

⁵² Ibid

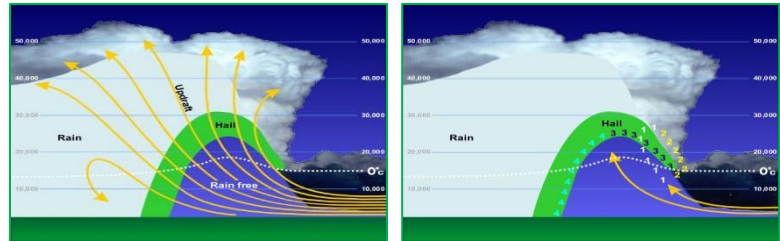
⁵³ https://www.wpc.ncep.noaa.gov/research/mcs_web_test_test_files/Page1637.htm

Hail

Hailstones are balls of ice that grow as they are held up by winds, known as updrafts, that blow upwards in thunderstorms. The updrafts carry droplets of supercooled water, water at a below-freezing temperature that is not yet ice. The supercooled water droplets freeze into ice balls and grow to become hailstones. The faster the updraft, the bigger the stones can grow. Most hailstones are smaller in diameter than a dime, but stones weighing more than a pound have been recorded. "The largest hailstone recovered in the US fell in Vivian, SD, on June 23, 2010, with a diameter of 8 inches and a circumference of 18.62 inches. It weighed 1 lb. 15 oz."⁵⁴

Dime/Penny	0.75	
Nickel	0.88	
Quarter	1.00	
Half Dollar	1.25	
Ping Pong	1.50	
Golf Ball	1.75	
Hen Egg	2.00	
Tennis Ball	2.50	
Baseball	2.75	
Tea Cup	3.00	
Grapefruit	4.00	
Softball	4.50	

How hailstones grow is complicated, but the results are irregular balls of ice that can be as large as baseballs. The chart above shows the relative size differences and a common way to "measure" the size of hail based on diameter.⁵⁵ The charts to the right show how hail is formed.⁵⁶



***EARTHQUAKE**

An earthquake is a rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. Earthquakes can cause buildings and bridges to collapse, disrupt gas, electric, and phone lines, and often cause landslides, flash floods, fires, and avalanches. More significant earthquakes usually begin with slight tremors but rapidly take the form of one or more violent shocks and end in vibrations of gradually diminishing force called aftershocks. An earthquake's underground point of origin is called its focus; the point on the surface directly above the focus is the epicenter.

Using the commonly used scales, the Richter scale (which measures strength or magnitude) and the Mercalli Scale (which measures intensity or severity), the magnitude and intensity of an earthquake are determined. The chart to the right shows the two scales relative to one another. The Richter scale measures earthquakes starting at one as the lowest, with each successive unit being about ten times stronger and more severe than the previous one.⁵⁷

It is well documented that fault lines run throughout New Hampshire, but high-magnitude earthquakes have not been common in New Hampshire's history. Four earthquakes occurred in New Hampshire between 1924 and 1989, having a magnitude of 4.2 or more. Two occurred in Ossipee, one west of Laconia and one near the Quebec border.

Modified Mercalli Scale		Richter Magnitude Scale
I	Detected only by sensitive instruments	1.5
II	Felt by few persons at rest, especially on upper floors; delicately suspended objects may swing	2
III	Felt noticeably indoors, but not always recognized as earthquake; standing autos rock slightly, vibration like passing truck	2.5
IV	Felt indoors by many, outdoors by few, at night some may awaken; dishes, windows, doors disturbed; autos rock noticeably	3
V	Felt by most people; some breakage of dishes, windows, and plaster; disturbance of tall objects	3.5
VI	Felt by all, many frightened and run outdoors; falling plaster and chimneys, damage small	4
VII	Everybody runs outdoors; damage to buildings varies depending on quality of construction; noticed by drivers of autos	4.5
VIII	Panel walls thrown out of frames; fall of walls, monuments, chimneys; sand and mud ejected; drivers of autos disturbed	5
IX	Buildings shifted off foundations, cracked, thrown out of plumb; ground cracked; underground pipes broken	5.5
X	Most masonry and frame structures destroyed; ground cracked, rails bent, landslides	6
XI	Few structures remain standing; bridges destroyed, fissures in ground, pipes broken, landslides, rails bent	6.5
XII	Damage total; waves seen on ground surface, lines of sight and level distorted, objects thrown up in air	7

⁵⁴ NOAA National Severe Storms Laboratory; <https://www.nssl.noaa.gov/education/svrwx101/hail/>

⁵⁵ <https://www.pinterest.com/pin/126171227030590678/>

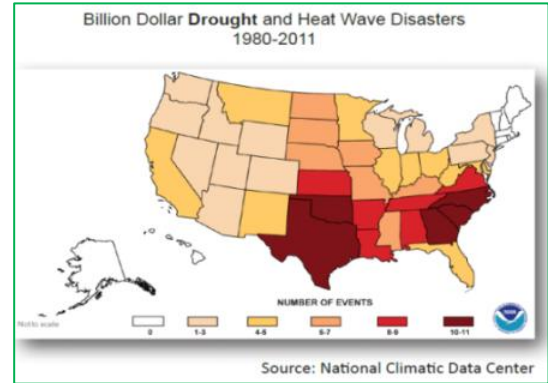
⁵⁶ <https://www.noaa.gov/jetstream/hail>

⁵⁷ <https://dnr.mo.gov/land-geology/hazards/earthquakes/science/relationship-between-richter-magnitude-modified-mercalli-intensity>

***DROUGHT**

A drought is a long period of abnormally low precipitation that adversely affects plants and animals' growing seasons or living conditions. Droughts are not rare in New Hampshire. They are generally less damaging and disruptive than floods and are more difficult to define. The effect of drought is indicated through measurements of soil moisture, groundwater levels, and streamflow.

However, not all of these indicators will be minimal during a drought. For example, frequent minor rainstorms can replenish the soil moisture without raising groundwater levels or increasing streamflow. Low stream flow also correlates with low groundwater levels because groundwater discharge to streams and rivers maintains streamflow during extended dry periods. Low streamflow and low groundwater levels commonly cause diminished water supply.



The US Drought Monitor provides an intensity scale, as shown to the right, to indicate the “Category” of drought at any given time. During the peak months of the 2016 drought in New Hampshire, the southern part of the State was in Category D3 or Extreme Drought.

Category	Description	Possible Impacts
D0	Abnormally Dry	Going into drought: <ul style="list-style-type: none"> • short-term dryness slowing planting, growth of crops or pastures Coming out of drought: <ul style="list-style-type: none"> • some lingering water deficits • pastures or crops not fully recovered
D1	Moderate Drought	<ul style="list-style-type: none"> • Some damage to crops, pastures • Streams, reservoirs, or wells low, some water shortages developing or imminent • Voluntary water-use restrictions requested
D2	Severe Drought	<ul style="list-style-type: none"> • Crop or pasture losses likely • Water shortages common • Water restrictions imposed
D3	Extreme Drought	<ul style="list-style-type: none"> • Major crop/pasture losses • Widespread water shortages or restrictions
D4	Exceptional Drought	<ul style="list-style-type: none"> • Exceptional and widespread crop/pasture losses • Shortages of water in reservoirs, streams, and wells creating water emergencies

<https://www.nrcc.cornell.edu/services/blog/2018/06/28/index.html>; photo from US Drought Monitor

*LANDSLIDES

While no universally accepted standard or scientific scale has been developed for measuring the severity of all landslides, severity can be measured in several other ways:

- Steepness/grade of the Slope (measured as a percent)
- Geographical Area
 - Measured in square feet, square yards, etc.
 - More accurately measured using LIDAR/GIS systems
- Earthquake, either causing the event or caused by the event (measured using the Moment Magnitude Intensity or Mercalli Scale)

There are also multiple types of landslides:

- Falls: A mass detaches from a steep slope or cliff and descends by free-fall, bounding, or rolling
- Topples: A mass tilts or rotates forward as a unit
- Slides: A mass displaces on one or more recognizable surfaces, which may be curved or planar
- Flows: A mass moves downslope with a fluid motion. A significant amount of water may or may not be part of the mass.

Like flooding, landslides are unique in affecting different geographic, topographic, and geologic areas. Therefore, the severity of the landslide event must be determined by considering many measurements.⁵⁸

*INFECTIOUS DISEASE

Bacterial & Viral Infections

Many organisms live inside our bodies and on our skin. Although these organisms are generally harmless and sometimes helpful, they can cause illnesses. Infectious diseases can be transmitted from one person to another by bites from animals or insects (zoonotic), from the environment, or by consuming food or water that has been contaminated. In addition, infectious diseases may be caused by bacteria, viruses, fungi, and parasites.⁵⁹

Some of the more common infectious diseases include Lyme disease, HIV/AIDS, Tuberculosis, Rabies, West Nile Virus, Eastern Equine Encephalitis (EEE), Ebola, Avian Flu, Enterovirus D-68, Influenza, Hepatitis A, Zika Virus, Meningitis, Legionella, Sexually Transmitted Diseases (STD), Hepatitis C, Salmonella, SARS, and Staph.⁶⁰

“Throughout history, millions of people have died of diseases such as bubonic plague or the Black Death, which is caused by Yersinia pestis bacteria, and smallpox, which is caused by the variola virus. In recent times, viral infections have been responsible for two major pandemics: the 1918-1919 “Spanish Flu” epidemic that killed 20-40 million people, and the ongoing HIV/AIDS epidemic that killed an estimated 1.5 million people worldwide in 2013 alone.

Bacterial and viral infections can cause similar symptoms such as coughing and sneezing, fever, inflammation, vomiting, diarrhea, fatigue, and cramping – all of which are ways the immune system tries to rid the body of infectious organisms. But bacterial and viral infections are dissimilar in many other important respects, most of them due to the organisms’ structural differences and the way they respond to medications.”⁶¹

⁵⁸ State of New Hampshire Multi-Hazard Mitigation Plan Update 2023 & <https://oas.org/dsd/publications/Unit/oea66e/ch10.htm>

⁵⁹ <https://www.mayoclinic.org/diseases-conditions/infectious-diseases/symptoms-causes/syc-20351173>

⁶⁰ <https://www.dhhs.nh.gov/programs-services/disease-prevention/infectious-disease-control>

⁶¹ <https://www.webmd.com/a-to-z-guides/bacterial-and-viral-infections#1>

In early 2020, a novel coronavirus emerged in China, spreading worldwide to become the worst pandemic since the 1918 Spanish Flu. Known as COVID-19, this novel coronavirus had infected 676,609,955 people and caused the deaths of 6,881,955 individuals worldwide as of March 20, 2023, the final day that Johns Hopkins collected COVID-19 data, after three years. The Delta and Omicron variants appeared in the US in December 2021, causing critical concerns about the possibility of overwhelming the country's hospital systems.

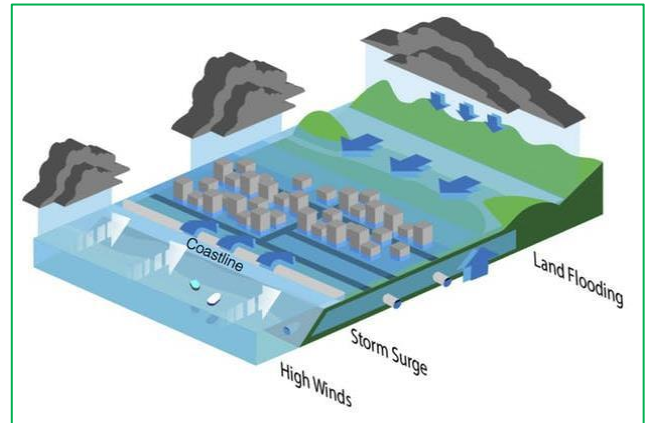
The pandemic remains an evolving worldwide crisis, affecting millions of workers in the United States and presenting significant economic consequences. Although most people confirmed with COVID-19 eventually recover, and many have been vaccinated, the virus remains a risk for the elderly and compromised individuals.

The extent of infectious diseases is generally described by the level and occurrence of a particular disease as follows:

- Endemic.....Disease with a constant presence or usual prevalence in a population within a geographic area
- Sporadic.....Disease that occurs infrequently and irregularly
- Hyperendemic.....Disease that is persistent and has high levels of occurrence
- EpidemicDisease that shows an increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area
- OutbreakDisease that has the same definition as an epidemic, but is often used for a more limited geographic area
- Cluster.....Refers to an aggregation of cases grouped in place and time that are suspected to be greater than the number expected, even though the expected number may not be known.
- Pandemic.....An epidemic that has spread over several countries or continents, usually affecting a large number of people

COASTAL FLOODING

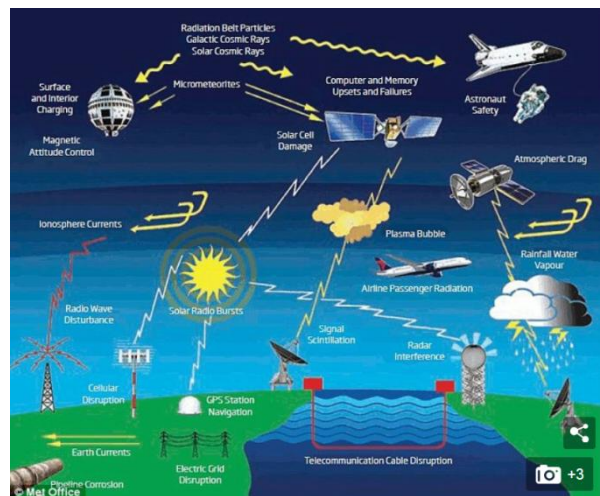
Coastal areas are particularly susceptible to flooding, erosion, storm surge, and sea-level rise due to tropical and post-tropical cyclones, heavy rain events, gale-force winds, and other natural phenomena. The 2023 State Hazard Mitigation Plan states, “Coastal flooding is defined by the National Oceanic and Atmospheric (NOAA) as flooding which occurs when there are significant storms, such as tropical and extratropical cyclones (NWS Internet Services Team, 2009).”⁶²



The State Plan goes on to discuss problems associated with coastal flooding, “These problems can include but are not limited to—beach and shoreline erosion; loss or submergence of wetlands, other coastal ecosystems, and developed land; impacts from saltwater intrusion and high groundwater tables; loss of coastal structures (sea walls, piers, bulkheads, bridges, or buildings); overwhelmed public infrastructure; water quality impairments; and hazardous waste exposure. Loss of life and property damage can be more severe in coastal storm events due to velocity of wave action and accompanying winds.”⁶³

***SOLAR STORMS & SPACE WEATHER**

When sudden amounts of stored magnetic energy and ions are discharged from the Sun’s surface, solar flares, high-speed solar wind streams, solar energetic particles, and coronal mass ejections (CMEs) are possible. This magnetic energy sometimes finds its way to Earth by following the Sun’s magnetic field. Then, upon collision with the Earth’s magnetic field, these charged particles enter the Earth’s upper atmosphere, causing Auroras.



Charged magnetic particles can produce their own magnetic field, disrupting navigation, communication systems, and GPS satellites. In addition, they can potentially produce Geomagnetic Induced Currents (GICs), affecting the power grid and pipelines. In addition, an electromagnetic surge from a solar storm can produce an Electromagnetic Pulse (EMP). An EMP could cause significant damage to infrastructures such as nuclear power plants, banking systems, the electrical grid, sewage treatment facilities, cell phones, landlines, and even vehicles. The image above shows the potential impacts of solar storms and space weather.⁶⁴

⁶² New Hampshire State Hazard Mitigation Plan, 2023 Update; <https://prd.blogs.nh.gov/dos/hsem/wp-content/uploads/2023/10/2023-NH-State-Hazard-Mitigation-Plan-Signed-10.5.23.pdf>; page 127

⁶³ Ibid, page 127

⁶⁴ <https://www.dailymail.co.uk/sciencetech/article-3764842/A-solar-storm-destroy-planet-unless-create-massive-magnetic-shield-protect-Earth-warns-expert.html>

Solar Storms & Space Weather Extent⁶⁵

Geomagnetic Storms				
Scale	Description	Effect	Physical Measure	Average Frequency (1 cycle = 11 years)
G 5	Extreme	Power systems: Widespread voltage control problems and protective system problems can occur; some grid systems may experience complete collapse or blackouts. Transformers may experience damage. Spacecraft operations: May experience extensive surface charging, problems with orientation, uplink/downlink, and tracking satellites. Other systems: Pipeline currents can reach hundreds of amps, HF (high frequency) radio propagation may be impossible in many areas for one to two days, satellite navigation may be degraded for days, low-frequency radio navigation can be out for hours, and aurora has been seen as low as Florida and southern Texas (typically 40° geomagnetic lat.).	Kp. = 9	4 per cycle (4 days per cycle)
G 4	Severe	Power systems: Possible widespread voltage control problems and some protective systems will mistakenly trip out key assets from the grid. Spacecraft operations: May experience surface charging and tracking problems; corrections may be needed for orientation problems. Other systems: Induced pipeline currents affect preventive measures, HF radio propagation is sporadic, satellite navigation is degraded for hours, low-frequency radio navigation is disrupted, and aurora has been seen as low as Alabama and northern California (typically 45° geomagnetic lat.).	Kp. = 8, including a 9-	100 per cycle (60 days per cycle)
G 3	Strong	Power systems: Voltage corrections may be required; false alarms are triggered on some protection devices. Spacecraft operations: Surface charging may occur on satellite components, drag may increase on low-Earth-orbit satellites, and corrections may be needed for orientation problems. Other systems: Intermittent satellite navigation and low-frequency radio navigation problems may occur, HF radio may be intermittent, and aurora has been seen as low as Illinois and Oregon (typically 50° geomagnetic lat.).	Kp. = 7	200 per cycle (130 days per cycle)
G 2	Moderate	Power systems: High-latitude power systems may experience voltage alarms; long-duration storms may cause transformer damage. Spacecraft operations: Corrective actions to orientation may be required by ground control; possible changes in drag affect orbit predictions. Other systems: HF radio propagation can fade at higher latitudes, and aurora has been seen as low as New York and Idaho (typically 55° geomagnetic lat.).	Kp. = 6	600 per cycle (360 days per cycle)
G 1	Minor	Power systems: Weak power grid fluctuations can occur. Spacecraft operations: Minor impact on satellite operations possible. Other systems: Migratory animals are affected at this and higher levels; aurora is commonly visible at high latitudes (northern Michigan and Maine).	Kp. = 5	1700 per cycle (900 days per cycle)

Solar Radiation Storms				
Scale	Description	Effect	Physical Measure (Flux level of >=10 MeV particles)	Average Frequency (1 cycle = 11 years)
S 5	Extreme	Biological: Unavoidable high radiation hazard to astronauts on EVA (extra-vehicular activity); passengers and crew in high-flying aircraft at high latitudes may be exposed to radiation risk. Satellite operations: Satellites may be rendered useless, memory impacts can cause loss of control, may cause serious noise in image data, star-trackers may be unable to locate sources, permanent damage to solar panels is possible. Other systems: Complete blackout of HF (high frequency) communications possible through the polar regions and position errors make navigation operations extremely difficult.	10 ⁵	Fewer than 1 per cycle
S 4	Severe	Biological: Unavoidable radiation hazard to astronauts on EVA; passengers and crew in high-flying aircraft at high latitudes may be exposed to radiation risk. Satellite operations: May experience memory device problems and noise on imaging systems; star-tracker problems may cause orientation problems, and solar panel efficiency can be degraded. Other systems: Blackout of HF radio communications through the polar regions and increased navigation errors over several days are likely.	10 ⁴	3 per cycle

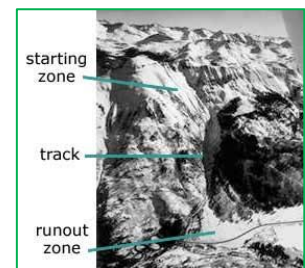
⁶⁵ Extent charts taken from <https://www.weather.gov/akq/SpaceWeather>

Solar Radiation Storms				
S 3	Strong	<p>Biological: Radiation hazard avoidance is recommended for astronauts on EVA; passengers and crew in high-flying aircraft at high latitudes may be exposed to radiation risk.</p> <p>Satellite operations: Single-event upsets, noise in imaging systems, and a slight reduction of efficiency in solar panels are likely.</p> <p>Other systems: Degraded HF radio propagation through the polar regions and navigation position errors likely.</p>	10 ³	10 per cycle
S 2	Moderate	<p>Biological: Passengers and crew in high-flying aircraft at high latitudes may be exposed to elevated radiation risk.</p> <p>Satellite operations: Infrequent single-event upsets are possible.</p> <p>Other systems: minor effects on HF propagation through the polar regions and navigation at polar cap locations possibly affected.</p>	10 ²	25 per cycle
S 1	Minor	<p>Biological: None.</p> <p>Satellite operations: None.</p> <p>Other systems: Minor impacts on HF radio in the polar regions.</p>	10	50 per cycle

Radio Blackout				
Scale	Description	Effect	Physical Measure	Average Frequency (1 cycle = 11 years)
R 5	Extreme	<p>HF Radio: Complete HF (high frequency) radio blackout on the entire sunlit side of the Earth, lasting for a number of hours. This results in no HF radio contact with mariners and on-route aviators in this sector.</p> <p>Navigation: Low-frequency navigation signals used by maritime and general aviation systems experience outages on the sunlit side of the Earth for many hours, causing loss in positioning. Increased satellite navigation errors in positioning for several hours on the sunlit side of Earth, which may spread into the night side.</p>	X20 (2 x 10 ⁻³)	Less than 1 per cycle
R 4	Severe	<p>HF Radio: HF radio communication blackouts on most of the sunlit side of Earth for one to two hours. HF radio contact lost during this time.</p> <p>Navigation: Outages of low-frequency navigation signals cause increased errors in positioning for one to two hours. Minor disruptions of satellite navigation possible on the sunlit side of Earth.</p>	X10 (10 ⁻³)	8 per cycle (8 days per cycle)
R 3	Strong	<p>HF Radio: Wide area blackout of HF radio communication, loss of radio contact for about an hour on sunlit side of Earth.</p> <p>Navigation: Low-frequency navigation signals degraded for about an hour.</p>	X1 (10 ⁻⁴)	175 per cycle (140 days per cycle)
R 2	Moderate	<p>HF Radio: Limited blackout of HF radio communication on the sunlit side, loss of radio contact for tens of minutes.</p> <p>Navigation: Degradation of low-frequency navigation signals for tens of minutes.</p>	M5 (5 x 10 ⁻⁵)	350 per cycle (300 days per cycle)
R 1	Minor	<p>HF Radio: Weak or minor degradation of HF radio communication on sunlit side, occasional loss of radio contact.</p> <p>Navigation: Low-frequency navigation signals are degraded for brief intervals.</p>	M1 (10 ⁻⁵)	2000 per cycle (950 days per cycle)






***AVALANCHE**

According to the National Snow & Ice Data Center, an avalanche is a rapid snow flow down a hill or mountainside. Although avalanches can occur on any slope given the right conditions, certain times of the year and specific locations are naturally more dangerous than others. Most avalanches tend to happen during winter, particularly from December to April. However, avalanche fatalities have been recorded every month of the year.⁶⁶



⁶⁶ Copyright Richard Armstrong, NSIDC, <https://nsidc.org/learn>

All that is necessary for an avalanche is a mass of snow and a slope to slide down...A large avalanche in North America might release 230,000 cubic meters (300,000 cubic yards) of snow. That is the equivalent of 20 football fields filled 3 meters (10 feet) deep with snow. However, such large avalanches are often naturally released when the snowpack becomes unstable, and layers of snow fail. Skiers and recreationists usually trigger smaller but often more deadly avalanches.

North American Public Avalanche Danger Scale				
Avalanche danger is determined by the likelihood, size and distribution of avalanches.				
Danger Level		Travel Advice	Likelihood of Avalanches	Avalanche Size and Distribution
5 Extreme		Avoid all avalanche terrain.	Natural and human-triggered avalanches certain.	Large to very large avalanches in many areas.
4 High		Very dangerous avalanche conditions. Travel in avalanche terrain not recommended.	Natural avalanches likely; human-triggered avalanches very likely.	Large avalanches in many areas; or very large avalanches in specific areas.
3 Considerable		Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential.	Natural avalanches possible; human-triggered avalanches likely.	Small avalanches in many areas; or large avalanches in specific areas; or very large avalanches in isolated areas.
2 Moderate		Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify features of concern.	Natural avalanches unlikely; human-triggered avalanches possible.	Small avalanches in specific areas; or large avalanches in isolated areas.
1 Low		Generally safe avalanche conditions. Watch for unstable snow on isolated terrain features.	Natural and human-triggered avalanches unlikely.	Small avalanches in isolated areas or extreme terrain.

Safe backcountry travel requires training and experience. You control your own risk by choosing where, when and how you travel.

An avalanche has three main parts (see the image above). The first and most unstable is the “starting zone”, where the snow can “fracture” and slide. “Typical starting zones are higher up on slopes. However, given the right conditions, snow can fracture at any point on the slope.”⁶⁷

The second part is the “avalanche track”, or the downhill path the avalanche follows. The avalanche is evident where large swaths of trees are missing or where there are large pile-ups of rock, snow, trees, and debris at the bottom of an incline.

The third part of an avalanche is the “runout zone”. The avalanche has stopped in the runout zone, leaving the most extensive and highest pile of snow and debris.

“Several factors may affect the likelihood of an avalanche, including weather, temperature, slope steepness, slope orientation (whether the slope is facing north or south), wind direction, terrain, vegetation, and general snowpack conditions. Different combinations of these factors can create low, moderate, or extreme avalanche conditions. In addition, some of these conditions, such as temperature and snowpack, can change daily or hourly.”⁶⁸

When an avalanche is possible, an “avalanche advisory” is issued. This preliminary notification warns hikers, skiers, snowmobilers, and responders that conditions may be favorable for the development of avalanches. The chart above shows avalanche danger determined by likelihood, size, and distribution.⁶⁹

⁶⁷ NSIDC, <https://www.sierraavalanchecenter.org/introduction-north-american-avalanche-danger-scale>

⁶⁸ Copyright Richard Armstrong, NSIDC, <http://nsidc.org/cryosphere/snow/science/avalanches.html>

⁶⁹ NSIDC, <https://www.sierraavalanchecenter.org/introduction-north-american-avalanche-danger-scale>

APPENDIX D: NH MAJOR DISASTER & EMERGENCY DECLARATIONS

Major Disaster (DR) & Emergency Declarations (EM)

This list includes one Fire Management Assistance Declaration (FM)
 Declarations are arranged chronologically; the most recent disaster is listed first

Number	Hazard	Date of Event	Counties	Description
DR-4812	Inland Flooding	July 10-13, 2024	Coos & Grafton	Major Disaster Declaration, DR-4812: FEMA announced that federal disaster assistance is available to the state of New Hampshire to supplement recovery efforts in the areas affected by the severe storms and flooding on July 10-13, 2024
DR-4799	Severe Winter Storm	April 3-5, 2024	Carroll, Belknap, Sullivan & Rockingham	Major Disaster Declaration, DR-4799: A late winter snowstorm on April 4, 2024, brought heavy, wet snow accumulating up to two feet in four NH counties.
DR-4771	Inland Flooding	January 9-14, 2024	Grafton & Rockingham	Major Disaster Declaration DR-4771: A significant winter rain event caused local road and riverine flooding in two counties.
DR-4761	Inland Flooding	December 17-21, 2023	Coos, Grafton & Carroll	Major Disaster Declaration, DR-4761: A significant rainstorm, similar to a 100-year flood event, struck multiple areas in New Hampshire, causing widespread damage to rivers, roads, and bridges.
DR-4740	Inland Flooding	July 9-17, 2023	Coos, Grafton, Belknap, Sullivan & Cheshire	Major Disaster Declaration, DR-4740: Severe storms brought significant summer rains and flooding to towns within five counties in New Hampshire.
DR-4693	Inland Flooding	December 22-25, 2022	Belknap, Grafton, Carroll & Coos	Major Disaster Declaration, DR-4693: A severe winter storm occurred December 22-25, 2022. Heavy, wet snow caused trees and power lines to fall; some roadways were closed. Flooding also occurred in several communities. The declaration was declared in four of the State's ten counties.
DR-4624	Inland Flooding	July 29-July 30, 2021	Cheshire & Sullivan	Major Disaster Declaration, DR-4624: The Federal Emergency Management Agency announced a major disaster declaration and notification of individual and public assistance on October 4, 2021, for two NH Counties.
DR-4622	Inland Flooding	July 17-19, 2021	Cheshire	Major Disaster Declaration, DR-4622: The Federal Emergency Management Agency announced a major disaster declaration for one New Hampshire county during a period of severe storms and flooding from July 17-19, 2021.
DR-4516	Infectious Disease	January 20, 2020 ongoing	All Ten NH Counties	Major Disaster Declaration, DR-4516: The Federal Emergency Management Agency ("FEMA") within the US Department of Homeland Security is giving public notice of its intent to assist the State of New Hampshire, local and tribal governments, and certain private nonprofit organizations under the major disaster declaration issued by the President on April 3, 2020, as a result of the Coronavirus Disease 2019 (COVID-19).
EM-3445	Infectious Disease	January 20, 2020 ongoing	All Ten NH Counties	Emergency Declaration EM-3445: A ten-county declaration to provide individual assistance and public assistance as a result of the impact of COVID-19
DR-4457	Severe Storm & Flooding	July 11-12, 2019	Grafton	Major Disaster Declaration, DR-4457: The Federal Emergency Management Agency announced a major disaster declaration for a period of severe storms and flooding from July 11-12, 2019, in one New Hampshire County.

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Number	Hazard	Date of Event	Counties	Description
DR-4371	Severe Winter Storms	March 13-14, 2018	Carroll, Strafford & Rockingham	Major Disaster Declaration, DR 4371: The Federal Emergency Management Agency announced a major disaster declaration on June 8, 2018, for a period of a severe winter storm from March 13-14, 2018.
DR-4370	Severe Storm & Flooding	March 2-8, 2018	Rockingham	Major Disaster Declaration, DR 4370: The Federal Emergency Management Agency announced a major disaster declaration on June 8, 2018, for a period of severe storms and flooding from March 2-8, 2018.
DR-4355	Severe Storms, Flooding	October 29-November 1, 2017	Sullivan, Grafton, Coos, Carroll, Belknap & Merrimack	Major Disaster Declaration, DR-4355: The Federal Emergency Management Agency (FEMA) announced that federal disaster assistance was available to supplement state and local recovery efforts in areas affected by severe storms and flooding from October 29 to November 1, 2017, in five New Hampshire Counties.
DR-4329	Severe Storms, Flooding	July 1-2, 2017	Grafton & Coos	Major Disaster Declaration DR-4329: The Federal Emergency Management Agency (FEMA) announced that federal disaster assistance is available to the State of New Hampshire to supplement state and local recovery efforts in the areas affected by severe storms and flooding from July 1, 2017, to July 2, 2017, in Grafton County
DR-4316	Severe Winter Storms	March 14-15, 2017	Belknap & Carroll	Major Disaster Declaration DR-4316: Severe winter storm and snowstorm in Belknap & Carroll Counties; disaster aid was provided to supplement state and local recovery efforts.
FM-5123	Forest Fire	April 21-23, 2016	Cheshire	Fire Management Assistance Declaration, FM-5123: Stoddard, NH
DR-4209	Severe Winter Storms	January 26-28, 2015	Hillsborough, Rockingham & Stafford	Major Disaster Declaration DR-4209: Severe winter storm and snowstorm in Hillsborough, Rockingham, and Strafford Counties; disaster aid was provided to supplement state and local recovery efforts.
DR-4139	Severe Storms, Flooding	July 9-10, 2013	Cheshire, Sullivan & Grafton	Major Disaster Declaration DR-4139: Severe storms, flooding, and landslides occurred from June 26 to July 3, 2013, in Cheshire, Sullivan, and southern Grafton Counties.
DR-4105	Severe Winter Storm	February 8, 2013	All Ten NH Counties	Major Disaster Declaration DR-4105: Nemo; heavy snow in February 2013.
DR-4095	Hurricane Sandy	October 26-November 8, 2012	Belknap, Carroll, Coos, Grafton, Rockingham & Sullivan	Major Disaster Declaration DR-4095: The declaration covers damage to property from the storm that spawned heavy rains, high winds, high tides, and flooding from October 26 to November 8, 2012.
EM-3360	Hurricane Sandy	October 26-31, 2012	All Ten NH Counties	Emergency Declaration EM-3360: Hurricane Sandy came ashore in NJ, bringing NH high winds, power outages, and heavy rain. It was declared in all ten counties in New Hampshire.
DR-4065	Severe Storm & Flooding	May 29-31, 2012	Cheshire	Major Disaster Declaration DR-4065: Severe Storm and Flood Event May 29-31, 2012, in Cheshire County.
DR-4049	Severe Storm & Snowstorm	October 29-30, 2011	Hillsborough & Rockingham	Major Disaster Declaration DR-4049: Severe Storm and Snowstorm Event October 29-30, 2011, in Hillsborough and Rockingham Counties.
EM-3344	Severe Snowstorm	October 29-30, 2011	All Ten NH Counties	Emergency Declaration EM-3344: Severe storm during October 29-30, 2011, in all ten counties in New Hampshire (Snowtober).

Number	Hazard	Date of Event	Counties	Description
DR-4026	Tropical Storm Irene	August 26-September 6, 2011	Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan	Major Disaster Declaration DR-4026: Tropical Storm Irene Aug 26th- Sept 6, 2011, in Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan Counties.
EM-3333	Tropical Storm Irene	August 26-September 6, 2011	All Ten NH Counties	Emergency Declaration EM-3333: An emergency Declaration was declared for Tropical Storm Irene in all ten counties.
DR-4006	Severe Storm & Flooding	May 26-30, 2011	Coos & Grafton Counties	Major Disaster Declaration DR-4006: The May flooding event occurred May 26th-30th, 2011, in Coos & Grafton Counties (Memorial Day Weekend Storm).
DR-1913	Severe Storms & Flooding	March 14-31, 2010	Hillsborough & Rockingham	Major Disaster Declaration DR-1913: Flooding in two NH counties occurred, including Hillsborough and Rockingham counties.
DR-1892	Severe Winter Storm, Rain & Flooding	February 23 - March 3, 2010	Grafton, Hillsborough, Merrimack, Rockingham, Strafford & Sullivan	Major Disaster Declaration: DR-1892: Flood and wind damage to most of southern NH, including six counties; 330,000 homes without power; more than \$2 million obligated by June 2010.
DR-1812	Severe Winter Storm & Ice Storm	December 11-23, 2008	All Ten NH Counties	Major Disaster Declaration DR-1812: Damaging ice storms to the entire state, including all ten NH counties; fallen trees and large-scale power outages; five months after December's ice storm battered the region, nearly \$15 million in federal aid had been obligated.
EM-3297	Severe Winter Storm	December 11, 2008	All Ten NH Counties	Emergency Declaration EM-3297: Severe winter storm beginning on December 11, 2008.
DR-1799	Severe Storms & Flooding	September 6-7, 2008	Hillsborough	Major Disaster Declaration: DR-1799: Severe storms and flooding began on September 6, 2008.
DR-1787	Severe Storms & Flooding	July 24-August 14, 2008	Belknap, Carroll & Grafton & Coos	Major Disaster Declaration DR-1787: Severe storms, a tornado, and flooding occurred on July 24, 2008.
DR-1782	Severe Storms, Tornado, & Flooding	July 24, 2008	Belknap, Carroll, Merrimack, Strafford & Rockingham	Major Disaster Declaration DR-1782: Tornado damage to several NH counties.
DR-1695	Nor'easters, Severe Storms & Flooding	April 15-23, 2007	All Ten NH Counties	Major Disaster Declaration DR-1695: Flood damages; FEMA & SBA obligated more than \$27.9 million in disaster aid following the April nor'easter. (Tax Day Storm)
DR-1643	Severe Storms & Flooding	May 12-23, 2006	Belknap, Carroll, Grafton, Hillsborough, Merrimack, Rockingham & Strafford	Major Disaster Declaration DR-1643: Flooding in most of southern NH; May 12-23, 2006 (aka Mother's Day Storm).
DR-1610	Severe Storms & Flooding	October 7-18, 2005	Belknap, Cheshire, Grafton, Hillsborough, Merrimack & Sullivan	Major Disaster Declaration DR-1610: State and federal disaster assistance reached more than \$3 million to help residents and business owners in New Hampshire recover from losses from severe storms and flooding in October 2005.
EM-3258	Hurricane Katrina Evacuation	August 29-October 1, 2005	All Ten NH Counties	Emergency Declaration EM-3258: Assistance to evacuees from the area struck by Hurricane Katrina and to provide emergency assistance to those areas beginning on August 29, 2005, and continuing. The President's action made federal funding available to the State's ten counties.

BARTLETT & HART'S LOCATION, NH HAZARD MITIGATION PLAN UPDATE 2026

Number	Hazard	Date of Event	Counties	Description
EM-3211	Snow	March 11-12, 2005	Carroll, Cheshire, Hillsborough, Rockingham & Sullivan	Emergency Declaration EM-3211: March snowstorm; more than \$2 million has been approved to help pay for the costs of the snow removal; Total aid for the March storm is \$2,112,182.01 (Carroll: \$73,964.57; Cheshire: \$118,902.51; Hillsborough: \$710,836; Rockingham: \$445,888.99; Sullivan: \$65,088.53; State of NH: \$697,501.41)
EM-3208	Snow	February 10-11, 2005	Carroll, Cheshire, Coos, Grafton & Sullivan	Emergency Declaration EM-3208: FEMA had obligated more than \$1 million by March 2005 to help pay for costs of the heavy snow and high winds; Total aid for the February storm is \$1,121,727.20 (Carroll: \$91,832.72; Cheshire: \$11,0021.18; Coos: \$11,6508.10; Grafton: \$213,539.52; Sullivan: \$68,288.90; State of NH: \$521,536.78)
EM 3208-002	Snow	January, February, March 2005	Belknap, Carroll, Cheshire, Grafton, Hillsborough, Rockingham, Merrimack, Strafford & Sullivan	Emergency Declaration EM 3208-002: The Federal Emergency Management Agency (FEMA) has obligated more than \$6.5 million to reimburse state and local governments in New Hampshire for costs incurred in three snowstorms that hit the State earlier this year, according to disaster recovery officials. Total aid for all three storms is \$6,892,023.87 (January: \$3,658,114.66; February: \$1,121,727.20; March: \$2,113,182.01)
EM-3207	Snow	January 22-23, 2005	Belknap, Carroll, Cheshire, Grafton, Hillsborough, Rockingham, Merrimack, Strafford & Sullivan	Emergency Declaration EM-3207: More than \$3.5 million has been approved to help pay for the costs of the heavy snow and high winds; Total aid for the January storm is \$3,658,114.66 (Belknap: \$125,668.09; Carroll: \$52,864.23; Cheshire: \$134,830.95; Grafton: \$137,118.71; Hillsborough: \$848,606.68; Merrimack: \$315,936.55; Rockingham: \$679,628.10; Strafford: \$207,198.96; Sullivan: \$48,835.80; State of NH: \$1,107,426.59)
EM-3193	Snow	December 6-7, 2003	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack & Sullivan	Emergency Declaration EM-3193: The declaration covers jurisdictions with record and near-record snowfall that occurred throughout December 6-7, 2003
DR-1489	Severe Storms & Flooding	July 21-August 18, 2003	Cheshire & Sullivan	Major Disaster Declaration DR-1489: Floods stemming from persistent rainfall and severe storms caused damage to public property from July 21 through August 18, 2003.
EM-3177	Snowstorm	February 17-18, 2003	Cheshire, Hillsborough, Merrimack, Rockingham & Strafford	Emergency Declaration EM-3177: Declaration covers jurisdictions with record and near-record snowfall from the snowstorm that occurred February 17-18, 2003
EM-3166	Snowstorm	March 5-7, 2001	Cheshire, Coos, Grafton, Hillsborough, Merrimack, Rockingham & Strafford	Emergency Declaration EM-3166: Declaration covers jurisdictions with record and near-record snowfall from the late winter storm that occurred in March 2001
DR-1305	Tropical Storm Floyd	September 16-18, 1999	Belknap, Cheshire & Grafton	Major Disaster Declaration DR-1305: The declaration covers damage to public property from the storm that spawned heavy rains, high winds, and flooding from September 16-18.
DR-1231	Severe Storms & Flooding	June 12-July 2, 1998	Belknap, Carroll, Grafton, Hillsborough, Merrimack & Rockingham	Major Disaster Declaration DR-1231:

BARTLETT & HART'S LOCATION, NH HAZARD MITIGATION PLAN UPDATE 2026

Number	Hazard	Date of Event	Counties	Description
DR-1199	Ice Storm	January 7-25, 1998	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack, Strafford & Sullivan	Major Disaster Declaration DR-1199:
DR-1144	Severe Storms/Flooding	October 20-23, 1996	Grafton, Hillsborough, Merrimack, Rockingham, Strafford & Sullivan	Major Disaster Declaration DR-1144:
DR-1077	Storms/Floods	October 20-November 15, 1995	Carroll, Cheshire, Coos, Grafton, Merrimack & Sullivan	Major Disaster Declaration DR-1077:
EM-3101	High Winds & Record Snowfall	March 13-17, 1994	All Ten NH Counties	Emergency Declaration EM-3101:
DR-923	Severe Coastal Storm	October 30-31, 1991	Rockingham	Major Disaster Declaration DR-923:
DR-917	Hurricane Bob, Severe Storm	August 18-20, 1991	Carroll, Hillsborough, Rockingham & Strafford	Major Disaster Declaration DR-917:
DR-876	Flooding, Severe Storm	August 7-11, 1990	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack, & Sullivan	Major Disaster Declaration DR-876:
DR-789	Severe Storms & Flooding	March 30 - April 11, 1987	Carroll, Cheshire, Grafton, Hillsborough, Merrimack, Rockingham, Strafford & Sullivan	Major Disaster Declaration DR-789
DR-771	Severe Storms & Flooding	July 29-August 10, 1986	Cheshire, Hillsborough & Sullivan	Major Disaster Declaration DR-771:
EM-3073	Flooding	March 15, 1979	Coos	Emergency Declaration EM-3073:
DR-549	High Winds, Tidal Surge, Coastal Flooding & Snow	February 16, 1978	All Ten NH Counties	Major Disaster Declaration DR-549: Blizzard of 1978
DR-411	Heavy Rains, Flooding	January 21, 1974	Belknap, Carroll, Cheshire & Grafton	Major Disaster Declaration DR-411:
DR-399	Severe Storms & Flooding	July 11, 1973	All Ten NH Counties	Major Disaster Declaration DR-399:
DR-327	Coastal Storms	March 18, 1972	Rockingham	Major Disaster Declaration DR-327:
DR-11	Forest Fire	July 2, 1953	Carroll	Major Disaster Declaration DR-11:

Source:
 Disaster Declarations for New Hampshire; <https://www.fema.gov/disaster/declarations>

APPENDIX E: HAZARD MITIGATION PLANNING – LIST OF ACRONYMS

AAR After Action Report	HSEM Homeland Security Emergency Management
ACS Acute Care Site	HSPD Homeland Security Presidential Directive
ARC American Red Cross	IAP Incident Action Plan
ARES Amateur Radio Emergency Service	IC Incident Commander
BFE Base Flood Elevation	ICC Incident Command Center
BOCA Building Officials and Code Administrators	ICS Incident Command System
CBRNE Chemical, Biological, Radiological,	JIC Joint Information Center
CDC Centers for Disease Control and Prevention	LEOP Local Emergency Operations Plan
CDP Center for Domestic Preparedness	MAPS Mapping and Planning Solutions
CERT Community Emergency Response Team	MCI Mass Casualty Incident
CFR Code of Federal Regulations	MEF Mission Essential Function
CIKR Critical Infrastructure & Key Resources	MOU Memorandum of Understanding
CIP Capital Improvements Program	NAWAS National Warning System
COG Continuity of Government	NEF National Essential Function
COGCON Continuity of Government Readiness Conditions	NERF Non-Emergency Response Facility
COOP Continuity of Operations	NFIP National Flood Insurance Program
CPCC Continuity Policy Coordination Committee	NGVD National Geodetic Vertical Datum of 1929
CWPP Community Wildfire Protection Plan	NIMS National Incident Management System
DBHRT Disaster Behavioral Health Response Team	NOAA National Oceanic and Atmospheric Association
DEMD Deputy Emergency Management Director	NRP National Response Plan
DES Department of Environment Services	NSPD National Security Presidential Directive
DFO Disaster Field Office	NTAS National Terrorism Advisory System Nuclear and Explosive
DHHS Department of Health and Human Services	NWS National Weather Service
DHS Department of Homeland Security	PA Public Assistance
DMCR Disaster Management Central Resource	PDA Preliminary Damage Assessment
DBEA Department of Business & Economic Affairs	PDD Presidential Decision Directive
DNCR Department of Natural & Cultural Resources	PIO Public Information Officer
DOD Department of Defense	PMEF Primary Mission Essential Function
DOE Department of Energy	POD Point of Distribution
DOJ Department of Justice	PPE Personal Protective Equipment
DOT Department of Transportation	PR Potential Resources
DPW Department of Public Works	PSA Public Service Announcement
DRC Disaster Recovery Center	RERP Radiological Emergency Response Plan
EAS Emergency Alert System	RNAT Rapid Needs Assessment Team
EMD Emergency Management Director	SERT State Emergency Response Team
EMS Emergency Medical Services	SITREP Situation Report (Also SitRep)
EO Executive Order	SNS Strategic National Stockpile
EOC Emergency Operations Center	SOG Standard Operating Guidelines
EPA U.S. Environmental Protection Agency	SOP Standard Operating Procedures
EPZ Emergency Planning Zone	SPNHF Society for the Protection of NH Forests
ERF Emergency Response Facility	UC Unified Command
ERG Emergency Relocation Group	USDA-FS US Department of Agriculture – Forest Service
ESF Emergency Support Functions	USGS United States Geological Survey
FEMA Federal Emergency Management Agency	VOAD Volunteer Organization Active in Disasters
FIRM Flood Insurance Rate Map	WMD Weapon(s) of Mass Destruction
FPP Facilities & Populations to Protect	WMNF White Mountain National Forest
GIS Geographic Information System	WUI Wildland Urban Interface
HazMat Hazardous Material(s)	
HFRA Healthy Forest Restoration Act	
HMGP Hazard Mitigation Grant Program	
HSAS Homeland Security Advisory System	

APPENDIX F: POTENTIAL MITIGATION IDEAS⁷⁰

Drought

- D1 Assess Vulnerability to Drought Risk
- D2 Monitoring Drought Conditions
- D3 Monitor Water Supply
- D4 Plan for Drought
- D5 Require Water Conservation during Drought Conditions
- D6 Prevent Overgrazing
- D7 Retrofit Water Supply Systems
- D8 Enhance Landscaping & Design Measures
- D9 Educate Residents on Water Saving Techniques
- D10 Educate Farmers on Soil & Water Conservation Practices
- D11 Purchase Crop Insurance

Earthquake

- EQ1.... Adopt & Enforce Building Codes
- EQ2.... Incorporate Earthquake Mitigation into Local Planning
- EQ3.... Map & Assess Community Vulnerability to Seismic Hazards
- EQ4.... Conduct Inspections of Building Safety
- EQ5.... Protect Critical Facilities & Infrastructure
- EQ6.... Implement Structural Mitigation Techniques
- EQ7.... Increase Earthquake Risk Awareness
- EQ8.... Conduct Outreach to Builders, Architects, Engineers, and Inspectors
- EQ9.... Provide Information on Structural & Non-Structural Retrofitting

Erosion

- ER1.... Map & Assess Vulnerability to Erosion
- ER2.... Manage Development in Erosion Hazard Areas
- ER3.... Promote or Require Site & Building Design Standards to Minimize Erosion Risk
- ER4.... Remove Existing Buildings & Infrastructure from Erosion Hazard Areas
- ER5.... Stabilize Erosion Hazard Areas
- ER6.... Increase Awareness of Erosion Hazards

Extreme Temperatures

- ET1 Reduce Urban Heat Island Effect
- ET2 Increase Awareness of Extreme Temperature Risk & Safety
- ET3 Assist Vulnerable Populations
- ET4 Educate Property Owners about Freezing Pipes

Hail

- HA1 Locate Safe Rooms to Minimize Damage
- HA2 Protect Buildings from Hail Damage
- HA3 Increase Hail Risk Awareness

Landslides

- LS1.... Map & Assess Vulnerability to Landslides
- LS2.... Manage Development in Landslide Hazard Areas
- LS3.... Prevent Impacts to Roadways
- LS4 Remove Existing Buildings & Infrastructure from Landslide

Lightning

- L1..... Protect Critical Facilities
- L2..... Conduct Lightning Awareness Programs

Inland Flooding

- F1 Incorporate Flood Mitigation in Local Planning
- F2 Form Partnerships to Support Floodplain Management
- F3 Limit or Restrict Development in Floodplain Areas
- F4 Adopt & Enforce Building Codes and Development Standards
- F5 Improve Stormwater Management Planning
- F6 Adopt Policies to Reduce Stormwater Runoff
- F7 Improve Flood Risk Assessment
- F8 Join or Improve Compliance with NFIP
- F9 Manage the Floodplain Beyond Minimum Requirements
- F10 Participate in the CRS
- F11 Establish Local Funding Mechanism for Flood Mitigation
- F12 Remove Existing Structures from Flood Hazard Areas
- F13 Improve Stormwater Drainage System Capacity
- F14 Conduct Regular Maintenance for Drainage Systems & Flood Control Structures
- F15 Elevate or Retrofit Structures & Utilities
- F16 Floodproof Residential & Non-Residential Structures
- F17 Protect Infrastructure
- F18 Protect Critical Facilities
- F19 Construct Flood Control Measures
- F20 Protect & Restore Natural Flood Mitigation Features
- F21 Preserve Floodplains as Open Space
- F22 Increase Awareness of Flood Risk & Safety
- F23 Educate Property Owners about Flood Mitigation Techniques

High Wind Events

- SW1 ... Adopt & Enforce Building Codes
- SW2... Promote or Require Site & Building Design Standards to Minimize Wind Damage
- SW3... Assess Vulnerability to Severe Wind
- SW4... Protect Power Lines & Infrastructure
- SW5... Retrofit Residential Buildings
- SW6... Retrofit Public Buildings & Critical Facilities
- SW7... Increase Severe Wind Awareness

Severe Winter Weather

- WW1.. Adopt & Enforce Building Codes
- WW2.. Protect Buildings & Infrastructure
- WW3.. Protect Power Lines
- WW4.. Reduce Impacts to Roadways
- WW5.. Conduct Winter Weather Risk Awareness Activities
- WW6.. Assist Vulnerable Populations

Tornado

- T1 Encourage Construction of Safe Rooms
- T2 Require Wind-Resistant Building Techniques
- T2 Conduct Tornado Awareness Activities

⁷⁰ Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards, FEMA, January 2013

Wildfire

- WF1 Map & Assess Vulnerability to Wildfire
- WF2 Incorporate Wildfire Mitigation in the Comprehensive Plan
- WF3 Reduce Risk through Land Use Planning
- WF4 Develop a Wildland Urban Interface Code
- WF5 Require or Encourage Fire-Resistant Construction Techniques
- WF6 Retrofit At-Risk Structure with Ignition-Resistant Materials
- WF7 Create Defensible Space around Structures & Infrastructure
- WF8 Conduct Maintenance to Reduce Risk
- WF9 Implement a Fuels Management Program
- WF10 Participate in the Firewise® Program
- WF11 Increase Wildfire Awareness
- WF12 Educate Property Owners about Wildfire Mitigation Techniques

Multi-Hazards

- MU1 Assess Community Risk
- MU2 Map Community Risk
- MU3 Prevent Development in Hazard Areas
- MU4 Adopt Regulations in Hazard Areas
- MU5 Limit Density in Hazard Areas
- MU6 Integrate Mitigation into Local Planning
- MU7 Strengthen Land Use Regulations
- MU8 Adopt & Enforce Building Codes
- MU9 Create Local Mechanisms for Hazard Mitigation
- MU10 Incentivize Hazard Mitigation
- MU11 Monitor Mitigation Plan Implementation
- MU12 Protect Structures
- MU13 Protect Infrastructure & Critical Facilities
- MU14 Increase Hazard Education & Risk Awareness
- MU15 Improve Household Disaster Preparedness
- MU16 Promote Private Mitigation Efforts

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Photos: Bartlett and Hart's Location welcome signs

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Hart's Location - <https://hartslocation.com/>

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