

New Hampton, NH

Hazard Mitigation

Plan Update 2024



This plan integrates the following:

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

Final for Formal Approval (FEMA)
March 4, 2024

**Prepared for the Town of New Hampton and NH Homeland
Security & Emergency Management**

By

The New Hampton Hazard Mitigation Planning Team

With assistance from Mapping and Planning Solutions

**N
E
W

H
A
M
P
T
O
N**

"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

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

Cover Photo: A flooded road in New Hampton

Photo Credit: <https://www.facebook.com/nhffassociation/photos/1738866119477747>

Table of Contents

ACKNOWLEDGMENTS	5
EXECUTIVE SUMMARY	7
CHAPTER 1: HAZARD MITIGATION PLANNING PROCESS	9
A. AUTHORITY & FUNDING	9
B. PURPOSE & HISTORY OF THE FEMA MITIGATION PLANNING PROCESS	9
C. JURISDICTION.....	10
D. SCOPE OF THE PLAN & FEDERAL & STATE PARTICIPATION	10
E. PUBLIC & STAKEHOLDER INVOLVEMENT	11
F. INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS, AND TECHNICAL INFORMATION	14
G. HAZARD MITIGATION GOALS	15
H. HAZARD MITIGATION PLANNING PROCESS & METHODOLOGY	17
I. HAZARD MITIGATION BUILDING BLOCKS & TABLES	18
J. NARRATIVE DESCRIPTION OF THE PROCESS	19
CHAPTER 2: COMMUNITY PROFILE	27
A. INTRODUCTION	27
B. EMERGENCY SERVICES.....	28
C. NEW HAMPTON’S CURRENT & FUTURE DEVELOPMENT TRENDS.....	29
<i>Table 2.1: Town Statistics</i>	<i>30</i>
CHAPTER 3: HAZARD IDENTIFICATION, RISK ASSESSMENT & PROBABILITY	35
A. HAZARD IDENTIFICATION	35
B. RISK ASSESSMENT	35
C. PROBABILITY.....	36
<i>Table 3.1: Hazard Identification & Risk Assessment (HIRA).....</i>	<i>37</i>
D. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) STATUS.....	38
<i>Table 3.2: Historic Hazard Identification</i>	<i>40</i>
CHAPTER 4: CRITICAL INFRASTRUCTURE & KEY RESOURCES (CIKR)	51
<i>Table 4.1 - Emergency Response Facilities (ERF) & Evacuation</i>	<i>51</i>
<i>Table 4.2 – Non-Emergency Response Facilities (NERF)</i>	<i>53</i>
<i>Table 4.3 – Facilities & Populations to Protect (FPP)</i>	<i>54</i>
<i>Table 4.4 – Potential Resources (PR)</i>	<i>54</i>
CHAPTER 5: HAZARD EFFECTS IN NEW HAMPTON	55
A. IDENTIFYING VULNERABLE CRITICAL INFRASTRUCTURE & KEY RESOURCES (CIKR)	55
B. CALCULATING THE POTENTIAL LOSS	56
C. NATURAL HAZARDS	56
D. TECHNOLOGICAL HAZARDS.....	67
E. HUMAN-CAUSED HAZARDS	70

CHAPTER 6: CURRENT PLANS, POLICIES, AND MUTUAL AID	73
A. ANALYSIS OF THE EFFECTIVENESS OF CURRENT PROGRAMS.....	73
<i>Table 6.1: Capabilities Assessment.....</i>	<i>73</i>
CHAPTER 7: LAST MITIGATION PLAN.....	83
A. DATE OF LAST PLAN.....	83
<i>Table 7.1: Accomplishments since the Last Plan.....</i>	<i>83</i>
CHAPTER 8: NEW MITIGATION STRATEGIES & STAPLEE	91
A. MITIGATION STRATEGIES BY TYPE.....	91
B. POTENTIAL MITIGATION STRATEGIES BY HAZARD.....	92
C. STAPLEE METHODOLOGY.....	94
D. TEAM’S UNDERSTANDING OF HAZARD MITIGATION ACTION ITEMS.....	95
<i>Table 8.1: Potential Mitigation Action Items & the STAPLEE.....</i>	<i>95</i>
CHAPTER 9: IMPLEMENTATION SCHEDULE FOR PRIORITIZED ACTION ITEMS.....	101
A. PRIORITY METHODOLOGY	101
B. WHO, WHEN, HOW?	102
<i>Table 9.1: The Mitigation Action Plan</i>	<i>102</i>
CHAPTER 10: ADOPTING, MONITORING, EVALUATING, AND UPDATING THE PLAN	115
A. HAZARD MITIGATION PLAN MONITORING, EVALUATION, AND UPDATES.....	115
B. INTEGRATION WITH OTHER PLANS	117
C. PLAN APPROVAL & ADOPTION.....	118
CHAPTER 11: SIGNED COMMUNITY DOCUMENTS AND APPROVAL LETTERS	119
A. PLANNING SCOPE OF WORK & AGREEMENT.....	119
B. APPROVED PENDING ADOPTION (APA)	123
C. FORMAL APPROVAL LETTER.....	124
D. SIGNED CERTIFICATE OF ADOPTION	125
E. CWPP APPROVAL LETTER FROM DNCR	127
F. ANNUAL OR POST HAZARD REVIEW FORMS	129
CHAPTER 12: APPENDICES.....	137
APPENDIX A: BIBLIOGRAPHY.....	139
APPENDIX B: TECHNICAL & FINANCIAL ASSISTANCE FOR HAZARD MITIGATION.....	141
APPENDIX C: THE EXTENT OF NATURAL HAZARDS.....	143
APPENDIX D: NH MAJOR DISASTER & EMERGENCY DECLARATIONS.....	163
APPENDIX E: HAZARD MITIGATION PLANNING – LIST OF ACRONYMS	168
APPENDIX F: POTENTIAL MITIGATION IDEAS	169

Acknowledgments

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

- NH Homeland Security & Emergency Management (HSEM)
- Federal Emergency Management Agency (FEMA)
- NH Bureau of Economic Affairs (BEA)
- Mapping and Planning Solutions (MAPS)
- White Mountain National Forest
- NH Forests & Lands (DNCR)

This plan is an update to the most recent New Hampton Hazard Mitigation Plan, approved on 2015.
This plan was funded under the Pre-disaster Mitigation Grant Program (PDM18)

Approval Notification Dates for 2024 Update

Approved Pending Adoption (APA) February 21, 2024
Jurisdiction Adoption: March 1, 2024
CWPP Approval: , 2024
***Plan Approval Date (HSEM): , 2024**
Receipt of FEMA Letter , 2024
Plan Distribution (MAPS): , 2024
**The start of the next five-year clock*

TOWN OF NEW HAMPTON HAZARD MITIGATION PLANNING TEAM (HMPT)

The Town of New Hampton would like to thank the following people for the time and effort spent to complete this plan. The following people have attended meetings or been instrumental in completing this plan:

- Michael Drake New Hampton Fire Chief & EMD (former)
- Ken Kettenring New Hampton Planning Board
- Jay Bartlett Dam Operator
- Mark Denoncour... New Hampton Citizen
- Wendy Duggan New Hampton Finance Officer
- Mike French New Hampton Police Administrator
- David Katz New Hampton Planning Board
- Kevin Lang New Hampton Fire Chief & EMD
- Tim O'Shea New Hampton Health Officer
- Jim Boucher New Hampton Director of PW
- Neil Irvine New Hampton Town Admin.
- Chuck George New Hampton School DCS
- Eric Shaw New Hampton Selectboard
- Bob Hammond Electric Commissioner
- Josh Tyrrell New Hampton Police Chief
- Jennifer Gilbert NH BEA
- Kayla Henderson NH HSEM (former)
- John Marcel NH HSEM
- John Smith NH HSEM
- June Garneau MAPS
- Olin Garneau MAPS

Many thanks for all the hard work and effort put forth by each of you. This plan would not exist without your knowledge and experience. The Town of New Hampton would also like to thank the Federal Emergency Management Agency and NH Homeland Security & Emergency Management as the primary funding sources for this plan.

Acronyms or abbreviations associated with the above list:

EMD Emergency Management Director
DCS Director, Campus Safety

THIS PAGE INTENTIONALLY LEFT BLANK

Executive Summary

The New Hampton Hazard Mitigation Plan Update 2024 was compiled to assist the Town of New Hampton in reducing and mitigating future losses from natural, technological, or human-caused hazardous events. The New Hampton Hazard Mitigation Planning Team (HMPT), interested stakeholders, the general public, and Mapping and Planning Solutions (MAPS) developed the plan. 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 2015 New Hampton Hazard Mitigation Plan. To produce an accurate and current planning document, the planning team used the 2015 plan as a foundation, building upon that plan to provide more timely information.

This project was held virtually due to the Covid-19 pandemic. This plan's final writing will be completed during the Covid-19 outbreak; therefore, there are references to the virus, particularly in Chapter 5, Section C, Infectious Diseases.

Mitigation action items for natural hazards are the main focus of this plan. However, this plan addresses technological and human-caused hazards in addition to natural hazards, as shown below

NATURAL HAZARDS

- | | |
|--------------------------|--------------------------------------|
| 1) Severe Winter Weather | 7) Solar Storm & Space Weather |
| 2) High Wind Events | 8) Wildfires |
| 3) Infectious Diseases | 9) Tropical & Post-Tropical Cyclones |
| 4) Inland Flooding | 10) Lightning & Hail |
| 5) Drought | 11) Earthquakes |
| 6) Extreme Temperatures | |

TECHNOLOGICAL HAZARDS

- | | |
|-----------------------------|----------------------------------|
| 1) Aging Infrastructure | 4) Known & Emerging Contaminants |
| 2) Long Term Utility Outage | 5) Hazardous Materials |
| 3) Dam Failure | 6) Conflagration |

HUMAN-CAUSED HAZARDS

- | | |
|----------------------------|-------------------------|
| 1) Transport Accidents | 3) Cyber Events |
| 2) Mass Casualty Incidents | 4) Terrorism & Violence |

Some hazards listed in the 2018 New Hampshire Hazard Mitigation Plan were not included in this plan as the team felt they were unlikely to occur in New Hampton or were not applicable. An explanation of why these hazards are excluded from this plan can be seen 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). Also, this plan addresses the town’s involvement in the National Flood Insurance Program (NFIP).

When faced with an array of hazards, some communities can cope with the impact of these hazards. For example, although severe winter weather is often a common hazard in New Hampshire, most New Hampshire communities handle two to three-foot snowstorms with little or 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, tree trimming, opening shelters, and perhaps burying overhead power lines are just a few action items that may be implemented.

In summary, finding mitigation action items for every hazard that affects a community can be difficult. With today’s economic constraints, cities and towns are less likely to have the financial ability to complete some mitigation action items, such as burying power lines. In preparing this plan, the New Hampton HMPT has considered a comprehensive list of mitigation action items that could diminish the impact of hazards and 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:

New Hampton Hazard Mitigation Plan Update 2024	the plan or this plan
New Hampton	the town or the community
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 New Hampton 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 Town of New Hampton 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 ISO rating may be improved.

Chapter 1: Hazard Mitigation Planning Process

A. AUTHORITY & FUNDING

The New Hampton Hazard Mitigation Plan Update 2024 was prepared following the Disaster Mitigation Act of 2000 (DMA), Section 322 Mitigation Planning, signed into law by President Clinton on October 30, 2000. This hazard mitigation plan was prepared by the New Hampton 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 aims 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 New Hampton Hazard Mitigation Plan Update 2024 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 yearly and update this plan every five years to continue 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 one jurisdiction – the Town of New Hampton, NH.

D. SCOPE OF THE PLAN & FEDERAL & STATE PARTICIPATION

A community's hazard mitigation plan often identifies many natural hazards and is somewhat broad in scope and outline. The scope and effects of this plan were assessed based on the impact of hazards and wildfire 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 and a Community Wildfire Protection Plan (CWPP), the planning effort included the participation of NH Homeland Security & Emergency Management (HSEM), the United States Department of Agriculture-Forest Service (USDA-FS), the NH Department of Natural & Cultural Resources (DNCR), and the NH Bureau of Economic Affairs (BEA) as well as routine notification of upcoming meetings to state and federal entities above. Designation as a CWPP may allow a community to gain federal funding for hazardous fuel reduction and other mitigation projects supported by the USDA-FS. 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 US Forest Service to consider local communities as they develop and implement forest management and hazardous fuel reduction projects. However, a community must first 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 and recommend the types and methods of treatment 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. As part of a vulnerability assessment, the plan must address the NFIP-insured structures that have been repetitively damaged due to floods.

³ Healthy Forest Restoration Act; HR 1904, 2003; Section 101-3-a.b.c; http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108_cong_bills&docid=f:h1904enr.txt.pdf

E. PUBLIC & STAKEHOLDER INVOLVEMENT

Public and stakeholder involvement was stressed during the initial meeting, and community officials were given a matrix of potential team members (see below). Community officials were urged to contact as many people as possible to participate in the planning process, including residents and officials and residents from surrounding communities. The Town of New Hampton understands that natural hazards do not recognize political boundaries.

The team provided excellent public and stakeholder notification. Many interested citizens, members of academia, and stakeholders had the opportunity to become aware of the hazard mitigation planning in New Hampton. A press release (see below) was posted at the Town Offices and the Transfer Station. The press release was used to notify businesses and private and non-profit organizations that work with underserved communities and socially vulnerable populations that meetings were taking place, and they were invited to attend. Further notice was posted on the town's website (see the following page).

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

- Land Owners
- Home Owners Association(s)
- Forest Management
- Developers & Builders
- Major Businesses

*Mapping and Planning Solutions
PO Box 283
91 Cherry Mountain Place
Twin Mountain, NH 03595*

Press Release

FOR IMMEDIATE RELEASE

Updated: May 30, 2020

Contact: June Garneau
603-837-7122

TOWN OF NEW HAMPTON COMMENCES HAZARD MITIGATION PLANNING

The Emergency Management Director of the Town of New Hampton has met with June Garneau, of Mapping and Planning Solutions and other team members from New Hampton, to begin work on the required five-year update to the **2015 New Hampton Hazard Mitigation Plan**. As a result of this meeting, Mapping and Planning Solutions is conducting a series of meetings on the Hazard Mitigation Plan over the next few months.

Through this series of public meetings, the planning team will address issues such as flooding, hurricanes, drought, landslides, and wildfires, and determine efforts the town can undertake to mitigate the effects of both natural and human-caused hazards. The team will also examine potential 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 are required to complete a local Hazard Mitigation Plan in order to qualify for Federal Emergency Management Administration funding should a natural disaster occur. The planning processes are made possible by grants from FEMA.

The Hazard Mitigation Planning Team is currently being formed. New Hampton citizens and any interested stakeholders are invited to participate. The next meeting is scheduled for **Tuesday, July 21, 2020, from 10:00 AM to 12:00 Noon** via "Zoom". The general public is encouraged to attend all meetings. All interested parties should contact Chief Michael Drake, the New Hampton Fire Chief & Emergency Management Director, at 744-2735 if they wish to be included in the process; you will be added to the Zoom meeting invitation list.

More information on the hazard mitigation planning process is available from June Garneau at Mapping and Planning Solutions, 603-837-7122.

**PUBLIC NOTICE
TOWN OF NEW HAMPTON
HAZARD MITIGATION PLAN UPDATE COMMITTEE
PUBLIC MEETING**

Tuesday, August 25th, 2020 at 10:00am



The Hazard Mitigation Committee will meet in a virtual meeting via Zoom to continue the process of updating the Town's Hazard Mitigation Plan. To "attend" the meeting please use the link below:

Join Zoom Meeting

<https://zoom.us/j/94355880435?pwd=Z2Z5R0docE1kZ0syaHhrZXBNV3NtZz09>

Meeting ID: 943 5588 0435

Passcode: 000569



Town of New Hampton

6 Pinnacle Hill Road
New Hampton, New Hampshire 03256

The historic Town Meeting House, erected in 1798. More on the history here...

[Home](#) [ABOUT US](#) [Our Historical Corner](#) [Departments](#) [Boards / Commissions](#) [News / Events](#) [Information Center](#) [Newsletter](#)

Latest News

Public Notices

Master Plan Subcommittee

PUBLIC NOTICE
Monday, October 5, 2020 at 6:00 PM
Upstairs Meeting Room, 6 Pinnacle Hill Road, New Hampton

The Master Plan Sub-Committee of the Planning Board will hold a work session on Monday, August 31, 2020 at 6:00 PM. The purpose will be to discuss data from the Master Plan surveys and updates to the New Hampton Master Plan.

Hazard Mitigation

PUBLIC NOTICE
TOWN OF NEW HAMPTON
HAZARD MITIGATION PLAN UPDATE COMMITTEE
PUBLIC MEETING

Tuesday, October 27th, 2020 at 10:00am


The Hazard Mitigation Committee will meet in a virtual meeting via **** Zoom** to continue the process of updating the Town's Hazard Mitigation Plan. To "attend" the meeting please use the link below:

**** Join Zoom Meeting**
<https://zoom.us/j/93779617169?pwd=eThjaGh4N25EZmp4d0k4ZngzOGtyUT09>

Meeting ID: 937 7961 7169
Passcode: 686179

Lastly, the planner sent a monthly calendar (see below) and email inviting stakeholders to participate in planning meetings being held by MAPS. EMDs, Police Chiefs, Fire Chiefs, Rangers, and other state, federal and private officials were included in this email blast. New Hampton's neighbors, Ashland, Center Harbor, Meredith, Sanbornton, Bristol, Hill, and Bridgewater, are part of MAPS' monthly email.





Upcoming Zoom Meetings

(Highlighted by "Counties" as of December 21, 2020)

Day	Date	Time	Town/Location	Plan Type	HSEM Field Rep	County
Tuesday	1/5/21	10:00 AM	New Hampton Zoom Meeting	HMP	Julia Chase	Belknap
Tuesday	1/5/21	1:00 PM	Goffstown Zoom Meeting	HMP	Liz Gilboy	Hillsborough
Thursday	1/7/21	9:00 AM	Gorham Zoom Meeting	EOP	Heidi Lawton	Coos
Friday	1/8/21	9:00 AM	Goffstown Zoom Meeting	HMP	Liz Gilboy	Hillsborough
Tuesday	1/12/21	2:00 PM	Conway Zoom Meeting	EOP	Heidi Lawton	Carroll
Wednesday	1/13/21	9:30 AM	Hanover Zoom Meeting	HMP	Paul Hatch	Grafton
Wednesday	1/20/21	1:30 PM	Brentwood Zoom Meeting	HMP	Heidi Lawton	Rockingham
Wednesday	1/20/21	6:00 PM	Sandwich Zoom Meeting	EOP	Heidi Lawton	Carroll

Team composition can be impacted in some communities due to lower population and because many people "wear more than one hat". It is often very challenging to attract citizens to participate in town government - those who do generally hold full-time jobs and work as volunteers 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 and other economic factors, New Hampton has a relatively high elderly population and a dwindling number of young people interested in politics.

New Hampton had excellent participation in the development of this plan. In addition to the Emergency Management Director (EMD), the Fire Chief, the Police Chief, the Public Works Director, the Health Officer, the Dam Operator, and the Electric Department participated in meetings. The Town Administrator, Selectboard and Planning Board members, **the New Hampton School**, and the Finance Officer also participated in meetings; one citizen even attended most meetings. Comments made by all team members, including the resident who participated, were integrated into the narrative discussion and incorporated into the document's essence.

§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 in the plan, to assist in the development of a comprehensive approach to reducing losses from natural disasters.

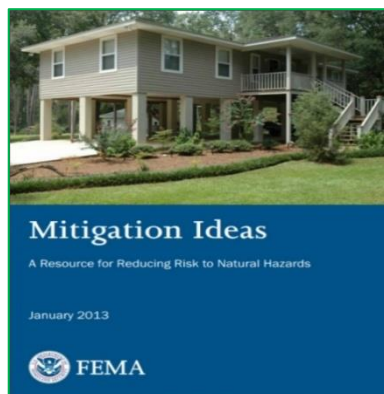
F. INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS, AND TECHNICAL INFORMATION

The planning process included a complete review of the New Hampton Hazard Mitigation Plan 2015 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. Also, as noted in the bibliography and footnotes throughout the plan, many other documents were used to create this mitigation plan. Some, but not all, of those plans and documents are listed below:

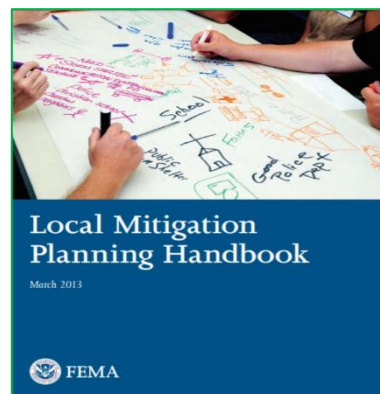
The New Hampton Hazard Mitigation Plan of 2015	Compare & Contrast
New Hampton Master Plan (updated one chapter at a time)	Community Information
New Hampton Annual Reports (2021)	Fire Report & Development
Other Hazard Mitigation Plans (Holderness, Goffstown, Bethlehem).....	Formats & Mitigation Ideas
The New Hampton Subdivision Regulations (2008)	New Development Regulations
The New Hampton Zoning Ordinance (2022)	Zoning Regulations
Flood Plain Development Ordinance (Part of Zoning)	Floodplain Regulations
Census 2020 Data, American Community Survey, ACS 2016-2020.....	Population Data
MS-1 2019 for New Hampton	Structure Evaluation
The Economic & Labor Market Information Bureau Community Profile	Population Trends
The American Community Survey (ACS 2016-2020)	Population Trends
Mitigation Ideas, FEMA, January 2013	Mitigation Strategies
The Department of Cultural & Natural Resources (DNCR)	DNCR Fire Report
The NH Bureau of Economic Affairs (BEA)	Flood Losses
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.

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/media-library/assets/documents/31598>

G. HAZARD MITIGATION GOALS

Before identifying new mitigation action items, the team reviewed and agreed to the goals in the State of New Hampshire Multi-Hazard Mitigation Plan, Update 2018. These goals are detailed below.

OVERARCHING GOALS

The following are the five overarching goals of this plan:

- *Minimize loss and disruption of human life, property, the environment, and the economy due to natural, technological, and human-caused hazards through a coordinated and collaborative effort between federal, state, and local authorities to implement appropriate hazard mitigation measures.*
- *Enhance the protection of the general population, citizens, and community guests 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 community.*
- *Promote continued comprehensive hazard mitigation planning at local levels to identify, introduce, and implement cost-effective hazard mitigation measures.*
- *Address the challenges posed by climate change related to increasing the risk and impacts of the hazards identified within this plan.*
- *Strengthen Continuity of Operations and Continuity of Government at the local level to ensure the continuation of essential services.*

NATURAL HAZARD OBJECTIVES

- *Reduce long-term flood risks through assessment, identification, and strategic mitigation of at-risk or vulnerable infrastructure (dams, stream crossings, roadways, coastal levees, etc.).*
- *Minimize illnesses and deaths related to events that threaten human and animal health.*
- *Assist communities with plan development, outreach, and public education to reduce the impact of natural disasters.*
- *Ensure mitigation strategies consider the protection and resiliency of natural, historical, and cultural resources.*

TECHNOLOGICAL HAZARD OBJECTIVES

- *Ensure technological hazards are responded to appropriately and mitigate the effect on citizens.*
- *Build upon state and local capabilities to identify and respond to emerging contaminants.*
- *Effectively collaborate between federal, state, and local agencies and private partners, Non-Governmental Organizations (NGOs), and Volunteer Organizations Active in Disaster (VOADs).*

- Enhance public education about technological hazards to prevent and mitigate hazard impacts on the population.
- Ensure hazardous material (HazMat) teams are adequately equipped and trained to respond, contain and mitigate incidents involving technological hazards.
- Reduce the possibility of long-term utility outages by planning, training, and exercising on utility failure events.
- Lessen the effects of technological hazards on communications infrastructure by building more resilient voice and data systems.

HUMAN-CAUSED HAZARD OBJECTIVES

- Ensure grant-related funding processes allow for reasonable and practical actions at the community and state levels.
- Identify Critical Infrastructure & Key Resources (CIKR) risks or vulnerabilities and protect or harden infrastructure against hazards.
- Improve the ability to respond to and mitigate Cyber Events through increased training, exercising, improved equipment, and utilizing the latest technologies.
- Foster collaboration between federal, state, and local agencies on training, exercising, and preparing for mass casualty incidents and terrorism.
- Ensure that state and community assets (i.e., hospitals, state agencies, non-profits, universities, nursing homes, prisons, etc.) are prepared for all phases of emergency management, including training, reunification, and exercising.

Did You Know?



On average,
\$1 spent on
HAZARD MITIGATION
provides the
NATION
approximately
\$4 IN FUTURE
BENEFITS

Money spent on reducing the risk of natural hazards is a wise investment. FEMA administers three grant programs that provide funding for eligible mitigation planning and projects: the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA) Program, and the Pre-Disaster Mitigation (PDM) Program.

FEMA E-Brief, April 12, 2017

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 cross-talk regarding natural, technical, and human-caused hazards.



All steps were included but not necessarily in the numerical sequence listed. The list of steps is 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 – Current Plans, Policies & Mutual Aid

Step 08: Examine 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

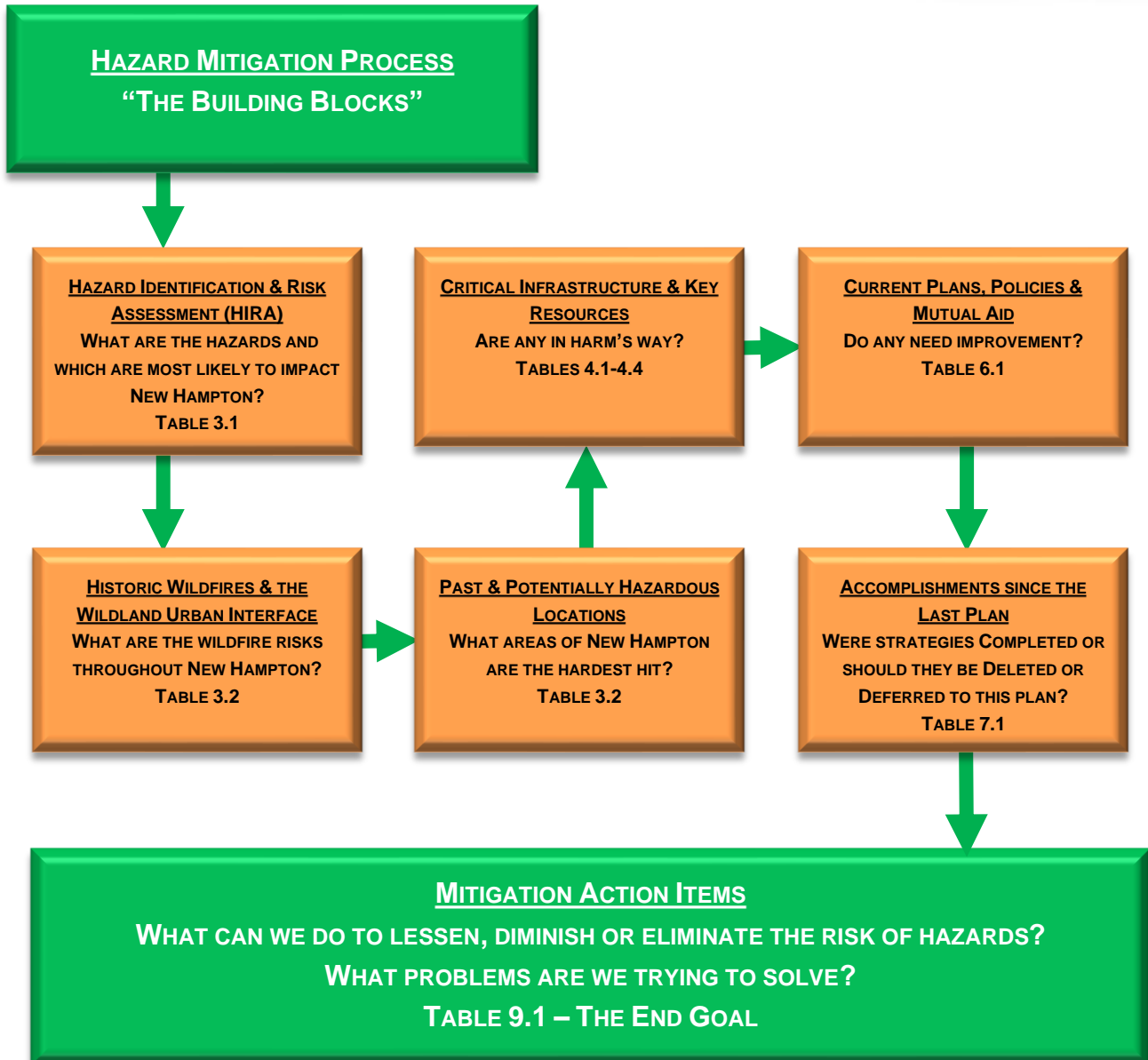
Step 11: Review the plan before submission to HSEM for APA (Approved Pending Adoption)

Step 12: Adopt and monitor the plan

I. HAZARD MITIGATION BUILDING BLOCKS & TABLES

Using a “building block” approach, the base, or foundation, for this mitigation plan was the prior plan. Each completed table had its starting point with the last hazard mitigation plan completed by the community.

Ultimately, the “building blocks” led to the final goal of developing prioritized mitigation “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 hazard mitigation plan required significant planning 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 town.

The planning process included a complete review of the 2015 New Hampton Hazard Mitigation Plan. Using the 2015 plan as a base, each element of the old plan was examined and revised to reflect changes that had taken place in development and the priorities of the community. Also, referring to the 2015 plan, strategies from the past were reassessed and improved upon for the future.

The following narrative explains how the 2015 New Hampton Hazard Mitigation Plan was used during each step of the planning process to make revisions that resulted in this plan.

MEETING 1, MAY 29, 2020

The first virtual meeting of the New Hampton Hazard Mitigation Team was held on May 29, 2020, via a Zoom Meeting. Meeting attendance included Michael Drake (Fire Chief), Ken Kettenring (Planning Board), Jay Bartlett (Dam Operator), Mark Denoncour (Citizen), Wendy Duggan (Finance Officer), Mike French (Police Administrator), David Katz (Planning Board), Kevin Lang (Deputy Fire Chief), Tim O' Shea (Health Officer), Olin Garneau (Mapping and Planning Solutions) and June Garneau (Mapping & Planning Solutions).

To introduce the team to the planning process, June, the planner, reviewed the evolution of hazard mitigation plans, the funding, the 12-Step Process, the collaboration with other agencies, and the goals (pre-meeting digital handout). The planner also explained the need to sign in, track time, and provide public notice to encourage community involvement.

Work then began on *Table 2.1, Town Statistics*. Most of the work on this table was completed at this meeting, except for a few items the planner would determine through GIS or get later. There was some discussion about the seasonal population change in New Hampton with summer and winter tourists; it was determined that although not extreme, New Hampton does see a fair number of seasonal tourists, which could add to the emergency response responsibilities.

Next on the Agenda were hazard identification and the completion of *Table 3.1, Hazard Identification & Risk Assessment (HIRA)*. The team assessed which hazards could affect the community using the town's last HMP and the State of New Hampshire Multi-Hazard Mitigation Plan Update 2018.

Meeting 1 – May 29, 2020

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 completely eliminates the threat of Hazards to the Town

2) The Process

- a) Funding
- b) Review of 12 Step Process & The Team (handout)
- c) Collaboration with other Agencies (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 Information
- b) Table 3.1, Hazard Identification & Analysis
- c) Hazard Descriptions
- d) Table 4.1-4.4, Critical Infrastructure & Key Resources

5) Homework

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

6) Future Meetings

- a) _____

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..... Death or Injury
- The Property Impact..... Physical Losses and Damages
- The Business Impact..... Interruption of Service
- The Probability..... Likelihood of this occurring within 25 years

The rankings were then calculated to reveal the hazards which pose the most significant risks to the community. Eleven natural hazards, six technological hazards, and four human-caused hazards were identified. After analyzing this analysis, Severe Winter Weather, High Wind Events, and Infectious Diseases were designated the town's high-risk natural hazards.

With the meeting ending, the team decided to stop where they were and begin Hazard Descriptions at the next meeting. The next virtual meeting was set for July 21, 2020, and June adjourned the meeting.

MEETING 2, JULY 21, 2020

Virtual meeting attendance included Michael Drake, Ken Kettenring, Mark Denoncour, Mike French, David Katz, Kevin Lang, Jim Boucher (Public Works Director), Neil Irvine (Town Administrator), Chuck George (New Hampton School), Kayla Henderson (NH Homeland Security & Emergency Management), Olin Garneau and June Garneau.

The meeting began with a review of the work done at the previous meeting. The planner reviewed *Table 2.1, Town Statistics* to ensure the town data was accurate, and a few minor changes were made. June then reviewed *Table 3.1, Hazard Identification & Risk Assessment (HIRA)*, to ensure the team felt the hazards were in the correct order for the town. A couple of changes were made to this table, but ultimately, the team settled on the hazards that most affect New Hampton.

Having completed Table 3.1, 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 explicitly to New Hampton.

Meeting 2 – July 21, 2020

1) Last Meeting

- a) Reviewed planning process, purpose, funding & collaboration.
- b) Reviewed of community involvement and stakeholders
- c) Worked on Table 2.1, Town Statistics
- d) Worked 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 4.1-4.4, Critical Infrastructure & Key Resources
 - iii) Table 3.2, Historic Hazard Identification
 - iv) Table 6.1, Current Plans, Policies & Mutual Aid (time allowing)
 - v) Table 7.1, Accomplishments since the prior Plan (time allowing)

3) Homework

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

4) Future Meetings

- a) _____

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 and functional needs populations particularly 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 hazards or diminish their impact?*

In addition to bringing more awareness to the hazards, these questions further provided information to analyze the hazards' impact on the community. The planner noted that these descriptions would be used in Chapter 5.

With time running out before the hazard descriptions were completed, the planner advised the team that they would be completed at the next meeting and thanked the team for their work. Team members were assigned homework, including a request that the Public Works Director prepare a list of critical road/culvert projects that would need to be completed within the next five years. The next meeting was scheduled for Tuesday, August 25, 2020.

MEETING 3, AUGUST 25, 2020

Virtual meeting attendance included Michael Drake, Ken Kettenring, Mark Denoncour, Mike French, David Katz, Jim Boucher, Neil Irvine, Eric Shaw (Selectboard), Bob Hammond (Electric Commissioner), Kayla Henderson, Olin Garneau, and June Garneau.

First on the agenda was the completion of the hazard descriptions that were started at the previous meeting. While doing the hazard descriptions, development trends, roads, bridges, and public notices were also discussed.

Next, the team worked on *Tables 4.1–4.4, Critical Infrastructure & Key Resources (CIKR)*. The Emergency Response Facilities, the Non-Emergency Response Facilities, the Facilities & Populations to Protect, and the Potential Resources from the 2015 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 defined.

Lastly, each CIKR was analyzed for its hazard risk.

The planner decided to finish Tables 4.1-4.4 at the next meeting. She explained the agenda for the next meeting scheduled for September 1, 2020, and the meeting was adjourned.

Meeting 3 – August 25, 2020

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 (did not finish)

2) Today's Topics

- a) Finish....
 - i) Hazard Descriptions
- b) Work on....
 - i) Table 4.1-4.4, Critical Infrastructure & Key Resources
 - ii) Table 3.2, Historic Hazard Identification
 - iii) Table 6.1, Current Plans, Policies & Mutual Aid (time allowing)
 - iv) Table 7.1, Accomplishments since the prior Plan (time allowing)

3) Homework

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

4) Future Meetings

- a) September 1, 2020 @ 10:00 AM
- b) September 29, 2020 @ 10:00 AM

MEETING 4 – SEPTEMBER 1, 2020

Virtual meeting attendance included Michael Drake, Ken Kettenring, Mark Denoncour, Mike French, David Katz, Jim Boucher, Neil Irvine, Eric Shaw, Kayla Henderson, Olin Garneau, and June Garneau.

The meeting began where we had left off in Tables 4.1-4.4. Once these tables were complete, the team began work on *Table 3.2, Historic Hazard Identification*, which lists past and potentially hazardous locations and events. First, they looked at the hazards listed in the last plan and determined which they would like to see kept in this plan. The team then examined the record of Major Disaster and Emergency Declarations that have taken place in recent years.

Next, the team began working on *Table 6.1, Current Plans, Policies & Mutual Aid*; like other tables, this table was also pre-populated with information from the 2015 plan. Looking closely at the existing policies from the last plan and current mechanisms in place, the team determined if 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 those items that needed improvement would become new “Action Items” for this plan and be discussed again and re-prioritized when we got to our final table, *Table 9.1, The Mitigation Action Plan*.

With Table 6.1 not finished, the planner adjourned the meeting and promised to write statements to support the concepts and ideas expressed in Table 6.1. The next meeting was scheduled for September 29, 2020.

MEETING 5 – SEPTEMBER 29, 2020

Virtual meeting attendance included Michael Drake, Ken Kettenring, Mark Denoncour, David Katz, Kevin Lang, Jim Boucher, Neil Irvine, Eric Shaw, Joshua Tyrrell (Police Chief), 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 the area most prone to the risk of wildfires. In New Hampton, it was noted that the WUI, if determined using the 1,320-foot buffer method, would cover only the area along Class V roadways, but that much of the town is forested. Therefore, the entire town was thought to be in the WUI.

Meeting 4 – September 1, 2020

1) Last Meeting

- a) Finished....
 - i) Hazard Descriptions
- b) Worked on....
 - i) Table 4.1-4.4, Critical Infrastructure & Key Resources (did not finish)

2) Today's Topics

- a) Finish....
 - i) Table 4.1-4.4, Critical Infrastructure & Key Resources
- b) Work on....
 - i) Table 3.2, Historic Hazard Identification
 - ii) Table 6.1, Current Plans, Policies & Mutual Aid (time allowing)
 - iii) Table 7.1, Accomplishments since the prior Plan (time allowing)

3) Homework

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

4) Future Meetings

- a) September 29, 2020 @ 10:00 AM
- b) October 27, 2020 @ 10:00 AM

Meeting 5 – September 29, 2020

1) Last Meeting

- a) Finished....
 - i) Table 4.1-4.4, Critical Infrastructure & Key Resources
- b) Worked on....
 - i) Table 3.2, Historic Hazard Identification
 - ii) Table 6.1, Current Plans, Policies & Mutual Aid (did not finish)

2) Today's Topics

- a) Review....
 - i) Table 3.2, Historic Hazard Identification
 - ii) Table 4.1-4.4, Critical Infrastructure & Key Resources
- b) Finish....
 - i) Table 6.1, Current Plans, Policies & Mutual Aid
- c) Work on....
 - i) Table 7.1, Accomplishments since the prior Plan

3) Homework

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

4) Future Meetings

- a) October 27, 2020 @ 10:00 AM

Mitigation strategies were discussed to protect structures and educate the town's citizens about wildfire risk. The planner also led the team through a review of the work done at the last meeting, including a review of the Critical Infrastructure & Key Resources listed in Tables 4.1-4.4.

The team then finished the work started at the previous meeting. The meeting was adjourned, and the next one was scheduled for October 27, 2020.

MEETING 6 – OCTOBER 27, 2020

Virtual meeting attendance included Ken Kettenring, Mark Denoncour, David Katz, Kevin Lang, Tim O'Shea, Neil Irvine, Eric Shaw, Joshua Tyrrell, Olin Garneau, and June Garneau.

The meeting began with a review of Table 6.1 from the previous meeting. The planner took the team through the statements she formulated from her notes. The team made some minor changes, but this table was otherwise complete.

Table 7.1, Accomplishments since the Last Plan, also pre-populated with data from the 2015 plan, was the next agenda item. The planner led the team through each strategy to determine which should be "Completed, Deleted, or Deferred" to this plan as a new mitigation action item. Some of the action items from the 2015 plan had been completed or partially completed by the town. Some were deleted as they felt no longer useful or considered emergency preparedness, not mitigation. Still, others were deferred for consideration as new Action Items for this plan.

To end the meeting, the planner mentioned to the team a comprehensive list of possible mitigation action items (see Chapter 8, Sections A & B, and Appendix F). The planner also encouraged 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 New Hampton (see below).

The next meeting was scheduled for December 1, 2020.

Meeting 6 – October 27, 2020

1) Last Meeting

- a) Reviewed....
 - i) Table 3.2, Historic Hazard Identification
 - ii) Table 4.1-4.4, Critical Infrastructure & Key Resources
- b) Finished....
 - i) Table 6.1, Current Plans, Policies & Mutual Aid

2) Today's Topics

- a) Review....
 - i) Table 6.1, Current Plans, Policies & Mutual Aid
- b) Work on....
 - i) Table 7.1, Accomplishments since the prior Plan
 - ii) Start thinking about mitigation activities

3) Homework

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

4) Future Meetings

- a) December 1, 2020 @ 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 7 – DECEMBER 1, 2020

Virtual meeting attendance included Ken Kettenring, David Katz, Kevin Lang, Jim Boucher, Neil Irvine, Eric Shaw, Joshua Tyrrell, Olin Garneau, and June Garneau.

To begin the meeting, the planner walked the team through a complete review of Table 7.1. Having translated the notes from the last meeting into paragraphs, the planner reviewed each item in Table 7.1 to see if the concepts and ideas of the team remained intact and to verify the accuracy of the information. A few changes were made with this review, leaving six 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 in the plan as reminders to complete these important action items.

Work on this table was extensive; therefore, the entire meeting was used to finish Table 7.1. The next meeting was set for January 5, 2021.

MEETING 8 – JANUARY 5, 2021

Virtual meeting attendance included Ken Kettenring, David Katz, Kevin Lang, Jim Boucher, Neil Irvine, Eric Shaw, Joshua Tyrrell, Olin Garneau, 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 following completed tables:

- *Table 2.1 – Town Statistics*
- *Table 3.1 – Hazard Identification & Risk Assessment (HIRA)*
- *Table 3.2 – Historic Hazard Identification*
- *Tables 4.1-4.4 – Critical Infrastructure & Key Resources*
- *Table 6.1 – Current Plan, Policies & Mutual Aid*
- *Table 7.1 – Accomplishments since the Last Plan*

This review helped the team understand how each of these tables served as a building block for the final two tables, *Table 8.1, Potential Mitigation Strategies & the STAPLEE*, and *Table 9.1, The Mitigation Action Plan*.

The review also included a complete review of Table 6.1 to ensure that the comments and ideas expressed by the team were fully represented. Work on this table resulted in 23 new “Action Items” for this plan, some of which are also in Table 7.1.

In addition to the action items identified in Tables 6.1 and 7.1, the team reviewed additional potential action items using a comprehensive list of mitigation strategies that were derived from several sources, including the FEMA

Meeting 7 – December 1, 2020

1) Last Meeting

- a) Reviewed....
 - i) Table 6.1, Current Plans, Policies & Mutual Aid
- b) Worked on....
 - i) Table 7.1, Accomplishments since the prior Plan

2) Today's Topics

- a) Review....
 - i) Table 7.1, Accomplishments since the prior Plan
- 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) _____

Meeting 8 – January 5, 2021

1) Last Meeting

- a) Reviewed....
 - i) Table 7.1, Accomplishments since the prior Plan

2) Today's Topics

- a) Work on....
 - i) Table 9.1, Mitigation Action Plan
 - ii) STAPLEE
 - iii) Ranking & Priority (time allowing)

3) Homework

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

4) Future Meetings

- a) _____

document “Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards, January 2013” (see Chapter 8, Sections A & B and Appendix F).

Next, the team began work on *Table 8.1, Potential Mitigation Action Items & the STAPLEE*, and *Table 9.1, The Mitigation Action Plan*. The planner explained to the team that these tables were combined for the meeting but 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 digital handouts provided by the planner, the team could go through the STAPLEE process for the action items identified. The STAPLEE analysis would 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, as well as the ranking and prioritizing of each action item. The planner showed the team one last document that would be used during the next meeting, an explanation of the Ranking/Prioritizing Method (Chapter 9, Section A).

The next meeting was scheduled for February 23, 2021.

MEETING 9 – FEBRUARY 23, 2021

Virtual meeting attendance included Ken Kettenring, David Katz, Kevin Lang, Jim Boucher, Neil Irvine, Joshua Tyrrell, Olin Garneau, and June Garneau.

The meeting began where we had left off in Tables 9.1 and 8.1. After considering each strategy forwarded from Tables 6.1 & 7.1, the team considered additional mitigation items, some the planner had suggested from other plans. After much discussion and a careful review, the team ultimately settled on thirty-six “Mitigation Action Items” that they felt were achievable, which would help diminish the impact of natural hazards in the future.

Once all of the mitigation action items had been determined and the STAPLEE was completed for each, the team was now ready to rank and prioritize the action items that had been identified.

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 and placed them in four categories, as shown in Chapter 9, Section A. A digital handout with all of the identified action items was made for the team. Using this handout, the team saw the action items and determined any changes that needed to be made, including the rank.

Then, within each rank, the team assigned a priority. For example, if seven action items were ranked “1”, the priority rank was 1-7. In this fashion, the team determined which action items were the most important in their rankings and in which order they would be accomplished.

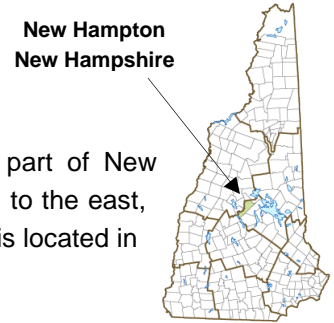
The team’s work was complete, except for the final review, with Tables 8.1 and 9.1 completed. The planner agreed to assemble the final draft plan and email a copy for the town’s review. She explained the process from this point forward and thanked the team for their hard work. No additional meeting was scheduled.

THIS PAGE INTENTIONALLY LEFT BLANK

Chapter 2: Community Profile

A. INTRODUCTION

New Hampton is a beautiful community located in Belknap County in the central part of New Hampshire. New Hampton borders Ashland to the north, Center Harbor and Meredith to the east, Sanbornton to the south, and Bristol, Hill, and Bridgewater to the west. New Hampton is located in the Lakes tourism region and is almost cut in half by Interstate 93.



TOWN GOVERNMENT

A three-member Board of Selectmen governs the Town of New Hampton, with a Town Administrator overseeing the town's day-to-day operations. The town's departments include but are not limited to Police, Fire, Public Works, Planning, Zoning, Conservation, and Heritage. The New Hampton School is the largest employer, followed by Live Free Home Health Care and Adventure Bound Campground.

DEMOGRAPHICS & HOUSING

New Hampton's population has increased from 1,609 in 1990 to 2,377 in 2020, showing an increase of 768, according to the US Census 2020. This data represents a growth rate of approximately 47.73%.⁴

In New Hampton, there are an estimated 1,175 housing units, most of which are occupied (948), while vacant housing units total 227, thus confirming the presence of second homes.⁵ The median household income is estimated at \$68,220, and the median age is 48.⁶

EDUCATION & CHILD CARE

New Hampton students in grades K-5 attend New Hampton Community School. Students in grades 6-8 attend Newfound Memorial Middle School, while grades 9-12 attend Newfound Area High School in Bristol. There are no colleges or universities in New Hampton; however, Plymouth State University is nearby. There is one private school, The New Hampton School. There are no childcare facilities in the community.

Incorporated: 1777

Origin: This town was first granted in 1765 as Moultonborough Addition, for Colonel Jonathan Moulton, who held the position of town moderator, and for whom Moultonborough was named. In 1777, Colonel Moulton requested that the town be named New Hampton in honor of his native town of Hampton, New Hampshire. The northeastern portion of the town was set off and incorporated as Center Harbor in 1797. The New Hampton School was established here in 1821, and went through several name, owner, and location changes, before its current incarnation as a co-educational college preparatory school.

Villages and Place Names: Winona, New Hampton Village Precinct, Old Institution

Population, Year of the First Census Taken: 652 residents in 1790

Population Trends: Population change for New Hampton totaled 1,275 over 49 years, from 946 in 1970 to 2,221 in 2019. The largest decennial percent change was a 32 percent increase between 1970 and 1980, which was followed by a 29 percent increase over the next decade. The 2019 Census estimate for New Hampton was 2,221 residents, which ranked 131st among New Hampshire's incorporated cities and towns.

Population Density and Land Area, 2019 (US Census Bureau): 60.3 persons per square mile of land area. New Hampton contains 36.8 square miles of land area and 1.6 square miles of inland water area.

Source: Economic & Labor Market Information Bureau, NH Employment Security, January 2021; Received 8/21/2020

⁴ US Census 2020 - <https://data.census.gov/cedsci/profile?g=0600000US3300151540>

⁵ 2020 DEC Redistricting Data - <https://data.census.gov/cedsci/profile?g=0600000US3300151540>

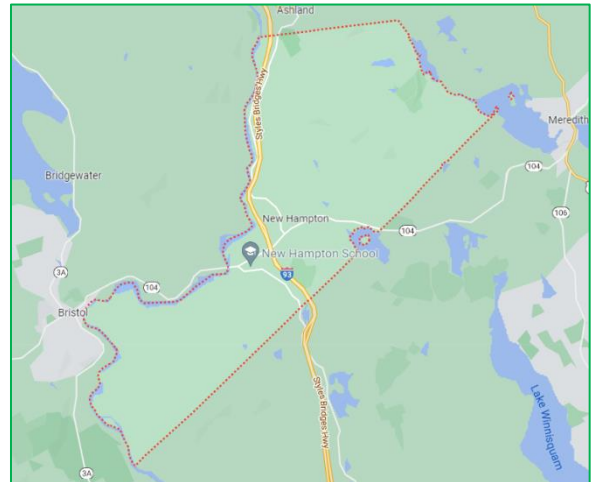
⁶ 2020 ACS 5-Year Estimates Data - <https://data.census.gov/cedsci/profile?g=0600000US3300151540>

NATURAL FEATURES

New Hampton covers approximately 36.8 square miles of land area and 1.6 square miles of inland water, most notably the Pemigewasset River, Lake Waukewan, Pemigewasset Lake, Winona Lake, Sky Pond, and Jackson Pond. Vegetation is typical of New England, including deciduous and conifer forests, open fields, and swamp and riverine areas. The highest peak in town is Hersey Mountain at 1,840' above sea level; the lowest elevation is 525' above sea level near the town center.

TRANSPORTATION

Three major roadways travel through New Hampton: Interstate 93, NH Route 104, and NH Route 132. Interstate 93 runs north-south, cutting the community in half (see map snip to the right, Google Maps). NH Route 104 runs east-west across the town from Meredith to Bristol. NH Route 132 parallels I-93 through the center of the town. Other smaller and less traveled roadways branch off, lending access to residences, businesses, and other areas of the town.



B. EMERGENCY SERVICES

EMERGENCY OPERATIONS CENTER & EMERGENCY MANAGEMENT DIRECTOR

New Hampton has a designated Emergency Management Director (EMD). The EMD maintains an Emergency Operations Center (EOC) as part of the town's emergency preparedness program. The EOC is where the EMD, department heads, government officials, and volunteer agencies gather to coordinate their response to a significant emergency or disaster. In New Hampton, the designated EOC is the Public Safety Building.

FIRE DEPARTMENT & EMS

The Fire Department is an on-call/municipal fire department providing quality fire services and emergency medical services to the residents and visitors of New Hampton 24 hours a day, 365 days a year. The department staffs a part-time Chief, eight shift workers, and twelve part-time on-call firefighters and operates one station within the community. The Fire Department provides emergency medical services and medical transportation. The New Hampton Fire Department participates with Lakes Region Fire Mutual Aid and other area departments.

POLICE DEPARTMENT

The Police Department is a full-time department providing quality law enforcement services to the residents and visitors of New Hampton - the department staffs five Officers, including a full-time Chief. The New Hampton Police Department has mutual aid with the NH State Police, the Belknap County Sheriff's Office, and surrounding towns.

PUBLIC WORKS DEPARTMENT (PWD)

The New Hampton Public Works Department (PWD) operates on a year-round, 24-hour basis as needed. The department's mission is to support the citizens of New Hampton 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 staffs a full-time Director, four full-time and three part-time employees. The department belongs to the NH Public Works Mutual Aid Association.

MEDICAL FACILITIES

New Hampton's closest medical facility is Speare Memorial Hospital in Plymouth (13 miles, 25 beds). Alternative medical facilities are Concord Hospital-Laconia (15 miles, 88 beds) and Concord Hospital-Franklin (17 miles, 25 beds).

EMERGENCY SHELTER(S)

Shelters are where evacuees are directed at the time of an emergency if displaced from their homes. During a significant event in New Hampton, the residents would be directed to Bristol's Newfound Regional High School as a regional shelter. The High School offers a large sleeping area, restrooms, showers, and kitchen facilities. It also has a permanent generator to keep the building operational during power outages. The designated shelters for a less significant event would include The New Hampton School and the Public Safety Building, which have generators, large sleeping areas, restrooms, showers, and kitchen facilities.

C. NEW HAMPTON'S CURRENT & FUTURE DEVELOPMENT TRENDS

Nearly every New Hampshire community experienced a significant drop in new home construction after the Great Recession of 2008. New Hampton was no exception, as shown in the chart (see right) from City-Data.com⁷. Between 2008 and 2019, development in New Hampton was consistent with development trends in the rest of New Hampshire.

Since early in the Covid-19 pandemic, it has become apparent in nearly every New Hampshire community and the US that the real estate market was booming. This trend has begun to change in New Hampton and the rest of the state, although new home construction has remained relatively slow in New Hampton. Whether the market is due to the pandemic or other factors is yet to be determined, but New Hampshire has had a red-hot seller's market that cooled off slightly in late 2022.

In the 2021 Annual Report, the Planning Board writes, "*During calendar year 2021 the Planning Board approved one Conditional Use Permit, three site plan review applications, and two subdivision applications involving a total of two new lots. The Board also reviewed and approved one boundary line adjustment and one lot merger.*"⁸ When talking about requests for life safety inspections, the New Hampton Fire Chief wrote, "*...the number of new construction/renovations is on the rise*".⁹ Minor subdivisions and renovations appear to be more prevalent than new single-family homes. No development has occurred in hazard-prone areas that current regulations have not addressed or impacted the town's hazard vulnerability.

Single-family new house Construction building permits

- 1997: 12 buildings, average cost: \$84,400
- 1998: 9 buildings, average cost: \$110,300
- 1999: 10 buildings, average cost: \$98,500
- 2000: 21 buildings, average cost: \$104,500
- 2001: 13 buildings, average cost: \$112,800
- 2002: 28 buildings, average cost: \$134,900
- 2003: 30 buildings, average cost: \$134,900
- 2004: 27 buildings, average cost: \$169,700
- 2005: 17 buildings, average cost: \$174,100
- 2006: 21 buildings, average cost: \$177,000
- 2007: 14 buildings, average cost: \$153,100
- 2008: 9 buildings, average cost: \$172,900
- 2009: 7 buildings, average cost: \$172,900
- 2010: 8 buildings, average cost: \$145,900
- 2011: 7 buildings, average cost: \$213,100
- 2012: 6 buildings, average cost: \$308,300
- 2013: 4 buildings, average cost: \$156,300
- 2014: 3 buildings, average cost: \$126,700
- 2015: 10 buildings, average cost: \$213,100
- 2016: 4 buildings, average cost: \$147,500
- 2017: 7 buildings, average cost: \$215,000
- 2018: 4 buildings, average cost: \$178,800
- 2019: 4 buildings, average cost: \$316,300

Currently, no new critical facilities are being planned in New Hampton. The town recognizes the importance of growth and understands the impact of hazards on new facilities and homes if built within the community's hazard-prone

⁷ City-Data.com; <http://www.city-data.com/city/New-Hampton-New-Hampshire.html>

⁸ New Hampton Annual Report 2021, Planning Board Report, page 75

⁹ Ibid, Fire Chief's Report, page 66

areas. The Planning Board and the Selectboard will monitor and guide growth and development using the Master Plan, Subdivision Regulations, the Site Plan Review process, and the Zoning Ordinance. Building permits are required.

As a relatively small community, the Planning Board, the Selectboard, and other town officials are almost always aware of construction that is taking place. The Planning Board 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

Table 2.1 - Town Statistics				
Census Population Data	2020	2010	2000	1990
New Hampton, NH - Census Population Data	2,377	2,165	1,964	1,609
Belknap County	63,705	60,088	56,576	49,294
Elderly Population-% over 65 (2020 ACS 5-Year)	24.8%			
Median Age (2020 ACS 5-Year)	48			
Median Household Income (2020 ACS 5-Year)	\$68,220			
Individuals below the poverty level (2020 ACS 5-Year)	10.3%			
Change in Population-Summer (%)	50%			
Change in Population-Winter (%)	35%			
Housing Statistics (2020 ACS 5-year)				
Total Housing Units	1,175			
Occupied Housing Units	948			
Vacant Housing Units	227			
Assessed Structure Value (2022-MS1)				
**Assessed Structure Value (2022-MS1)	Value		1% Damage	5% Damage
Residential	\$151,714,730		\$1,517,147	\$7,585,737
Manufactured Housing	\$10,801,620		\$108,016	\$540,081
Commercial	\$29,675,157		\$296,752	\$1,483,758
Discretionary Preservation Easement	\$61,580		\$616	\$3,079
Tax Exempt	\$32,687,023		\$326,870	\$1,634,351
Utilities	\$32,599,700		\$325,997	\$1,629,985
Totals	\$257,539,810		\$2,575,398	\$12,876,991
Regional Coordination				
County	Belknap			
Tourism Region	Lakes			
Planning Commission	Lakes Region Planning Commission			
Municipal Services & Government				
Town Administrator	Yes, appointed			
Selectboard (3 member)	Yes, elected			
Planning Board	Yes; appointed			
School Board	Yes; elected			

Table 2.1 - Town Statistics

<i>Zoning Board of Adjustment</i>	Yes; appointed
<i>Conservation Committee</i>	Yes; appointed
<i>Master Plan</i>	Yes, ongoing process, one chapter at a time
<i>Emergency Operation Plan (EOP)</i>	July 27, 2017
<i>Hazard Mitigation Plan (HMP)</i>	2015
<i>Zoning Ordinances</i>	Yes; adopted 1986 & last amended 2022
<i>Subdivisions Regulations</i>	Yes; adopted 2008 & last amended 2009
<i>Site Plan Review Regulations</i>	Yes; adopted 2005 & last amended 2008
<i>Capital Improvement Plan (CIP)</i>	Yes, reviewed annually
<i>Capital Reserve Funds (CRF)</i>	Yes, reviewed annually
<i>Building Permits Required</i>	Yes
<i>Town Web Site</i>	Yes; www.new-hampton.nh.us
<i>Floodplain Ordinance</i>	Yes, part of the Zoning Ordinance (update 2022/on Town Warrant in 2023)
<i>National Flood Insurance Program (NFIP) Members</i>	Yes, April 20, 1986
<i>Flood Insurance Rate Maps (DFIRMS)</i>	April 2, 1986 (new maps being worked on now)
<i>Flood Insurance Rate Study (FIS)</i>	April 2, 1986 (new maps being worked on now)
Percent of Local Assessed Valuation by Property Type - 2019 (NH Department of Revenue)	
<i>Residential Buildings</i>	76.3%
<i>Commercial Land & Buildings</i>	13.4%
<i>Other (including Utilities)</i>	10.3%
Emergency Services	
<i>Town Emergency Warning System(s)</i>	CodeRED & Siren at the Fire Station (functional)
<i>School Emergency Warning System(s)</i>	SchoolMessenger & Everbridge (New Hampton School)
<i>Emergency Page</i>	No
<i>Social Media</i>	Firefighters Association & New Hampton School
<i>ListServ or Subscription Service</i>	Yes; email blast "New Hampton Connection"
<i>Local Newspapers</i>	Laconia Daily Sun, Union Leader & Concord Monitor
<i>Public Access TV</i>	Breezeline Broadband provides a public access station through Bristol (the town has access but cannot control content)
<i>Local TV Stations</i>	WMUR Channel 9
<i>Local Radio</i>	98.3 FM WLNH, 89.1 FM NHPR (Concord)
<i>Police Department</i>	Yes, full-time Chief, four full-time officers
<i>Police Dispatch</i>	Belknap County Sheriff's Office
<i>Police Mutual Aid</i>	Surrounding towns, NH State Police and Belknap County Sheriff's Office
<i>Animal Control Officer</i>	No, Police Department
<i>Fire Department</i>	Yes, full-time Chief, 11 shift workers, ten on-call firefighters
<i>Fire Dispatch</i>	Lakes Region Fire Mutual Aid
<i>Fire Mutual Aid</i>	Lakes Region Fire Mutual Aid
<i>Fire Stations</i>	One

Table 2.1 - Town Statistics

<i>Fire Warden</i>	Yes
<i>Emergency Medical Services</i>	New Hampton Fire Department
<i>EMS Dispatch</i>	Lakes Region Fire Mutual Aid
<i>Emergency Medical Transportation</i>	New Hampton Fire Department
<i>HazMat Team</i>	Central NH HazMat Team
<i>Established Emergency Management Director (EMD)</i>	Yes
<i>Established Deputy EMD</i>	No
<i>Line of Succession (should EMD be out of the area)</i>	1st...Selectboard Chair or designee
	2nd...Town Administrator
	3rd...Police Chief
	4th...Public Works Director
<i>Public Health Network</i>	Winnepesaukee Public Health Network
<i>Health Officer</i>	Yes
<i>Deputy Health Officer</i>	No
<i>Building Inspector</i>	No
<i>Established Public Information Officer (PIO)</i>	Town Administrator
<i>Primary Hospital</i>	Concord Hospital-Laconia, Laconia (15 miles)
<i>Alternate Hospital(s)</i>	Speare Memorial Hospital, Plymouth (13 miles)
	Concord Hospital-Franklin, Franklin (17 miles)
<i>Local Humane Society or Veterinarians</i>	Northern Lakes Veterinary Hospital (Ashland) & NH Humane Society (Laconia)
<i>Primary EOC</i>	Public Safety Building (generator)
<i>Secondary EOC</i>	Town Offices (no generator)
<i>Primary Shelter</i>	Regional Shelter at Newfound Regional High School (significant event)
<i>Secondary Shelter</i>	New Hampton School or Public Safety Building (generator)
Utilities	
<i>Town Sewer</i>	New Hampton Village Precinct (10%) & private septic
<i>Public Works Department</i>	Yes; full-time Director, 4 full-time, 3 part-time
<i>Miles of Class V Roads</i>	31.5 paved, 22 gravel, 53.5 total miles (<i>RSMS Report</i>)
<i>NH Public Works Mutual Aid</i>	Yes
<i>Water Supply</i>	New Hampton Village Precinct (10%) & private wells
<i>Waste Water Treatment Plant</i>	Yes
<i>Electric Supplier</i>	Eversource Energy, NH Electric Coop & New Hampton Village Precinct
<i>Natural Gas Supplier</i>	None
<i>Cellular Telephone Access</i>	Good with some "dead spots" in town
<i>Pipelines</i>	No
<i>High-Speed Internet</i>	Yes
<i>Telephone Company</i>	Consolidated Communications & Breezeline Broadband

Table 2.1 - Town Statistics

Transportation		
Primary Evacuation Routes	Interstate 93, NH Route 104 & 132	
Secondary Evacuation Routes	Old Bristol Road, Dana Hill Road (to Winona & Town House Road)	
Nearest Interstate	Interstate 93, Exit 23 (local access)	
Nearest Airstrip	Newfound Valley, Bristol (1,900 ft. asphalt runway)	
Nearest Commercial Airport(s)	Manchester-Boston Regional Airport, Manchester (55 miles)	
	Portland International Jetport, Portland, ME (89 miles)	
Public Transportation	No	
Railroad	Yes, Winnepesaukee Scenic Railroad (tourist)	
Education & Childcare		
Elementary School	Grades K-5 attend New Hampton Community School	
Middle School	Grades 6-8 attend Newfound Memorial Middle School in Bristol	
High School	Grades 9-12 attend Newfound Area High School in Bristol	
School Administrative Unit	SAU 4; Newfound Area School District (Alexandria, Bridgewater, Bristol, Danbury, Groton, Hebron & New Hampton)	
Private School	The New Hampton School (340+ students, 140 staff members)	
Licensed Childcare Facilities	None	
Conserved Land as a Percent of Land in the Community (GIS Analysis; 2019 Conservation Files, Granit, UNH)		
	Square Miles	Percent of Town Land
Approximate Square Miles in Community (without water)	35.30	100.0%
Approximate Total Un-Conserved Land	29.91	84.7%
Approximate Total Conserved Land	5.39	15.3%
Municipal/County Land (1)	1.16	3.3%
Federal Owned Land (2)	0.85	2.4%
State-Owned Land (3)	0.81	2.3%
Quasi Private (4)	0.00	0.0%
Private Land (5)	2.57	7.3%
Fire Statistics (NH Division of Forests & Lands, Fire Warden Report (2021) and the town)		
Wildfire Fires in New Hampton (2022)	One fire, one acre (human-caused)	
Belknap County Fire Statistics (2021)	Three fires, 0.66 acres	
State Forest Fires Statistics (2021)	180 fires, 105 acres	
ACS: The American Community Survey, a five-year average of randomly mailed long-form surveys from the Census Bureau		
**The Assessed Structure Value chart shows the 2022 MS1 structure values provided by the town on 12/6/2022. These values estimate structure loss “value” due to natural hazards (see Chapter 5), based on a loss of 0-1% or 1-5% of structures.		
Unless otherwise noted, information in Table 2.1 was derived from the town, the US Census 2020, and the Economic & Labor Market Information Bureau, NH Employment Security, January 2021. Community Response Received 8/21/2020, https://www.nhes.nh.gov/elmi/products/cp/profiles-pdf/newhampton.pdf .		

THIS PAGE INTENTIONALLY LEFT BLANK

Chapter 3: Hazard Identification, Risk Assessment & Probability

A. HAZARD IDENTIFICATION

The first step in hazard mitigation is to identify hazards. The team determined that eleven natural hazards can potentially affect the community. *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 estimate of “probability” for each hazard is multiplied by its severity to establish an overall “relative threat” factor.

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 Boomtown. 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 page 37. 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
Landslide	No known areas subject to landslide in the town
Avalanches	No known areas of avalanches
Radiological	Distance away from any 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.

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 classification¹¹. 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 combined with 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, <http://support.esri.com/en/knowledgebase/GISDictionary/term/natural%20breaks%20classification>

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.

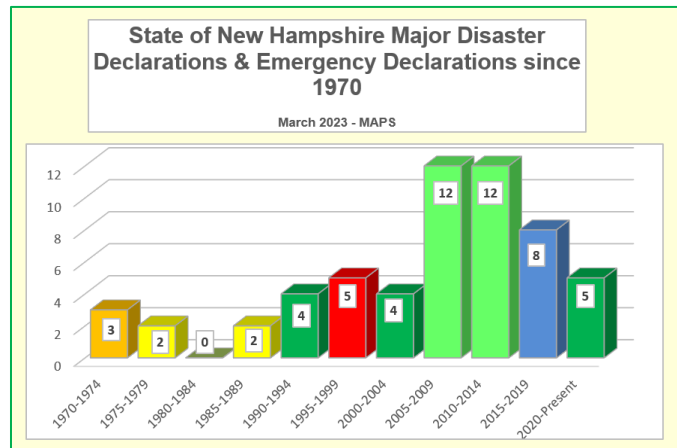
New Hampton is reasonably safe from natural, technological, and human-caused hazards. However, due to the town's geographic location, forested lands, hills, heavy snowpack, and topography, there is always a probability that future hazards will occur.

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. *"The challenges posed by climate change, such as more intense storms, frequent heavy precipitation, heat waves, drought, extreme flooding, and higher sea levels, could significantly alter the types and magnitudes of hazards impacting states in the future,"* FEMA stated in its State Mitigation Plan Review Guide¹². FEMA recognizes climate change by including climate change in the hazard mitigation 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 five disaster declarations: DR-4516 and EM-3445 (Covid-19), DR-4622 (Cheshire County), DR-4624 (Cheshire and Sullivan Counties), and DR-4693 (Belknap, Carroll, Grafton, and Coos Counties).

Communities in New Hampshire, such as New Hampton, should become increasingly aware of climate change's impact on the hazards already experienced and anticipate an increase in probability in the future.



HAZARD PROBABILITY COMBINED WITH LONG-TERM UTILITY OUTAGE

Any potential disaster in New Hampton 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 elderly and vulnerable citizens. The food supply of individual citizens could become quickly 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 community.

¹² State Mitigation Plan Review Guide, FEMA, Released March 2015, Effective March 2016, Section 3.2, page 13

¹³ Derived from FEMA's record of disasters; categorized by decade since 1970 by the Planner; 2020-2029 includes Covid-19

TABLE 3.1: HAZARD IDENTIFICATION & RISK ASSESSMENT (HIRA)

Table 3.1 - Hazard Identification & Risk Assessment (HIRA)							
Scoring for Probability (Columns A, B & C)	Column A	Column B	Column C	Column D	Column E (A+B+C)/3	Column F D x E	Column G Risk
1=Very Low (0-20%)	What is the probability of death or injury?	What is the probability of physical losses & damage?	What is the probability of interruption of service?	What is the probability of this occurring within 25 years?	Average of Human, Property & Business Impact	Relative Threat	High 7.1-10.67
2=Low (21-40%)							
3=Moderate (41-60%)							Medium 5.0-7.0
4=High (61-80%)	Human Impact	Property Impact	Business Impact	Probability of Occurrence	Severity	Risk Severity x Occurrence	
5=Very High (81-100%)							
Natural Hazards							
1) Severe Winter Weather	2.00	3.00	1.00	5.00	2.00	10.00	High
2) High Wind Events	2.00	3.00	2.00	4.00	2.33	9.33	High
3) Infectious Diseases	5.00	1.00	5.00	2.00	3.67	7.33	High
4) Inland Flooding	2.00	3.00	2.00	3.00	2.33	7.00	Medium
5) Drought	2.00	3.00	3.00	2.00	2.67	5.33	Medium
6) Extreme Temperatures	1.00	1.00	1.00	5.00	1.00	5.00	Medium
7) Solar Storm & Space Weather	5.00	5.00	5.00	1.00	5.00	5.00	Medium
8) Wildfires	2.00	2.00	1.00	3.00	1.67	5.00	Medium
9) Tropical & Post-Tropical Cyclones	2.00	3.00	2.00	2.00	2.33	4.67	Low
10) Lightning	1.00	2.00	1.00	3.00	1.33	4.00	Low
11) Earthquakes	1.00	1.00	1.00	1.00	1.00	1.00	Low
Technological Hazards							
1) Aging Infrastructure	2.00	3.00	3.00	4.00	2.67	10.67	High
2) Long Term Utility Outage	1.00	1.00	3.00	3.00	1.67	5.00	Medium
3) Dam Failure	2.00	2.00	1.00	2.00	1.67	3.33	Low
4) Known & Emerging Contaminants	1.00	1.00	1.00	3.00	1.00	3.00	Low
5) Hazardous Materials	2.00	3.00	3.00	1.00	2.67	2.67	Low
6) Conflagration	1.00	5.00	2.00	1.00	2.67	2.67	Low
Human-Caused Hazards							
1) Transport Accidents	2.00	2.00	2.50	5.00	2.17	10.83	High
2) Mass Casualty Incidents	2.00	2.00	2.00	3.00	2.00	6.00	High
3) Cyber Events	2.00	2.00	4.00	2.00	2.67	5.33	High
4) Terrorism & Violence	5.00	5.00	5.00	1.00	5.00	5.00	High

D. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) STATUS

New Hampton entered the National Flood Insurance Program (NFIP) Member on April 20, 1986. FEMA digital map data is unavailable; however, New Hampton likely has a relatively large floodplain, as the Pemigewasset River forms its entire western town line.

Without digital flood insurance rate maps, it is impossible to say where the flood zones are in New Hampton. However, they are likely along the Pemigewasset River and Ames, Hoyt Brook, Harper, Magoon, and Blake Brooks. In addition, areas around Pemigewasset, Waukewan, and Winona Lakes and the swampy areas around Dolloff Brook would likely be in the floodplain. Lastly, the confluence of the Squam River and the Pemi is just inside the New Hampton town line in the northwest corner of the community; this area may also be subject to flooding.

The last Flood Insurance Rate Studies (FIRS) and Digital Flood Insurance Rate Maps (DFIRMS) were dated April 20, 1986. As stated above, DFIRM and FIRS are currently unavailable. It is noted that the town's Pemigewasset Overlay District (PO) runs concurrently with the river and the western town boundary.

According to the New Hampshire Bureau of Economic Affairs (BEA/OSI), there are 12 NFIP policies in effect in New Hampton, including five single-family and seven non-residential policies, for a total amount of insurance in force of \$1,812,400. There have been 18 paid losses for a total of \$93,466. The BEA/OSI also reports five repetitive losses among three buildings for a total of \$30,278.56 in repetitive loss payments.¹⁴

FLOODPLAIN DEVELOPMENT ORDINANCE

The Town of New Hampton developed flood zone regulations as part of the New Hampton Zoning Ordinance (adopted 1968/last amended 2022). Article IV, section G, Flood Hazard Overlay District (FHO), states, "*This District is intended to assure that development within the designated flood hazard area shall occur in such a manner as to minimize the danger to life and property from flooding and to minimize the potential for future flooding*".¹⁵ Among other important considerations, this section sets district boundaries and discusses permitted uses and special exceptions in the flood hazard zone.

Article IV, Section H, Pemigewasset Overlay District (PO), the purpose stated, "...to provide protection for the environmentally sensitive corridor along the Pemigewasset River"¹⁶. Considerations in this section include permitted and prohibited uses, dimensional requirements, and other standards.



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.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>

¹⁴ NH Bureau of Economic Affairs (OSI); Jennifer Gilbert, July 6, 2020

¹⁵ <http://www.new-hampton.nh.us/ckfinder/userfiles/files/2022%20Zoning%20Ordinance%20w-o%20maps.pdf>, page 22-24

¹⁶ Ibid, page 25

The Town of New Hampton Floodplain Development Ordinance is an addendum to the Zoning Ordinance. The addendum details the exact specifications for building or substantial improvements in the flood zone, beginning with Item I, Definition of Terms. Items II-VII further discuss the requirements for building in the flood zone, including, but not limited to, permitting requirements, the review process, assurances to minimize infiltration of flood water, as built elevation and floodproofing, alteration or relocation of watercourses, flood elevations, manufactured homes, recreational vehicles. Item IX discusses the variance and appeals process.¹⁷

The town uses the Floodplain Development Ordinance to guide development and ensure compliance and enforcement of NFIP standards. The Planning Board (initiator) and the Selectboard (enforcer) adhere to the rules, regulations, and requirements outlined in the ordinance. The New Hampton Zoning Ordinance can be found on the town's website.¹⁸ The Floodplain Development Ordinance was updated in 2022, pending approval at a Town Meeting in March 2023.

New Hampton's Floodplain Administrator is 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 benefits of the NFIP also extend to structures not in the 100-year floodplain and felt it worthwhile to have NFIP brochures and information available at the Town Offices for current homeowners and potential developers. The Team also indicated they would review the floodplain ordinance after a significant event to determine if changes could be made to provide further mitigation for flooding. The team has included several flood-related mitigation strategies in 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 New Hampton.

¹⁷ <http://www.new-hampton.nh.us/ckfinder/userfiles/files/2022%20Zoning%20Ordinance%20w-o%20maps.pdf>, p. 84-93

¹⁸ <http://www.new-hampton.nh.us/ckfinder/userfiles/files/2022%20Zoning%20Ordinance%20w-o%20maps.pdf>

TABLE 3.2: HISTORIC HAZARD IDENTIFICATION

Key for Table 3.2

2015 HMPT 2015 Hazard Mitigation Planning Team
2024 HMPT 2024 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. Wildfires	E. Earthquakes	H. Other Hazards
C. High Wind Events	F. Drought	

Type of Event	Date of Event	Location	Description	Source
A. Inland flooding, including riverine, heavy rainfall, rapid snowmelt, ice jam flooding, flooding due to dam failure, and local road flooding. Riverine flooding is the most common disaster event in the State of NH. Significant riverine flooding in some areas of the state occurs in less than ten-year intervals and seems to be increasing with climate change. The entire State of NH has a high flood risk. Flood events have the potential to impact the community on a townwide basis. No significant flooding events have taken place in New Hampton since July-August 2008, and flood damage occurred during Tropical Storm Irene in 2011 (See Section C).				
A summary of flood events, including Major Disaster & Emergency Declarations in the state & regionwide				
Flooding Prior to 1970	1927, 1936, 1938, 1943 (2), 1953, 1955, 1959		Spring and fall flooding events resulting from severe storms and heavy snowmelt	See below
Flooding 1970-1979	1972 (DR-327), 1973 (DR-399), 1974 (DR-411), 1976, 1978 (DR-549), 1979 (EM-3073)			
Flooding 1980-1989	1986 (DR-771), 1987 (DR-789)			
Flooding 1990-1999	1990 (DR-876), 1991 (DR-923), 1991 (DR -917), 1995, 1996 (DR-1077), 1996 (DR-1144), 1998 (DR-1231)			
Flooding 2000-2009	2003 (DR-1489), 2005 (DR-1610), 2006 (DR-1643), 2007 (DR-1695), 2008 (DR-1787), 2008 (DR-1799)		Spring and fall flooding events resulting from severe storms and heavy snowmelt	See below
Flooding 2010 - Present	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)			
A detailed summary of flood events in the community				
Inland Flooding (Heavy Rain)	July 11, 1973	All Ten NH Counties	Major Disaster Declaration DR-399: In New Hampton, rain washed out several main culverts on Route 132 N, Old Bristol Road, Dana Hill Road, Gordon Hill Road, Straights Road, Lower Oxbow, and others. Major culvert washouts caused impaired emergency response.	FEMA & 2024 HMPT

Type of Event	Date of Event	Location	Description	Source
Inland Flooding (Heavy Rain)	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 resulting from the severe storms and flooding in October. There is no recollection of damage from this storm in New Hampton.	FEMA & 2024 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 is no recollection of damage from this storm in New Hampton.	FEMA & 2024 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 is no recollection of damage from this storm in New Hampton.	FEMA & 2024 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 also spawned a tornado on July 24, 2008. In New Hampton, 6" of rain fell in three hours, resulting in damage to homes and cars, road washouts, two injuries, and one death. There was \$3,000,00 in damages.	FEMA, 2015 HMPT & 2024 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 & 2024 HMPT
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 the State of New Hampshire to supplement state and local recovery efforts in the areas affected by severe storms and flooding from October 29-November 1, 2017, in five New Hampshire Counties. There is no recollection of damage from this storm in New Hampton.	FEMA & 2024 HMPT
Inland Flooding (Ice Jams)	Past & Potential	Pemigewasset River NH Route 132 Adventure Bound Campground New Hampton	Ice jams along the Pemigewasset River have caused flooding of the Adventure Bound Campground several times. Ice from the river has also pushed upward onto NH Route 132 from the river during high-water events. Flood gates on the Pemi help control flooding and ice floes; however, several years ago, six feet of ice was pushed onto Route 132, significantly hindering emergency response.	2024 HMPT

Type of Event	Date of Event	Location	Description	Source
B. Wildfires. 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 on a townwide basis. No significant wildfire events have occurred in New Hampton since May 2020.				
A summary of wildfire events, including Major Disaster & Emergency Declarations in the state and other recent large fires				
Wildfire (Shaw Mountain)	July 2, 1953	Carroll County	Major Disaster Declaration DR-11: This wildfire occurred in Carroll County at Shaw Mountain. This fire did not reach Belknap County or New Hampton.	FEMA & 2024 HMPT
Wildfire (Bayle Mountain)	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. Blackhawk and private helicopters, along with 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 Belknap County or New Hampton.	Local Resources
Wildfire (Stoddard)	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 Belknap County or New Hampton.	FEMA & 2024 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 Belknap County or New Hampton.	Local Resources
Wildfire (Dilly Cliff)	October 2017	Grafton County	The Dilly Cliff Fire in 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 Belknap County or New Hampton.	Local Resources
A detailed summary of wildfire events in the community				
Wildfire	May 2020	Sky Pond Area New Hampton	In May 2020, a Class B, 1.5-acre wildfire struck the Sky Pond Road area on Lower Oxbow Road. No injuries or structure damage were reported. The cause of this non-permitted fire was human-caused.	2024 HMPT
Since the last hazard mitigation plan, no additional wildfires of significance have occurred in New Hampton.				

Type of Event	Date of Event	Location	Description	Source
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. Downburst activity is prevalent throughout NH and is becoming more common with climate change; most downbursts go unrecognized unless significant damage occurs. Hurricanes develop from tropical depressions that form off the coast of Africa. New Hampshire's exposure to direct and indirect impacts from hurricanes is real but modest compared to other states in New England. A hurricane that is downgraded to a tropical storm is more likely to impact New Hampshire. Tornadoes and other wind events can impact the community on a townwide basis. No significant high-wind events have occurred in New Hampton since the summer of 2015.				
A summary of high wind events & tropical & post-tropical cyclone events, including Major Disaster & Emergency Declarations in the state & regionwide				
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)		Listed tornadoes were reported as F2, except for the June 1953 tornado, which was reported as an F3.	See below
A detailed summary of high wind & tropical & post-tropical cyclone events in the community.				
Tropical & Post-Tropical Cyclone (Great New England Hurricane)	September 21, 1938	All Ten NH Counties	The Great New England Hurricane: Statewide, there were multiple deaths, and damages in NH were about \$12.3 million in 1938 dollars (about \$200 million now). Throughout New England, 20,000 structures were damaged, and 26,000 automobiles, 6,000 boats, and 325,000 sugar maples were lost. 80% of the population lost power. Although there was no local recollection, it was expected that in New Hampton, the damage would have been similar to the rest of the state. <i>(Source http://nhpr.org/post/75th-anniversary-new-englands-greatest-hurricane)</i>	FEMA & 2024 HMPT
Tropical & Post-Tropical Cyclone (Hurricanes Carol & Edna)	August 31, 1954	All Ten NH Counties	Hurricanes Carol & Edna: Hurricane Carol resulted in many trees being blown down and significant crop losses. Localized flooding and winds measuring over 100 mph also occurred. Hurricane Carol was followed by Hurricane Edna just 12 days later, which caused already weakened trees to fall. Although there was no local recollection, it was expected that in New Hampton, the damage would have been similar to the rest of the state. <i>(Source: http://www.wmur.com/Timeline-History-Of-NH-Hurricanes/11861310)</i>	FEMA & 2024 HMPT

Type of Event	Date of Event	Location	Description	Source
Tropical & Post-Tropical Cyclone (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. High wind and tree damage occurred in New Hampton; the EOC was activated.	FEMA & 2024 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 area struck by Hurricane Katrina, and emergency assistance to those areas began on August 29, 2005. The President's action made federal funding available to the state and all 10 New Hampshire counties. New Hampton did not receive evacuees or pets.	FEMA & 2024 HMPT
High Wind Event (Tornado)	July 24, 2008	Belknap, Carroll, Merrimack, Strafford & Rockingham	Major Disaster Declaration DR-1782: Tornado damage to several New Hampshire counties. This tornado did not reach New Hampton or Belknap County.	FEMA & 2024 HMPT
Tropical & Post-Tropical Cyclone (Tropical Storm Irene) Long Term Utility Outage	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 26th- September 6, 2011, occurred in seven New Hampshire counties, causing flood and wind damage. An Emergency Declaration was declared for all ten New Hampshire counties. Road washouts, trees, and power lines were down in New Hampton, and the makeshift stairs leading to the Pemi were washed away. Power was out in some areas of the town for several days.	FEMA & 2024 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-November 8, 2012. Hurricane Sandy came ashore in NJ and brought high winds, power outages, and heavy rain to six New Hampshire counties. There was a minimal impact in New Hampton from Tropical Storm Sandy, primarily a heavy rain event.	FEMA & 2024 HMPT
High Wind Event & Long Term Utility Outage	Summer 2015	New Hampton	During the summer of 2015, straight-line winds blew across New Hampton from the Public Safety Building and down Main Street. Several trees at the New Hampton School were damaged, as were trees as far as the cemetery. Some power loss occurred in the Village Precinct. This wind event was not determined to be a microburst.	2024 HMPT

Type of Event	Date of Event	Location	Description	Source
D. Severe Winter Weather including Nor'easters, Blizzards, and Ice Storms In NH, severe winter weather 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 have the potential to impact the community on a townwide basis. No significant winter weather events have occurred in New Hampton since March 14-15, 2017.				
A summary of severe winter weather events, including Major Disaster & Emergency Declarations in the state & nationwide				
Severe Winter Weather (Ice Storms)	1942, 1969, 1970, 1979, 1991, 1998 (DR-1199), 2008 (DR-1812)		Major ice storms that have occurred causing major disruptions to power, transportation, and public and private utilities.	FEMA & 2024 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)		Major severe winter weather events marked by snowfalls exceeding 2' in parts of the state resulted in disruptions to power and transportation systems.	FEMA & 2024 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 amounts of snow to all 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, in addition to 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. There was no recollection of events in New Hampton; however, it is expected that snow amounts in New Hampton were similar to accumulation in the rest of the state. The Public Works Department handled the heavy snow accumulation in New Hampton.	2024 HMPT

Type of Event	Date of Event	Location	Description	Source
Severe Winter Weather (High Winds, Coastal Flooding & Snowstorm)	February 16, 1978	All Ten NH Counties	Major Disaster Declaration DR-549: The Blizzard of '78, a regionwide blizzard severely affecting southern New England, resulted in high snow accumulations throughout New England and New Hampshire. Recorded accumulations show up to 28" in northeast New Hampshire, 25" in west-central New Hampshire, and 33" along coastal New Hampshire. This storm also brought hurricane-force winds, which made this storm one of the more intense to occur this century across the northeastern United States. There was a recollection of three-foot snow events in New Hampton, and it is expected that snow amounts in New Hampton were similar to accumulation in the rest of the state. The Public Works Department handled the heavy snow accumulation in New Hampton.	FEMA & 2024 HMPT
Severe Winter Weather (Snowstorm & High Winds)	March 13-17, 1994	All Ten NH Counties	Emergency Declaration EM-3101: The Public Works Department handled the heavy snow accumulation in New Hampton.	FEMA & 2024 HMPT
Severe Winter Weather (Ice Storm) Long Term Utility Outage	January 7-25, 1998	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack, Strafford & Sullivan	Major Disaster Declaration DR-1199: A significant ice storm struck nearly every part of the state, with a more significant impact in northern communities and areas over 1,000 feet above sea level. The 1998 Ice Storm significantly impacted the town, specifically higher elevations. Trees fell faster than the Public Works Department could manage, and much of the town lost power. The town spent \$175,000 in three days cleaning up roads and received FEMA reimbursement. There were no personal injuries; however, many structures and vehicles were damaged, and I-93 was heavily impacted.	FEMA & 2024 HMPT
Severe Winter Weather (Snowstorm)	December 6-7, 2003	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack & Sullivan	Emergency Declaration EM-3193: The emergency declaration covers jurisdictions with a record and near-record snowfall from December 6-7, 2003, and affected eight New Hampshire counties. The Public Works Department handled the heavy snow accumulation in New Hampton.	FEMA & 2024 HMPT

Type of Event	Date of Event	Location	Description	Source
Severe Winter Weather (Snowstorms)	January 22-23, 2005 February 10-11, 2005 March 11-12, 2005	EM-3208-002 (Jan, Feb & Mar): All Ten NH Counties EM-3207 (Jan): Belknap, Carroll, Cheshire, Grafton, Hillsborough, Rockingham, Merrimack, Strafford & Sullivan EM-3208 (Feb): Carroll, Cheshire, Coos, Grafton & Sullivan EM-3211 (Mar): Carroll, Cheshire, Hillsborough, Rockingham & Sullivan	Emergency Declaration EM 3208-002: The Federal Emergency Management Agency (FEMA) had 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 in 2005. The total aid for all three storms was \$6,892,0237 (January: \$3,658,114; February: \$1,121,727; March: \$2,113,182). Emergency Declaration EM-3207: The January storm (Belknap: \$125,668; State of NH: \$1,107,426); Emergency Declaration EM-3208: The February storm (Not declared in Belknap County; State of NH: \$521,536). Emergency Declaration EM-3211: The March storm (Not declared in Belknap County; State of NH: \$697,501). The Public Works Department handled the heavy snow accumulation in New Hampton.	FEMA & 2024 HMPT
Severe Winter Weather (Snowstorms)	Winter of 2008	New Hampton	The winter of 2008 brought heavy snow throughout the season to New Hampton. The town reported 181" of snow accumulation; the Public Works Department reported more snow accumulation this year than in the past 32 years. The Public Works Department handled the heavy snow accumulation in New Hampton.	2024 HMPT
Severe Winter Weather (Snowstorm & Ice Storm)	December 11-23, 2008	All Ten NH Counties	Major Disaster Declaration DR-1812 & Emergency Declaration EM-3297: Damaging ice storm impacted the entire state, including all 10 New Hampshire counties, resulting in fallen trees and large-scale power outages. Nearly \$15 million in federal aid was obligated by May 2009. New Hampton reported that this storm resulted in more heavy snow than ice accumulation and was not as bad as the 1998 Ice Storm. The Public Works Department handled the heavy snow accumulation in New Hampton.	FEMA & 2024 HMPT
Severe Winter Weather (Snowstorm)	October 29-30, 2011	DR-4049: Hillsborough & Rockingham EM-3344: All Ten NH Counties	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). The Public Works Department handled the heavy snow accumulation in New Hampton.	FEMA & 2024 HMPT
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). The Public Works Department handled the heavy snow accumulation in New Hampton.	FEMA & 2024 HMPT

Type of Event	Date of Event	Location	Description	Source
Severe Winter Weather (Snowstorm)	March 14-15, 2017	Belknap & Carroll	Major Disaster Declaration DR-4316: A severe winter storm and snowstorm on NH's Town Meeting Day in two New Hampshire counties resulted in disaster aid supplementing state and local recovery efforts. The Public Works Department handled the heavy snow accumulation in New Hampton. The scheduled Town Meeting was held, and the turnout was excellent.	FEMA & 2024 HMPT

E. Earthquakes

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 on a townwide basis. No significant earthquakes have taken place in New Hampton since the prior plan.

A summary of earthquakes with a magnitude of 4.0 or greater in the state & regionwide

Earthquakes	6/11/1638 (Central NH, 6.5), 10/29/1727 (Off Coastline, 6.0-6.3), 11/18/1755 (Off Coastline, 5.8), 11/10/1810 (Portsmouth, NH, 4.0), 7/23/1823 (Off Hampton, NH, 4.1), 12/19/1882 (Concord, NH, Unknown), 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 (Ossipee, NH, 5.5-5.8), 12/24/40 (Ossipee, NH, 5.5-5.8), 1/19/1982 (Laconia, NH, 4.0), 11/20/1988 (Berlin, NH, 4.0), 4/6/1989 (Berlin, NH, 4.1), 10/16/2012 (Hollis Center, ME, 4.0)	Occurrences of earthquakes with a magnitude of 4.0 or greater in recorded New Hampshire History	State of NH Multi-Hazard Mitigation Plan, Update 2018
--------------------	--	---	---

A detailed summary of earthquakes that were felt in the community since 1940 with a magnitude of 3.0 or greater

Earthquake	December 20, 1940	Ossipee, NH	Magnitude 5.5	State of NH Multi-Hazard Mitigation Plan, Update 2018 & 2024 HMPT
Earthquake	December 24, 1940	Ossipee, NH	Magnitude 5.5	
Earthquake	June 15, 1973	Quebec Border / NH	Magnitude 4.8	
Earthquake	January 19, 1982	West of Laconia, NH	Magnitude 4.5	
Earthquake	November 20, 1988	Berlin, NH	Magnitude 4.0	
Earthquake	April 6, 1989	Berlin, NH	Magnitude 4.1	
Earthquake	April 20, 2002	Plattsburg, NY	Magnitude 5.1	State of NH Multi-Hazard Mitigation Plan,
Earthquake	June 23, 2010	Ontario-Quebec Border	Magnitude 5.0	

Type of Event	Date of Event	Location	Description	Source
Earthquake	June 26, 2010	Boscawen, NH	Magnitude 3.1	Update 2018 & 2024 HMPT
Earthquake	October 16, 2012	Hollis Center, ME	Magnitude 4.0; felt in New Hampton as a minor tremor; no reported damage	
F. Drought Drought is generally not as damaging or disruptive as floods and other hazards, and it is more difficult to define. A drought is a natural hazard that evolves over months or even years and can last as long as several years to 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 on a townwide basis. No significant droughts have occurred in New Hampton since the summer of 2020.				
A summary of drought in the state & regionwide				
Drought	1775, 1840, 1882, 1910's, 1929-1936, 1939-1944, 1947-1950, 1960-1969, 1999; 2001-2002, 2016-2017		Occurrences of severe droughts in recorded New Hampshire history.	State of NH Multi-Hazard Mitigation Plan, Update 2018
A summary of drought in the community since 1929				
Drought	1929-1936	Statewide	Regional	State of NH Multi-Hazard Mitigation Plan, Update 2018 & 2024 HMPT
Drought	1939-1944	Statewide	Severe in the southeast part of the state and moderate elsewhere	
Drought	1947-1950	Statewide	Moderate	
Drought	1960-1969	Statewide	Regionally, the longest recorded continuous spell of less-than-average precipitation	
Drought	2001-2002	Statewide	The third worst drought on record	
Drought	2016-2017	Statewide	Declared drought for the summer of 2016 and into 2017, moderating from extreme in southern New Hampshire to dry in most northern communities. The 2016 drought affected New Hampton with the loss of a few dug wells. The Village District curtailed anything other than interior domestic water use, among other restrictions.	
Drought	2020	Statewide	As of late September 2020, most of New Hampshire, including New Hampton, was experiencing severe drought conditions. The southwestern part of the state was experiencing moderate drought, while portions of Rockingham and Strafford Counties were experiencing extreme drought. The town could not draft water for fire suppression, and a few dug wells dried.	NH Drought Monitor
Drought	2022	Statewide	As of early September 2022, most of New Hampshire, including New Hampton, was experiencing drought conditions. The 2022 drought has abated with considerable fall rains.	NH Drought Monitor

Type of Event	Date of Event	Location	Description	Source
G. Miscellaneous Past or Potential Hazards Natural, technological, and human-caused hazards and other unusual hazardous events have been noted throughout New Hampshire. One concern is transporting hazardous material through communities by rail and tractor-trailer. Other natural, technological, or human-caused hazards have the potential to impact the community on a townwide basis. Currently, COVID-19 is taking place in the Town of New Hampton.				
Cyber Event	2015	New Hampton Fire Department	In 2015, the New Hampton Fire Department hard drives were ransomed for bitcoins. The town did not pay the ransom and had to start over to recover the lost data; this is a continuing process of getting documents and other pertinent information back.	2024 HMPT
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"). As of September 1, 2020, eight people had been infected, no deaths have occurred, and one active case has been reported in New Hampton. The Town of New Hampton and the New Hampton School have established new policies and programs to mitigate the impact of COVID-19.	FEMA & 2024 HMPT
Infectious Disease	January 20, 2020 – ongoing	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 & 2024 HMPT
H. Other Hazards Identified hazards with no specific example of occurrence.				
Natural Hazards		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.		
Solar Storm & Space Weather				
Lightning		See <i>Table 3.1, Hazard Threat Analysis</i> , and Chapter 5 for more details on these hazards.		
Technological Hazards				
Aging Infrastructure		Historic hazard events were derived from the following sources unless noted otherwise: <ul style="list-style-type: none">Website for NH Disasters: http://www3.gendisasters.com/mainlist/newhampshire/TornadoesFEMA Disaster Information: http://www.fema.gov/disastersThe Tornado Project: http://www.tornadoproject.com/alltorns/nhtorn.htmThe Tornado History Project: http://www.tornadohistoryproject.com/The Disaster Center (NH): http://www.disastercenter.com/newhamp/tornado.htmlEarthquakeTrack.com; http://www.Earthquaketrack.com See Major Disaster and Emergency Declarations for more state information and county-wide past events, Appendix D, <i>NH Major & Emergency Declarations</i> .		
Dam Failure				
Known & Emerging Contaminants				
Hazardous Materials				
Conflagration				
Human-caused				
Transport Accidents				
Mass Casualty Incidents				
Terrorism & Violence				

Chapter 4: Critical Infrastructure & Key Resources (CIKR)

Team discussion and brainstorming identified Critical Infrastructure & Key Resources (CIKR) within New Hampton. 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 (ERF) & EVACUATION

EMERGENCY RESPONSE FACILITIES (ERF)			
ERFs are primary facilities and resources needed during an emergency response.			
Facility	Type of Facility	Hazard Risk	
Public Safety Building (generator)	Police, Fire & primary EOC, secondary Shelter	All Hazards	1
Town Offices (no generator)	Town government, records & secondary EOC	All Hazards	1
The New Hampton School (generator)	School & primary shelter	All Hazards	1
Public Works Garage & Transfer Station (generator)	Heavy equipment, sand & gravel; Shelter for crated animals	All Hazards	1
State DOT Highway Garage & Pumps (generator)	Primary location for fuel, heavy equipment, sand, and gravel	All Hazards	1
Pinnacle Hill Communications Tower; Police Department Repeater	Communications Tower	All Hazards & High Wind Events	3
Route 132 South State Police Troop E Tower (Troop F also because of split on I 93)	Communications Tower	All Hazards & High Wind Events	2
Health Center at New Hampton Prep School	Medical Services	All Hazards	1
Speare Memorial Hospital (Plymouth)	Medical Services	All Hazards	1
Evacuation Routes			
Interstate 93	Primary evacuation route	All Hazards & Hazardous Materials	3
NH Route 104	Primary evacuation route	All Hazards & Hazardous Materials	2
NH Route 132	Secondary evacuation route	All Hazards & Inland Flooding	2
Old Bristol Road	Secondary evacuation route	All Hazards & Inland Flooding	2
Dana Hill Road (to Winona & Town House Roads)	Secondary evacuation route	All Hazards	1
Bridges on the Evacuation Routes			
Interstate 93, N & S Bridges over NH Route 132N (north) (State)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	3
Interstate 93, N & S Bridges over NH Route 132N (south) (State)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	3

EMERGENCY RESPONSE FACILITIES (ERF)			
ERFs are primary facilities and resources needed during an emergency response.			
Facility	Type of Facility	Hazard Risk	
Interstate 93, N & S Bridges over NH Route 104/132 (State)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	3
Pinnacle Hill Road Bridge over Interstate 93 (State)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	3
NH Route 104 Bridge over Pemigewasset River (State)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	3
NH Route 132N Bridge over Harper Brook (State)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	2
NH Route 132S Bridge over Hatchery Pond (State)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	2
Dana Hill Road Bridge over Harper Brook (Town)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	1
Dana Hill Road Bridge over State of NH Railroad (State)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	1
Old Bristol Road Bridge over Hatchery Brook (Town)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	1
Central Street Bridge over Pemigewasset River (1/2 Town, 1/2 Bristol; new in 2010)	Bridge on Evacuation Route	All Hazards & Hazardous Materials	1
Other bridges in New Hampton			
Coolidge Woods Road Bridge over Wallace Brook (Town)			
Blake Hill Road Bridge over Blake Brook (Town)			
Blake Hill Road Bridge over Prescott Brook (Town)			
Brook Road Bridge over Blake Brook (Town-red list)			
Jackson Pond Road Bridge over Pond outlet (Town)			
Lower Oxbow Road Bridge over Ames Brook (Town)			
Jackson Pond Road Bridge over State of NH Railroad (State)			
Coolidge Woods Road Bridge over Blake Brook (Army Corps of Engineers)			
A total of 359 culverts have been identified in New Hampton. Of these culverts, 74 are identified as "poor condition" due to size, sedimentation, and obstruction. A systematic replacement of fair or poor culverts is done annually in a budgeted and scheduled road maintenance program.			

EMERGENCY RESPONSE FACILITIES (ERF)				
ERFs are primary facilities and resources needed during an emergency response.				
Facility		Type of Facility	Hazard Risk	
Dams				
New Hampton Village Precinct Waste Water Lagoon		Significant Hazard Dam	All Hazards & Inland Flooding	1
Gordon Hill Water Supply Pond		Significant Hazard Dam	All Hazards & Inland Flooding	2
Dickerman Pond Dam		Significant Hazard Dam	All Hazards & Inland Flooding	1
Jackson Pond Dam		Significant Hazard Dam	All Hazards & Inland Flooding	2
Mountain Pond Dam (Sanbornton)		Low Hazard Dam (could affect New Hampton)	All Hazards	2
Hawkins Pond Dam (Center Harbor)		Low Hazard Dam (could affect New Hampton)	All Hazards	2
13 other active dams are classified as non-menace; 17 dams are unclassified and have a status of breached, exempt, not built, or ruins				

TABLE 4.2 – NON-EMERGENCY RESPONSE FACILITIES (NERF)

NON-EMERGENCY RESPONSE FACILITIES (NERF)			
NERFs are facilities that, although critical, are not necessary for immediate emergency response efforts. This would include facilities to protect public health and safety and provide backup emergency facilities.			
Facility	Type of Facility	Hazard Risk	
Transfer Station	Transfer Station	All Hazards	1
Village District Sewage Treatment Facility	Precinct Sewerage Facility	All Hazards	1
Village Precinct Electrical Substation	Electricity	All Hazards	2
Village Precinct Water Facility	Precinct Water Supply	All Hazards	1
Ayers Island Facility	Hydro Dam	All Hazards & Inland Flooding	2
Newfound High School (Bristol)	Potential Shelter	All Hazards	1

TABLE 4.3 – FACILITIES & POPULATIONS TO PROTECT (FPP)

FACILITIES & PEOPLE TO PROTECT (FPP)			
FPPs are facilities that need to be protected because of their importance to the town and residents who may need help during a hazardous event.			
Facility	Type of Facility	Hazard Risk	
New Hampton Community School	School	All Hazards	1
New Hampton School	School	All Hazards	1
New Hampton Town Offices	Town government	All Hazards	1
Public Safety Building	Fire & Police, EOC, see above	All Hazards	1
Public Works Garage	see above	All Hazards	1
Dana Meeting House	National Register of Historic Places	All Hazards	1
Gordon-Nash Library	National Register of Historic Places	All Hazards	1
Mooney, Washington, House	National Register of Historic Places	All Hazards	1
New Hampton Community Church	National Register of Historic Places	All Hazards	1
New Hampton Town House	National Register of Historic Places	All Hazards	1

TABLE 4.4 – POTENTIAL RESOURCES (PR)

POTENTIAL RESOURCES (PR)			
PRs are potential resources that could be helpful for emergency response in the case of a hazardous event.			
NH DOT Highway Garage	Heavy equipment, sand & gravel	All Hazards	1
New Hampton School	Buses and light equipment	All Hazards	1
Number of large farms for evacuation of livestock	Animal Shelter	All Hazards	1
Several independent contractors	Heavy equipment, sand & gravel	All Hazards	1
Please refer to the Resource Inventory List in the 2017 Emergency Operations Plan for additional resources.			

Chapter 5: Hazard Effects in New Hampton

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 town is heavily forested.

Overall Flood Risk

New Hampton's CIKR were identified and listed in Chapter 4; each CIKR was analyzed for its flooding potential. Based on a scale of 1-3, with 1 indicating little or no risk, the town's Emergency Response Facilities were found not to be at risk for flooding. A moderate risk was indicated on two main evacuation routes, NH Route 132 and Old Bristol Road, and at the Ayers Island Facility. All of New Hampton's dams have some risk for flooding, as would be expected, but none were reported as having a high risk.

As Chapter 3, Section D indicates, digital flood insurance rate maps (DFIRMS) are not currently available for New Hampton. It is, however, relatively safe to say that the structures within the Pemigewasset Overlay District would be the most susceptible. Please refer to Chapter 4, Tables 4.1-4.4, and Section C in this chapter for more information.

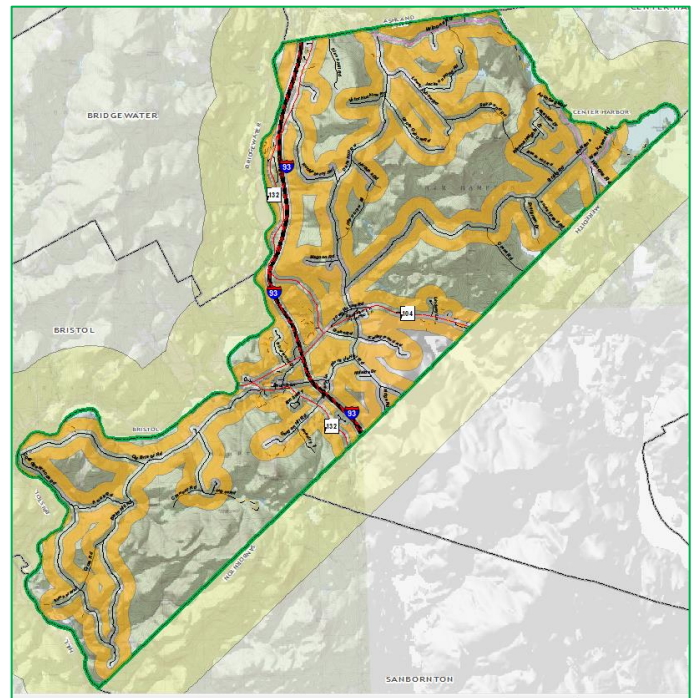
It is expected that there may be other structures and homes within the flood zone. Town officials should consider all at-risk properties when a flood hazard is likely.

Overall Wildfire Risk

CIKR falling within the Wildland Urban Interface (WUI) were reviewed using the same methodology used for 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. The orange symbology in the map snip to the right shows the traditional WUI in New Hampton. 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. The WUI would include most of the town in rural communities like New Hampton. A different method to determine the WUI in suburban communities includes identifying developments, streets, roads with limited egress, a high canopy of old-growth softwoods, or older wooden structures. Winona Heights, Riverwood Drive, and Mansfield Woods were indicated as high risk, but several other dead-end roads in New Hampton could also be at risk.



The Transfer Station is the only CIKR within the 1,320-foot portion of the WUI; all others are within the 300' WUI buffer of roadways, easily accessible by fire apparatus and hoses. Most of the town's CIKR, such as the Community School, also have adequate defensible space, even if they are located near the WUI. An analysis of Tables 4.1-4.4 also indicates that no key resources are subject to elevated wildfire risk.

Many additional structures in New Hampton 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 New Hampton is so forested, it can be assumed that nearly every structure in town is within the Wildland Urban Interface. Mitigation strategies were discussed to protect structures and educate the citizens about the wildfire risk.

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 or not the impact is localized.

MS-1 Assessed value of all structures				
2022-MS1	Value	1% Damage	5% Damage	
Residential	\$151,714,730	\$1,517,147	\$7,585,737	
Manufactured Housing	\$10,801,620	\$108,016	\$540,081	
Commercial	\$29,675,157	\$296,752	\$1,483,758	
Discretionary Preservation Easement	\$61,580	\$616	\$3,079	
Tax Exempt	\$32,687,023	\$326,870	\$1,634,351	
Utilities	\$32,599,700	\$325,997	\$1,629,985	
Totals	\$257,539,810	\$2,575,398	\$12,876,991	

This plan assumes that the potential loss from the identified natural hazards would range from **\$0 to \$2,575,398** or **\$2,575,398 to \$12,876,991**, based on the 2019 MS1 total structure value of **\$257,539,810**. (See chart above)

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 from 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 numbers preceding the hazard name in this section correspond to Table 3.1 and are ordered by "Relative Threat". The estimated loss is determined using the methodology and table, as explained in Section B of this chapter.

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

1) SEVERE WINTER WEATHER

Hazard Identification & Risk Assessment (HIRA)	High
Probability	Very High
Estimated Structure Loss Value	\$2,575,398 to \$12,876,991

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 degrees of severity each year. Power outages, extreme cold, and impacts on infrastructure are all effects of past winter storms felt in New Hampton. These impacts are a risk to the community, including isolation, especially to the elderly (24.8%) 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.

The New Hampton Public Works Department (PWD) manages highway maintenance, clearing, and improvements. The department can handle the usual NH snowstorms and nor'easters without difficulty; despite frequent poor weather conditions, the PWD has kept up with the accumulation. Travel can be difficult with heavy traffic on Interstate 93 and NH Routes 104 and 132. Poor road conditions may hinder fire and other emergency responses.

Since the last hazard mitigation plan, only one Major Disaster Declaration, DR-4316, has been declared for winter weather in Belknap County. On March 14, 2017, on Town Meeting night in NH, a late winter storm brought heavy wet snow to two counties; as a result, some communities postponed Town Meetings and elections. New Hampton's PWD successfully kept roads open, resulting in an excellent turnout at the scheduled Town Meeting.

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, generally handled well by the PWD, ice storms present significant problems. Downed power lines and fallen trees make work difficult for road crews and emergency responders. School buses are also at risk.

The most significant ice storm in New Hampton occurred in 1998, particularly in the higher elevations of the community. Trees and power lines fell faster than crews could repair them, and the cleanup after the storm cost the town \$175,000, which FEMA later reimbursed. There were no personal injuries; however, transportation systems were damaged, particularly on I-93, structures, and vehicles. The 2008 Ice Storm, although very significant in other parts of the state, did not significantly impact New Hampton.

The planning team reported that no significant winter snow or ice events have occurred since the last hazard mitigation plan – things have been relatively quiet throughout the state. 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.

2) HIGH WIND EVENTS

Hazard Identification & Risk Assessment (HIRA)	High
Probability	High
Estimated Structure Loss Value	\$2,575,398 to \$12,876,991

Isolated High Wind Events

Isolated high winds and downdrafts are likely to occur in New Hampton. These unpredictable wind events could fall timber, down power lines, and impair emergency response. These unexpected windstorms often affect old-growth softwood, chiefly when the water table is high.

Highwind events are reported to be reasonably expected in New Hampton, although most are not memorable. Over a year, several high-wind events can occur. These winds are particularly prevalent along the Pemigewasset River, which acts as a wind tunnel. The Pemi buffer zone helps reduce the amount of damage along the river.

Tornadoes & Downbursts (microbursts & macrobursts)

The most significant difference between tornadoes and downbursts, also known as microbursts and macrobursts, is the 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. It has winds that blow in a circular fashion leaving behind downed trees lying in a swirling pattern. Like high winds, the effects would be primarily power outages and blowdowns. 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 New Hampton, a microburst would be more likely than a tornado. The planning team reported a suspected microburst in 2015, although it was never officially designated. This event brought straight-line winds from the Public Safety Building and down Main Street, taking out several trees at the New Hampton School and to the cemetery. Some people in the Village District also lost power.

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 and result 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.

3) INFECTIOUS DISEASES

Hazard Identification & Risk Assessment (HIRA) High
 Probability Low
 Estimated Structure Loss Value 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 New Hampton. New Hampton 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. In fact, the United States and the world have been coping with the COVID-19 pandemic for more than two 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.



Several facilities in New Hampton hold events and activities that could increase the likelihood of spreading infectious diseases. In addition to the Community School, the New Hampton School hosts students and visitors from around the world. Churches, meeting houses, and social facilities also invite infectious disease outbreaks.

New Hampton students in grades 6-8 attend Newfound Memorial Middle School, and students in grades 9-12 attend Newfound Area High School in Bristol. The Newfound Area High School enrolls students from seven towns. Interactions between students and out-of-town sports teams and clubs can also bring infectious diseases.

With assistance from public health networks, town officials did their best to mitigate the onset of Covid-19 in New Hampton. To help mitigate the crisis, town officials closed the Town Offices to the public during the spring of 2020; town officials still conducted business remotely, online, or by appointment. The Town Offices were reopened later in 2020 and remain operating with mitigation measures, such as plexiglass and floor markings to promote social distancing. The New Hampton School revamped its school year, altered off-campus restrictions, and made other changes to combat the spread of the virus. The town and the New Hampton School continue encouraging social distancing and protecting the town's most vulnerable citizens. New Hampton did not apply for Public Assistance through FEMA but worked with the State of New Hampshire Governor's Office for Emergency Relief and Recovery (GOFERR) for relief assistance.

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

As of November 24, 2022, 260,631 Covid-19 cases, 2,812 deaths, and 864 new cases were reported in the State of New Hampshire (see the chart on the right).²⁰ Deaths by town are no longer available, but it was reported that there were 486 cumulative cases in New Hampton.²¹

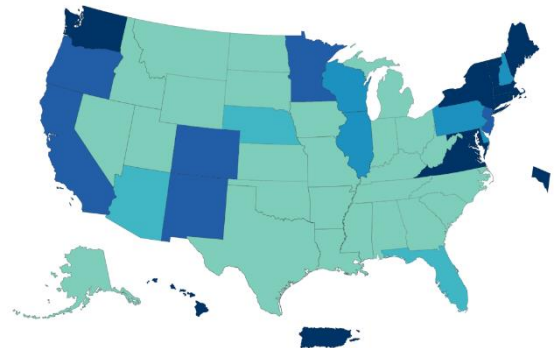
COVID-19 Summary Report	
<i>(data updated as of November 24, 2022, 9:00 AM)</i>	
NH Total Case Count	360,631
New Cases for the Previous Week	864
Deaths Attributed to COVID-19	2,812
Total Current COVID-19 Cases	895
Current Hospitalizations Treated for COVID-19	20

On November 25, 2022, the Center for Disease Control (CDC) reported 1,075,779 Covid deaths in the United States since the pandemic began.²²

Covid-19, specifically the Omicron BA.5 and its variants, has raised concerns in New Hampshire, the United States, and the world. The virus has consistently changed since early 2020, and now in late 2022, the deadly Delta is behind us, and the fast-spreading Omicron variants seem to be here to stay. Testing and vaccines are helping to keep severe illness to a minimum; vaccines are available for all persons, including young children and toddlers. Although vaccination rates continue to climb slowly, a portion of the public remains unwilling or unable to be vaccinated, thus increasing the threat to our hospital systems. Unvaccinated individuals continue to represent the majority of hospitalizations, severe illnesses, and deaths.

The CDC reported on October 6, 2022, that 80.7% of the US population had received at least one vaccine dose, 68.8% had completed the primary vaccine series, and 12.1% had received the updated (bivalent) booster dose.²³

The CDC recommends that adults, particularly those who are medically compromised or over 65, receive two doses, two boosters, and a recently introduced vaccine that includes protection from the Omicron BA.5 variant and subvariants. Recommendations for children are slightly different.



The map to the right from the CDC shows the total doses administered per 100,000 of the total population.²⁴ The darker the color, the more vaccines have been administered.

As part of our discussion about infectious disease, it makes sense to discuss the opioid epidemic affecting the state and the nation in general. According to the CDC, New Hampshire has the 22nd highest rate of opioid-related overdose deaths in the country, with a 30.3% rate, representing the deaths of 393 people in 2020.²⁵ Like many New Hampshire communities, New Hampton has also struggled with citizens' use of opioids. The Fire Department carries Narcan, and the task force from the Belknap County Sheriff's Office is regularly deployed. The Fire Department saw a decrease in drug-related calls during Covid, but a gradual increase in overdoses and abuses continues as covid concerns diminish.

²⁰ <https://www.covid19.nh.gov/>

²¹ <https://www.covid19.nh.gov/dashboard/map>

²² <https://covid.cdc.gov/covid-data-tracker/#datatracker-home>

²³ https://covid.cdc.gov/covid-data-tracker/#vaccinations_vacc-people-second-booster-pop65

²⁴ total doses administered reported to the CDC by State/Territory and for the Select Federal Entities per 100,000 of the total population; https://covid.cdc.gov/covid-data-tracker/#vaccinations_vacc-people-booster-percent-pop5

²⁵ https://www.cdc.gov/nchs/pressroom/sosmap/drug_poisoning_mortality/drug_poisoning.htm

New Hampton’s emergency service personnel plan extensively to prepare for and respond to infectious diseases. The team felt that an epidemic or pandemic, like Covid-19, would continue to threaten the community’s citizens. However, because there would be no direct impact on the town structures, the structure loss value was not estimated.

4) INLAND FLOODING

Hazard Identification & Risk Assessment (HIRA)	Medium
Probability	Moderate
Estimated Structure Loss Value	\$2,575,398 to \$12,876,991

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, heavy summer and fall rains, rapid snowmelt, and severe thunderstorms, often causing culverts to be overwhelmed and roads to wash out. Additionally, timber harvesting, undersized or aging culverts, and inadequate ditching are significant causes of local road flooding. Today, the risk of flooding is a serious concern with changes in land use, aging infrastructure, and designs that are no longer effective. Inadequate and aging stormwater drainage systems have created local flooding on New Hampton’s 52 miles of Class V roads, 22 of which are gravel roads.

As stated elsewhere in this plan, the Belknap County Digital Flood Insurance Rate Maps (DFIRMS) are not currently available. Assuming most of the floodplain is along the Pemigewasset River, we also assume that New Hampton has a relatively small floodplain. The Pemi has overflowed its banks several times, but floodgates help mitigate the floodwaters. Ice jams on the Pemi can be a problem. The team reported that ice jams had flooded a campground several times. Several years ago, six feet of ice across one roadway caused a blockage for emergency response.

Coolidge Woods, Shingle Camp Hill, Blake Hill, Jackson Pond, Brook, and Sky Pond Roads are known to flood. Many of the culverts on these roads are part of budgetary plans for stormwater improvement. Of the total 359 culverts in the community, 74 culverts are listed in poor condition. The task of upkeep for the New Hampton stormwater system is a big job for the New Hampton Public Works Department. Fortunately, the state is responsible for New Hampton’s main thoroughfares, NH Routes 132 and 104, and Interstate 93.

While staying within its budget, the town has endeavored to be proactive in the maintenance and repairs of culverts and has reduced the incidence of local road erosion and washouts. Several mitigation stormwater projects are included in *Table 9.1, The Mitigation Action Plan*, to further improve stormwater flow in the community.

Since the last hazard mitigation plan, one Major Disaster Declaration, DR-4355, was declared in Belknap County. The New Hampton planning team did not recall damaging rain or wind during that storm and did not report any significant inland flooding events.

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 of town that become inaccessible to emergency responders. The economic impact on the community, 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.

5) DROUGHT

Hazard Identification & Risk Assessment (HIRA)	Medium
Probability	Low
Estimated Structure Loss Value	Not estimated

An extended period without precipitation or drought could elevate the risk of wildfire and blow-downs 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."*²⁶ A concern is that more frequent and longer-lasting droughts will occur with climate change. Only four significant droughts occurred before 2000, while three have occurred in just the past six years (2016, 2020, and 2022). In addition, drought conditions contributed to damage to the local forests and increased the risk of wildfire.

The 2016-2017 drought brought extreme drought conditions in the south and dry or no drought conditions in the north²⁷; New Hampton was in moderate drought during most of the 2016 drought (see the tan section on the map to the right). There were reports of the loss of a few dug wells. Water for fire suppression was not impacted, but the Village District asked that water be only used for interior use.

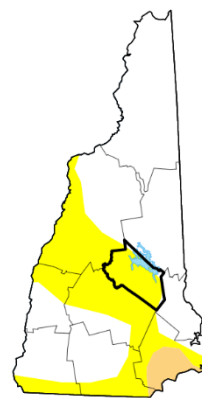
The 2020-2021 drought was less significant than the 2016 drought in southern NH. In the state's center, New Hampton experienced a similar drought in 2020. During the 2020 drought, New Hampton experienced a moderate to severe drought. There was a report of a few lost wells and the loss of fire ponds.

As of November 23, 2022, after periods of extreme to dry conditions, again moderating from south to north, there is very little drought in the state and abnormally dry conditions in New Hampton.²⁸ The bold black line shows Belknap County.

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 was not estimated.



WMUR Archives; September 15, 2016



Map released: Weds. November 23, 2022

Data valid: November 22, 2022 at 7 a.m. EST

Intensity

None
D0 (Abnormally Dry)
D1 (Moderate Drought)
D2 (Severe Drought)
D3 (Extreme Drought)
D4 (Exceptional Drought)
No Data

²⁶ <https://www.des.nh.gov/climate-and-sustainability/storms-and-emergencies/drought#:~:text=In%20actuality%2C%20New%20Hampshire%20experiences,11%20of%20those%20%20years.>

²⁷ <https://www.wmur.com/article/extreme-drought-conditions-worsen-in-new-hampshire/5269231>

²⁸ <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?NH>

6) EXTREME TEMPERATURES

Hazard Identification & Risk Assessment (HIRA)	Medium
Probability	Very High
Estimated Structure Loss Value	Not estimated

Extreme Cold & Heat

Winter temperatures 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° 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 New Hampton is 24.8%, and the estimated poverty rate is 10.3% of the total population²⁹. No deaths or illnesses have been reported in New Hampton since the prior hazard mitigation plan.

Extreme Temperatures combined with Long Term Utility Outage

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 town's most vulnerable populations. Town officials and the community as a whole should be concerned; they should look after their citizens to ensure that extreme temperatures do not create a life or property-threatening disaster. The town provides warnings and recommendations regarding extreme temperatures on various social media platforms, in newsletters, and through the New Hampton Connection email blast.

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 community 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.

7) SOLAR STORM & SPACE WEATHER

Hazard Identification & Risk Assessment (HIRA)	Medium
Probability	Very Low
Estimated Structure Loss Value	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."*³⁰

²⁹ 2020 ACS 5-Year Estimate data - <https://data.census.gov/cedsci/profile?g=06000000US3300151540>

³⁰ What is space weather? https://www.nasa.gov/mission_pages/sunearth/spaceweather/index.html#q2

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), affecting 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.

The New Hampton planning team felt that recognizing Solar Storms and Space Weather was necessary for this hazard mitigation plan. However, they also understand that the town cannot truly mitigate this hazard; the most they can do is continue situational awareness, preparation, education, and monitoring such events.

8) WILDFIRES

Hazard Identification & Risk Assessment (HIRA)	Medium
Probability	Moderate
Estimated Structure Loss Value	\$2,575,398 to \$12,876,991

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 discussion of the Wildland Urban Interface (WUI). 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 mixed forests. 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 New Hampton.

The team described the forests of New Hampton as consisting primarily of a combination of softwoods and northern hardwoods. With a low probability of drought and high humidity, it was felt that 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.”*³¹ However, with climate change, the probability of drought is no longer low in New Hampshire. Burn permits are required in New Hampton, as they are throughout the state, but often, burning occurs without the proper permits. Sometimes, it's difficult for the fire department to monitor all conditions, and the occasional unauthorized burn will occur.

³¹ <http://www.fs.fed.us/nwacfire/home/terminology.html>

Due to the abundance of slash on the forest floor left by past ice storms, logging operations, blowdowns, and the mixture of hardwood and softwood trees throughout the forests, there is potential for fast-burning fuels, and a wildfire could potentially occur. Also, the recreational use of woods trails by snowmobilers, ATV operators, campers, and other outdoor enthusiasts creates an opportunity for sparks and out-of-control fires to ignite the town's forested areas. To help mitigate the effects of wildfire, the New Hampton 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 uncommon; still, four large fires have occurred in the state in recent years: the Dilly Cliff Fire in Woodstock, the Covered Bridge Fire in Albany, the Bayle Mountain Fire in Ossipee, and the Stoddard Fire in Stoddard. One significant wildfire was reported in New Hampton since the last hazard mitigation plan. In May 2020, a human-caused wildfire burned 1.5 acres in the Sky Pond area. No injuries or structure damage occurred.

Given the right conditions - drought, lightning, human interface - the potential for a significant wildfire is good. 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.

9) TROPICAL & POST-TROPICAL CYCLONES

Hazard Identification & Risk Assessment (HIRA)	Low
Probability	Low
Estimated Structure Loss Value	\$0 to \$2,575,398

Damaging winds due to tropical and post-tropical cyclones (hurricanes) are considered low risk, primarily because of New Hampton's distance from the coast.

Although tropical and post-tropical cyclones could fit into several categories (wind and flooding), the team considered tropical and post-tropical cyclones separate events. These cyclones are rare in New Hampshire but should be considered potential hazards. In most cases, tropical cyclones have been down-graded to post-tropical cyclones when they reach New Hampshire. Significant forest damage could occur like during the 1938 hurricane and hurricanes Carol and Edna in 1954.

Tropical Storm Irene, the remnants of Hurricane Irene, brought heavy rain and wind to New Hampton. Trees and power lines were down, and erosion occurred on the banks of the Pemigewasset, but there was no significant structural damage in the community. Tropical Storm Sandy had little impact in New Hampton, except for heavy rain. Since the prior hazard mitigation plan, no tropical or post-tropical cyclones have reached New Hampton; however, the remaining winds from Hurricane Harvey brought winds of 30-35 mph to town in August 2017.

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 0% and 1% of the total assessed structure value.

10) LIGHTNING & HAIL

Hazard Identification & Risk Assessment (HIRA)	Low
Probability	Moderate
Estimated Structure Loss Value	\$0 to \$2,575,398

Lightning

Lightning strikes have occurred in New Hampton due to severe summer storms. Some of the town'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 and 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 town reports few occurrences, none of which were significant. It was noted that severe thunder and lightning storms have happened more often in recent years, perhaps due to climate change.

Hail

Although uncommon in New Hampton, hailstorm events resulting from significant thunder and lightning storms can occur anytime. 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. New Hampton is not a heavily farmed community. Overall, it was felt that a hailstorm event would be unlikely and would cause minimal damage.

Since the last hazard mitigation plan, no significant lightning or hail events have occurred in New Hampton. Based on the localized nature of lightning strikes and the minimal damage expected from hail, the potential loss value was determined to be 0% and 1% of the total assessed structure value.

11) EARTHQUAKES

Hazard Identification & Risk Assessment (HIRA)	Low
Probability	Very Low
Estimated Structure Loss Value	\$2,575,398 to \$12,876,991

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 Ossipee in December of 1940 (5.5-5.8). Since 1982, three earthquakes with a magnitude greater than 4.0 have occurred in the state. One of these earthquakes occurred in Laconia (4.0); two occurred in Berlin, one in 1988 (4.0), and another in 1989 (4.1). Many New Hampshire residents felt the most recent earthquake in October 2012, with its epicenter in Hollis Center, ME. The team noted that the Hollis earthquake was felt in New Hampton, but no damage occurred.

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

D. TECHNOLOGICAL HAZARDS

The following technological 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 New Hampton. The estimated structure loss was not determined for technological hazards.

1) AGING INFRASTRUCTURE

Hazard Identification & Risk Assessment (HIRA) High
Probability High

“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 home and office, and schools that will facilitate a learning environment.”³²

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.³³ The American Society of Civil Engineers gave NH an overall C- in its 2017 report card.³⁴

Aging infrastructure is a concern in New Hampton as it is throughout New Hampshire and the United States. All three town-owned bridges, the Brook Road Bridge, Dana Hill Bridge, and the Lower Oxbow Bridge, should be replaced because of scouring and other deficiencies noted in state bridge inspection reports. Action Item #33 in Chapters 8 and 9 discusses the replacement of the only town-owned red-listed bridge, Brook Road Bridge. Action Item #1 also addresses the many culverts that are in poor condition, and Action Item #31 addresses drainage issues on Old Bristol Road.

The Town House, thought by one team member to be the oldest continuously used voting place in the country, is used for voting and other social events. The building, however, needs new flooring and better airflow to mitigate moisture migration and other non-structural issues.

Aging infrastructure within the Village Water District is also concerning. The old water and sewer lines in the Precinct need improvements, and although the plant is relatively new, an improved pipeline to the plant is needed.

2) LONG TERM UTILITY OUTAGE

Hazard Identification & Risk Assessment (HIRA) Medium
Probability Moderate

Though uncommon, long-term utility outages of five or more days have occurred in New Hampton due to local line damage from high winds, winter 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 the elderly, disabled, or poor.

³² <https://www.infrastructurereportcard.org/wp-content/uploads/2016/10/2017-NH-Report-Card-hq-with-cover.pdf>

³³ NH Multi-hazard Mitigation Plan, 2018, page 156

³⁴ Ibid

Although many New Hampton residents are self-sufficient with generators and woodstoves, long-term utility outage is still a concern, particularly when combined with any natural hazards detailed above. The team reported that utility companies' efforts to trim trees and branches near power lines have diminished long-term power outages. Power in outlining and more isolated areas may take longer to restore. The team also reported that outages that used to last 15 days now usually last no more than three days.

An extended power failure's most significant impact would be the inability to pump water for residents who rely on wells. Also, many services, including pharmacies and large grocery stores, are out of town; driving during severe weather events to obtain necessities can be difficult due to poor road conditions.

There had been no power outages for over three days since the last hazard mitigation plan was completed. As a relatively small, close-knit community, town officials know persons who may need help in emergencies. Nonetheless, a long-term utility outage could have a significant impact.

3) DAM FAILURE

Hazard Identification & Risk Assessment (HIRA) Low
Probability Low

Seventeen active dams are listed by the NH Department of Environmental Services (DES). Four dams, the New Hampton Village Precinct Waste Water Lagoon, the Gordon Hill Water Supply Pond Dam, the Dickerman Pond Dam, and the Jackson Pond Dam, are classified as "Significant Hazard". The remaining thirteen active dams are classified as "non-menace". There are no "High Hazard" dams in New Hampton. Seventeen other dams are unclassified with a status of breached, exempt, not built, or in ruins. Two low-hazard dams, one each in Sanbornton and Center Harbor, could potentially affect New Hampton. Lake Winona's shoreline, West Shore Road, and Winona Road could be impacted if Hawkins Pond Dam in Center Harbor were to fail.

Another concern would be a failure at Ayer's Island Dam in Bristol. Failure at this location would primarily affect Bristol; however, the Central Street Bridge and Coolidge Woods Road in New Hampton could also be impacted.

The New Hampton Fire Department retains a copy of the Ayer's Island Dam's Emergency Action Plan. The Fire Department trains and practices with dam personnel to ensure proper notifications and response actions are taken.

4) KNOWN & EMERGING CONTAMINANTS

Hazard Identification & Risk Assessment (HIRA) Low
Probability Moderate

Known contaminants in drinking water occur naturally or when 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.³⁵

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

³⁵ NH Multi-hazard Mitigation Plan-2018

The NH State Multi-hazard Mitigation Plan states that “...*health studies of New Hampshire residents have demonstrated the connection between arsenic and the increased prevalence of conditions such as bladder and other cancers and developmental effects on children.*”³⁶

Human-made contaminants generally include pesticides and metals impacting groundwater or surface water. 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.

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 are helping to counteract the effects of emerging contaminants.

Figure 1 of a USGS publication provided by a team member, Estimated Probability of Arsenic in Groundwater from Bedrock Aquifers in New Hampshire, 2011³⁷, shows that five wells were tested for arsenic in New Hampton. Of these five wells, one was less than one microgram per liter, two were between five and ten micrograms per liter, and two were ten or greater micrograms per liter. Team member Mr. Kettenring wrote, “*The current standard for arsenic is less than 10 micrograms per liter, but NHDES is currently working to lower that to less than 5 micrograms per liter.*” Figure 2, from the same report, shows the calculated probability of finding arsenic at levels greater than five micrograms per liter to be “...*moderate to high in the northeast half of New Hampton and moderately low to low in the southwest half*”³⁸.

Ten percent of the town relies on the Village District’s public water supply from Mountain Pond, whose deepest spot is 60 feet. Water is taken from the pond through an enclosed pipe to the tank. The state monitors the public water, and it is in good condition. The other 90% of the town relies on private wells; contamination of the aquifer with radon or arsenic is at least a moderate concern, particularly upon review of the data from the USGS. Town officials should encourage testing by individual homeowners for known and emerging contaminants.

5) HAZARDOUS MATERIALS

Hazard Identification & Risk Assessment (HIRA) Low
Probability Very Low

Hazardous material in fixed locations is a concern in many New Hampshire communities. However, New Hampton’s concern for hazardous materials in fixed locations is relatively low. 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, and the air we breathe.

New Hampton has several areas noted as susceptible to damage from a fixed hazardous material event. These include a massive propane filling station and a state firearms facility on NH Route 132. An incident at the propane filling station could impact both people and structures in the area, although there is some defensible space around the station. The state firearms facility may have caused lead contamination near the Pemigewasset River; the facility has also used the reservoir area for practice, possibly causing contamination of the Village District’s water supply.

³⁶ Ibid

³⁷ Ken Kettenring email, July 15, 2020; document; https://pubs.usgs.gov/sir/2012/5156/pdf/sir2012-5156_ayotte_508.pdf

³⁸ Ken Kettenring email; July 15, 2020

Lastly, a decommissioned gas station on Route 104 has resulted in testing water systems and wells to see if chemicals are present. These efforts show concern for groundwater; however, the numbers are not exceptionally high, and there is no current mitigation.

Residents on private property may also store hazardous materials. The town participates in collecting hazardous materials to help homeowners dispose of household materials, such as paint.

If hazardous materials ignited, entire buildings could be susceptible to explosion and fire. The resulting losses could be substantial in terms of structure loss and loss of business revenue for local merchants.

6) CONFLAGRATION

Hazard Identification & Risk Assessment (HIRA) Low
Probability Very Low

“Conflagration is an uncontrolled burning that threatens human life, health, property or ecology. A conflagration can be accidentally or intentionally created”.³⁹

In New Hampton, the risk of a large uncontrolled fire is particularly threatening in the Village District and along Main Street (Route 132), where there is a high density of older wooden homes, barns, and business facilities. When combined with high winds and a lack of water resources, a sizeable uncontrolled fire could spread from building to building across the Village. A fire of this sort could result in an explosion, affect the transportation infrastructure, hamper communication and power systems, shut down the numerous businesses along Routes 104 and 132, and even affect Interstate 93.

The impact on communication, power, and transportation would likely be temporary, but damage to homes and businesses could be significant.

E. HUMAN-CAUSED HAZARDS

The following human-caused 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 New Hampton. The estimated structure loss was not determined for human-caused hazards.

1) TRANSPORT ACCIDENTS

Hazard Identification & Risk Assessment (HIRA) High
Probability Very High

The possibility of vehicular accidents involving hazardous materials is identified as potentially significant in New Hampton. The town’s major roads, Interstate 93 and NH Routes 132 and 104, are all known to be used by vehicles carrying hazardous materials. These roadways traverse the New Hampton area, sometimes traveling through rough terrain with little or no population and, at other times, through densely populated areas such as New Hampton village.

³⁹ Fire Definitions; HotAsBlazes.com

Many of New Hampton'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 New Hampton are susceptible to hazards such as road flooding and high winds, leading to downed trees in the roadways and potentially hazardous materials spills.

Interstate 93 carries considerable commercial traffic, including known quantities of dangerous substances like liquid hydrogen. In one instance, although not in New Hampton, the Fire Department responded to a 60-car pile-up on Interstate 93.

NH Routes 132 and 104 are commercial routes for vehicles carrying large amounts of chemicals, propane, oil, gas, and other petroleum products. Route 104 is a major east-west corridor that carries a considerable amount of traffic and hazardous materials. The terrain in New Hampton and treacherous winter driving conditions make these busy routes more vulnerable to hazardous materials accidents.

The losses could be relatively high depending on a hazardous material accident location, both in property and structural damage. However, the losses are expected to be localized and unlikely in the densely populated New Hampton village, where the speed limit is reduced.

2) MASS CASUALTY INCIDENTS

Hazard Identification & Risk Assessment (HIRA) High
Probability Moderate

A Mass Casualty Incident (MCI) is defined as *"any number of casualties that exceed the resources normally available from local resources"*⁴⁰. 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. No MCIs have occurred since the previous hazard mitigation plan.

An MCI could happen anywhere in New Hampton, but more likely on Interstate 93 or NH Route 132 and 104. Interstate 93 is heavily traveled year-round but is particularly dangerous during winter storm events and on Friday and Sunday nights when snow enthusiasts travel to and from southern areas. Routes 132 and 104 are twisty, winding, and busy roads that often see animal crossings and poor weather. With the influx of students and visitors throughout the year and tour and school bus activity, an MCI is a genuine risk for the town.

3) CYBER EVENTS

Hazard Identification & Risk Assessment (HIRA) High
Probability Low

Presidential Policy Directive (PDD-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*

⁴⁰ DeValle Institute Learning Center; <https://delvalle.bphc.org/mod/wiki/view.php?pageid=89>

vulnerability in an information system, system security procedures, internal controls, or implementation that could be exploited by a threat source.”⁴¹

With the increased use of computers and the internet, cyber events could include targets such as banks, hospitals, schools, churches, towns, cities, 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.

The New Hampton planning team reported one cyber event – the Fire Department was compromised when hackers accessed the department’s hard drives. The hackers requested payment in the form of Bitcoin, but the town did not pay the ransom. Instead, the Fire Department started over to rebuild and replace what had been lost.

The town stores essential documents on a server at the Town Offices; the information is also stored in the “cloud”. Added security on computer networks, off-site backup, and user education are vital to protect sensitive town information and data.

4) TERRORISM & VIOLENCE

Hazard Identification & Risk Assessment (HIRA) High
Probability Very 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.”⁴²*

New Hampton’s soft targets include the New Hampton School, the Community School, the Town Offices, the Public Safety Building, and any other locations or events where people gather. Another soft target would include Interstate 93, a major thoroughfare connecting the US to Canada via Interstate 91 and US Routes 302 and 3, and major east-west and north-south highways. Any disruption to I-93 or these other major routes would considerably affect New Hampton’s business, travel, and economy.

In addition, several other factors give rise to some concern about terrorism. For example, the New Hampton School, a private high school, caters to students from around the globe; some are sons and daughters of wealthy and politically connected parents. Although the potential for targeting the New Hampton School, or any other facility, is unlikely, it is not impossible. As with many small towns, the terrorism threat is minimal; if a terrorist incident were to occur, it would most likely be a homegrown terrorist event.

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

⁴² https://www.cisa.gov/sites/default/files/publications/DHS-Soft-Target-Crowded-Place-Security-Plan-Overview-052018-508_0.pdf

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.

Knowing New Hampton's current regulations made creating new action items less challenging. In addition, this process helped identify current plans and policies that are working well and 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 does not 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
Culvert & Stormwater Maintenance Plan	A Culvert & Stormwater Maintenance Plan includes an inventory of all culverts and ditches in the community, along with a record of the location, size, etc. The New Hampton Public Works Department and the NH DOT clean the drainage basins once a year, and after major flooding events, culverts are repaired as needed.	Public Works Department	Good	Improvements Needed: The New Hampton Public Works Department has developed and maintains a written culvert and stormwater plan. Based on their plan, the PWD does an excellent job cleaning and repairing drainage basins, ditches, and culverts to ensure efficient stormwater management. This strategy is deferred for continued maintenance and integrating and formalizing the culvert study with the Road Surface Management Plan. Action Item #7 (also in Table 7.1)
Bridge Maintenance Program	Inspection and clean-up of bridges occur annually. The state inspects all bridges every other year and maintains them regularly if they are state-owned. There is currently one red-listed bridge in the community.	Public Works Department	Excellent	Improvements Needed: The New Hampton Public Works Department has established a short and long-term bridge maintenance and replacement schedule. There is one "red-listed" bridge in town on Brook Road. This strategy is deferred to obtain funding to replace this bridge. Action Item #33 (also in Table 7.1)

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
<p>Subdivision Regulations (2021)</p> <p>Zoning Ordinances (2020)</p>	<p>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, water resources, and timber management. Zoning regulations often include drainage and infrastructure provisions.</p>	<p>Planning Board</p>	<p>Good</p>	<p>Improvements Needed: The New Hampton Subdivision Regulations, most recently updated in 2009, are being reviewed. The Subdivision Regulations address setbacks, road frontage, and the size of the lot. The regulations do not address the availability of water resources for fire suppression. However, the Fire Chief signs off on new subdivisions to ensure emergency equipment turnaround and accessibility. This strategy is deferred to consider establishing steep slope regulations (on Planning Board radar) for driveways, reviewing the town's planning mechanisms, including but not limited to the Subdivision & Zoning Regulations, and discussing changes that may mitigate damage from natural hazards. Action Item #6 (also in Table 7.1) (combines three action items from the last plan)</p>
<p>Public Education & Awareness</p>	<p>Public Education & Awareness is an essential tool that can be used by town officials to better advise the community's citizens with accurate, timely, and helpful information on not only emergency preparedness but also mitigation techniques property owners can use to reduce or eliminate the impact of natural hazards.</p>	<p>Emergency Management Director & Other Departments</p>	<p>Average</p>	<p>Improvements Needed: Although New Hampton has a variety of preparedness and mitigation strategies on its website, it does not have an emergency management webpage. An emergency management webpage is a great way to educate residents on emergency preparedness and mitigation techniques. This is deferred to this plan to develop and provide robust information and links on an Emergency Management webpage to educate the public on general and seasonal mitigation techniques. The town can also get information via social media platforms (see Table 2.1). Action Item #14 (also in Table 7.1) (combines six action items from the last plan)</p>
<p>Tree Removal Program</p>	<p>A Tree Removal Program helps reduce damage from fallen trees and limbs to power lines, stormwater ditches, and structures and reduces the wildfire risk. There are two designated Scenic Roads in New Hampton; permission is needed to cut trees over 5" in diameter on Scenic Roads.</p>	<p>Public Works Department</p>	<p>Average</p>	<p>Improvements Needed: As trees become damaged and threaten power lines and structures on town roads within the right-of-way, the Public Works Department removes them. NH DOT, Eversource, and the NH Electric Coop do this for state roads as needed. This strategy is 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 while adhering to the rules of the designated Scenic Roads. Action Item #2 (also in Table 7.1) (combines two action items from the last plan)</p>

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
The NH Emergency Notification System (ENS - Current vendor is CodeRED)	The NH Emergency Notification System (CodeRED) is a reverse calling warning system that uses listed phone numbers. The system does not include cell and unlisted numbers or email addresses. The New Hampton School District uses "School Messenger", a reverse calling system for school activities and emergency notification. The New Hampton School uses Everbridge.	Emergency Management Director	Poor	Improvements Needed: The NH Emergency Notification System (ENS) is an excellent warning system that only stores resident hardline phone numbers. The NH ENS is currently vendored by CodeRED. This strategy is deferred to continue providing public outreach to encourage all residents to contact ENS/CodeRED to add cell numbers, emails, unlisted numbers, and verify the information. Use the website, a possible brochure at the Town Offices, the New Hampton Connection, social media platforms, or a sign-up at Town Meeting. Action Item #15 (also in Table 7.1)
Emergency Operation Plan (2017)	An Emergency Operations Plan identifies the response procedures and capabilities of the Town of New Hampton in the event of a natural, technological or human-caused hazard.	Emergency Management Director	Good	Improvements Needed: The New Hampton Emergency Operations Plan (EOP) was last updated in 2017 and will be ready for an update based on the state's 5-year recommendation in 2023. The new EOP should be updated to the state's current ESF format and include an EOC Call Alert List, a detailed Resource Inventory List, and Player Packets. This strategy is deferred to this plan to update the EOP. Action Item #26 (also in Table 7.1) (combines three action items from the last plan)
Emergency Generators	The town has emergency backup power at many of the town's Critical Infrastructure & Key Resources (CIKR), including the Public Safety Building (EOC, Fire & Police), the PWD Garage, the New Hampton School, and the Newfound Regional High School (Bristol).	Emergency Management Director & School District	Good	Improvements Needed: Although New Hampton has emergency backup power at many of the town's Critical Infrastructure & Key Resources (CIKR), the town could benefit from a permanent generator for the Town Offices (secondary EOC). This strategy is deferred to obtain and install an emergency generator at this key facility to improve its effectiveness during a disaster. Action Items #27 (also in Table 7.1)
Pressurized, Dry Hydrants & other Water Resources	New Hampton Fire and the Village District maintain the town's pressurized and dry hydrants. There are approximately 20 pressurized hydrants within the Precinct (not on the New Hampton School campus), five dry hydrants in the community, and multiple locations available for water drafting.	New Hampton Fire Department & New Hampton Village District	Poor	Improvements Needed: Pressurized hydrants, dry hydrants, and drafting sites throughout New Hampton provide water resources for firefighting. This strategy is deferred to maintain and improve the pressurized hydrants (Village District), dry hydrants, and other water resources (Fire Department) to help mitigate the effects of structure fires and wildfires. Use the 2009 Rural Fire Water Resource Plan (WRP) and other resources to determine locations that could benefit from additional (new) water sources. Action Item #9 (also in Table 7.1)

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
Radio Communications	Radio communications are vital for emergency response to all types of hazards. Radios should be interoperable and up-to-date with current technology.	Emergency Management Director	Good	Improvements Needed: All three emergency departments in New Hampton (Police/Fire/Public Works Departments) have radio interoperability. Communications systems and radios are up-to-date with state and federal requirements and work as intended, although areas of town have "dead spots". This strategy is deferred to work with Lakes Region Fire Mutual Aid to evaluate dead spots and to equip new town vehicles with upgraded 100-watt radios for better communications. Action Item #10 (also in Table 7.1)
Emergency Action Plan (Dams)	Dam Emergency Action Plans are designed to provide notification and evacuation procedures should a dam failure occur.	NH Fish & Game & the Department of Environmental Services (DES)	Good	No Improvements Needed: According to DES, none of New Hampton's dams are classified as a high-hazard; there are two significant hazard dams. High-hazard dams require an up-to-date Emergency Action Plan. Although the Fire Department has copies of some of the dam plans, since none are high-hazard, plans are not required, and no improvements are needed.
Building Code & Permits	The town has not adopted International Building Codes (IBC) or International Residential Codes (IRC). Still, it does require builders to follow the state-adopted codes for new construction so that national standards for flood, wind, earthquake, fire, and snow load are met.	Selectboard & Planning Board	Average	Improvements Needed: The Town of New Hampton does not have a Building Inspector or Code Enforcement Officer. The permitting process requires builders to abide by the International Building Codes (IBC) and the International Residential Codes (IRC), which the State of New Hampshire has adopted. This strategy is deferred to revisit hiring a Building Inspector, which would have to be approved at a Town Meeting. Action Item #36 (also in Table 7.1)
Burning Index	New Hampshire Forests & Lands (DNCR) has a burning index that measures the risk for wildfires and how likely fires are to start on a given day. It also evaluates the potential damages wildfires can create, the number of people needed to fight, and the type of equipment that might be needed.	NH Hampshire Forests & Lands (DNCR) & Fire Department	Excellent	Improvements Needed: The Fire Department receives regular notification of the burning index via fax and email from NH Forests & Lands. This notification is made daily during the fire danger season. There is a fire danger sign on NH Route 104 in front of the Public Safety Building; however, this strategy is deferred to consider appropriate locations to add additional fire danger signs. Action Item #28

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
Capital Improvement Program (CIP)	A Capital Improvement Plan (CIP) is a decision-making tool used to plan and schedule town improvements over six years. A CIP provides a suggested timeline for budgeting and implementing needed capital improvements.	CIP Subcommittee Planning Board	Excellent	Improvements Needed: The New Hampton Capital Improvement Program (CIP) is reviewed and updated annually. A CIP is generally reviewed to ensure the program's goals are achieved. This strategy is deferred to review this hazard mitigation plan upon its approval to incorporate actions from this plan into the CIP. Action Item #21
New Hampton Hazard Mitigation Plan (2015)	A hazard mitigation plan is designed to address natural, technological, and human-caused hazards and to 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 Director	Good	Improvements Needed: The New Hampton Hazard Mitigation Plan (2015) is being updated with this plan. This strategy is deferred to review this plan, the New Hampton Hazard Mitigation Plan 2024, on an annual basis and to update the plan again in 2028. Action Item #24
Life Safety & Fire Codes	Provides guidance for all buildings for life safety and fire codes	Fire Department	Average	Improvements Needed: The National Fire Protection Association (NFPA) and the NH safety and fire codes guide the New Hampton Fire Department in inspecting all commercial, public assembly, and rental properties. The New Hampton Fire Department does its best to provide timely inspections based on available human resources. This strategy is deferred to consider hiring additional staff to assist the Fire Chief and work on available grants and programs to improve the Fire Department's services. Action Item #29
Master Plan (Ongoing)	A Master Plan includes goals, objectives, and expectations for the town's future development.	Planning Board	Good	Improvements Needed: The New Hampton Master Plan is updated on an ongoing basis by reviewing and updating one chapter of the plan at a time. This strategy is deferred to include a natural hazards section, a discussion on climate change, and action items from this plan in future updates. Action Item #22

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
National Flood Insurance Program (NFIP) & Floodplain Ordinance (part of Zoning 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 to provide people with flood insurance. A community's floodplain ordinance regulates all new and substantially improved structures in the 100-year floodplain, as identified on the FEMA Flood Maps, which in New Hampton are dated April 2, 1986.	Planning Board & Selectboard	Good (for town control) Poor (very old flood maps)	Improvements Needed: The town developed a flood ordinance and became a National Flood Insurance Program (NFIP) member on April 20, 1986. The town's Flood Ordinance works well to successfully prohibit or force compliance to the ordinance for building and substantial improvements to structures within the FEMA flood zone. The Zoning Ordinance, which includes the Flood Ordinance, was last reviewed in 2020. This strategy is 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 is also deferred to provide robust information on flood mitigation techniques that can be taken to protect individual homes and properties using the town's website or social media pages. Provide links to the NFIP, Ready.gov, and other pertinent websites. Action Item #19
Local Road Design Standards	Local road design standards are specifications for the construction of new roads in a community.	Selectboard, Planning Board & Public Works Department	Good	Improvements Needed: Local road standards have been established to provide specifications for building new roads to ensure that the town does not assume ownership of substandard roads. The town will not assume ownership of roads not built to Class V standards. Acceptance of new roads is voted at Town Meeting as a Warrant Article. This strategy is deferred for the Public Works Department and the Planning Board to continue to review the current road regulations to determine the need for additional regulations and oversight to lessen the impact of natural hazards. Action Item #30
Site Plan Review Regulations (2008 with continual review)	Regulations ensure that uses permitted by zoning are constructed on a site to fit into the area where they are being constructed without causing drainage, traffic, or lighting problems.	Planning Board & Selectboard	Average	Improvements Needed: The town's stringent Site Plan Review Regulations apply to all non-residential and multi-family units; these regulations do what they are meant to do. The Site Plan Review Regulations are continuously reviewed based on current regulations and the community's needs. This strategy is deferred to review the Site Plan Review process to make it more proactive than reactive. The Site Plan Review Regulations should be reconciled and updated per this plan and the Zoning Ordinance. Action Item #8

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
Social Media Accounts	Social media accounts, such as Facebook, Twitter, Instagram, and local online newsletters, can provide excellent information on emergency preparedness and hazard mitigation strategies that can be taken to protect homes and property.	Department Heads	Average	Improvements Needed: Facebook pages are maintained by the Firefighters Association and the New Hampton School, and the town maintains the New Hampton Connection, an email subscription service. These social media accounts work well to keep the citizens of New Hampton informed about things happening in their town. However, additional social media platforms could be developed for the Fire Department, the Police Department, the Town Offices, and Emergency Management based on each department's needs and staffing capabilities. This strategy is deferred to continue to add social media platforms and to use these platforms to provide public education on mitigation resources. Action Item #20
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 & Police Departments	Good	Improvements Needed: New Hampton is about 85% compliant with E-911 signage. This strategy is deferred to this plan to consider ways to get this signage more compliant so that emergency responders can better assist the public in their time of need. Use public outreach opportunities such as an Emergency Management web page or social media to promote better compliance and advise residents to keep their signage clear and visible. Currently, the town purchases and the Fire Department installs 911 signs with permission from the homeowner. Action Item #17
Fire, EMS, HazMat & Police Training	Fire Department and EMS personnel training for all fire situations, including wildfire suppression and HazMat response. Police Department personnel training for law enforcement response, including active shooter and terrorism.	Fire Chief, Fire Warden, Police Chief & Emergency Management Director	Good	Improvements Needed: Training of all fire responders is coordinated by the Fire Chief and includes many aspects of emergency response, including EMS, wildfire, and HazMat training. Fire and EMS training is done locally or through Lakes Region Fire Mutual Aid and the State of New Hampshire at the NH Fire Academy. Police training is coordinated by the Police Chief and includes many aspects of law enforcement response, including active shooter and terrorism. Although training is preparedness, not mitigation, emergency responder training is deferred for continued training through the life of the plan. Action Item #12

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 Director	Average	Improvements Needed: NIMS & ICS training has been done by most first responders. Although this is preparedness, this strategy is deferred to this plan to continue providing NIMS (IS-700) & ICS (ICS 100 & ICS 200) training to new first responders and town officials as they become elected or appointed. Action Item #11
Shoreland Water Quality Protection Act (formerly the Comprehensive Shoreland Protection Act)	The Shoreland Water Quality Protection Act (SWQPA) establishes minimum standards for the use and development of shorelands adjacent to the state's public water bodies. The SWQPA includes changes to vegetation requirements within the natural woodland and waterfront buffers, the impervious surface limitations, and the shoreland permit by notification process.	State of New Hampshire	Average	No Improvements Needed: The Town of New Hampton follows and exceeds the Shoreland Water Quality Protection Act regulations along the Pemigewasset River overlay district. Compliance with the Act is encouraged; however, enforcement may not always be optimal with no Building Inspector or Code Officer.
NH Forest and 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	Excellent	No Improvements Needed: The system in place with NH Forests & Lands (DNCR) and the local fire warden works well. The public is aware of fire permitting requirements and the ability to get permits online (\$3.00 fee is required). The ability to obtain fire permits is determined by drought and ground conditions.
Capital Reserve Fund (CRF)	A type of account on a town's balance sheet reserved for long-term capital investment projects or any other large and anticipated expense(s) that will be incurred. Reserve funds are set aside to ensure adequate funding to at least partially finance future projects, equipment, and other expenditures.	Selectboard	Good	No 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. The New Hampton Capital Reserve Funds work well and are part of the town warrant at the annual Town Meeting.
Amateur Radio Emergency Service	Amateur radio (ham radio) operators can greatly assist the town during emergencies to augment the town's communication resources.	Emergency Management Director	Good	No Improvements Needed: Several ham radio operators in the town are willing and able to assist emergency responders when needed.

Current Program or Activity	Description	Managing Department	How Effective	Improvements Needed
Emergency Trailers	Emergency Command and American Red Cross Trailers may provide mobile emergency communications, supplies, and other resources to a community or region.	Emergency Management Director	Good	No Improvements Needed: New Hampton has access to a FirstNet Trailer (cell communications) and an all-hazards trailer at the Public Safety Building. Based on the scope of the emergency within the region, access to a Command Trailer stored in Laconia may be available from Lakes Region Fire Mutual Aid.
Mutual Aid Agreements (Fire, Police, PWD & 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, Fire & Public Works Departments & EMS	Good	No Improvements Needed: The New Hampton Fire Department has an agreement with the Lakes Region Fire Mutual Aid. The New Hampton Police Department has mutual aid agreements and memorandums of understanding (MOUs) with surrounding towns, the NH State Police, and the Belknap County Sheriff's Office. The Public Works Department is a NH Public Works Mutual Aid Association member. The New Hampton Fire Department performs EMS services and medical transportation. All mutual aid systems in New Hampton work well.
School Emergency Operations Plan (SEOP)	A School Emergency Operations Plan guides response to emergencies at the school.	Police, Fire & Emergency Management Director	Good	No Improvements Needed: SAU 4/Newfound Area School District completes school Emergency Operations Plans annually according to state requirements. The New Hampton Community School and the Newfound Memorial and High School in Bristol have current plans, which will be updated according to the state's requirements. Drills and exercises are done annually and include the participation of the town's emergency responders. The town also works with the New Hampton School on its emergency preparedness.
State Health Department Public Health Plan	The state health department wrote the "Influenza, Pandemic, Public Health Preparedness and Response Plan" to prepare for any public health emergency; the town is part of Winnepesaukee Public Health Network.	Winnepesaukee Public Health Network	Average	No Improvements Needed: The State Public Health Plan assists the community as part of the services provided by the Winnepesaukee Public Health Network. The New Hampton Health Officer attends public health meetings whenever possible. It is noted that the New Hampton Public Safety Building is being considered a vaccine distribution center for COVID-19.

THIS PAGE INTENTIONALLY LEFT BLANK

Chapter 7: Last Mitigation Plan

A. DATE OF LAST PLAN

Based on the Disaster Mitigation Act (DMA) of 2000, New Hampton has developed hazard mitigation plans in the past. The most recent update was formally approved in 2015. The New Hampton Hazard Mitigation Plan Update 2024 updates the 2015 plan.

Below are the action items that were identified in the 2015 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 2015 Hazard Mitigation Plan. Five additional columns not shown here – *Hazards, Comments, Anticipated Cost, Potential Funding, and Responsible Party* – can be found in the 2015 Hazard Mitigation Plan.

TABLE 7.1: ACCOMPLISHMENTS SINCE THE LAST PLAN

ID	Action	Time Frame	Completed, Deleted, or Deferred
1	Develop & implement a Steep Slopes Ordinance as a means of reducing erosion and ensuring that driveways are accessible to emergency vehicles	July 2015	Deferred: The development of a Steep Slopes Ordinance has not been completed since the last plan. However, the subdivision regulations are currently being reviewed and updated. This strategy is deferred to consider regulations requiring water resources (cisterns/hydrants) for new subdivisions and the establishment of steep slope regulations, adequate weight limits, and sufficient turnarounds to accommodate large emergency apparatus on bridges and in new driveways. This strategy is also deferred to review the subdivision regulations after this plan is approved and to discuss changes that will reduce the impact of hazards. Action Item #6 (also in Table 6.1) (combines three strategies from the last plan)

ID	Action	Time Frame	Completed, Deleted, or Deferred
2A	Work with NH DOT to address drainage along Old NH Route 104 (at Pemi Outlet), likely through culvert upgrade. Phase I. Discussion & Planning	March 2016	Completed & Deleted: The culvert on Old NH Route 104 (Class 6 road) was removed due to culvert failure and collapse. A replacement culvert was deemed unnecessary; therefore, this strategy was deleted.
2B	Work with NH DOT to address drainage along Old NH Route 104 (at Pemi Outlet), likely through culvert upgrade. Phase II. Design & Construction	July 2018	Completed & Deleted: The Pemigewasset outlet under NH Route 104 (not Old Route 104) should be upsized, and the beaver problem in this location should be addressed. However, this is the responsibility of the state, not the town. The team decided that this is not an addressable issue at this time. Therefore, this strategy from the prior plan is deleted.
3	Address drainage along Blake Hill Rd. (first culvert), likely through culvert replacement & upgrade.	July 2015	Completed & Deleted: While paving Blake Hill Road, a 20-foot-long (+/-) culvert was installed in 2019. This strategy from the prior plan has been completed and is deleted.
4	Address drainage along Old Bristol Rd. (second culvert), likely through culvert upgrade	September 2019	Completed & Deferred: The PWD has addressed Old Bristol Road's problems by cleaning the catch basins on either side of the road and clearing the problematic culvert. This strategy is deferred to improve two culverts at Blake Hill Road and Old Bristol Road; based on engineering studies, a possible upgrade could be to one large culvert. Action Item #31
5	Complete all phases of the catch basin upgrade along Shingle Camp Hill Rd.	September 2019	Completed & Deleted: The PWD has addressed the Shingle Camp Hill Road catch basin issues. The catch basins have been cleaned, and new utility hole covers have been added. This strategy is completed; therefore, it is deleted.
6	Place on the Town Meeting warrant an article to create a Code Enforcement officer position.	March 2016	Deferred: The Town of New Hampton does not have a Building Inspector or Code Enforcement Officer, primarily due to funding and lack of town-wide approval. The permitting process requires builders to abide by the International Building Codes (IBC) and the International Residential Codes (IRC) adopted by the State of New Hampshire. This strategy is deferred to revisit hiring a Building Inspector, which would have to be approved at a future Town Meeting. Action Item #36 (also in Table 6.1)
7	Identify and contact the property owners of the dams in town to ensure that regular maintenance is conducted.	July 2015	Completed & Deferred: According to DES, none of New Hampton's dams are classified as "high hazard"; there are four "significant hazard" dams. High-hazard dams require an up-to-date Emergency Action Plan. Although the Fire Department has copies of emergency operations plans for some dams, no improvements are needed because none are high-hazard dams, and plans are not required. However, this strategy is deferred to monitor dam maintenance programs with the current dam owners. Action Item #3

ID	Action	Time Frame	Completed, Deleted, or Deferred
8	Upgrade the two "red-listed" bridges (Brook Rd. over Blake Brook & Coolidge Woods Rd. over Wallace (Blake) Brook).	September 2015	Partially Completed & Deferred: The Public Works Department (PWD) has established a short and long-term bridge maintenance and replacement schedule. The PWD has replaced the Coolidge Woods Road bridge with a pre-cast box culvert matching the current span's size. There is one "red-listed" bridge in town on Brook Road. This strategy is deferred to obtain funding to replace this bridge. Action Item #33 (also in Table 6.1)
9	Continue funding the expendable bridge trust fund (established in 2008).	December 2015-2019	Completed & Deferred: An expendable bridge trust fund was established in 2008. This fund is reviewed at budget time, and additional funds are added as appropriate. This strategy is deferred to continue to add funding to ensure future bridge maintenance and construction of town-owned bridges. Action Item #5
10A	Resolve the dispute regarding responsibility for the Coolidge Woods Bridge over Blake Brook.	September 2015	Deleted: The dispute over the responsibility of the Coolidge Woods Bridge over Blake Brook has been resolved; therefore, this strategy from the last plan is deleted. The town lost the responsibility argument and took over responsibility for the bridge from the Army Corp of Engineers.
10B	Facilitate upgrade of the bridge on Coolidge Woods Rd. over Blake Brook.	September 2016	Deleted: As suggested in the prior plan, the PWD has replaced the Coolidge Woods Road Bridge with a pre-cast box culvert that matches the size of the current span. This strategy from the prior plan is complete; therefore, it is deleted.
11	Inventory and maintain a database of culverts and their conditions.	September 2016	Completed & Deferred: The New Hampton Public Works Department (PWD) has developed and maintains a written culvert and stormwater plan. Based on their plan, the PWD does an excellent job cleaning and repairing drainage basins, ditches, and culverts to ensure efficient stormwater management. This strategy is deferred for continued maintenance and formalizing and integrating the culvert study with the Road Surface Management Plan. Action Item #7 (also in Table 6.1)
12	Strengthen and retrofit non-reinforced masonry buildings that are particular vulnerable to seismic activity.	September 2019	Completed & Deleted: New Hampton has encouraged private owners of masonry buildings to consider their risk for earthquake damage; no public buildings are constructed primarily of masonry. NH and NFPA building codes address these issues when prevalent. This strategy from the last plan is completed; therefore, it is deleted.
14	Review construction plans for all bridges to determine susceptibility to collapse and retrofit problem bridges.	September 2016	Deleted: This strategy from the prior plan suggested that the town review new bridge construction and retrofitting problematic bridges. This strategy is deleted because the state determines the construction of new bridges and retrofitting. In New Hampton, although there are no bridge regulations for bridges on private land or in cluster developments, the Planning Board reviews the capabilities based on engineering studies and advises accordingly.
16	Work with homeowner associations regarding preventative road and bridge maintenance	September 2016	Partially Completed & Deferred: Work with homeowner associations has been done case-by-case. This strategy is deferred to provide public education to homeowner's associations and individual property owners who live on private roads about the importance of maintaining roads and bridges to ensure emergency response accessibility. Action Item #16

ID	Action	Time Frame	Completed, Deleted, or Deferred
18	Enforce building codes that address snow loads.	March 2017	Deleted: To address snow loads on roofs in New Hampton, the Fire Department utilizes best practices, residential building codes, and codes established by the National Fire Protection Agency (NFPA). Although there is no Building Inspector to enforce state and local codes, the Fire Department provides guidance and inspection to protect life safety based on available human resources.
19	Ensure that public buildings can support snow loads.	September 2015-2019	Completed & Deleted: The town, the NFPA, and the state's building codes guide builders on how to build structures with an adequate pitch to withstand local snow loads. This strategy is deleted as building standards for public and private buildings are covered by the state and NFPA codes.
20A	Establish a tree maintenance plan around utilities.	September 2015	Completed & Deferred: As trees become damaged and threaten power lines and structures on town roads within the right-of-way, the Public Works Department removes them. NH DOT, Eversource, and the NH Electric Coop perform tree maintenance for state roads. This strategy is deferred to develop a Tree Maintenance Program and to continue local tree and brush removal efforts to help mitigate the effects of high wind events, ice storms, wildfires, and other natural hazards while adhering to the rules of the designated Scenic Roads. Action Item #2 (also in Table 6.1) (combines two strategies from the last plan)
20B	Fund a tree maintenance plan for roads and around utilities.	September 2015-2019	Completed & Deferred: This action item is combined with the strategy from the last plan regarding a tree maintenance program. See Action Item #2 in this plan. (also in Table 6.1)
22	Identify specific at-risk populations that may be at exceptionally vulnerable in the event of long-term power outages.	September 2015-2019	Deleted: A functional needs list was not created due to a lack of community self-identification. This strategy was deleted as the team felt that the Fire and Police Departments have a good handle on the functional needs population and can respond accordingly.
23	Install lightning protection devices such as lightning rods and grounding on critical facilities.	September 2015	Deferred: Lightning devices were not installed as suggested in the prior plan. This strategy is deferred to study town-owned buildings to determine the need for lightning protection and follow best installation practices. Action Item #34
24	Install and maintain surge protection on critical electronic equipment	September 2016	Completed & Deleted: New Hampton has installed surge protection for critical electronic equipment. Data backup is provided off-site, and local server firewalls have been created to enhance security measures. This strategy is completed; therefore, it is deleted.
26	Conduct an assessment of each school and the Town Offices and retrofit the structure to reduce its vulnerability to terrorism.	September 2016	Completed & Deleted: New Hampton has completed the Town Office's renovation, which included the addition of a third egress and other safety measures. Also, an auto door lock system has been installed at the New Hampton Community School. This strategy is completed; therefore, it is deleted.

ID	Action	Time Frame	Completed, Deleted, or Deferred
27	Ensure that there is coordination between the school's health office, the EMD, and LRPPH.	September 2015-2019	Completed & Deferred: The New Hampton Emergency Management Director continues coordinating health-related issues with the local schools, the state health office, and the regional public health network; this coordination has been and continues to be particularly significant during the COVID-19 pandemic. This strategy is deferred to establish and build significant coordination to maintain best practices for current and future infectious disease events. Action Item #4
29	Adopt a zoning ordinance or regulation requiring driveways to have a turnaround enabling better access with Emergency vehicles.	December 2015	Deferred: Combined with the strategy from the last plan regarding steep slope regulations. See Action Item #6 in this plan.
30	Hire a consultant to develop a detailed, up-to-date Emergency Operations Plan.	December 2015	Completed & Deferred: The New Hampton Emergency Operations Plan (EOP) was last updated in 2017 and will be ready for an update based on the state's 5-year recommendation in 2023. The new EOP should be updated to the state's current ESF format and include an EOC Call Alert List, a detailed Resource Inventory List, and Player Packets. Tabletop exercises (TTX) or local drills should be part of the continued maintenance of the EOP to keep town officials up to speed. This strategy is deferred to this plan to hire a contractor to update the EOP. Action Item #26 (also in Table 6.1) (combines three strategies from the last plan)
31	Ensure that the updated LEOP will encompass all duties and responsibilities of all Town Departments in accordance with NIMS (National Incident Management System).	December 2015	Completed & Deferred: This action item is combined with the strategy from the last plan regarding hiring a consultant to update the EOP. See Action Item #26 in this plan. (also in Table 6.1)
32	Practice and review the LEOP through exercises.	September 2015-2019	Completed & Deferred: This action item is combined with the strategy from the last plan regarding hiring a consultant to update the EOP. See Action Item #26 in this plan. (also in Table 6.1)
33	Adopt subdivision regulations for cisterns/dry hydrants/fire ponds in major subdivisions.	December 2015	Deferred: This action item is combined with the strategy from the last plan regarding steep slope regulations. See Action Item #6 in this plan.
34	Identify appropriate shelters. Ensure that these facilities have appropriate equipment, including back-up power.	December 2015	Completed & Deleted: New Hampton has identified a primary (New Hampton School) and secondary shelter (Public Safety Building), as indicated in Table 4.1. The town also maintains a small supply of shelter supplies and can access additional supplies as needed through the Winnepesaukee Health Network. This strategy is deleted as it is complete and because it is preparedness, not mitigation.

ID	Action	Time Frame	Completed, Deleted, or Deferred
35	Develop an emergency notification system to notify citizens of safe evacuation routes during events.	December 2015	Partially Completed & Deferred: The NH Emergency Notification System (ENS) is an excellent warning system but only stores resident hardline phone numbers. The NH ENS, currently vendored by CodeRED, is available in New Hampton. This strategy is deferred to continue providing public outreach to encourage all residents to contact ENS/CodeRED to add cell numbers, emails, unlisted numbers, and verify their information. Use the website, a possible brochure at the Town Offices, the New Hampton Connection, social media platforms, or a sign-up at Town Meeting. Action Item #15 (also in Table 6.1)
36	Purchase and install a back-up generator for Town Offices.	July 2018	Deferred: Generator installation has not been done at the Town Offices due to oversight and funding; the town could benefit from a permanent generator for the Town Offices (secondary EOC). This strategy is deferred to secure funding and obtain and install an emergency generator at this key facility to improve its effectiveness during a disaster. Action Item #27 (also in Table 6.1)
37	Upgrade DPW's analog radios with digital radios.	December 2015	Completed & Deferred: The PWD's radios have been upgraded as suggested in the last hazard mitigation plan. PWD trucks have 100-watt radios, and heavy equipment has 40-watt radios. Communications systems and radios are up-to-date with state and federal requirements and work as intended, although there are areas of town with "dead spots". This strategy is deferred to work with Lakes Region Fire Mutual Aid to evaluate dead spots and equip new town vehicles with 100-watt radios for better communications. Action Item #10 (also in Table 6.1)
38	Inventory town signage and purchase sufficient signage for detouring traffic in the event of an emergency.	July 2017	Completed & Deleted: The PWD has purchased and inventoried sufficient signage for detouring traffic during emergencies. This strategy is completed and deleted as it is preparedness, not mitigation. The PWD will continue to purchase signage and equipment as their budget allows.
39	Hire an additional police officer.	December 2017	Completed & Deleted: Since the last hazard mitigation plan, staffing changes have been made at the Police Department. This strategy is deleted as it is preparedness, not mitigation, and because the hiring and training of new police officers is ongoing.
40	Identify, evaluate, and possibly upgrade hydrants in the New Hampton Village Precinct.	September 2019	Completed & Deferred: Areas in need of new hydrants are continuously being identified in New Hampton. Pressurized hydrants, dry hydrants, and drafting sites throughout New Hampton provide water resources for firefighting. This strategy is deferred to maintain and improve the pressurized hydrants (Village District), the dry hydrants, and other water resources (Fire Department) in the community to help mitigate the effects of structure fires and wildfires. Using the 2009 Rural Fire Water Resource Plan (WRP) and other resources, determine locations that could benefit from additional (new) pressurized hydrants and other water sources. Action Item #9 (also in Table 6.1)

ID	Action	Time Frame	Completed, Deleted, or Deferred
These strategies from the previous hazard mitigation plan were grouped as they all pertained to Public Education & Awareness with a similar "Action Item".			
13	Raise awareness about earthquake risk and mitigation for homes, schools, and businesses through information, outreach, and education.	September 2015	Completed & Deferred: Although New Hampton has presented various preparedness and mitigation strategies on its website, it does not have an emergency management webpage. An emergency management webpage is a great way to educate residents on emergency preparedness and mitigation techniques. This strategy is deferred to this plan to develop and provide robust information and links on an emergency management webpage to educate the public on general and seasonal mitigation techniques and bring awareness to the general public on earthquakes, tornadoes, severe winter weather, lightning, and climate change. The town can also get information via social media platforms (see Table 2.1). Action Item #14 (also in Table 6.1) (combines six strategies from the last plan)
15	Raise awareness about tornado risk and mitigation for home- and business owners, and schoolchildren through information, outreach, and education.	September 2015	
17	Raise awareness about hurricane risk and mitigation for home- and business owners, and schoolchildren through information, outreach, and education.	September 2015	
21	Raise awareness about severe winter hazards through the distribution of preparedness information.	September 2015	
25	Raise awareness about lightning risk and mitigation for home- and business owners, and schoolchildren through information, outreach, and education.	September 2015-2019	
28	Provide information and outreach regarding the long-term changes in the climate and the impacts that it may have on the town.	December 2015	

THIS PAGE INTENTIONALLY LEFT BLANK

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

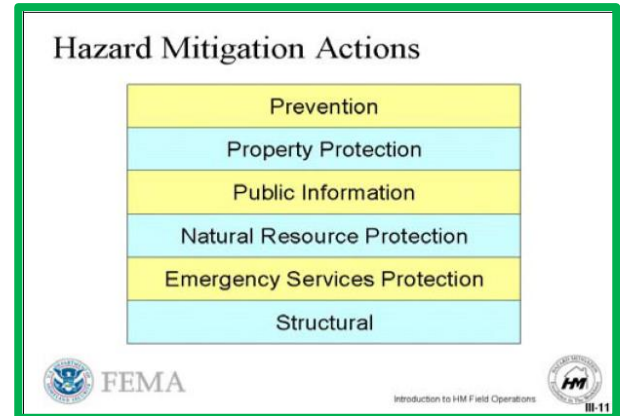
- Forest fire fuel reduction programs
- Special management regulations
- Fire Protection Codes NFPA 1
- Firewise® landscaping
- Culvert and hydrant maintenance
- Planning and zoning regulations
- Building Codes
- Density controls
- Driveway standards
- Slope development regulations
- Master Plan
- Capital 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) awareness
- 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 up-size 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 planning team considered each item from this comprehensive list of possible mitigation action items to determine if any of these action items could be put in place for New Hampton, emphasizing new and existing buildings and infrastructure.

Strategies that may apply to more than one hazard	Type of Project
<ul style="list-style-type: none"> Community Outreach and Education..... Changes to Zoning Regulations Changes to Subdivision Regulations Steep Slopes Ordinance Density Controls..... Driveway Standards..... Emergency Website Creation Critical Infrastructure & Key Resources Emergency Training for Town Officials..... High-risk Notification to Homeowners..... Master Plan Update or Development..... Capital Improvement Plan 	<ul style="list-style-type: none"> Public Awareness Prevention Prevention Prevention Prevention Prevention Public Awareness Emergency Service Protection Emergency Service Protection Property Protection Prevention Prevention
Flood Mitigation Ideas	Type of Project
<ul style="list-style-type: none"> Stormwater Management Ordinances Floodplain Ordinances Updated Floodplain Mapping Watershed Management Drainage Easements Purchase of Easements..... Wetland Protection..... Structural Flood Control Measures Bridge Replacement Dam Removal NFIP Compliance..... Acquisition, Demolition & Relocation Structure Elevation..... Floodproofing Erosion Control Floodplain/Coastal Zone Management..... Building Codes Adoption or Amendments Culvert & Hydrant Maintenance..... Culvert & Drainage Improvements..... Transfer of Development Rights 	<ul style="list-style-type: none"> Prevention Prevention Prevention Natural Resource Protection Prevention Prevention Natural Resource Protection Prevention Structural Project Structural Project Prevention Structural Project Structural Project Property Protection Natural Resource Protection Prevention Prevention Prevention Structural Protection Property Protection

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 involved 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 Selectboard and other town officials in all aspects of managing and tracking potential emergency planning action items. For instance, the team knew that some of these action items were more appropriately identified as preparedness or readiness issues. As no other established planning mechanisms recognize some of these issues, the team did not want to “lose” any of 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 200 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 New Hampton has accepted the “Mitigation Action Items” in Tables 8.1 and 9.1 as the complete list of “Mitigation Action Items” for this town and only this town. Furthermore, the Town of New Hampton 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 “Mitigation Action Items” to add at this time.

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: The town plans an annual \$300,000 (\$200,000 by appropriation) for the next ten years to repair the 52 miles of roads in the community. Improvements to the identified 74 “poor” culverts will be accomplished each year by prioritizing and systematically replacing the culverts during the scheduled road maintenance. (MU13 & F13)	Affected Location -Drainage systems townwide	3	3	3	3	3	1	2	18
	Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection -Structural Project	Economical: Budget constraints Environmental: May need approvals from DES							
Action Item #2: 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 written tree maintenance program. Create defensible space around power lines, oil and gas lines, and other infrastructure. Work to reduce wildfire risk by clearing dead vegetation, and cutting high grass and other fuel loads in the community. (SW4, WF7, WF9 & F14) (Tables 6.1 & 7.1)	Affected Location -Townwide	3	3	3	1	3	3	3	19
	Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection	Political: Some people may not want hazardous trees removed from their properties. The town also would need to adhere to the requirements for scenic roads.							
Action Item #3: Monitor dam maintenance programs with the current dam owners. (F7 & F22) (Table 7.1)	Affected Location -Dams townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Emergency Service Protection	No apparent difficulty with this action item							

Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
Action Item #4: Establish and build significant coordination with the Public Health Network to ensure that best practices are maintained for the current pandemic and any future infectious disease event. (Table 7.1)	Affected Location -Town and regionwide	3	3	3	1	3	3	3	19
	Type of Activity -Prevention -Public Education & Awareness -Emergency Service Protection	Political: People often do not follow recommended guidelines							
Action Item #5: Continue to add funding to the expendable bridge fund to ensure future bridge maintenance and construction of town-owned bridges. (MU6) (Table 7.1)	Affected Location -Townwide	3	3	3	2	3	3	3	20
	Type of Activity -Prevention	Political: Would require acceptance at Town Meeting; may impact tax rate (favorable or unfavorable)							
Action Item #6: Consider regulations that require water resources (cisterns/hydrants) for new subdivisions and the establishment of steep slope regulations, adequate weight limits, and sufficient turnarounds to accommodate large emergency apparatus on bridges and in new driveways. Upon completing this plan, review the subdivision and zoning regulations and discuss changes that will reduce the impact of hazards. (WF2, F1 & MU6) (Tables 6.1 & 7.1)	Affected Location -Townwide	3	3	3	2	3	3	3	20
	Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection	Political: Would require acceptance at Town Meeting; may impact tax rate (favorable or unfavorable)							
Action Item #7: Formulize and integrate the culvert plan with the Road Surface Management Plan and continue maintaining all drainage systems in the community to improve stormwater flow. (F1 & F5) (Tables 6.1 & 7.1)	Affected Location -Culverts & Ditches	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection	No apparent difficulty with this action item							
Action Item #8: Review the site plan review process upon completing this hazard mitigation plan. The Site Plan Review Regulations should be reconciled and updated per this plan and the Zoning Ordinance. (WF2, F1 & MU6) (Table 6.1)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection	No apparent difficulty with this action item							
Action Item #9: Inspect the functionality of all hydrants and maintain and repair all hydrants and other water resources in New Hampton. Maintain and improve the community's pressurized hydrants (Village District), dry hydrants, and other water resources (Fire Department) to help mitigate the effects of structure fires and wildfires. Using the 2009 Rural Fire Water Resource Plan (WRP) and other resources, determine locations that could benefit from additional (new) pressurized hydrants and other water sources. (WF8, MU12 & MU13) (Tables 6.1 & 7.1)	Affected Location -Dry & Pressurized Hydrants -Water resources	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection	No apparent difficulty with this action item							

Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
Action Item #10: Work with Lakes Region Fire Mutual Aid to evaluate dead spots and equip new town vehicles with 100-watt radios for better communications. (MU13) (Tables 6.1 & 7.1)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Emergency Service Protection	No apparent difficulty with this action item							
Action Item #11: The Emergency Management Director (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 EMD should encourage key personnel to learn about and become adept with WEB-EOC. (Table 6.1)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Emergency Service Protection	No apparent difficulty with this action item							
Action Item #12: The Fire Chief, the Police Chief, and the EMD provide ongoing training for all emergency responders. Training will include the many aspects of emergency response, including EMS, wildfire suppression, HazMat, active shooter, and terrorism. Training is done locally or through the Lakes Region Fire Mutual Aid and the State of New Hampshire at the NH Fire and Police Academies. (Table 6.1)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Emergency Service Protection	No apparent difficulty with this action item							
Action Item #13: Engage with local, state, and federal authorities to learn about ongoing threats and best practices.	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Public Education & Awareness -Emergency Service Protection	No apparent difficulty with this action item							
Action Item #14: Provide robust information on an emergency services web page and available 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. Also include mitigation strategies such as water-saving techniques for 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)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Public Education & Awareness	No apparent difficulty with this action item							
Action Item #15: Provide public outreach to encourage all residents to contact CodeRED (NH ENS) to add cell numbers, unlisted numbers, and emails and verify their information. Use an emergency services webpage, a possible brochure, available social media platforms, local newsletters, or a sign-up at a Town Meeting. (MU14) (Tables 6.1 & 7.1)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Public Education & Awareness -Emergency Service Protection	No apparent difficulty with this action item							

Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
Action Item #16: To promote private mitigation efforts and provide public outreach to homeowner associations and New Hampton residents on the importance of maintaining private roads to allow for safe access for fire apparatus into wildland-urban interface neighborhoods and properties. This will help ensure accessibility for emergency response and decrease the wildfire risk. (MU16) (Table 7.1)	Affected Location -Private Roads	3	3	3	2	3	3	3	20
	Type of Activity -Prevention -Public Education & Awareness -Emergency Service Protection -Property Protection -Natural Resource Protection	Political: Some residents may not want to be told to improve the maintenance of their private roads.							
Action Item #17: Use public outreach opportunities such as an emergency services web page or social media to promote better compliance and advise residents to keep their signage clear and visible. Use all available public outreach opportunities, including the town's website, a possible brochure, and local newsletters. (MU14) (Table 6.1)	Affected Location -Townwide	3	3	3	2	3	3	3	20
	Type of Activity -Prevention -Public Education & Awareness -Emergency Service Protection -Property Protection -Natural Resource Protection	Political: Some residents may not want a sign on their property							
Action Item #18: Post the Firewise® weblink on a town emergency management webpage and other social media platforms. Provide notices of red flag burning days and advise residents of the importance of maintaining defensible space and other methods to protect their homes. (WF10 & WF12)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Public Education & Awareness	No apparent difficulty with this action item							
Action Item #19: Advise the public about local flood hazards, flood insurance, and flood protection measures by obtaining and keeping a supply of NFIP brochures 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 or not they are in the flood zone, and provide appropriate links to the NFIP and Ready.gov on an emergency webpage 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) (Tables 6.1)	Affected Location -Areas prone to flooding	2	3	3	3	3	3	3	20
	Type of Activity -Prevention -Public Education & Awareness -Property Protection	Social: Some homeowners might resist due to the age and inaccuracies in the floodplain maps. Old maps might require added property insurance, which may not be required.							
Action Item #20: Add social media platforms and better use them to educate the public on mitigation strategies and resources. (MU14) (Table 6.1)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Public Education & Awareness	No apparent difficulty with this action item							
Action Item #21: Review the New Hampton Capital Improvement Program (CIP) to ensure that the program's goals will be achieved to assist the town's departments with planned purchases of equipment and supplies. Annually review the CIP after approval of this hazard mitigation plan to integrate concepts, ideas, and action items. (MU6) (Table 6.1)	Affected Location -Townwide	3	3	3	2	3	3	3	20
	Type of Activity -Prevention -Emergency Service Protection	Political: Would require acceptance at Town Meeting; may impact tax rate (favorable or unfavorable)							

Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
Action Item #22: Review this plan, the New Hampton Hazard Mitigation Plan Update 2024, whenever an annual review or update of the Master Plan is done, and consider incorporating a discussion on climate change, a natural hazards section, and mitigation action items from this plan. (MU6) (Table 6.1)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention	No apparent difficulty with this action item							
Action Item #23: Create additional defensible space and reduce the wildfire risk by cleaning brush and other debris on the backside of the Town House. (WF7)	Affected Location -Town House	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Property Protection -Natural Resource Protection	No apparent difficulty with this action item							
Action Item #24: Provide an annual review of the New Hampton Hazard Mitigation Plan Update 2024, including reviewing the status of the Action Items listed in this plan to encourage completion. Obtain approval from the local governing body annually and provide a complete plan update in five years. (MU11) (Table 6.1)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention	No apparent difficulty with this action item							
Action Item #25: Obtain approval of this hazard mitigation plan as a Community Wildfire Protection Plan (CWPP) to enable potential assistance from the state and federal governments for future wildfire mitigation projects. (WF2)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Property Protection -Natural Resource Protection	No apparent difficulty with this action item							
Action Item #26: Update the New Hampton Emergency Operations Plan to coincide with the state ESF format. Include an analysis of the impact of natural hazards on Critical Infrastructure & Key Resources that may be needed during an emergency. Like the current EOP, the new EOP will include an EOC Call Alert List, a detailed Resource Inventory List, and Player Packets. (MU6) (Tables 6.1 & 7.1)	Affected Location -Townwide	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Emergency Service Protection	No apparent difficulty with this action item							
Action Item #27: Obtain funding and install a permanent generator at the New Hampton Town Offices to ensure government continuation during a disaster. (MU13) (Tables 6.1 & 7.1)	Affected Location -New Hampton Town Offices	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Emergency Service Protection	No apparent difficulty with this action item							
Action Item #28: Consider appropriate locations and install additional fire danger signs to inform the public of the daily wildfire hazard, perhaps at the junction of Route 104 and 132. (Table 6.1)	Affected Location -Townwide	3	2	3	2	2	3	3	18
	Type of Activity -Prevention -Public Education & Awareness	Technical: Will need to acquire a sign from NH Forest & Lands Political: There may be some resistance to the aesthetics of placing a sign on Route 104 Legal: Will need authorization from the Post Master and NH DOT							
Action Item #29: Consider hiring additional full-time staff (2) to assist the Fire Chief and work on available grants and programs to improve the Fire Department's services. (Table 6.1)	Affected Location -Fire Department	3	1	1	2	3	2	3	15
	Type of Activity -Prevention -Emergency Service Protection	Technical: Successfully hiring qualified personnel may be an issue Administrative: Only successful if grant funding is available Political: Some residents may not see the advantage of creating a staffed department Economical: Budget constraints							

Proposed Mitigation Action Items	Type of Activity	S	T	A	P	L	E	E	TTL
Action Item #30: Review the current road regulations to determine the need for additional regulations and oversight to lessen the impact of natural hazards. (MU6) (Table 6.1)	Affected Location -Roads townwide	3	3	1	3	3	3	3	19
	Type of Activity -Prevention -Emergency Service Protection	Administrative: Planning Board time may be limited							
Action Item #31: Improve the two culverts at Blake Hill Road and Old Bristol Road to improve stormwater flow and current infrastructure. This effort may include upgrading to one large culvert, depending on engineering studies. (MU13 & F13) (Table 7.1)	Affected Location -Blake Hill Road & Old Bristol Road	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Structural Project	No apparent difficulty with this action item							
Action Item #32: Lobby FEMA to update the out-of-date Flood Insurance Rate Maps (FIRMS) to be more accurate.	Affected Location -Floodplain Maps	3	3	3	2	3	3	3	20
	Type of Activity -Prevention -Public Education & Awareness	Political: Will be dependent upon action by FEMA							
Action Item #33: Obtain funding and replace the only red-listed bridge in New Hampton on Brook Road. (MU13) (Tables 6.1 & 7.1)	Affected Location -Bridge on Brook Road	3	2	3	2	3	1	2	16
	Type of Activity -Prevention -Emergency Service Protection -Property Protection -Natural Resource Protection -Structural Project	Social: Minimal traffic disruption Administrative: Will be done by a third party Political: The bridge does not serve many people, so there may be pushback on the high expenditure; it might be a hard sell; the CIP includes funding for bridge repair Economical: Budget constraints Environmental: DES approvals will be needed							
Action Item #34: 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) (Table 7.1)	Affected Location -Town-owned buildings	3	3	3	3	3	3	3	21
	Type of Activity -Prevention -Emergency Service Protection -Property Protection	No apparent difficulty with this action item							
Action Item #35: The Planning Board may consider adding “undergrounding of utilities” regulations in new subdivisions and commercial. (SW1) (WWI) (MU7) (MU8) (Table 6.1)	Affected Location -Townwide	3	3	1	2	3	3	3	18
	Type of Activity -Prevention -Emergency Service Protection -Property Protection	Administrative: Planning Board time may be limited Political: Builders and contractors may not like this regulation							
Action Item #36: Consider hiring a Building Inspector to assist in identifying and enforcing regulations within hazardous areas of the community; this would have to be approved at a future Town Meeting. (MU14) (Tables 6.1 & 7.1)	Affected Location -Townwide	3	2	3	1	2	2	3	16
	Type of Activity -Prevention -Public Education & Awareness -Emergency Service Protection -Property Protection	Technical: It may be challenging to find a qualified person Political: Many residents might not see the need to hire a Building Inspector Legal: Will need approval at Town Meeting Economical: Budget constraints							

Chapter 9: Implementation Schedule for Prioritized Action Items

A. PRIORITY METHODOLOGY

After reviewing the finalized STAPLEE numerical ratings, the team developed *Table 9.1, The Mitigation Action Plan*. To do this, team members 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 that would generally take between 13-36 months to complete.

CATEGORY D

Category D includes those items that would take a significant funding effort, those that 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 capability. 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 team also considered the following criteria 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 had brainstormed throughout the hazard mitigation 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-\$1,000 or staff time only
Low Cost	\$1,000-\$20,000
Medium Cost	\$20,000-\$100,000
High Cost	\$100,000 or more

Key to the Time Frame	
Life of Plan	Starting on Plan adoption 2024-2029 (0-60 months)
Short Term	1 year 2024-2025 (0-12 months)
Medium Term	2 years starting in 2025 – 2027 (12 – 36 months)
Long-term	3 years starting in 2026 – 2029 (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.

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-1	<p>Problem Statement: The 2018 townwide culvert study identified 359 culverts, 74 of which are in poor condition. The factors that indicated poor condition included size, sedimentation, obstruction, and stormwater flow.</p> <p>Action Item #1: The town plans an annual \$300,000 (\$200,000 by appropriation) for the next ten years to repair the 52 miles of roads in the community. Improvements to the identified 74 “poor” culverts will be accomplished each year by prioritizing and systematically replacing the culverts during the scheduled road maintenance. (MU13 & F13)</p>	Inland Flooding & Aging Infrastructure	Public Works Department	Local & Grants	For the Life of the Plan	High Cost (\$100,000 or more)
A-2	<p>Problem Statement: As trees become damaged and threaten power lines and structures on town roads within the right-of-way, the Public Works Department removes them. NH DOT, Eversource, and the NH Electric Coop perform tree maintenance for state roads and utility rights-of-way. This work needs to continue.</p> <p>Action Item #2: 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 written tree maintenance program. Create defensible space around power lines, oil and gas lines, and other infrastructure. Work to reduce wildfire risk by clearing dead vegetation, and cutting high grass and other fuel loads in the community. (SW4, WF7, WF9 & F14) (Tables 6.1 & 7.1)</p>	High Wind Events, Wildfire, Severe Winter Weather-Ice Storms & Inland Flooding	Public Works Department	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-3	<p>Problem Statement: The Fire Department has copies of emergency operations plans for many dams in New Hampton. All dams in the community should be monitored for effective maintenance programs.</p> <p>Action Item #3: Monitor dam maintenance programs with the current dam owners. (F7 & F22) (Table 7.1)</p>	Inland Flooding & Dam Failure	State of NH (no town-owned dams; Village District monitors its dam)	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-4	<p>Problem Statement: A coordinated effort to ensure successful public health education and procedures should continue during Covid 19 and beyond.</p> <p>Action Item #4: Establish and build significant coordination with the Public Health Network to ensure that best practices are maintained for the current pandemic and any future infectious disease event. (Table 7.1)</p>	Infectious Diseases	Public Health Officer, Emergency Management Director & Fire Department	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-5	<p>Problem Statement: At budget time, the expendable bridge fund is reviewed, and additional funds are added as appropriate. These efforts need to continue in the future.</p> <p>Action Item #5: Continue to add funding to the expendable bridge fund to ensure future bridge maintenance and construction of town-owned bridges. (MU6) (Table 7.1)</p>	Aging Infrastructure	Town Administrator, Selectboard & Public Works Department	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-6	<p>Problem Statement: New Hampton's Subdivision and Zoning Regulations are in good shape and have recently been updated. However, these regulations should be reviewed along with this hazard mitigation plan when completed.</p> <p>Action Item #6: Consider regulations that require water resources (cisterns/hydrants) for new subdivisions and the establishment of steep slope regulations, adequate weight limits, and sufficient turnarounds to accommodate large emergency apparatus on bridges and in new driveways. This strategy is also deferred to review the subdivision and zoning regulations after this plan is approved and discuss changes that will reduce the impact of hazards. (WF2, F1 & MU6) (Tables 6.1 & 7.1)</p>	All Hazards & Wildfire	Planning Board	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-7	<p>Problem Statement: The Public Works Department maintains a written culvert and stormwater plan. Drainage system maintenance needs to continue, and the PWD's plan needs to be further integrated into the Road Surface Management Plan.</p> <p>Action Item #7: Formulize and integrate the culvert plan with the Road Surface Management Plan and continue maintaining all drainage systems in the community to improve stormwater flow. (F1 & F5) (Tables 6.1 & 7.1)</p>	Inland Flooding	Public Works Department	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-8	<p>Problem Statement: The Site Plan Review regulations are continuously reviewed based on current regulations and the community's needs. The Site Plan Review regulations are currently reactive and should be more proactive.</p> <p>Action Item #8: Review the site plan review process upon completing this hazard mitigation plan. The Site Plan Review Regulations should be reconciled and updated per this plan and the Zoning Ordinance. (WF2, F1 & MU6) (Table 6.1)</p>	All Hazards	Planning Board	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-9	<p>Problem Statement: Pressurized hydrants, dry hydrants, and drafting sites throughout New Hampton provide water resources for firefighting. These hydrants and water resources need to be maintained and improved as needed.</p> <p>Action Item #9: Inspect the functionality of all hydrants and maintain and repair all hydrants and other water resources in New Hampton. Maintain and improve the community's pressurized hydrants (Village District), dry hydrants, and other water resources (Fire Department) to help mitigate the effects of structure fires and wildfires. Using the 2009 Rural Fire Water Resource Plan (WRP) and other resources, determine locations that could benefit from additional (new) pressurized hydrants and other water sources. (WF8, MU12 & MU13) (Tables 6.1 & 7.1)</p>	Wildfire & Conflagration	Village District Water Precinct & Fire Department	Local & Grants	For the Life of the Plan	Medium Cost (\$20,000-\$100,000)
A-10	<p>Problem Statement: Communications systems and radios are up-to-date with state and federal requirements and work as intended, although there are areas of town with "dead spots".</p> <p>Action Item #10: Work with Lakes Region Fire Mutual Aid to evaluate dead spots and equip new town vehicles with 100-watt radios for better communications. (MU13) (Tables 6.1 & 7.1)</p>	All Hazards	Fire Chief & Emergency Management Director	Local & Grants	For the Life of the Plan	Low Cost \$1,000-\$20,000

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-11	<p>Problem Statement: Although first responders, including firefighters, have received NIMS & ICS training, not all of New Hampton's town officials have.</p> <p>Action Item #11: The Emergency Management Director (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 EMD should encourage key personnel to learn about and become adept with WEB-EOC. (Table 6.1)</p>	All Hazards	Town Administrator & Emergency Management Director	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-12	<p>Problem Statement: Training of all fire responders is coordinated by the Fire Chief, Police Chief, and the EMD and includes the many aspects of emergency response. This training needs to continue.</p> <p>Action Item #12: The Fire Chief, the Police Chief, and the EMD provide ongoing training for all emergency responders. Training will include the many aspects of emergency response, including EMS, wildfire suppression, HazMat, active shooter, and terrorism. Training is done locally or through the Lakes Region Fire Mutual Aid and the State of New Hampshire at the NH Fire and Police Academies. (Table 6.1)</p>	Wildfires, Conflagration, Hazardous Materials, Terrorism & Violence	Fire Chief, Police Chief & Emergency Management Director	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-13	<p>Problem Statement: Additional cyber risk awareness and training for town employees should be provided to guard against cyber events.</p> <p>Action Item #13: Engage with local, state, and federal authorities to learn about ongoing threats and best practices.</p>	Cyber Events	Police Department	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-14	<p>Problem Statement: <i>Although the town has made an excellent effort to provide public education, more can be done to provide emergency preparedness and hazard mitigation techniques that residents can take to protect their homes and properties.</i></p> <p>Action Item #14: Provide robust information on an emergency services web page and available 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. Also include strategies to mitigate the impact of drought, 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)</p>	All Hazards including Severe Wind, Drought, Earthquakes, Tornadoes, Extreme Temperatures, Hail, Lightning, Severe Winter Weather, Climate Change, Wildfires & Infectious Diseases	Town Administrator & All Department Heads	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-15	<p>Problem Statement: <i>CodeRED (NH Emergency Notification System (ENS) is an excellent warning system that only stores resident hardline phone numbers. Residents may not be aware that they can add cell numbers, emails, and unlisted numbers.</i></p> <p>Action Item #15: Provide public outreach to encourage all residents to contact CodeRED (NH ENS) to add cell numbers, unlisted numbers, and emails and verify their information. Use an emergency services webpage, a possible brochure, available social media platforms, local newsletters, or a sign-up at a Town Meeting. (MU14) (Tables 6.1 & 7.1)</p>	All Hazards	Town Administrator, Emergency Management Director	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-16	<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 #16: To promote private mitigation efforts and provide public outreach to homeowner associations and New Hampton residents on the importance of maintaining private roads to allow for safe access for fire apparatus into wildland-urban interface neighborhoods and properties. This will help ensure accessibility for emergency response and decrease the wildfire Risk. (MU16) (Table 7.1)</p>	Wildfire & Conflagration	Town Administrator, Emergency Management Director & Fire Chief	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-17	<p>Problem Statement: The town has continuously used public outreach to remind residents of the need for proper "911" signage; the town purchases signs and the Fire Department installs them. However, the town is only about 85% compliant with the proper "911" signage.</p> <p>Action Item #17: Use public outreach opportunities such as an emergency services web page or social media to promote better compliance and advise residents to keep their signage clear and visible. Use all available public outreach opportunities, including the town's website, a possible brochure, and local newsletters. (MU14) (Table 6.1)</p>	All Hazards	Town Administrator, Emergency Management Director & Fire Chief	Local	For the Life of the Plan	Low Cost \$1,000-\$20,000
A-18	<p>Problem Statement: Although the town does a great job promoting preparedness, residents may not know the steps they can take to reduce fire risk at their homes.</p> <p>Action Item #18: Post the Firewise® weblink on a town emergency management webpage and other social media platforms. Provide notices of red flag burning days and advise residents of the importance of maintaining defensible space and other methods to protect their homes. (WF10 & WF12)</p>	Wildfire & Conflagration	Town Administrator & Fire Department	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-19	<p>Problem Statement: Residents and Builders may not be aware of flood regulations and the availability of flood insurance through the NFIP. They also may not be aware of the risk of building in the floodplain and the steps they can take to reduce flooding.</p> <p>Action Item #19: Advise the public about the local flood hazard, flood insurance, and flood protection measures by obtaining and keeping a supply of NFIP brochures 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, whether or not they are in the flood zone, and provide appropriate links to the NFIP and Ready.gov on an emergency webpage 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) (Tables 6.1)</p>	Inland Flooding	Town Administrator & Emergency Management Director	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-20	<p>Problem Statement: Several social media platforms, including Facebook and the New Hampton Connection, are available, but their use is not always optimal.</p> <p>Action Item #20: Add social media platforms and better use them to educate the public on mitigation strategies and resources. (MU14) (Table 6.1)</p>	All Hazards	Town Administrator & Emergency Management Director	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
A-21	<p>Problem Statement: The New Hampton Capital Improvement Program (CIP) is reviewed and updated annually. Action items from this hazard mitigation plan should be considered when the CIP is reviewed.</p> <p>Action Item #21: Review the New Hampton Capital Improvement Program (CIP) to ensure that the program's goals will be achieved to assist the town's departments with planned purchases of equipment and supplies. Annually review the CIP after approval of this hazard mitigation plan to integrate concepts, ideas, and action items. (MU6) (Table 6.1)</p>	All Hazards	Selectboard & All Department Heads	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
A-22	<p>Problem Statement: <i>The New Hampton Master Plan is updated regularly. Natural hazards, climate change, and action items from this plan should be considered during any update.</i></p> <p>Action Item #22: Review this plan, the New Hampton Hazard Mitigation Plan Update 2024, whenever an annual review or update of the Master Plan is done, and consider incorporating a discussion on climate change, a natural hazards section, and mitigation action items from this plan. (MU6) (Table 6.1)</p>	All Hazards	Planning Board	Local	For the Life of the Plan	Very Low Cost (\$0 - \$1,000 or staff time only)
B-1	<p>Problem Statement: <i>Overgrown brush on the backside of the Town House could increase the wildfire risk.</i></p> <p>Action Item #23: Create additional defensible space and reduce the wildfire risk by cleaning brush and other debris on the backside of the Town House. (WF7)</p>	Wildfire	Public Works Department	Local	Short Term (1 year or less: 0-12 months)	Very Low Cost (\$0 - \$1,000 or staff time only)
B-2	<p>Problem Statement: <i>The New Hampton Hazard Mitigation Plan Update 2024 plan will require an annual review and a complete update in five years.</i></p> <p>Action Item #24: Provide an annual review of the New Hampton Hazard Mitigation Plan Update 2024, including reviewing the status of the action items listed in this plan to encourage completion. Obtain approval from the local governing body annually and provide a complete plan update in five years. (MU11) (Table 6.1)</p>	All Hazards	Emergency Management Director	Local	Short Term (1 year or less: 0-12 months)	Very Low Cost (\$0 - \$1,000 or staff time only)
B-3	<p>Problem Statement: <i>The New Hampton Hazard Mitigation Plan Update 2024 will need to be approved as a Community Wildfire Protection Plan (CWPP).</i></p> <p>Action Item #25: Obtain approval of this hazard mitigation plan as a Community Wildfire Protection Plan (CWPP) to enable potential assistance from the state and federal governments for future wildfire mitigation projects. (WF2)</p>	Wildfire & Conflagration	Mapping & Planning Solutions	Local	Short Term (1 year or less: 0-12 months)	Very Low Cost (\$0 - \$1,000 or staff time only)

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
C-1	<p>Problem Statement: <i>The New Hampton Emergency Operations Plan (EOP) was last updated in 2017 and will be ready for an update based on the state's 5-year recommendation in 2023.</i></p> <p>Action Item #26: Update the New Hampton Emergency Operations Plan to coincide with the state ESF format. Include an analysis of the impact of natural hazards on Critical Infrastructure & Key Resources that may be needed during an emergency. Like the current EOP, the new EOP will include an EOC Call Alert List, a detailed Resource Inventory List, and Player Packets. (MU6) (Tables 6.1 & 7.1)</p>	All Hazards	Emergency Management Director	Local & Grants	Medium Term (1-3 years: 13-36 months)	Low Cost \$1,000-\$20,000
C-2	<p>Problem Statement: <i>Although New Hampton has emergency backup power at many of the town's Critical Infrastructure & Key Resources (CIKR), the Town Offices do not have a permanent generator.</i></p> <p>Action Item #27: Obtain funding and install a permanent generator at the New Hampton Town Offices to ensure government continuation during a disaster. (MU13) (Tables 6.1 & 7.1)</p>	All Hazards	Town Administrator & Emergency Management	Local & Grants	Medium Term (1-3 years: 13-36 months)	Low Cost \$1,000-\$20,000
C-3	<p>Problem Statement: <i>One fire danger sign is in front of the Public Safety Building. Additional fire danger signs could help residents and visitors identify the fire hazard at any time.</i></p> <p>Action Item #28: Consider appropriate locations and install additional fire danger signs to inform the public of the daily wildfire hazard, perhaps at the junction of Route 104 and 132. (Table 6.1)</p>	Wildfires & Conflagration	Town Administrator, Public Works Department & Fire Chief	Local	Medium Term (1-3 years: 13-36 months)	Low Cost \$1,000-\$20,000
C-4	<p>Problem Statement: <i>The New Hampton Fire Department does its best to provide timely inspections based on available human resources. Additional inspections and grant-writing staff could improve the Fire Department's services.</i></p> <p>Action Item #29: Consider hiring additional full-time staff (2) to assist the Fire Chief and work on available grants and programs to improve the Fire Department's services. (Table 6.1)</p>	Wildfires & Conflagration	Fire Chief & Emergency Management Director	Local & Grants (Assistance to Firefighters Safer Grant)	Medium Term (1-3 years: 13-36 months)	High Cost (\$100,000 or more)

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
C-5	<p>Problem Statement: Although local road standards have been established, they should be reviewed to determine if new standards can lessen the impact of natural hazards.</p> <p>Action Item #30: Review the current road regulations to determine the need for additional regulations and oversight to lessen the impact of natural hazards. (MU6) (Table 6.1)</p>	All Hazards	Public Works Department & Planning Board	Local	Medium Term (1-3 years: 13-36 months)	Very Low Cost (\$0 - \$1,000 or staff time only)
C-6	<p>Problem Statement: Although the Public Works Department has made improvements on Old Bristol Road, two culverts at the intersection of Blake Hill Road and Old Bristol Road need improvements.</p> <p>Action Item #31: Improve the two culverts at Blake Hill Road and Old Bristol Road to improve stormwater flow and current infrastructure. This effort may include upgrading to one large culvert, depending on engineering studies. (MU13 & F13) (Table 7.1)</p>	Inland Flooding & Aging Infrastructure	Public Works Department	Local & Grants	Medium Term (1-3 years: 13-36 months)	Low Cost \$1,000-\$20,000
D-1	<p>Problem Statement: The most current FEMA Flood Insurance Rate Maps (FIRMS) are dated April 2, 1986, and are no longer accurate.</p> <p>Action Item #32: Lobby FEMA to update the out-of-date Flood Insurance Rate Maps (FIRMS) to be more accurate.</p>	Inland Flooding	Town Administrator & Emergency Management Director	Local	Long Term (3-5 years: 37-60 months)	Very Low Cost (\$0 - \$1,000 or staff time only)
D-2	<p>Problem Statement: There is one red-listed bridge in New Hampton on Brook Road.</p> <p>Action Item #33: Obtain funding and replace the only red-listed bridge in New Hampton on Brook Road. (MU13) (Tables 6.1 & 7.1)</p>	Inland Flooding	Public Works Department	Local & Grants	Long Term (3-5 years: 37-60 months)	High Cost (\$100,000 or more)
D-3	<p>Problem Statement: Some public buildings may not have adequate lightning protection.</p> <p>Action Item #34: 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) (Table 7.1)</p>	Lightning	Town Administrator & Emergency Management Director	Local	Long Term (3-5 years: 37-60 months)	Low Cost \$1,000-\$20,000

Category & Priority	Problem Statement New Mitigation Action Item	Type of Hazard	Managing Department	Funding or Support	Time Frame	Est. Cost
D-4	<p><i>Problem Statement: Undergrounding of utilities is encouraged but not required.</i></p> <p>Action Item #35: The Planning Board may consider adding “undergrounding of utilities” regulations in new subdivisions and commercial developments. (SW1) (WWI) (MU7) (MU8) (Table 6.1)</p>	High Wind Events, Severe Winter Weather-Ice Storms & Tropical & Post-Tropical Cyclones	Planning Board	Local	Long Term (3-5 years: 37-60 months)	Very Low Cost (\$0 - \$1,000 or staff time only)
D-5	<p><i>Problem Statement: The Town of New Hampton does not have a Building Inspector or Code Enforcement Officer. The permitting process requires builders to abide by the International Building Codes (IBC) and the International Residential Codes (IRC) adopted by the State of New Hampshire.</i></p> <p>Action Item #36: Consider hiring a Building Inspector to assist in identifying and enforcing regulations within hazardous areas of the community; this would have to be approved at a future Town Meeting. (MU14) (Tables 6.1 & 7.1)</p>	All Hazards	Town Administrator & Fire Chief	Local	Long Term (3-5 years: 37-60 months)	Medium Cost (\$30,000-\$40,000 annually)

THIS PAGE INTENTIONALLY LEFT BLANK

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 Offices. 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 effect 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. New Hampton completed its last hazard mitigation plan in 2015 and has completed many projects from that plan. Examples of these projects can be found in Table 7.1. Some projects include improving a culvert on Blake Hill Road, cleaning the catch basins on Old Bristol and Shingle Camp Hill Road, ongoing fire and flood education, identifying shelters for residents during emergencies, and completing a third egress project at the Town Offices. As a result, the town was able to integrate these actions into other town activities, budgets, plans, and mechanisms.

The Town of New Hampton has agreed to incorporate a Community Wildfire Protection Plan (CWPP) into this planning document, the New Hampton Hazard Mitigation Plan Update 2024. 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:

MASTER PLAN

Traditionally, Master Plans are updated every 5 to 10 years, detailing the use of capital reserves funds and capital improvements within the town. New Hampton's Master Plan chapters are updated individually over ten years. The town may incorporate a Natural Hazards section in the Master Plan. That update will integrate concepts, ideas, and action items from this Hazard Mitigation Plan (**Action Item #22**).

EMERGENCY OPERATIONS PLAN 2017 (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 New Hampton EOP was completed in 2017. An update for the Emergency Operations Plan is expected to be completed after completing this plan in 2023/24. The new EOP will include elements from this hazard mitigation plan (**Action Items #26**).

TOWN BUDGET, CAPITAL IMPROVEMENT PLAN & CAPITAL RESERVE FUNDS

The Town of New Hampton maintains a Capital Improvement Plan and Capital Reserve Funds for major expenditures. The Capital Reserve Funds are adjusted annually in coordination with the Selectboard and the town's department heads 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 CIP and CRF.**

ORDINANCES, SUBDIVISION REGULATIONS & SITE PLAN REVIEW

As time goes by and the needs of the town 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. This integration can be seen in this plan's mitigation action item (**Action Item #6, 8, 19 & 35**).

The local governments will modify other plans and actions to incorporate hazard or wildfire issues. The Selectboard 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 and regional planning commission websites. 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 the adoption of the plan. The update will follow a similar planning process and outline as the current planning 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 May 29, 2020. The plan was presented to the town for review, submitted to HSEM for Conditional Approval (*APA, Approved Pending Adoption*), formally adopted by the Selectboard, and resubmitted to HSEM for Final Approval. Once Final Approval from HSEM 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

PLANNING SCOPE OF WORK & AGREEMENT

HAZARD MITIGATION PLAN UPDATE



PARTIES TO THE AGREEMENT

Mapping and Planning Solutions
Town of New Hampton, NH

Current Plan Expiration: 3/11/2020
PDM Grant Expiration: TBD

This Agreement between the Town of New Hampton (the Town) or its official designee and Mapping and Planning Solutions (MAPS) outlines the Town's desire to engage the services of MAPS to assist in planning and technical services in order to produce the 2019 Hazard Mitigation Plan Update (the Plan).

Agreement

This Agreement outlines the responsibilities that will ensure that the Plan is developed in a manner that involves Town members and local, federal, and state emergency responders and organizations. The Agreement identifies the work to be done by detailing the specific tasks, schedules, and finished products that are the result of the planning process.

The goal of this Agreement is that the Plan and planning process be consistent with Town policies and that it accurately reflects the values and individuality of the Town. This is accomplished by forming a working relationship between the Town's citizens, the Planning Team, and MAPS.

The Plan created as a result of this Agreement will be presented to the Town for adoption once conditional approval is received from FEMA. When adopted, the Plan provides guidance to the Town, commissions, and departments; adopted plans serve as a guide and do not include any financial commitments by the Town. Additionally, all adopted plans should address mitigation strategies for reducing the risk of natural, man-made, and wildfire disasters on life and property and be written so that they may be integrated within other Town planning initiatives.

Scope of Work

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

- MAPS will collect data that is necessary 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 from community members.
- With the assistance of the Team, MAPS will coordinate and facilitate meetings and provide any materials, handouts, and maps necessary to provide a full understanding of each step in the planning process.
- MAPS will assist the Team in the development of goals, objectives, and implementation strategies and clearly define the processes needed for future plan monitoring, educating the public, and integrating the Plan with other Town plans and activities.
- MAPS will coordinate and collaborate with other federal, state, and local agencies throughout the process.

- MAPS will explain and delineate the Town's Wildland Urban Interface (WUI) and working with the Team, will establish a list of potential hazards and analyze the risk severity of each.
- MAPS will author, edit and prepare the Plan for review by the Team prior to submitting the Plan to FEMA for conditional approval. Upon conditional approval by FEMA, MAPS will assist the planning team as needed with presentation of the Plan to the New Hampton Selectboard and/or Planning Board and continue to work with the Town until final approval and distribution of the Plan is complete, unless extraordinary circumstances prevail.
- MAPS shall provide, at its office, all supplies and space necessary to complete the New Hampton Hazard Mitigation Plan.
- After final approval is received from FEMA, MAPS will provide the Town with two copies of the Plan containing all signed documents, approvals, and GIS maps, along with CDs containing these same documents in digital form, for distribution by the Town as it sees fit. Additional CDs may be requested at no additional cost. CD copies of the Plan will be distributed by MAPS to collaborating agencies including, but not limited to, NH Homeland Security (HSEM) and FEMA.
- MAPS will provide Plan maintenance reminders and assistance on an annual basis leading up to the next five-year plan update at no cost to the Town, if requested by the Town.

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

- The Town shall ensure that the Planning Team includes members who are able to support the planning process by identifying available Town resources including people who will have access to and 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 Selectboard 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 Town shall determine a lead contact to work with MAPS. This contact shall assist with recruiting participants for planning meetings, including the development of mailing lists when and if necessary, distribution of flyers, and placement of meeting announcements. In addition, this contact shall assist MAPS with organizing public meetings to develop the Plan and offer assistance to MAPS in developing the work program which will produce the Plan.
- The Town shall gain the support of stakeholders for the recommendations found within the Plan.
- The Town 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.
- The proposed plan shall be submitted to the Selectboard and/or Planning Board for consideration and adoption.
- After adoption and final approval from FEMA is received, the Town will:
 - *Distribute copies of the Plan as it sees fit throughout the local community.*
 - *Develop a team to monitor and work toward plan implementation.*
 - *Publicize the Plan to the Community and ensure citizen awareness.*
 - *Urge the Planning Board to incorporate 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 \$7,500.00; an invoice will be sent to the Town for each payment as outlined below.
 - 1. Initial payment upon signing of this contract and receipt of the first invoice ...\$3,700.00
 - 2. Second payment upon Plan submittal to FEMA for Conditional Approval.....\$3,600.00
 - 3. Final payment upon project completion and receipt of final Plan copy \$200.00
 - Total Fees.....\$7,500.00

- **Payment Procedures:** The payment procedure is as follows:
 - MAPS will invoice the Town
 - 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.

- **Required Matching Funds:** The Town of New Hampton will be responsible to provide and document any and all resources to be used to meet the FEMA required matching funds in the amount of \$2,500. Matching funds are the responsibility of the Town of New Hampton, not MAPS. Mapping and Planning Solutions will however assist the Town with attendance tracking by asking meeting attendees to “sign in” at all meetings and to “log” any time spent outside of the meetings working on this project. MAPS will provide the Town with final attendance records in spreadsheet form at project’s end for the Town to use in its match fulfillment.
- **Project Period:** This project shall begin upon signing this Agreement by both parties and continue through a date yet to be determined or whenever the planning process is complete. The project period may be extended by mutual written Agreement between the Town, MAPS, and Homeland Security if required. The actual project end date is dependent upon timely adoptions and approvals which may be outside of the control of MAPS and the Town. It is anticipated that five or six two-hour meetings will be required to gather the necessary information to create the updated the Plan.

The grant provided for this project is funded through PDM17; per the grant agreement between the Town and HSEM, all work must be completed by TBD. It is expected that this project will be completed long before the grant expiration date of January TBD.

- **Ownership of Material:** All maps, reports, documents, and other materials produced during the project period shall be owned by the Town; 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 work that was completed.
- **Limit of Liability:** MAPS agrees to perform all work in a diligent and efficient manner according to the terms of this Agreement. MAPS' responsibilities under this Agreement depend upon the cooperation of the Town of New Hampton. MAPS and its employees, if any, shall not be liable for opinions rendered, advice, or errors resulting from the quality of data that is supplied. Adoption of the Plan by the Town and final approval of the Plan by FEMA, relieve MAPS of content liability. Mapping and Planning Solutions carries annual general liability insurance.

- **Amendments:** Changes, alterations, or additions to this Agreement may be made if agreed to in writing between both the Town of New Hampton and Mapping and Planning Solutions.
- **About 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 forty Hazard Mitigation Plans, more than forty-five 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 & Review Hazard Mitigation Plans
 - Climate Change Adaptation Planning, AWR-347
 - ALICE; School Shooting Workshop, Littleton High School

➤ **Contacts:**

For Mapping & Planning Solutions

June Garneau
Mapping and Planning Solutions
105 Union Street
Whitefield, NH 03598
jgarneau@mappingandplanning.com
(603) 837-7122; (603) 991-9664 (cell)

For the Town

Chief Michael Drake
Fire Chief, Fire Warden & EMD
New Hampton Fire Department
26 Intervale Drive
New Hampton, NH 03256
(603) 744-2735; (603) 530-2154 (cell)
mdrake@new-hampton.nh.us

Signature below indicates acceptance of an Agreement to the details outlined in this Agreement.

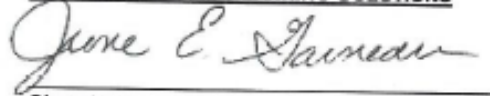
FOR THE TOWN OF NEW HAMPTON, NH


Signature

MICHAEL A. DRAKE - EMD
Printed Name/Title

APRIL 22, 2019
Date

FOR MAPPING AND PLANNING SOLUTIONS


Signature
June Garneau, Owner
February 20, 2019

Signatures are scanned facsimiles; original signatures are on file.

B. APPROVED PENDING ADOPTION (APA)

HMP Approvable Pending Adoption (APA) Notice: New Hampton, NH



Neiderbach, Josiah <josiah.neiderbach

To firechief@new-hampton.nh.us; nirvine@new-hampton.nh.us

Cc Bogdan, Kerry; jgarneau@mappingandplanning.com;
FEMA-R1-MitigationPlans; Clasby, Virginia; +3 others



Wed 4:44 PM

This message was sent with High importance.



Reference: Adoption Required to Finish Local Mitigation Plan Process

Dear Officials:

The Risk Analysis Branch of the FEMA Region 1 Mitigation Division has determined the *New Hampton, NH Hazard Mitigation Plan Update 2024* meets all applicable FEMA Mitigation Planning requirements (Local Mitigation Planning Policy Guide, effective April 19, 2023), except its adoption by: Town of New Hampton, NH.

This status is "Approvable Pending Adoption" (APA). Plan adoption is required to receive formal FEMA approval.

Local governments, including special districts, with a plan status of "Approvable Pending Adoption" are not eligible for FEMA mitigation grant programs with a mitigation plan requirement.

The next step in the approval process is to formally adopt the mitigation plan and send a resolution or adoption documentation in accordance with Element F1 of the [Local Mitigation Planning Policy Guide](#) on pages 31-32, to the State for submission to FEMA. A sample adoption resolution can also be found in Appendix B of the Policy Guide.

It is critical for the jurisdiction to adopt the plan as soon as possible. Jurisdictions that adopt the plan more than one year after APA status has been issued must either:

- Validate that their information in the plan remains current with respect to both the risk assessment (no recent hazard events, no changes in development) and their mitigation strategy (no changes necessary); or
- Make the necessary updates before submitting the adoption resolution to FEMA.

An approved local mitigation plan, including adoption by the local government, is one of the conditions for applying for and/or receiving FEMA mitigation grants from the following programs:

- Building Resilient Infrastructure and Communities (BRIC)
- Flood Mitigation Assistance (FMA)
- Hazard Mitigation Grant Program (HMGP)
- HMGP Post-Fire
- If applicable, High Hazard Potential Dams Grant Program (HHPD)

If a plan does not meet the HHPD requirements, then the jurisdiction is not eligible for assistance from the HHPD Grant Program. If any jurisdiction with HHPDs is interested in this assistance, they should contact the FEMA Regional Mitigation Planner listed below to learn more about how to include all dam risks in the plan, or at least their portion of the plan.

We look forward to receiving the adoption resolution/documentation soon and discussing options for implementing this mitigation plan. If we can assist in any way, please contact Jay Neiderbach at 202-285-7769 and josiah.neiderbach@fema.dhs.gov.

Sincerely,

Jay

Josiah (Jay) Neiderbach, Mitigation Planner
Risk Analysis Branch | Mitigation Division | DHS / FEMA, Region I
M: 202.285.7769 E: josiah.neiderbach@fema.dhs.gov

Attachment: FEMA Local Mitigation Plan Review Tool

Signatures are scanned facsimile; original signatures are on file.

C. FORMAL APPROVAL LETTER

PAGE LEFT INTENTIONALLY BLANK FOR
INSERTION OF FINAL APPROVAL LETTER

Signatures are scanned facsimile; original signatures are on file.

D. SIGNED CERTIFICATE OF ADOPTION

CERTIFICATE OF ADOPTION

NEW HAMPTON, NH

SELECTBOARD

A RESOLUTION ADOPTING THE NEW HAMPTON, NH HAZARD MITIGATION PLAN UPDATE 2024

WHEREAS, the Town of New Hampton 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 New Hampton has developed and received conditional approval from the Homeland Security & Emergency Management (HSEM) for its Hazard Mitigation Plan Update 2024 under the requirements of 44 CFR 201.6; and

WHEREAS, public and committee meetings were held between May 29, 2020, and February 23, 2021, regarding the development and review of the Hazard Mitigation Plan Update 2024 and

WHEREAS, the plan specifically addresses hazard mitigation strategies and plan maintenance procedures for the Town of New Hampton; and

WHEREAS, the plan recommends several hazard mitigation actions/projects that will provide mitigation for specific natural hazards that impact the Town of New Hampton 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 New Hampton eligible for funding to alleviate the impacts of future hazards; now, therefore, be it

RESOLVED by the Selectboard:

1. The plan is hereby adopted as an official plan of the Town of New Hampton;
2. The respective officials identified in the mitigation action items of the plan are hereby directed to pursue the implementation of the recommended actions assigned to them;

New Hampton, Hazard Mitigation Plan Update Certificate of Adoption, page two

3. Future revisions and plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for five (5) years from the date of this resolution;
4. An annual report on the progress of the plan's action items shall be presented to the Selectboard by the Emergency Management Director.

Adopted this day, the 1ST of MARCH, 2024

Selectboard Chair



Signature

MICHAEL A. DRAKE

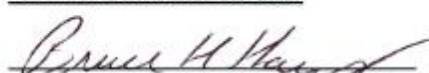
Print Name

Member of the Selectboard

Signature

Print Name

Member of the Selectboard



Signature

Bruce H Harvey

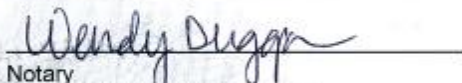
Print Name

Emergency Management Director

Signature

Print Name

IN WITNESS WHEREOF, the undersigned has affixed their signature and the corporate seal of the Town of New Hampton on this day, 3/1, 2024



Notary

WENDY J DUGGAN
NOTARY PUBLIC
State of New Hampshire
My Commission Expires
May 18, 2027

3/1/2024

Date



Signatures are scanned facsimile; original signatures are on file.

E. CWPP APPROVAL LETTER FROM DNCR

**New Hampton, NH
A Resolution Approving the
New Hampton, NH Hazard Mitigation Plan Update 2024
As a Community Wildfire Protection Plan**

Several public and committee meetings were held between May 29, 2020, and February 23, 2021, regarding the New Hampton Hazard Mitigation Plan Update 2024. The New Hampton Hazard Mitigation Plan Update 2024 contains potential future projects to mitigate hazard and wildfire damage in the Town of New Hampton.

The Fire Chief/Emergency Management Director and the Selectboard desire 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 Selectboard Chair and the Emergency Management Director/Fire Chief approve the New Hampton Hazard Mitigation Plan Update 2024 and understand that with approval by DNCR, this plan will also serve as a Community Wildfire Protection Plan.

For the Town of New Hampton

APPROVED and SIGNED this day, MARCH 1ST, 2024.


Chairman of the Selectboard

MICHAEL A. DRAKE
Printed Name


Fire Chief/ Emergency Management Director

Scott T. Cechy
Printed Name

For the Department of Natural & Cultural Resources (DNCR)

APPROVED and SIGNED this day, _____, 2024.

Forest Ranger – NH Division of Forest and Lands, DNCR

APPROVED and SIGNED this day, _____, 2024.

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

Signatures are scanned facsimile; original signatures are on file.

PAGE LEFT INTENTIONALLY BLANK

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 attend hearings, this page shall be executed annually by the town's governing body and designated Emergency Management Director.

New Hampton, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Chairman of the Selectboard

Changes and notes regarding the 2024 Hazard Mitigation Plan Update

Please use the reverse side for additional notes 

Additional Notes – Year One:

[illegible]

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 attend hearings, this page shall be executed annually by the town’s governing body and designated Emergency Management Director.

New Hampton, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Chairman of the Selectboard

Changes and notes regarding the 2024 Hazard Mitigation Plan Update

Please use the reverse side for additional notes 

Additional Notes – Year Two:

[illegible]

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 attend hearings, this page shall be executed annually by the town’s governing body and designated Emergency Management Director.

New Hampton, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____
SIGNATURE: _____
PRINTED NAME: _____
Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____
PRINTED NAME: _____
Chairman of the Selectboard

Changes and notes regarding the 2024 Hazard Mitigation Plan Update

Please use the reverse side for additional notes 

Additional Notes – Year Three:

[illegible]

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 attend hearings, this page shall be executed annually by the town’s governing body and designated Emergency Management Director.

New Hampton, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED
DATE: _____
SIGNATURE: _____
PRINTED NAME: _____
Emergency Management Director

CONCURRENCE OF APPROVAL
SIGNATURE: _____
PRINTED NAME: _____
Chairman of the Selectboard

Changes and notes regarding the 2024 Hazard Mitigation Plan Update

Please use the reverse side for additional notes 

Additional Notes – Year Four:

[illegible]

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

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A: BIBLIOGRAPHY

Documents

- **Local Hazard Mitigation Planning Policy Guide**, FEMA, April 19, 2023
- **Local Hazard Mitigation Planning Handbook**, FEMA, March 2013
- **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**
 - New Hampton Hazard Mitigation Plan, 2015
 - Holderness Hazard Mitigation Plan, 2022
 - Goffstown Hazard Mitigation Plan, 2021
 - Bethlehem Hazard Mitigation Plan, 2021
- **NH State Multi-Hazard Mitigation Plan**, 2018
 - https://prd.blogs.nh.gov/dos/hsem/wp-content/uploads/2015/11/State-of-New-Hampshire-Multi-Hazard-Mitigation-Plan-Update-2018_FINAL.pdf
- **NH Division of Forests and Lands Quarterly Update**
 - <http://www.nhdfi.org/fire-control-and-law-enforcement/fire-statistics.aspx>
- **Disaster Mitigation Act (DMA) of 2000**, Section 101, b1 & b2 and Section 322a
 - <http://www.fema.gov/library/viewRecord.do?id=1935>
- **Economic & Labor Market Information Bureau**, NH Employment Security, January 2021; Community Response for New Hampton, Received, 8/21/2020, Census 2000 and Revenue Information derived from this site;
 - http://www.nhes.nh.gov/elmi/products/cp/profiles-htm/New_Hampton.htm

Photos

- Photos are taken by MAPS unless otherwise noted.

Map Images

- Map snips or images are created by MAPS using readily available data from NH Granit, unless otherwise indicated

Wildfire Links

- US Forest Service; <http://www.fs.fed.us>
- US Fire Administration; <http://www.usfa.dhs.gov/>
- US Department of Agriculture Wildfire Programs: <http://www.wildfireprograms.usda.gov/>
- Firewise®; <http://www.firewise.org/>
- Fire Adapted Communities; www.fireadapted.org
- Wildfire Preparedness Guide to Forest Wardens; www.quickseries.com
- Ready Set Go; www.wildlandfires.org
- Fire education for children; www.smokeybear.com

Additional Websites

- NH Homeland Security & Emergency Management; <http://www.nh.gov/safety/divisions/hsem/>
- US Geological Society; <http://water.usgs.gov/ogw/subsidence.html>
- Department Environmental Services;
<http://des.nh.gov/organization/divisions/water/dam/drought/documents/historical.pdf>
- The Disaster Center (NH); <http://www.disastercenter.com/newhamp/tornado.html>
- Floodsmart, about the NFIP; http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp
- NOAA, National Weather Service; <http://www.nws.noaa.gov/glossary/index.php?letter=w>
- NOAA, Storm Prediction Center; <http://www.spc.noaa.gov/faq/tornado/beaufort.html>
- National Weather Service; http://www.nws.noaa.gov/om/cold/wind_chill.shtml
- Center for Disease Control; <https://www.cdc.gov/disasters/winter/index.html>
- Slate; <http://www.slate.com/id/2092969/>
- NH Bureau of Economic Affairs; <http://www.nh.gov/osi/planning/index.htm>
- Code of Federal Regulations; Title 14, Aeronautics and Space; Part 1, Definitions and Abbreviations;
https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title14/14tab_02.tpl
- Federal Aviation Administration; <http://faa.custhelp.com>
- US Legal, Inc.; <http://definitions.uslegal.com/v/violent-crimes/>

APPENDIX B: TECHNICAL & FINANCIAL ASSISTANCE FOR HAZARD MITIGATION

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 suffering⁴³:

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 are eligible to apply for funding. The funding amount is pre-calculated and based on historical FMAG declarations and is reassessed every fiscal year.

FLOOD MITIGATION ASSISTANCE (FMA)

FMA is a competitive grant program that provides funding to 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). The program is funded by an annual congressional appropriation and since 2016 has made \$160 million available for mitigation projects.

HMA Eligible Activities

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.

⁴³ 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 amount of funding is based on a 6% set-aside of the assistance FEMA provides following major disaster declarations through the Public Assistance and Individuals and Households Program. The BRIC program was designed to foster innovation and provides a yearly grant cycle, offering applicants a consistent source of funding.

PRE-DISASTER MITIGATION (PDM)

PDM is a grant program that helped 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 for 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 submit 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.⁴⁴

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.

⁴⁴ 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 the winter months and can cause loss of life, property damage, and tree damage.

Snowstorms

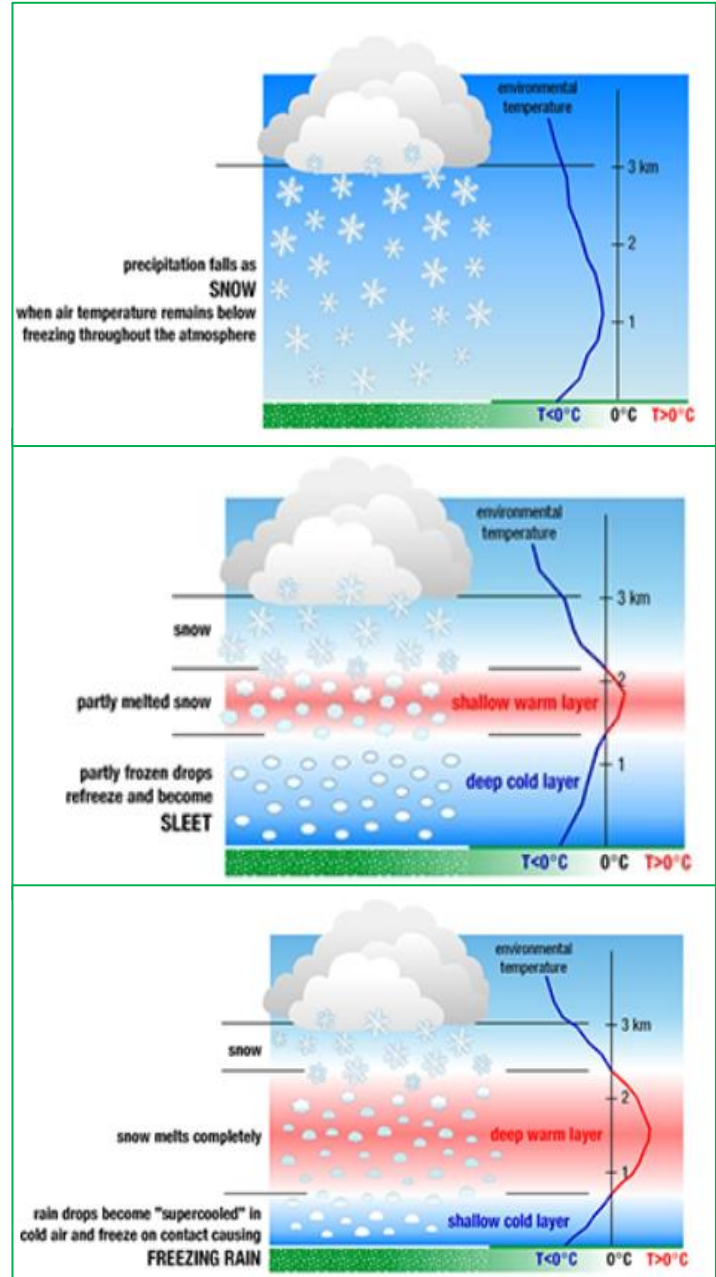
A winter storm can range from moderate snow to blizzard conditions. Blizzard conditions are considered blinding wind-driven snow over 35 mph that lasts several days. A severe winter storm deposits four or more inches of snow for 12 hours or six inches for 24 hours.

Sleet

Snowflakes melt as they fall through a small band of warm air and later 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 creates ice accumulations 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.”⁴⁵



Types of Severe Winter Weather
NOAA – National Severe Storms Laboratory

⁴⁵ 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 predicated ice storms.⁴⁶

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	

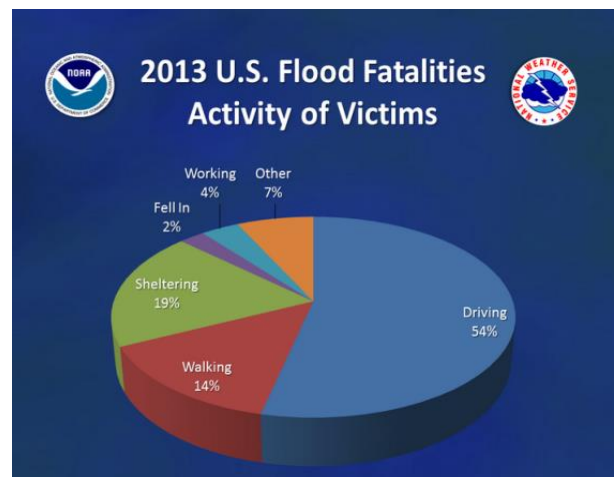
(Categories of damage are based upon combinations of precipitation totals, temperatures and wind speeds/directions.)

*INLAND FLOODING

General Flooding Conditions

Floods are defined as a temporary overflow of water onto lands that are 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 a lot of 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.



⁴⁶ The Weather Channel, <http://www.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 impoundment. 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 pond⁴⁷. 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 manner⁴⁸:

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 in height 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

⁴⁷ NH DES http://des.nh.gov/organization/divisions/water/dwgb/wrpp/documents/primer_chapter11.pdf

⁴⁸ <http://des.nh.gov/organization/commissioner/pip/factsheets/db/documents/db-15.pdf>

Flooding (local, road erosion)

Today, the risk of flooding is a serious concern with changes in land use, aging roads, undersized culverts, and designs that are no longer effective. 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.

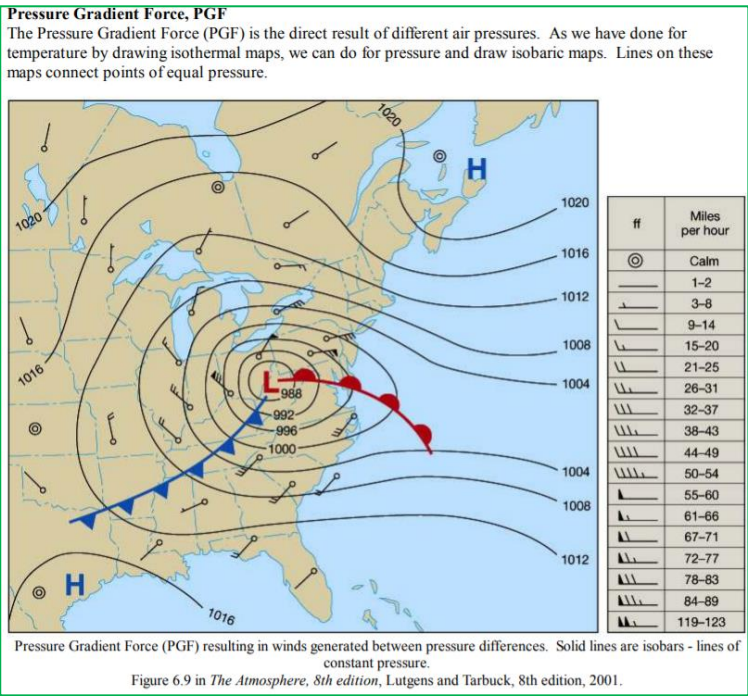
Flooding (Riverine)

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.

***HIGH WIND EVENTS**

Windstorm

NOAA (National Oceanic & Atmospheric Administration) stated that wind is defined as “*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.^{49 50}



⁴⁹ NOAA; <http://www.nws.noaa.gov/glossary/index.php?letter=w>

⁵⁰ 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 for the formation of 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 speeds of 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.”⁵¹ 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, automobiles, etc., will create secondary damage to structures.

⁵¹ Enhance Fujita Scale, http://www.wunderground.com/resources/severe/fujita_scale.asp

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. Comparing a microburst and the larger macroburst shows that both 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.⁵²

Below is the Beaufort Wind Scale, showing expected damage based on wind (knots), developed in 1805 by Sir Francis Beaufort of England and posted on NOAA's Storm Prediction Center website.⁵³

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 begin 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, 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 more reduced	
12	64+	Hurricane	Air-filled with foam, waves over 45 ft., sea completely white with driving spray, visibility greatly reduced	

⁵² NOAA - <http://www.srh.noaa.gov/jetstream/tstorms/wind.html>

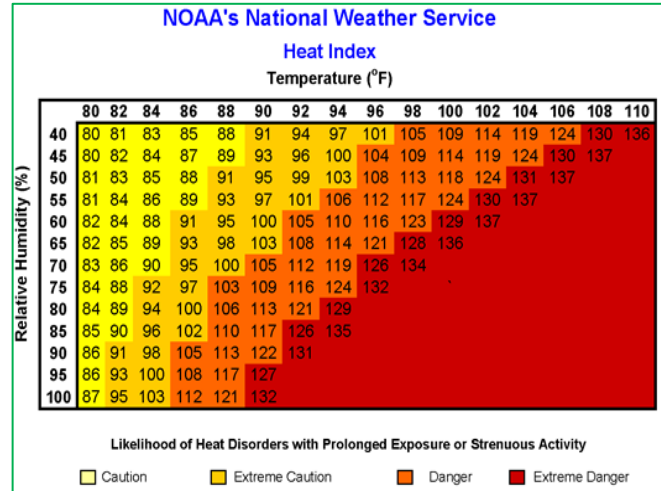
⁵³ NOAA, Storm Prediction Center, <http://www.spc.noaa.gov/faq/tornado/beaufort.html>

*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.

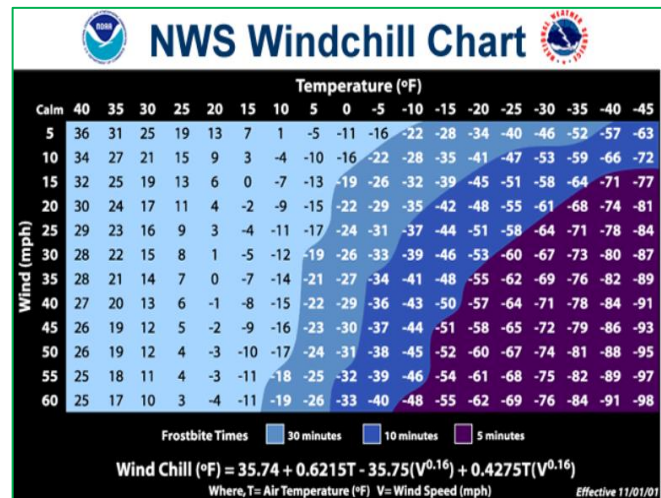
Most heat disorders occur when a victim is overexposed to heat or has over-exercised for their age and physical condition. Older adults, young children, and those who are sick or overweight are more likely to succumb to extreme heat.



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 living 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."⁵⁴ The chart above explains the likelihood of heat disorders that may result from high heat.⁵⁵

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 who are stranded or live in poorly insulated homes or without heat.⁵⁶ The National Weather Service Chart (to the right) shows windchill due to wind and temperature.⁵⁷



⁵⁴ NOAA, Index/Heat Disorders; <http://www.srh.noaa.gov/ssd/html/heatwv.htm>

⁵⁵ NOAA; <http://www.nws.noaa.gov/os/heat/index.shtml>

⁵⁶ CDC; <http://www.bt.cdc.gov/disasters/winter/guide.asp>

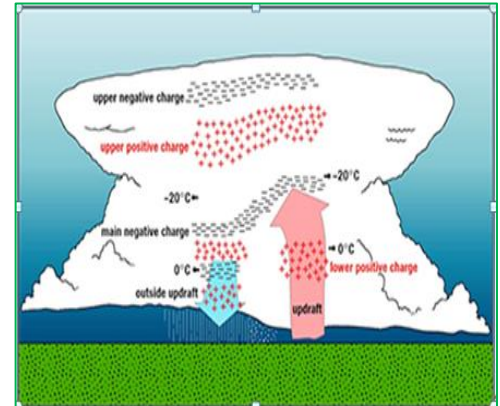
⁵⁷ National Weather Service; <http://www.nws.noaa.gov/om/windchill/>

***LIGHTNING & HAIL**

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.”⁵⁸

Thunder, a result of lightning, is created when the “lightning channel heats the air to around 18,000 degrees Fahrenheit...”⁵⁹ 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 hours; 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 frequency of cloud-to-ground lightning 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 coasts. 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.”⁶⁰

⁵⁸ NOAA National Severe Storms Laboratory, <https://www.nssl.noaa.gov/education/svrwx101/lightning>

⁵⁹ Ibid

⁶⁰ Ibid

Hailstorm

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:

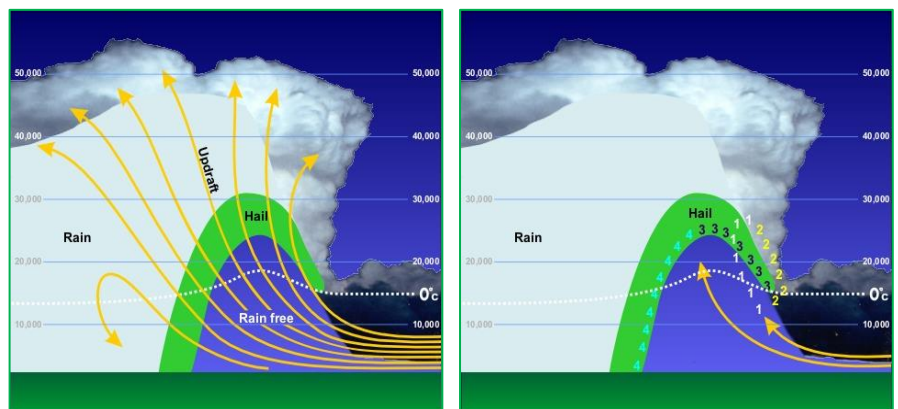
LAL	Cloud & Storm Development	Lightning Strikes 15 Minutes
1	No thunderstorms	-
2	Cumulus clouds are common, but only a few reach the towering cumulus stage. A single thunderstorm must be confirmed in the observation area. The clouds produce mainly virga, but light rain will occasionally reach the ground. 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.	

<http://www.prh.noaa.gov/hnl/pages/LAL.php>

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.”⁶¹

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

The charts to the right show how hail is formed. 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.⁶²



⁶¹ NOAA National Severe Storms Laboratory; <https://www.nssl.noaa.gov/education/svrwx101/hail/>

⁶² <http://oceanservice.noaa.gov/education/yos/resource/JetStream/tstorms/hail.htm#hail>

*WILDFIRES

The National Wildfire Coordinating Group (NWCG) states that wildfires are designated into seven categories, as seen in the top chart to the right.⁶³ For statistical analysis, the US Forest Service recognizes the cause of fires according to the bottom chart to the right:⁶⁴

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.”*⁶⁵

There are two major potential losses with a wildfire: 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.

*TROPICAL & POST-TROPICAL CYCLONES

Cyclones (Hurricanes)

A hurricane is a tropical cyclone where winds reach 74 miles per hour or more and 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 page⁶⁶) 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.”⁶⁷

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 when its maximum sustained winds are between 39-73 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 torrential rains, which cause rivers and streams to flood and overflow their banks.

Class	Aces Burned
Class A	0 to .25 acres
Class B	.26 to 9 acres
Class C	10 to 99 acres
Class D	100 to 299 acres
Class E	300 to 999 acres
Class F	1,000 to 4,999 acres
Class G	5,000 acres or more
Code	Statistical Cause
1	Lightning
2	Equipment Use
3	Smoking
4	Campfire
5	Debris Burning
6	Railroad
7	Arson
8	Children
9	Miscellaneous

⁶³ <http://www.nwcg.gov/pms/pubs/glossary/s.htm>

⁶⁴ https://www.fs.fed.us/cgi-bin/Directives/get_dirs/fsh?5109.14

⁶⁵ International Wildland-Urban Interface Code, 2012, International Code Council, Inc.

⁶⁶ National Hurricane Center; <http://www.nhc.noaa.gov/aboutsshws.php>

⁶⁷ National Hurricane Center, NOAA; <http://www.nhc.noaa.gov/aboutsshws.php>

Rainfall from tropical storms has been reported at rates of up to 6 inches per hour; 43 inches of rain in 24 hours was reported in Alvin, TX, due to Tropical Storm Claudette.⁶⁸

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 likely will result in power outages that could last a few to 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 and block 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 with the loss of 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.

*EARTHQUAKES

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. Two scales widely determine the magnitude and intensity of an earthquake: the more commonly used Richter scale (measures strength or magnitude) and the Mercalli Scale (measures intensity or severity). 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.⁶⁹

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. It is well documented that fault lines are running throughout New Hampshire, but high-magnitude earthquakes have not been frequent in NH history.

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

⁶⁸ http://www.wpc.ncep.noaa.gov/research/mcs_web_test_test_files/Page1637.htm

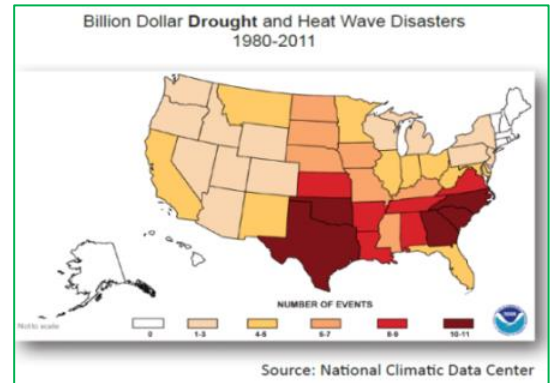
⁶⁹ Modified Mercalli Scale/Richter Scale Chart; MO DNR, http://www.dnr.mo.gov/geology/geosrv/geores/richt_mercalli_relation.htm

***DROUGHT**

A drought is a long period of abnormally low precipitation that adversely affects the growing season or living conditions of plants and animals. Droughts are 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 below, 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	Ranges				
			Palmer Drought Severity Index (PDSI)	CPC Soil Moisture Model (Percentiles)	USGS Weekly Streamflow (Percentiles)	Standardized Precipitation Index (SPI)	Objective Drought Indicator Blends (Percentiles)
D0	Abnormally Dry	<ul style="list-style-type: none"> 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 	-1.0 to -1.9	21 to 30	21 to 30	-0.5 to -0.7	21 to 30
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 	-2.0 to -2.9	11 to 20	11 to 20	-0.8 to -1.2	11 to 20
D2	Severe Drought	<ul style="list-style-type: none"> Crop or pasture losses likely Water shortages common Water restrictions imposed 	-3.0 to -3.9	6 to 10	6 to 10	-1.3 to -1.5	6 to 10
D3	Extreme Drought	<ul style="list-style-type: none"> Major crop/pasture losses Widespread water shortages or restrictions 	-4.0 to -4.9	3 to 5	3 to 5	-1.6 to -1.9	3 to 5
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 	-5.0 or less	0 to 2	0 to 2	-2.0 or less	0 to 2

<https://droughtmonitor.unl.edu/AboutUSDM/AbouttheData/DroughtClassification.aspx>

LANDSLIDE & EROSION

Erosion is the wearing away of lands, 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 a period of time. Short-term erosion typically results from periodic natural events, such as flooding, hurricanes, storm surge, 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.⁷⁰

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 how they affect different geographic, topographic, and geologic areas. Therefore, consideration of many measurements is required to determine the severity of the landslide event.⁷¹

*INFECTIOUS DISEASES

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.⁷²

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.⁷³

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

⁷¹ State of New Hampshire Multi-Hazard Mitigation Plan Update 2018 & <https://oas.org/dsd/publications/Unit/oea66e/ch10.htm>

⁷² <https://www.mayoclinic.org/diseases-conditions/infectious-diseases/symptoms-causes/syc-20351173>

⁷³ <https://www.dhhs.nh.gov/dphs/cdcs/index.htm>

“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.”⁷⁴

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 has infected 641,595,979 people and caused the deaths of 6,631,763 individuals worldwide as of November 28, 2022. As of this date, confirmed cases in the US were reported to be 98,626,079, with 1,1107,894 reported deaths.⁷⁵ Most US residents were advised to “stay at home” by State Governors; businesses closed to flatten the rising curve of confirmed cases through mitigation. As of November 2022, mitigation, testing, and vaccination efforts appeared to work in much of the United States.

The pandemic is an evolving worldwide crisis, affecting millions of workers in the United States and presenting massive economic results. Although most people confirmed with Covid-19 eventually recover, the virus has impacted the elderly and compromised individuals, particularly those in confined living quarters such as nursing homes and prisons.

The extent of infectious diseases is generally described by the level and occurrence of a particular disease as follows⁷⁶:

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
Epidemic	Disease 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
Outbreak	Disease 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

⁷⁴ <https://www.webmd.com/a-to-z-guides/bacterial-and-viral-infections#1>

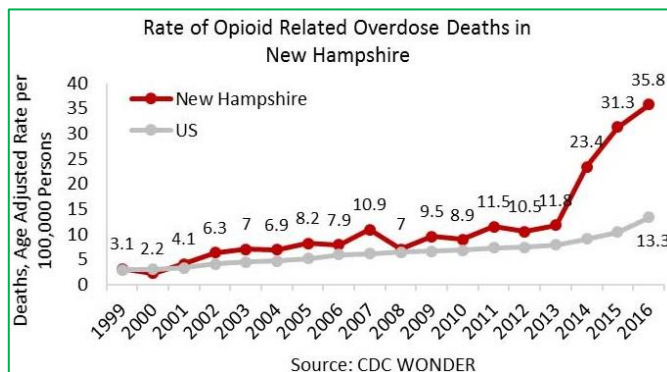
⁷⁵ <https://coronavirus.jhu.edu/map.html>

⁷⁶ <https://www.cdc.gov/ophs/csels/dsepd/ss1978/lesson1/section11.html>

Opioid Crisis

A revised report by the National Institute of Drug Abuse states, “Every day, more than 130 people in the United States die after overdosing on opioids. The misuse of and addiction to opioids—including prescription pain relievers, heroin, and synthetic opioids such as fentanyl - is a serious national crisis that affects public health as well as social and economic welfare. The Centers for Disease Control and Prevention estimates that the total “economic burden” of prescription opioid misuse alone in the United States is \$78.5 billion a year, including the costs of healthcare, lost productivity, addiction treatment, and criminal justice involvement.”

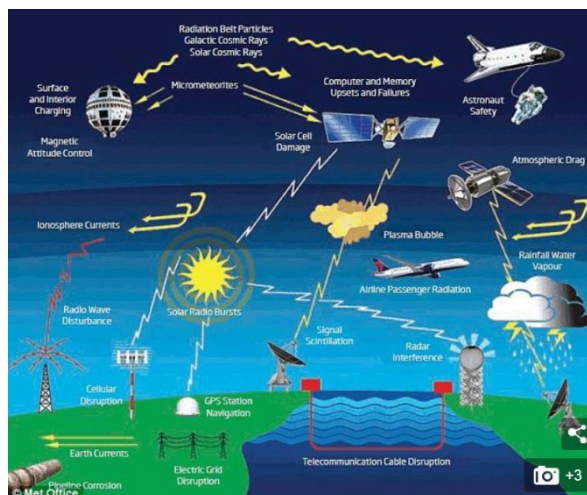
According to the National Institute on Drug Abuse, “New Hampshire has the second highest rate of opioid-related overdose deaths – a rate of 35.8 deaths per 100,000 persons – nearly 3 times higher than the national rate of 13.2 deaths per 100,000. From 1999 through 2016, opioid-related deaths in New Hampshire tripled. This increase was mainly driven by the number of deaths related to synthetic opioids (predominately fentanyl), which increased more than tenfold, from 30 to 363 deaths, during this time.”⁷⁷ The chart to the right shows the increase in opioid-related overdose deaths in New Hampshire compared to the US overall.⁷⁸



*SOLAR STORM & 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.⁷⁹



⁷⁷ <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state/new-hampshire-opioid-summary>

⁷⁸ Ibid

⁷⁹ <https://www.dailymail.co.uk/sciencetech/article-3764842/A-solar-storm-destroy-planet-unless-create-massive-magnetic-shield-protect-Earth-warns-expert.html>

Solar Storm & Space Weather Extent⁸⁰

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

⁸⁰ Extent charts taken from <https://www.weather.gov/akq/SpaceWeather>

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

Radio Blackout				
Scale	Description	Effect	Physical Measure	Average Frequency (1 cycle = 11 years)
R 5	Extreme	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. 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.	$X20 (2 \times 10^{-3})$	Less than 1 per cycle
R 4	Severe	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. 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.	$X10 (10^{-3})$	8 per cycle (8 days per cycle)
R 3	Strong	HF Radio: Wide area blackout of HF radio communication, loss of radio contact for about an hour on sunlit side of Earth. Navigation: Low-frequency navigation signals degraded for about an hour.	$X1 (10^{-4})$	175 per cycle (140 days per cycle)
R 2	Moderate	HF Radio: Limited blackout of HF radio communication on the sunlit side, loss of radio contact for tens of minutes. Navigation: Degradation of low-frequency navigation signals for tens of minutes.	$M5 (5 \times 10^{-5})$	350 per cycle (300 days per cycle)
R 1	Minor	HF Radio: Weak or minor degradation of HF radio communication on sunlit side, occasional loss of radio contact. Navigation: Low-frequency navigation signals are degraded for brief intervals.	$M1 (10^{-6})$	2000 per cycle (950 days per cycle)

AVALANCHES

According to the National Snow & Ice Data Center, an avalanche is a rapid flow of snow 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. Wintertime, particularly from December to April, is when most avalanches tend to happen. However, avalanche fatalities have been recorded for every month of the year.”⁸¹



“All that is necessary for an avalanche is a mass of snow and a slope for it 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 <u>not</u> 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.”⁸²

The second part is the “avalanche track”, or the downhill path that 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 runout zone is where the avalanche has stopped and left 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 on a daily or hourly basis.”⁸³

⁸¹ Copyright Richard Armstrong, NSIDC, <http://nsidc.org/cryosphere/snow/science/avalanches.html>

⁸² NSIDC, <http://nsidc.org/cryosphere/snow/science/avalanches.html>; image credit: Betsy Armstrong

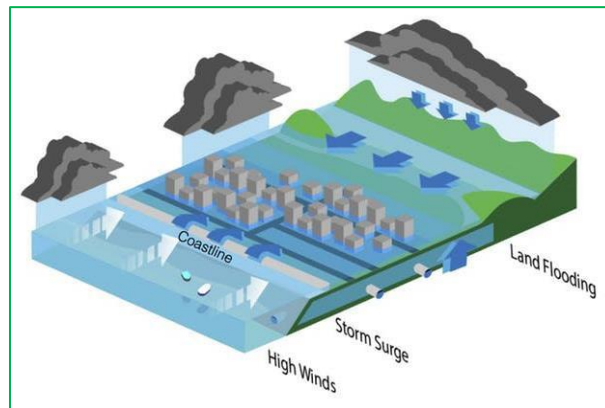
⁸³ Copyright Richard Armstrong, NSIDC, <http://nsidc.org/cryosphere/snow/science/avalanches.html>

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.⁸⁴

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 flooding that results is “determined by a combination of several factors such as storm intensity, forward speed, storm area size, coastline characteristics, angle of approach to the coast, tide height.”⁸⁵

The severity of the flooding can vary depending on “both the speed of onset (how quickly the floodwaters rise) and the flood duration. Nor’easters can impact the region for several days and produce storm surge with or without the addition of inland runoff from heavy precipitation.”⁸⁶ As shown in the image below, storm surge and inland flooding can affect the severity of flooding along the shore.⁸⁷



⁸⁴ http://www.avalanche.org/danger_card.php

⁸⁵ NH Multi-hazard Mitigation Plan-2018, page 55

⁸⁶ Ibid

⁸⁷ Ibid, page 53, “Understanding compound flooding from land and ocean sources”, Theodore Scontras, University of Maine)

THIS PAGE INTENTIONALLY LEFT BLANK

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-4693	Severe Winter Storm	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. 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 during a period of severe storms and flooding from July 17-19, 2021, in one New Hampshire County.
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.
DR-4371	Severe Winter Storm	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-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

Number	Hazard	Date of Event	Counties	Description
DR-4316	Severe Winter Storm	March 14-15, 2017	Belknap & Carroll	Major Disaster Declaration DR-4316: Severe winter storm and snowstorm in Belknap & Carroll Counties; disaster aid 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 Storm	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 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 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-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 and brought 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).
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: Emergency Declaration 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: May Flooding Event, May 26th-30th, 2011, in Coos & Grafton County (Memorial Day Weekend Storm).
DR-1913	Severe Storms & Flooding	March 14-31, 2010	Hillsborough & Rockingham	Major Disaster Declaration DR-1913: Flooding to two NH counties, 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.

Number	Hazard	Date of Event	Counties	Description
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 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'easter, 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 has reached more than \$3 million to help NH residents and business owners 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.
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 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)

Number	Hazard	Date of Event	Counties	Description
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 throughout September 16-18.
DR-1231	Severe Storms & Flooding	June 12-July 2, 1998	Belknap, Carroll, Grafton, Hillsborough, Merrimack & Rockingham	Major Disaster Declaration DR-1231:
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:

Number	Hazard	Date of Event	Counties	Description
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

http://www.fema.gov/disasters/grid/state-tribal-government/33?field_disaster_type_term_tid_1=All

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 Society
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 IDEAS⁸⁸

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

Hailstorm

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

Landslide

- 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

Flood

- 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

Severe Wind

- 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

⁸⁸ 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

THIS PAGE INTENTIONALLY LEFT BLANK

The Town of New Hampton

Chief Kevin Lang
Fire Chief & EMD
26 Intervale Drive
New Hampton, NH 03256
firechief@new-hampton.nh.us
(603) 744-2735



New Hampton Public Safety Building

Photo Credit: <https://www.facebook.com/nhffassociation/photos/a.914869168544117/2072114256152930>

Mapping and Planning Solutions

June Garneau
Owner/Planner
PO Box 283
91 Cherry Mountain Place
Twin Mountain, NH 03595
jgarneau@mappingandplanning.com
(603) 991-9664 (cell)