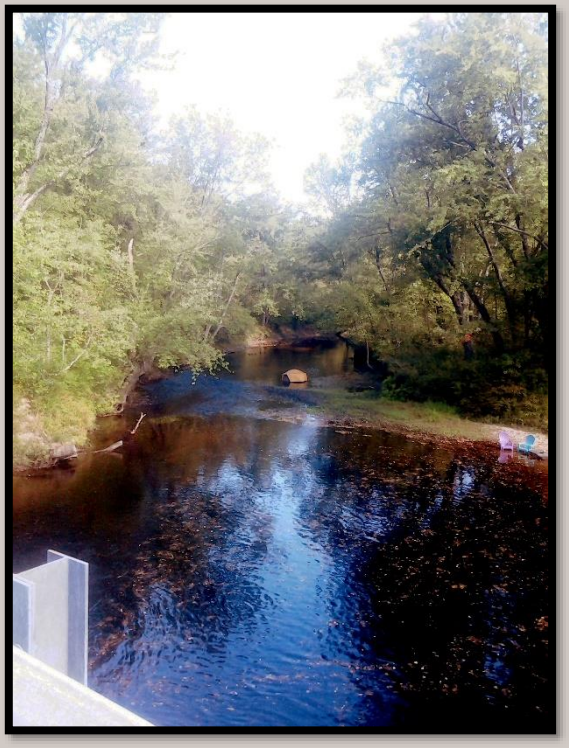
**DRAFT 05-21-18**

**Public Information Meeting**

# Town of Webster

## New Hampshire

# Hazard Mitigation Plan Update 2018



*Tent Floating down Blackwater River after Dam Release, 10-30-17 Storm*
*Photo courtesy of: Kim Fortune*

**Adopted by the Webster Select Board**

**___, 2018**

**NHHSEM/FEMA Approved____ 2018**

# Town of Webster
# New Hampshire

# Hazard Mitigation Plan Update 2018

**Select Board Adopted ____, 2018**

**NHHSEM/FEMA Approved ____, 2018**


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945 Battle Street
Webster, NH 03303
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www.webster-nh.org

**Central NH Regional Planning Commission (CNHRPC)**
28 Commercial Street, Suite 3
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**NH Department of Safety**
**NH Homeland Security and Emergency Management (NHHSEM)**
33 Hazen Drive
Concord, NH 03305 *(Mailing Address)*

**Incident Planning and Operations Center**
110 Smokey Bear Blvd
Concord, NH 03301 *(Physical Address)*
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https://apps.nh.gov/blogs/hsem

**US Department of Homeland Security**
**Federal Emergency Management Agency (FEMA)**
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# 1 PLANNING PROCESS

The Town's Hazard Mitigation Committee reformed to rewrite the Plan into a more concise format and to incorporate the newest material required by FEMA in addition to updating the Town's newest information since 2012. This Planning Process Chapter contains information previously available in the Introduction Chapter of the **Plan Update 2012**. Expanded public participation steps were taken and a new plan development procedure was used as documented in the Methodology section.

## Certificate of Adoption, 2018

Town of Webster, NH
Select Board
945 Battle Street
Webster, NH 03303

**A Resolution Adopting the Webster Hazard Mitigation Plan Update 2018**

WHEREAS, the Town of Webster has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of the hazards profiled in the **Hazard Mitigation Plan Update 2018** including but not limited to flooding, high wind events, severe winter weather, and fire, resulting in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of Webster has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its **Hazard Mitigation Plan Update 2018** under the requirements of 44 CFR 201.6; and

WHEREAS, public and Committee meetings were held between **September 2018** through **April 2018** regarding the development and review of the **Hazard Mitigation Plan Update 2018**; and

WHEREAS, the **Plan** specifically addresses hazard mitigation strategies, and Plan maintenance procedures for the Town of Webster; and

WHEREAS, the **Plan** recommends several hazard mitigation actions (projects) that will provide mitigation for specific natural hazards that impact the Town of Webster 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 Webster eligible for funding to alleviate the effects of future hazards; now therefore be it

RESOLVED by Town of Webster Select Board:

The **Hazard Mitigation Plan Update 2018** is hereby adopted as an official plan of the Town of Webster; The respective officials identified in the mitigation action plan of the Plan are hereby directed to pursue implementation of the recommended actions assigned to them;

Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution; and

An annual report on the progress of the implementation elements of the Plan shall be presented to the Select Board by the Emergency Management Director or designee.

IN WITNESS WHEREOF, the undersigned have affixed their signature and the corporate seal of the Town of Webster this __th day of ____, 2018.

ATTEST

SEAL

**Town Clerk**

Michele Derby, Town Clerk

**Select Board**

Michael P. Borek, Chair date

Nanci A. Schofield, Member date

Christine L. Schadler, Member date

## Plan Process Acknowledgments

The Select Board-appointed Hazard Mitigation Committee was comprised of these individuals on behalf of their respective Departments, Boards or Committees who met between **September 2018** through **April 2018** to develop the **Webster Hazard Mitigation Plan Update 2018**:

- John Clark, Webster Hazard Mitigation Committee Chair
- David Collins, Webster Emergency Medical Services Lieutenant
- Therese Larson, Webster Planning and Zoning Board of Adjustment Secretary and Land Use Coordinator
- Philip Mitchell, Webster Police Department Lieutenant
- Leslie Palmer, Webster Administrative Assistant and Hazard Mitigation Staff Coordinator
- Nanci Schofield, Webster Select Board Member
- Robert Wolinski, Webster Emergency Management Director

The following Central NH Regional Planning Commission (CNHRPC) staff contributed to the development of the Hazard Mitigation Plan Update:

- Stephanie Alexander, CNHRPC Senior Planner
- Craig Tufts, CNHRPC Principal Planner (GIS mapping)

Members of the public* (**3**) and other individuals attended one or more Committee meetings and/or contributed information to the content of the Plan:

| * *member of the public* |
|---|

- Jonathan Adinolfo, Webster Police Department Officer
- Emmett Bean, Webster Fire Department Chief and Road Agent
- Stacey Elliott, Capital Area Public Health Network
- Heather Fairchild, Webster Resident*
- Kim Fortune, Webster Historical Society
- Gary French, former Webster Emergency Management Director, Pillsbury Lake Village District Representative
- Kelly Gale, Webster Resident*
- Kevin Gale, Webster Resident*
- Shawna-Leigh Morton, NH Homeland Security and Emergency Management (NHHSEM)

** "Member of the public" means a person who is not a Town, School, state, or federal government staff member or other staff person paid for by local tax dollars, and who is not a current Town volunteer.*

## Authority

In 2000, the President enacted the Disaster Mitigation Act 2000 (DMA) which requires states and municipalities to have local adopted and FEMA approved natural hazard mitigation plans in place to be eligible for disaster and mitigation funding programs such as the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Assistance (HMA) programs, including Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, and Pre-Disaster Mitigation Program. New Hampshire is awarded funds based upon the completeness of its State Plan and the number of local plans.

As a result of the DMA, funding was provided to state offices of emergency management, including the New Hampshire Homeland Security and Emergency Management, to produce local (municipal) hazard mitigation plans. To remain in compliance with the DMA, the Town of Webster is required to submit for FEMA approval a revised **Hazard Mitigation Plan Update** every five years.

The New Hampshire Homeland Security and Emergency Management (NH HSEM) produced its latest ***State of New Hampshire Hazard Mitigation Plan 2013*** in 2013. The development of the State's Plan allows for New Hampshire to receive funding programs to provide to communities in the event of disasters or for mitigation. An updated State HMP is anticipated for fall 2018.

Prior versions of the Town's Hazard Mitigation Plan are noted in the **Final Plan Dates** section. A 2016 Pre-Disaster Mitigation (PDM) grant provided 75%/25% funding for the Town to update its prior Plan through the Central NH Regional Planning Commission. The 25% match required by the Town was provided by in-kind staff and volunteer time and labor.

This **Webster Hazard Mitigation Plan Update 2018** has been developed in accordance with the Disaster Mitigation Act of 2000 and the ***FEMA Local Mitigation Plan Review Guide, October 1, 2012*** and effective one year later. The most recent Plan development standards provided by FEMA Region I have also been incorporated. The planning effort of the Town is a regular process and this Plan is considered to be a "living document."

The 2018 Webster Hazard Mitigation Committee was established by the Select Board in fall 2017 and guided the development of the Plan. The Committee consisted of the Town's Emergency Management Director, Town Administrator, Planning and Land Use Coordinator, Police Department, and Select Board representatives.

The attendees of the meeting process are noted in the **Acknowledgements**. The Central NH Regional Planning Commission, of which Webster is a member, contributed to the development of this Plan by facilitating the meeting and technical processes, working with the Committee and its members to obtain information, preparing the document, and handling the submissions to NH Homeland Security and Emergency Management and FEMA.

# Methodology

The **Webster Hazard Mitigation Plan Update 2018** was developed over a six-month period, with a group of Town staff members and volunteers and the CNHRPC comprising the majority of the Hazard Mitigation Committee. The 2018 methodology for Plan development is summarized in this section. The Hazard Mitigation Plan is designed differently from the **2012 Plan** with the intent to shorten the Plan for utility purposes, with easier updating and implementation while meeting FEMA's requirements. The Plan roughly follows the ***FEMA Local Mitigation Planning Handbook, 2013*** by using its terminology and some of its tasks, ensuring **Webster's Plan Update 2018** begins to follow a standardized approach to Plan construction and content endorsed by FEMA. Many of the vital sections of the **2018 Plan Update** will be contained in the **10 APPENDICES** for easier display, usage, sharing, and update.

## Meetings and Duties

The meetings and tasks of the Hazard Mitigation Committee were dictated by Agendas and how much the Committee was able to complete for each Agenda is displayed in **Table 1.** Work Sessions were designed to accomplish what could not be completed at meetings due to time constrains.

**Table 1**

**Meeting Schedule and Agenda Activities**

| Meeting | Date | Agenda Activities – See APPENDIX C |
|---|---|---|
| **Meeting 1** | 11-07-17 | Discuss Process and Schedule, Hazard Risk Assessment, Critical and Community Facilities Vulnerability Assessment, Review & Revise Maps 1-2-3, Schedule Meetings |
| **Work Session 1** | 11-21-17 | Hazard Risk Assessment, Critical and Community Facilities Vulnerability Assessment, Review & Revise Maps 1-2-3 |
| **Meeting 2** | 12-05-17 | Review & Update Goals and Objectives, Critical and Community Facilities Vulnerability Assessment, Review Former Existing Measures -> Now Capability Assessment, Develop List of Existing Mitigation Plans and Documents |
| **Work Session 2** | 01-16-18 | Finish Critical Facilities Vulnerability Assessment, Capability Assessment, List of Existing Mitigation Plans and Documents |
| **Meeting 3** | 01-30-18 | Review & Revise 2012 Actions, Develop New Actions from Problem Statements (Community Vulnerability Assessment) and Capability Assessment's Future Improvements, Determine 2012 Actions' Status, Determine Action Timeframe |
| **Work Session 3** | 02-13-18 | Work with Actions from Problem Statements, Begin List of Actions & Evaluate |
| **Work Session 3.2** | 02-26-18 | Continue Actions from Problem Statements, Finalize List of Actions, Determine Action Timeframe, Cost, Responsibility |
| **Work Session 3.3** | 03-06-18 | Finalize List of Actions, Determine Action Timeframe, Cost, Responsibility, Prioritize Actions using STAPLEE |

| Meeting | Date | Agenda Activities – See APPENDIX C |
|---|---|---|
| **Meeting 4** | 04-03-18 | Review Draft Hazard Mitigation Plan Components (onscreen), Review Sections in Need of Information, Review Outstanding Data and Assignments |
| **Work Session 4** | 04-03-18 | Review Entire Draft Hazard Mitigation Plan, Appendices, and Maps, Prepare for Public Information Meeting, Review Plan Approval Process |
| **Public Information Meeting** | 05-21-18 | HMC members present sections of the Plan to members of the public in a question and answer format. Describe hazards and mitigation Actions. Maps will be available. |

*Source: Webster Hazard Mitigation Committee Agendas, 2017-2018*

For each meeting, all meeting attendees signed attendance sheets and meeting match timesheets, documenting their time at the meetings. The Committee members worked to complete the Agendas, including developing the **Hazard Risk Assessment**, **Critical and Community Facilities Vulnerability Assessment**, **Capability Assessment**, and **Mitigation Action Plan**, completing the **STAPLEE Action Prioritization**, etc. along with input from members of the public and guests. The agendas and attendance sheets are included in **APPENDIX C** of the Plan.

The specific meeting tasks are described in detail on the Agendas in **APPENDIX C**. CNHRPC staff facilitated the Committee meetings and Work Sessions. Information needed on the Agenda Tasks indicated above was collected from any attendees present, including any members of the public, by CNHRPC, during discussions among attendees. The new and updated information was described in each Chapter under the **2018 Plan Update** section. Maps were reviewed and updated by the Committee and guests and revised in a Geographic Information System (GIS) by CNHRPC.

In between meetings, Town staff and volunteers and CNHRPC staff researched and collected information for the Chapters. CNHRPC updated and rewrote Chapters, tables, and sections as appropriate. The Chapters were also updated by revising the document to the current FEMA standards.

## Opportunity for Public Participation

### Public Input from the Hazard Mitigation Committee Meetings

The public notification is described in the Public Outreach Strategy sidebar. Three (**3**) members of the public regularly attended the meetings as indicated in the **Acknowledgements** and by the Attendance Sheets in **APPENDIX C Meeting Information**, but the Public Information Meeting was well attended. In this instance, "member of the public" means a person who is not a Town, School, state, or federal government staff member or other staff person paid for by local tax dollars, and who is not a current Town volunteer. Members of the public assisted with completing the Agendas, including developing the **Hazard Risk Assessment**, **Critical and Community Facilities Vulnerability Assessment**, **Capability Assessment**, and **Mitigation Action Plan**, completing the **STAPLEE Action Prioritization**, etc.

along with the Committee members. The general public had the opportunity to attend and participate in the **11** posted meetings or to contact the Staff Coordinator for more information.

**Public Input from the Public Information Meeting**

The **Public Information Meeting (PIM)** was held on May 21, 2018. The Hazard Mitigation Committee members presented portions of the Plan and had the Maps available for display. The agenda and attendance sheet are included in **APPENDIX C**. Held during the semi-monthly Select Board's meeting, the PIM involved **several** members of the public who listened to presentations, asked questions and had the opportunity to review the final draft Plan document, Appendices and Maps.

**Public Input from the Select Board Adoption Meeting**

The Select Board meeting to adopt the **Hazard Mitigation Plan** was held on ____, 2018. Although the Plan's APA had been received, the Board permitted public comment prior to adoption although Plan changes could not be made at this time. Discussion was held prior to the unanimous adoption of the Plan by the Board.

## Completion of the Plan Steps and Dates

On May 21, 2018, the Committee held a **Public Information Meeting** at the Select Board meeting. The same extensive public notification described in the Public Outreach Strategy sidebar occurred to obtain review and comment from the public for the Plan.

On ____, 2018, this Plan, Appendices and Maps were submitted to the NH Homeland Security and Emergency Management (NHHSEM) for compliance review and revision to apply for

### Public Outreach Strategy

Many individuals were personally invited to attend and participate in the Webster Hazard Mitigation Plan Committee meetings. They included Merrimack Valley School District and Webster Elementary School, Town Boards and Committees, US Army Corps of Engineers, Pillsbury Lake Water District, Capital Area Public Health Network, neighboring Emergency Management Directors and representatives from utility companies (Unitil and Eversource). The NH Homeland Security and Emergency Management (NHHSEM) Field Representative was also invited and attended some of the meetings.

The Hazard Mitigation Committee itself was comprised of most primary Town Departments, including Town Administration, Police, Land Use, Select Board and Emergency Management.

The public process for this Plan included posting the public notices in local newspapers and developing a special webpage on the Town's website at https://www.webster-nh.gov/hazard-mitigation-committee. All interested parties were invited to participate, including media, residents, businesses, organizations, local communities, non-profits, and State and federal agencies. The meeting notices were posted on the Town's online calendar and website at www.webster-nh.gov, on the Town Office bulletin board and at the Library. All local interests had an opportunity to attend and participate in the meetings. Copies of publicity for the Plan are included in **APPENDIX C.**

The Central NH Regional Planning Commission, a quasi-governmental regional organization of which Webster is a member, contributed to the development of this Plan by facilitating the meetings and guiding the planning process, and preparing the Plan documents, Appendices, and Maps.

As a final attempt to obtain additional public input, a specially noticed Public Information Meeting was held on May 21, 2018 at a Select Board meeting at which many members of the public listened to the Plan update description and process. This meeting was publicly noticed at the Town Hall and Post Office and all documents were available for review on the Town's website in advance of the meeting.

The attendees and publicity of the public planning process are noted in the **Acknowledgements**.

Approved Pending Adoption (APA) status, also known as conditional approval.

On ____, 2018, Webster received an **Approved Pending Adoption (APA)** notification from NHHSEM. The APA states the Plan will be approved by FEMA after proof of adoption by the local governing body, a Certificate of Adoption from the Select Board, is submitted.

On ____, 2018, the Select Board **adopted the Hazard Mitigation Plan Update** for the Town at a duly noticed public meeting. Copies had been made available at the Town Hall and on the Town Website for public review on ____. Copies of the public notice and flyers are included in **APPENDIX C.** The signed Certificate of Adoption was sent to NHHSEM/FEMA.

On ____, 2018, Webster received a **Notification of Formal Approval** from NHHSEM, with the Plan approval granted effective that day. A **Letter of Formal Approval** from FEMA confirming the notification will be forthcoming. The next Hazard Mitigation Plan update is due five (5) years from this date of approval, on **_____, 2023**.

### Final Plan Dates

The following is a summary of the required dates which guide the adoption and update of the **Webster Hazard Mitigation Plan**. Included is the history of the Plan approvals and expiration dates as shown in **Table 2**.

**Table 2**

**Plan Adoption History**

| Year of FEMA-Approved Hazard Mitigation Plan | Adoption by Webster Select Board | NHHSEM/ FEMA's Formal Approval | Plan Expiration |
|---|---|---|---|
| **Original 2007** | 07/16/07 | 10/17/07 | **10/17/12** |
| **Update 2012** | 09/04/12 | 12/03/12 | **12/03/17** |
| **Update 2018** | **xx/xx/18** | **xx/xx/18** | **xx/xx/23** |

# 2 COMMUNITY PROFILE

It has been over five years since the last Plan was written, with the new decennial Census 2010 having been taken. The best available new data has been used in this Chapter to portray the population, housing, and overall demographic picture of present day Webster. The former **Relation to Natural Hazards** section has been updated within **4 HAZARD RISK ASSESSMENT** as **Built Environment Changes.** The tables clearly identify the facilities in Town and which natural, human, and technological hazard events could most likely occur in those areas, as described in **5 COMMUNITY VULNERABILITY ASSESSMENT AND LOSS ESTIMATION**.

A simplified description of how the Town's population and housing have grown within the last four decades follows. Relationships of the locations of people and buildings to natural hazard events are generally explored. Examination of this information will allow the Town to better understand the land use and demographic trends within its borders and how emergency and preventative services can best serve the growing and changing population and landscape.

## Geographic Context

The Town of Webster is located in Central New Hampshire within Merrimack County. The Town is bordered by the Town of Salisbury to the north, the Town of Boscawen to the east, the City of Concord and the Town of Hopkinton to the south, and the Town Warner to the west. The State's capital of Concord is about 15 miles from the Webster Town Office to the City proper although the Town abuts the City. One typically travels NH Route 127 in Webster to US Routes 3 & 4 in Boscawen before traveling on Interstate 393/US Route 4 south into Concord. Alternatively, the City proper can be reached by traveling NH Route 127 to NH Route 103 in Hopkinton, then taking Interstate 89/US 202 into Concord. The fact that abutting Concord is difficult to reach has caused emergency response issues.

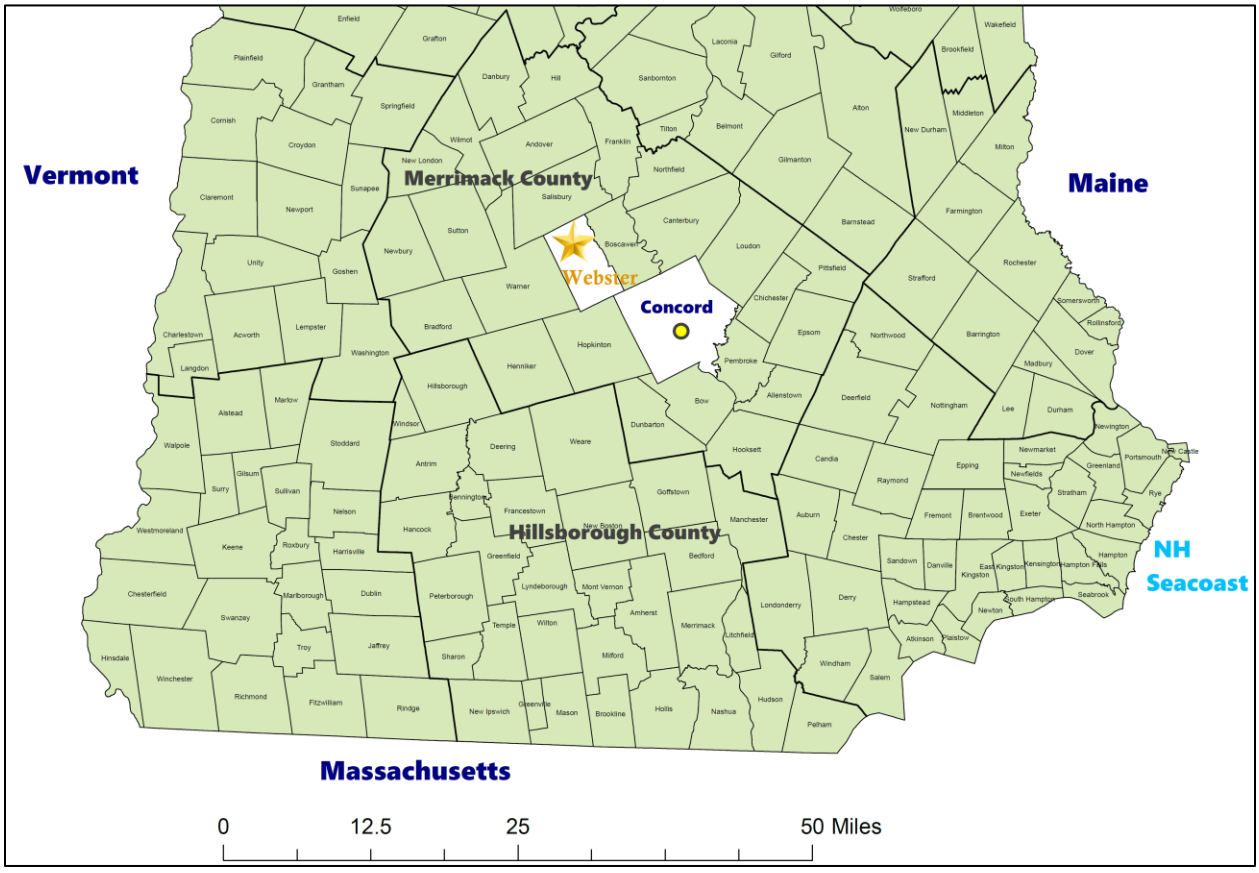
The Blackwater River flows south into Webster from the Blackwater River Reservoir in northern Salisbury. The Blackwater Dam is overseen by the US Army Corps of Engineers (USACOE) who remotely monitor water level conditions from their office in Franklin, a small city 15 miles northeast of Webster. The Blackwater River flows south from Webster into Hopkinton where it joins with the Contoocook River, flowing north into the Merrimack River in Boscawen. The Blackwater Reservoir is considered a recreational area. Downstream of the Blackwater Dam along the shoreline of the Blackwater River, USACOE water releases from the Dam are not communicated to the Town or public and there is thought to be a danger to those on or along the River when water is released. See the **Hazard Mitigation Plan 2018's** cover photo as an example.

Merrimack County in which Webster resides is often referred to as a valley as its borders are higher in elevation than its middle communities. Concord is the only City in the County. Merrimack County is surrounded on all sides by other NH Counties, including Hillsborough, Sullivan, Belknap, Rockingham, Strafford, and Grafton. Most, but not all, communities in Merrimack County comprise the majority of the Central NH Planning Region joined by two communities from Hillsborough County. Hillsborough County borders Massachusetts and includes the cities of Manchester and Nashua.

Concord is about 50 miles from the Massachusetts state border, the Vermont state border, the Maine state border, and the seacoast traveling along New Hampshire's Interstates, US Routes, NH Routes, and local roadways. Webster is also at the geographical midpoint between Maine and Vermont. Webster's context within Merrimack County and the State of New Hampshire are shown in **Figure 1**.

**Figure 1**

**Webster in the State**

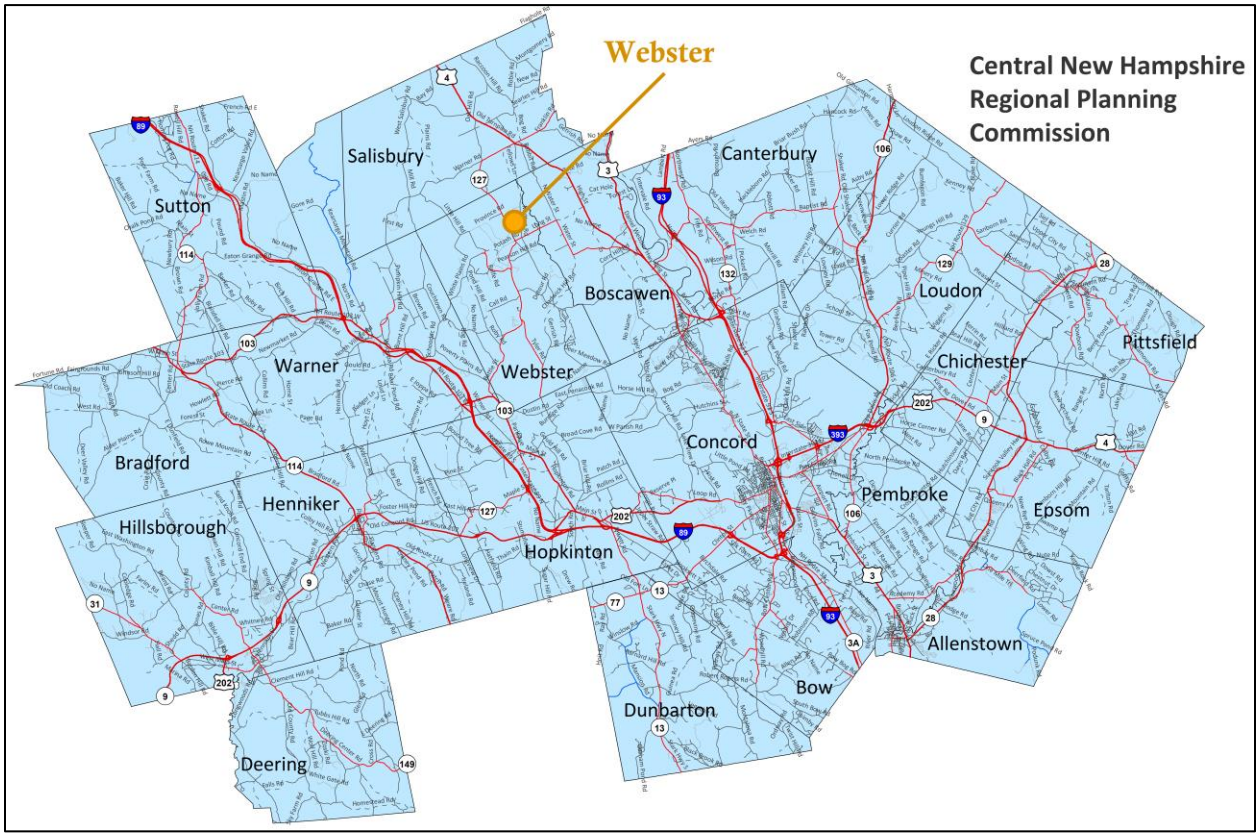



*Source: Central NH Regional Planning Commission*

Webster is closely associated with the Central NH Region, one of the nine legislatively-boundaried planning regions in the State. The Town is a voluntary member of the Central New Hampshire Regional Planning Commission. The **19** Towns and **1** City comprising the Central NH Region contain several major rivers and important highways. The Blackwater River and Warner River flow into the Contoocook River. The Contoocook River flows in a north-easterly direction through Hillsborough, Henniker, Hopkinton, Concord, and Boscawen until its confluence with the Merrimack River in Boscawen/ Penacook. The Contoocook and the Merrimack Rivers effectively bisect the region into three sections. The Soucook River flows south through Loudon along the Concord/Pembroke border and enters the Merrimack River. The Suncook River originates in Belknap County, flowing south through Pittsfield, Chichester, Epsom, Pembroke, and Allenstown until it also converge into the Merrimack River in Bow.

In the Central NH Region, Interstates 89, 93 and 393 stretch in north, northwest, east, and south directions, meeting in Concord and Bow. Major traffic routes of US Route 3 travels north-south and US Routes 4/202 traverses in an east-west direction. Webster hosts a branch of NH Route 127 which travels the entire north-south length of the Town. Dozens of state highways crisscross the entire region. A map of the Central NH Region and its major routes is displayed in **Figure 2**.

**Figure 2**
**Webster in the Region**




*Source: Central NH Regional Planning Commission*

## Population and Housing Growth

Webster has an adopted **June 2005** Master Plan. Chapters include detailed information on Current Land Use, Population and Economics, Historic and Cultural Resources, Community Facilities and Services, Natural Resources, Housing, Transportation, and Future Land Use. The Master Plan influences the Zoning Ordinance and the Subdivision and Site Plan Review Regulations along with the Capital Improvements Program.

The following tables in contain the newest available data on housing and population growth which depict development trends over time. Shown in **Table 3**, Webster's population and housing increases have decreased since the large **1980-1990** growth pattern was established. The estimated **2016** population and housing units, based off the **2010** Census, counted **1,877** people and **859** housing units in Webster.

**Table 3**

**Overall Population and Housing Growth Trends in Webster, 1970-2016**

| Growth | Population | Net Change # | Net Change % | Housing Units | Net Change # | Net Change % |
|---|---|---|---|---|---|---|
| 1970 Census | 680 | --- | --- | 276 | --- | --- |
| 1980 Census | 1,095 | 415 | 61.0% | 387 | 111 | 40.2% |
| 1990 Census | 1,405 | 310 | 28.3% | 577 | 190 | 49.1% |
| 2000 Census | 1,579 | 174 | 12.4% | 672 | 95 | 16.5% |
| 2010 Census | 1,872 | 293 | 18.6% | 849 | 177 | 26.3% |
| Total Change from 1970 – 2010 Census | --- | 1,192 | 175.3% | --- | 573 | 207.6% |
| 2016 Population & Housing Estimates* | 1,877 | +5 | +0.3% | 859 | +10 | +1.2% |
| 46 years of Increase | | +1,197 People | | | +583 Homes | |

*Sources: 1970-1990 US Census CPH-2-31 Table 9 Population and Housing Unit Counts;*
*US Census 2000 & 2010 Data *includes all housing units, including vacant and seasonal*
*NH Office of Strategic Initiatives (NHOSI) Population Estimates, Aug 2016, NHOSI Current Estimates and Housing Trends 2010-2016, Dec 2017*

In **Table 3**, Webster's **2010** Census population of **1,872** shows an overall increase of about **175%** in population over the previous four decades, up from **680** people in **1970**. Between **2000-2010**, the Town's population increased by nearly **19%** (**293** people).The population growth numbers in Webster are comparable to other small communities in the Central NH region during this time period, when little development occurred and in one community a large decline was noted over these last 10 Census years.

The growth of housing units in Webster has always been higher than the respective population rates since **1970**. The Town grew from **276** units in **1970** to double that number, totaling **849** in **2010**, an

overall growth rate of **208%.** Between **2000-2010**, housing increased by **26%** (**177** units). This housing rate increase is comparable the small communities in the Central NH region because the overall number of units is low.

The number of people per housing unit has continued to decline from its high of **2.9** people in **1970** to **2.3** people per housing unit in **2010**. Webster's overall growth since **1970** has increased by **1,560** people and **910** homes by **2015**.

A good measurement of community population and housing change is population density, or how many people live in a square mile of land area. As displayed in **Table 4**, the overall population density has increased about **63%,** from **104** people per square mile in **1970** to **154** people in **1990** and to **170** people in **2010**.

**Table 4**

**Population Density in Webster, 1970-2016**

| Municipality Size | | Persons per Square Mile | | | | | |
|---|---|---|---|---|---|---|---|
| Land Acreage | Land Area in Square Miles | 1970 | 1980 | 1990 | 2000 | 2010 | 2016 |
| 18,112 | **28.3** | 24.0 | 38.7 | 49.6 | 55.8 | 66.1 | 66.3 |

*Sources: **Table 3**, Office of Energy and Planning's GIS acreage calculations, 2013*

Webster is a relatively small community in land area at **28.3** square miles in size and development opportunities are limited primarily to the existing built environment and the highly forested areas of the community. Between the **2000-2010** Census, the addition of **11** people per square mile and **2016** estimates of a population of no change (**0** people) indicates a slow growth trend. The **2016** population per square mile of **66.3** is low in the Central NH region.

In **Table 5,** Webster's new home and building construction permits over the last **6** years are higher than expected. Between **2012-2017**, a total of **23** single family homes received new construction permits, averaging less about **4** permits per year. During this time, **0** permits were issued for multi-family homes, manufactured homes and non-residential buildings.

**Table 5**

**New Construction Permits Issued by Building Type, 2012 – 2017**

| Building Type | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 6-Year Totals |
|---|---|---|---|---|---|---|---|
| **Single Family Homes** | 5 | 1 | 5 | 3 | 3 | 6 | **23** |
| **Multi-family Homes** | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Manufactured Homes** | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Non-Residential Buildings** | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Totals** | **5** | **1** | **5** | **3** | **3** | **6** | **23** |

*Source: Town of Webster Annual Building Permit Spreadsheets, 2012-2017; NH Office of Strategic Initiative Trends in Housing Supply, 2010-2016*

Permits issued do not necessarily equate to buildings constructed. The NH Office of Strategic Initiative (NH OSI) estimates during this time that **11** new housing units were built, meaning approximately less than half of the **23** permits issued were used.

## Land Use and Zoning

According to NH Office of Energy and Planning's 2013 geographic information system (GIS) calculations, Webster has a total land area of **18,089** acres, or **28.3** square land miles. An additional **336** acres (about **0.5** square miles) is water area. The acreage figure is not quite comparable to the recent **2018** MS-1 reporting calculation of **18,128** land and water acres for the Town. Reviewing the assessing information closely should yield the answer as to why this discrepancy exists, although small differences between the actual taxable land calculations from the assessing records and the acreage from the basic GIS calculations are not unusual.

For New Hampshire and specifically the Central NH Region, Webster is considered a small-sized community in terms of land area. Webster's proportion of forested land use, farm land use, and commercial land use is similar to many small towns in the region. The Town contains more exempt land use acreage likely because of the Blackwater Reservoir and contains slightly less residential land use acreage.

Table 6 provides a snapshot of the Town's **2018** land use data. Forested land use is the most extensive land use type, comprising **58%** of the Town's land area. Exempt land (**16%**) is followed closely by residential land (**16%**), followed by farmland (**5%**) and wetlands (**4%**). Commercial land and unproductive land are both **<1%**.

**Table 6**

**Land Use Acreage, 2018**

| Land Use Category 2018 | Acres | % of Town |
|---|---|---|
| **Residential Improved** | 2,850 | 15.7% |
| **Commercial/Industrial** | 111 | 0.6% |
| **Exempt (State, Town, Federal, etc)** | 2,921 | 16.1% |
| **Farm Lands** | 878 | 4.8% |
| **Forest Land** | 8,696 | 48.0% |
| **Forest Land with Stewardship** | 1,824 | 10.1% |
| **Unproductive Land** | 162 | 0.9% |
| **Wetlands** | 686 | 3.8% |
| **Total** | **18,128** | **100.0%** |

*Source: Avitar Assessing Software MS-1 Report, Jan 2018*

The perspective of the Town's Zoning Districts offers another way to view how the land is utilized within Webster in **Table 7**. A full table of uses is available within the Zoning Ordinance which states which uses are allowed within each district. A table of dimensional and density regulations pertaining to water and sewer, lot frontages and lot sizes, and minimum pervious surfaces complement the table of uses.

**Table 7**

**Zoning Districts, 2018**

| Zoning District | Abbreviation |
|---|---|
| **Residential Agricultural District** | RAD |
| **Pillsbury Lake District** | PLD |
| | |
| **Overlay District** | **Abbreviation** |
| **Floodplain Development District** | ---- |
| **Groundwater Protection District** | --- |
| | |

*Source: Town of Webster Zoning Ordinance, March 2018*

The overlay districts are superimposed upon the zoning districts so additional regulations shall apply. For any conflicting regulation, the more restrictive shall apply. The Zoning Ordinance has sections amended every year at the annual March Town Meeting and is vigorously used and applied by the Land Use Department.

The community's **Built Environment Changes** describe how and where the community has grown, to which hazards vulnerable areas are susceptible, and states the overall change in hazard vulnerability in **4 HAZARD RISK ASSESSMENT**.

# 3 GOALS AND OBJECTIVES

The overall purpose of this Plan is to reduce future life and property losses caused by hazard events before they occur by the identification of appropriate **Actions** that are implemented during the five-year duration of this Plan.

Inspired by the *State of New Hampshire Hazard Mitigation Plan*, the following **Goals** were initially developed in a previous Plan version and thus were reviewed and updated as applicable by the Hazard Mitigation Committee during a public meeting. While the hazard incidents have remained essentially the same as from the **2012 Plan** with a few disaster additions over the course of the last five years, it was important to reassess the continued relevancy of **Goals** and **Objectives** to influence the development of the best and most relevant hazard mitigation Actions.

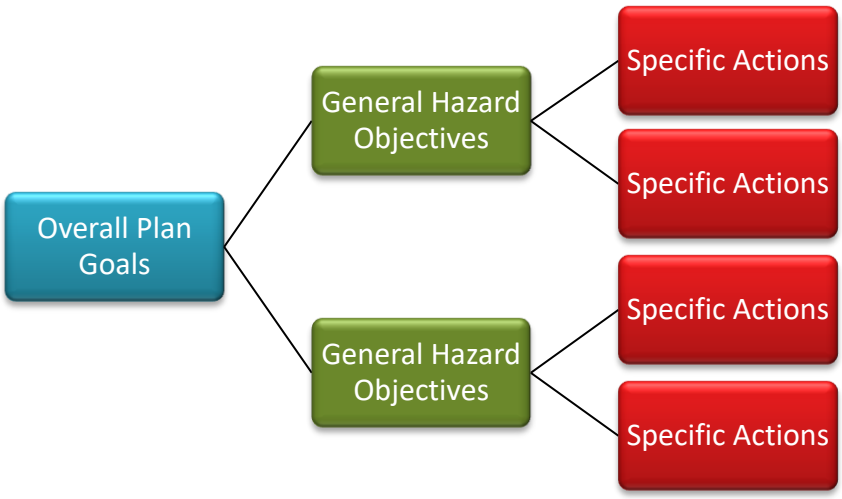
## What Are Goals, Objectives and Actions

Goals, Objectives and Actions are used in the Hazard Mitigation Plan to define different levels of meaning. Their relationship is displayed in **Figure 3**.

The overall **Goals** of this Hazard Mitigation Plan provide a macro-level view of what emergency managers want to accomplish to keep the Town's life, property and infrastructure safer from natural disasters. Statements of overall **Goals**, beginning with "To", describe the desired vision of mitigation and safety for the community. **Goals** enable the development of thoughtful hazard **Objectives** designed to generally fulfill those **Goals**.

**Figure 3**

**Relationship of Goals, Objectives and Actions**



**Objectives** begin to narrow down the focus of the overall **Goals** into hazard minimization statements. Main hazard categories of **Flood**, **Fire**, **Severe Wind**, **Extreme Temperature (Cold-Hot)**, **Human**, and **Technological** guide the direction of mitigation efforts. These hazard **Objective** statements, beginning with "Minimize", state Town's desired outcome for each hazard category. The **Objectives** support the overall **Goals** by placing a focus on hazard mitigation or minimization.

Finally, **Actions** are the specific activities or projects which can be undertaken to accomplish an **Objective**. **Actions** begin with a verb to portray a direction for accomplishment. The **Action** is the target to reach to help mitigate hazards in the community. The completed **Action** fulfills the associated **Objectives**. The Actions will be listed and reviewed later in the **Mitigation Action Plan** tables.

## Overall Hazard Mitigation Plan Goals

The following **3** Goals for the **Hazard Mitigation Plan 2018** were developed by the Hazard Mitigation Committee as the vision for the community with respect to the declared disaster declarations, general hazard events, seasonal weather events and changing climate patterns resulting in unexpected events. Collectively, the **Goals** guided the formulation of **Objectives** for each of the main hazard categories. These **Goals** were revised from the **2012 Plan** to emphasize hazard mitigation instead of preparedness, response and recovery which are covered in the ***Emergency Operations Plan***. Mitigation **Goals** more closely aligned with sustained risk prevention or reduction of long-term risk to people, property and infrastructure.

**Webster Hazard Mitigation Plan Goals**

1. **To reduce the risk of injury and the loss of life in the Town from all natural hazards and disasters and impacts from secondary hazards.**
2. **To reduce the risk of potential damages in Town to public and private property, critical facilities, infrastructure, historic resources and the natural environment from all natural hazards and disasters.**
3. **To promote public awareness of hazard mitigation planning and activities to the Town's residents, visitors and businesses.**

## General Hazard Mitigation Objectives

**Webster Hazard Mitigation Objectives**

### FLOOD HAZARDS

1. **Minimize the damages from floodwaters of the Blackwater River, Meadow Brook, Schoodac Brook, Knight Meadow Brook, Deer Meadow Brook, Pond Brook, Beaver Dam Brook, Ponds, Pillsbury Lake, Lake Winnepocket, and other water bodies, to life, property, and infrastructure.**

2. **Minimize the damages caused by erosion and flooded roads, culvert washouts, dam failures or debris (tree limbs, leafy material/ sediment) to life, property, and infrastructure.**

### FIRE HAZARDS

3. **Minimize the damages from fire, lightning, and wildfire to life, property, and infrastructure, including the Town Forests and Town-owned property and all telecommunications towers.**

### WIND HAZARDS

4. **Minimize the damages from severe wind events, including thunderstorms, downbursts, hurricanes and tropical storms, and tornadoes to life, property, and infrastructure.**

### EXTREME TEMPERATURE (COLD-HOT) HAZARDS

5. **Minimize the damages from both severe winter weather, including storms, snow, ice, and wind chill events and from excessive heat events such as heat waves, drought, energy consumption, air and water quality, and climate warming to life, property and infrastructure.**

6. **Minimize the threat of public health events from the cold and warm weather seasons to the public, especially those in close quarters.**

Primary hazard event categories such as **Flood**, **Fire**, **Wind** and **Extreme Temperature** hazards are intended to encompass their respective full sub-hazards range described in this Plan. The general Objectives are developed by addressing the primary hazard events that could impact Webster. They focus on minimizing or mitigating the hazard events to support the overall Goals while driving the direction of Action development later in the Plan. Because the Hazard Mitigation Committee did not believe much could be reasonably done to mitigate **Earth** hazards, there was no respective **Objective** written. However, some Actions in the and **Mitigation Action Plan** tables may address these hazards.

Although human and technological hazards are not natural disasters, many technological hazards are secondary to (caused by) natural hazards such as **Storms, Flooding** or **Winter Weather** causing **Power Failure** or **Debris Impacted Infrastructure**. Twelve (**12**) **General Hazard Mitigation Objectives** were crafted to direct Action development in later Chapters.

**Webster Hazard Mitigation Objectives**

### HUMAN HAZARDS

7. **Minimize the damages from human threats such as sabotage, vandalism, terrorism, hostage situations and civil disturbance to life, property and infrastructure.**

8. **Minimize the exposure to discarded sharps (needles) currently found in multiple public areas and enhance the awareness of the public to illicit drug manufacturing, use and paraphernalia.**

### TECHNOLOGICAL HAZARDS (Infrastructure and Secondary)

9. **Minimize the impact to travelers through blocked transportation systems, including Route 127 (Battle Street), Deer Meadow Road, White Plains Road, Tyler Road, Clothespin Bridge Road, Long Street, and others.**

10. **Minimize the damages from multiple hazards to the operational efficiency of all communications systems, dams, underground water and sewer utilities, bridges, and transportation roadways.**

11. **Minimize the damages from electrical power failure to life, property, and infrastructure, in both rural and urban environments.**

12. **Minimize the damages from hazardous materials exposure, chemical spills, radiological materials incidents, or biological incidents to life, property, and infrastructure.**

# 4 HAZARD RISK ASSESSMENT

Natural disasters and technological, and human hazards that have occurred in Webster or have the potential to occur in the Town were assessed in a **Hazard Risk Assessment** to determine their **Overall Risk** to the community. The major disasters declarations covering the Central NH Region (Merrimack County and Hillsborough County) have been inventoried and additional hazard events occurring in Webster and the area have been described. FEMA Public Assistance funding to the Town is detailed for each disaster declaration. A review of climate changes is provided for region to provide perspective on how the weather may change over time.

The *State of New Hampshire Hazard Mitigation Plan, 2013* recommends that municipalities examine multiple natural hazards. Two hazards, coastal flooding and snow avalanche, are not discussed in Webster's Plan because they have no relevance. Within the **Hazard Mitigation Plan 2018**, natural hazards under these basic categories have been incorporated:

- **Flood Hazards**
- **Wind Hazards**
- **Fire Hazards**
- **Extreme Temperature (Cold-Hot) Hazards**
- **Earth Hazards**
- **Technological (Secondary) Hazards**
- **Human Hazards**

Within these basic hazard categories are numerous related subcategories, all of which are detailed in a **Hazard Risk Assessment.** This Assessment provides a measure of **Frequency**, **Location Area**, **Impact to the Town**, **Hazard Magnitude**, and **Overall Risk** for each hazard in a numerical format as determined by the Hazard Mitigation Committee. Scale definitions and the process to define hazards are discussed.

Many of these examined hazards discussed may pose little threat to the Town. The Hazard Mitigation Committee wanted to acknowledge their possibility as opposed to simply focusing on a handful of top hazards which will certainly occur in the community. Using this broad vision allows Webster to contemplate the impact of a variety of hazards and to develop mitigation actions and design emergency planning programs as appropriate. Only the most predominant hazards, or even multiple hazards, will have mitigation actions developed to try to reduce the hazards' impact. These are later discussed in **Potential Mitigation Actions** and prioritized in the **Mitigation Action Plan**.

## Hazard Risk Assessment Rankings

Twenty-seven (**27**) natural, technological, and human hazards are evaluated within this Plan. The **16** natural hazards (including the technological hazard **Dam Failure** because of its close association with flooding) are ranked within in a **Hazard Risk Assessment**. Some hazards may be more likely to occur in the community than others based on past events and current conditions, and some hazards may have a greater impact than other hazards. How vulnerable Webster could be to natural hazards can be measured in terms of **Overall Risk**.

The location of where each hazard has occurred either in the past or may be prone to future hazard occurrences is noted in the **Hazard Locations in Town** column.

Knowing where events may be likely to occur, the 2018 Hazard Mitigation Committee examined each potential hazard for its **Probability of Occurrence** and its potential **Impact to the Town** affecting people, services/infrastructure and property based on past personal recollections and community hazard trends to determine the **Overall Risk** to the community.

The Committee identified each hazard's **Probability of Occurrence** score on a **1-2-3-4** scale from **Unlikely/1** (0-25% chance of occurring in 10 years, which is **2** Hazard Mitigation Plan cycles) to **Highly Likely/4** (76-100% chance in 10 years) as shown below.

**Probability of Occurrence**

| | | | |
|---|---|---|---|
| **1** | **Unlikely=** | **0 - 25% chance** | **in 10 years** |
| **2** | **Possible=** | **25 - 50% chance** | **in 10 years** |
| **3** | **Likely=** | **51 - 75% chance** | **in 10 years** |
| **4** | **Highly Likely=** | **76 - 100% chance** | **in 10 years** |

The Committee determined the likely **Impact to the Town** of an event based on a **1-2-3-4** scale for **3 Impact** characteristics – Human injuries, the length of time Critical Services/Infrastructure are shut down, and Property damage. Not all of these characteristics have to be expected because each hazard differs. The scale runs from **Limited/1** to **Catastrophic/4** and the more specific definitions are described below.

The **Probability of Occurrence** score was multiplied by the average of each **Impact to the Town** (Human, Critical Services/Infrastructure and Property) score to obtain the **Overall Risk** score.

The technological and human hazards were not scored to ensure the natural hazards retained the focus of the **Hazard Mitigation Plan Update 2018.** However, **Dam Failure** was rated because of its close correlation to **Flooding**.

**Impact to the Town: Human, Critical Facilities/Infrastructure/Services, Property**

| | | |
|---|---|---|
| 1 | Limited= | **Human:** Injuries treatable with first aid.<br>**Critical Facilities/Infrastructure/Services:** Minor inconvenience; Shutdown for 3 days or less.<br>**Property:** Damaged less than 10%. |
| 2 | Significant= | **Human:** Significant injuries or illnesses result in no permanent disability.<br>**Critical Facilities/Infrastructure/Services:** Shutdown for up to 2 weeks.<br>**Property:** Damaged 10% to 25%. |
| 3 | Critical= | **Human:** Significant injuries or illnesses result in permanent disability.<br>**Critical Facilities/Infrastructure/Services:** Complete shutdown for at least 2 weeks.<br>**Property:** Damaged 25% to 50%. |
| 4 | Catastrophic= | **Human:** At least 1 to multiple deaths.<br>**Critical Facilities/Infrastructure/Services:** Complete shutdown for 30 days or more.<br>**Property:** Damaged greater than 50%. |

## OVERALL RISK ASSESSMENT SCORES

The highest possible **Overall Risk** score a natural hazard could be ranked using this **Hazard Risk Assessment** system is **16** while the lowest score a hazard could be ranked is **1**. The **Overall Risk** numeric score is one which can help the community weigh the hazards against one another to determine which hazards are most detrimental to the community and which hazards should have the most Actions developed to try to mitigate those hazards. The **Overall Risk** is calculated simply by adding the two scores of **Probability of Occurrence** and **Impact to the Town**. **The full results of the Hazard Risk Assessment are displayed in Table 8**.

Out of the **16** ranked natural hazards, Webster's highest ranking hazards scored an ***Overall Risk*** between **11 - 16** (out of a possible score of **16**), rounded to whole numbers:

**Highest Overall Risk Hazards Scored 11- 16:**

- **Hurricanes and Tropical Storms 16**
- **River Ice Jams 16**
- **Severe Winter Weather, Wind Chill and Ice Storms 15**
- **Severe Winds, Rain Storms and Thunder Storms 13**
- **Rapid Snow Pack Melt 12**
- **Tornadoes 12**
- **Riverine Scouring, Erosion Channel Movement 11**
- **Drought 11**

Table 8

**Hazard Risk Assessment**

| Natural, Technological, Human Hazard Events | | Susceptible (Existing) Hazard Locations in the Town *See also Appendix A. Community and Critical Facility Vulnerability Assessment (CCFVA)* | Probability of Occurrence | Human Injury Impact | Critical Services and Infrastructure Impact | Property Damage Impact | Severity of Impact | OVERALL RISK (1-16) |
|---|---|---|---|---|---|---|---|---|
| Flood | **Floods and Flash Floods** | **Floodplains of Blackwater River and** the Flood Control Area, Warner River. **Brooks** such as Beaver Dam Brook, Deer Meadow Brook, Schoodac Brook, Pond Brook, Knight Meadow Brook result in expanded flooding. Pillsbury Lake, Lake Winnepocket, Walker Pond, Couch Pond, Knight Meadow Pond/Marsh, Walker Pond and several Farm Ponds can flood. **Beaver dams** can breach, resulting in localized flooding. Homes within the Flood Control Area are at risk. Runoff from roadways or heavy rain can cause floods over the Entire Town. Homes along the Warner River in Webster along Dustin Road, gets very high.<br>**Bridges, drainage systems and areas of past, repaired, or existing potential for road washout**:<br>• Roads: Battle Street/ Route 127 (State roads & culverts), Roby Road, Corn Hill Road (Pond Brook), Deer Meadow Road (Deer Meadow Brook), Little Hill Road, Long Street (Beaver Dam Brook beaver dam/swamp), Mutton Road, Pillsbury Lake (dam breach – the Lake drained), Roby Road, Whiteplains Road (Schoodac Brook).<br>• Bridges: Whiteplains Road Bridge, Clothespin Bridge, Pillsbury Lake Bridge (beaver dam)<br>• Public/private facilities: Pillsbury Lake Water Precinct<br>• Culverts: Deer Meadow Road, Mutton Road, Battle Street/ Route 127 (State)<br>• Dams: Little Hill Road | **3** | 2 | 3 | 3 | **2.7** | **8.0** |
| Flood | **Rapid Snow Pack Melt** | Snow melt runoff from **impervious surfaces and roadways or from tree cover and fields** can cause floods over the Entire Town. Particularly susceptible areas: flooding potential of the Blackwater River and Reservoir, Deer Meadow Road, the back side of New Hampshire Drive, and all roads in the floodplain. Other areas include the regular road washouts (see Flooding). | **4** | 2 | 3 | 4 | **3.0** | **12.0** |
| Flood | **River Ice Jams** | **Blackwater River** ice jams could endanger the dams and have occurred in the past, especially near Clothespin Bridge Road, Battle Street, Tyler Road and east of Tyler Road. Warner River is possible. | **4** | 4 | 4 | 4 | **4.0** | **16.0** |

| Natural, Technological, Human Hazard Events | | Susceptible (Existing) Hazard Locations in the Town *See also Appendix A. Community and Critical Facility Vulnerability Assessment (CCFVA)* | Probability of Occurrence | Human Injury Impact | Critical Services and Infrastructure Impact | Property Damage Impact | Severity of Impact | OVERALL RISK (1-16) |
|---|---|---|---|---|---|---|---|---|
| Flood | **Riverine Scouring, Erosion, Channel Movement** | Because of the **Blackwater River** Flood Control Area, bank erosion, scouring and channel movement may be hazards of potential concern. Erosion of Clothespin Bridge Road south of Detour Road is one most likely to be affected by scouring. | **4** | 1 | 3 | 4 | **2.7** | **10.7** |
| Wind | **Tornadoes** | **Entire Town.** Areas of particular concern include high density populations such Blackwater Dam and its reservoir, the bridges in Town, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home and the Elementary School. The entire Town is wooded and forested. Section of Town would be difficult to access with trees and power lines down on the residential roads. Most remote road/area of Town includes Little Hill Road. | **3** | 4 | 4 | 4 | **4.0** | **12.0** |
| Wind | **Downbursts** | **Entire Town.** Areas of particular concern include high density populations such Blackwater Dam and its reservoir, the bridges in Town, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home and the Elementary School. The entire Town is wooded and forested. Section of Town would be difficult to access with trees and power lines down on the residential roads. Most remote road/area of Town includes Little Hill Road. Agriculture & farms include: George Tree Farm (Roby Road), Drown Dairy Farm (Battle Street/Route 127), Mock Beef Farm (Pleasant Street), Sussman Sheep Farm (Pleasant Street), Coffin Cellars Winery (Battle Street), Milkcan Corner Farm (blueberries) (Mutton Road), Bender Goat Farm (Little Hill Road), Pendleton Beef Farm (Battle Street), Roberts Greenhouse (Long Street), Kimball Sugar House (Whiteplains Road), Tyrn Sugar House (Clough Sanborn Hill), Piper/Miller Sugar House (Tyler Road), Riverfare Beef, Equine & Pork Farm (Tyler Road), Herrick Beef Farm (Call Road), Cloverdale Feedstore/ Boarding Farm (Battle Street), Broker Tree Farm (Gerrish Road), Fallon Honey Farm (Little Hill Road). Also, Town Forest on Clough Sanborn Road. | **3** | 2 | 3 | 3 | **2.7** | **8.0** |

| Natural, Technological, Human Hazard Events | | Susceptible (Existing) Hazard Locations in the Town *See also Appendix A. Community and Critical Facility Vulnerability Assessment (CCFVA)* | Probability of Occurrence | Human Injury Impact | Critical Services and Infrastructure Impact | Property Damage Impact | Severity of Impact | OVERALL RISK (1-16) |
|---|---|---|---|---|---|---|---|---|
| Wind | **Hurricanes and Tropical Storms** | **Entire Town.** Areas of particular concern include high density populations such Blackwater Dam and its reservoir, the bridges in Town, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home and the Elementary School, White Mountain Imaging business. The entire Town is wooded and forested. Sections of Town would be difficult to access with trees and power lines down on the residential roads. Most remote road/area of Town includes Little Hill Road, Tyler Road Area, Deer Meadow Road Area, Pillsbury Lake Area, Pond Hill Road, Clough Sanborn Hill Road. Roadways (fallen trees), electrical power utilities (Unitil & Eversource), communications network, 2 telecommunications towers (Pearson Hill and Dustin Road), Public Safety Building communications (generator). Local government operations are susceptible to damage by debris impacted infrastructure. See also previously listed wind and flood vulnerability sites. | **4** | 4 | 4 | 4 | **4.0** | **16.0** |
| Wind | **Severe Winds, Rainstorms and Thunder Storms** | **Entire Town.** Areas of particular concern include high density populations such Blackwater Dam and its reservoir, the bridges in Town, Pillsbury Lake Water Precinct, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home and the Elementary School. Regularly flooded areas need to be monitored. The entire Town is wooded and forested. Section of Town would be difficult to access with trees and power lines down on the residential roads. Most remote road/area of Town includes Little Hill Road. Roadways (fallen trees), electrical power utilities (Unitil & Eversource), communications network, telecommunications towers, local government operations are susceptible to damage by debris impacted infrastructure. See also previously listed Wind and Flooding susceptibility areas. | **4** | 3 | 3 | 4 | **3.3** | **13.3** |

| Natural, Technological, Human Hazard Events | | Susceptible (Existing) Hazard Locations in the Town *See also Appendix A. Community and Critical Facility Vulnerability Assessment (CCFVA)* | Probability of Occurrence | Human Injury Impact | Critical Services and Infrastructure Impact | Property Damage Impact | Severity of Impact | OVERALL RISK (1-16) |
|---|---|---|---|---|---|---|---|---|
| Fire | **Lightning** | **Entire Town.** Public Safety Building - metal building with Fire & Police radio array. Areas of concern are remote areas (see Wind) which could not be easily accessed by emergency vehicles. The two telecommunications towers (US Cellular at Dustin Road tower and AT&T at Pearson Hill tower) receive regularly lightning strikes. Other areas most susceptible include forested areas, conservation areas, open recreation fields, points of higher elevation than surrounding area. Buildings without lightning rods would be more susceptible to damage from a strike. Other susceptible structures include aboveground utilities: transformers, water towers, churches and tall buildings. | **4** | 2 | 1 | 3 | **2.0** | **8.0** |
| Fire | **Wildfire** | **Entire Town (forested).** Areas of concern are Pillsbury Lake, high density residential areas, along a stretch of the Blackwater River spanning from Route 127 to Clothespin Bridge Road, high tension power lines with dense scrub underneath running through the Deer Meadow Road area, dry slash throughout Town, and remote areas (see Wind) which could not be easily accessed by emergency vehicles. Other areas most susceptible include Town Forest areas, conservation areas, open recreation fields, old historic buildings. | **4** | 2 | 1 | 3 | **2.0** | **8.0** |
| Extreme Temp | **Severe Winter Weather, Cold, Wind Chill and Ice Storms** | **Entire Town.** Areas of particular concern include Elementary School, individual elderly residences, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home. Roadways (fallen trees), electrical power utilities (Unitil & Eversource), powerlines/ cable/ internet, two telecommunications towers (US Cellular at Dustin Road tower and AT&T at Pearson Hill tower) communications network, local government operations are susceptible to damage. Webster's dispersed residential population, located in wooded and forested sections of Town are vulnerable to loss of power and debris on roads. Most remote road/area of Town includes Little Hill Road. Other sections of Town would be difficult to access with trees and power lines down on these residential roads. People may be subject to cold temperature, snow isolation, transportation accidents, power failure and communications failure during winter storm events. A voluntary "welfare check" list is available for people to sign up at the Town Office. | **4** | 4 | 3 | 4 | **3.7** | **14.7** |

| Natural, Technological, Human Hazard Events | | Susceptible (Existing) Hazard Locations in the Town *See also Appendix A. Community and Critical Facility Vulnerability Assessment (CCFVA)* | Probability of Occurrence | Human Injury Impact | Critical Services and Infrastructure Impact | Property Damage Impact | Severity of Impact | OVERALL RISK (1-16) |
|---|---|---|---|---|---|---|---|---|
| Extreme Temp | **Drought** | **Entire Town / Region.** Areas susceptible include farms and orchards: 1 dairy farm [NAME], but many households keep farm animals. Also vulnerable are those residences with private dug wells and Town water supplies (Pillsbury Lake Water Precinct made water available to any who want it). Drought means increased risk of brush fire with dry vegetation (see Wildfire for areas). Gravel roads affected because can't grade them when water is low. All fire ponds will be low or dry during drought times. Higher elevations and ledgy locations tend to run dry first. | **4** | 2 | 3 | 3 | **2.7** | **10.7** |
| Extreme Temp | **Excessive Heat** | **Entire Town.** Areas of particular concern include Elementary School, individual elderly residences, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home. Vulnerable areas most susceptible to extreme heat include farms, orchards including: George Tree Farm (Roby Road), Drown Dairy Farm (Battle Street/Route 127), Mock Beef Farm (Pleasant Street), Sussman Sheep Farm (Pleasant Street), Coffin Cellars Winery (Battle Street), Milkcan Corner Farm (blueberries) (Mutton Road), Bender Goat Farm (Little Hill Road), Pendleton Beef Farm (Battle Street), Roberts Greenhouse (Long Street), Kimball Sugar House (Whiteplains Road), Tyrn Sugar House (Clough Sanborn Hill), Piper/Miller Sugar House (Tyler Road), Riverfare Beef, Equine & Pork Farm (Tyler Road), Herrick Beef Farm (Call Road), Cloverdale Feedstore/ Boarding Farm (Battle Street), Broker Tree Farm (Gerrish Road), Fallon Honey Farm (Little Hill Road). The EOC can be opened as a cooling centers during extended heat conditions. | **4** | 2 | 2 | 3 | **2.3** | **9.3** |
| Earth | **Earthquake** | **Entire Town.** The Central NH Region is seismically active and earthquakes are regularly felt from area epicenters. Site of greatest concern is the Blackwater Dam, Pillsbury Lake Dam. Damage to utility poles and wires, roadways and infrastructure (dams, water lines, bridges) could be significant. Areas with underground utilities, Pillsbury Lake Water Precinct, old buildings, and the Elementary School are particularly susceptible. | **4** | 1 | 2 | 2 | **1.7** | **6.7** |

| Natural, Technological, Human Hazard Events | | Susceptible (Existing) Hazard Locations in the Town *See also Appendix A. Community and Critical Facility Vulnerability Assessment (CCFVA)* | Probability of Occurrence | Human Injury Impact | Critical Services and Infrastructure Impact | Property Damage Impact | Severity of Impact | OVERALL RISK (1-16) |
|---|---|---|---|---|---|---|---|---|
| Earth | **Landslide** | Development in proximity to **areas of steep slopes** (greater than 15%) is at risk for these events. Roads with steep ditching or embankments are most vulnerable to landslide include Pond Hill Road (Class VI) section, White Plains Road, Detour Road, Pleasant Street, Gerrish Road, and many others alongside roadways. | **2** | 1 | 1 | 1 | **1.0** | **2.0** |
| Technologic | **Dam Failure or Release** | **High Hazard (H) dam** is the Blackwater Dam (H) and **3 Low Hazard (L) dams** are the Pillsbury Lake Dam, Winnepocket Lake Dam and Knight Meadow Pond Dam (L), but **beaver dams** have a high probability of flooding and potential to break. | **2** | 1 | 1 | 1 | **1.0** | **2.0** |
| Technological | **Power/ Utility Failure** | **Entire Town.** Areas of particular concern include Elementary School, individual elderly residences, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home, Pillsbury Lake Water Precinct. Wooded, forested and more remote sections of Town would be difficult to access, with trees and power lines down on these routes or residential roads (see Wind). Webster depends on power from Eversource and Unitil. Power outages may last for several days before service is restored in a large event. Isolated areas of Town are particularly vulnerable to outages and the resulting effects. A voluntary "welfare check" list is available for people to sign up at the Town Office. | not rated | not rated | not rated | not rated | not rated | not rated |
| Technological | **Communications Systems Failure** | **Entire Town.** Two telecommunications towers (US Cellular at Dustin Road tower and AT&T at Pearson Hill tower), telephone, Verizon Wireless, and electrical lines (Unitil & Eversource). Communications are detailed in the Community Vulnerability Assessment tables. Communications failure would be worse if it occurred at the Highway Department or Town Offices, especially during a holiday, or inhibited emergency dispatch and EOC operations. Both Town Office and Public Safety Building have backup generators. Most Town radios are interoperable, and they are used in more than one location. The Town is serviced by the Capital Area Mutual Aid Compact, which does all the emergency medical service and Fire dispatching. They have redundant capabilities. Satellite communication is available for the Army Corps of Engineers at the Blackwater Dam. | not rated | not rated | not rated | not rated | not rated | not rated |

| Natural, Technological, Human Hazard Events | | Susceptible (Existing) Hazard Locations in the Town *See also Appendix A. Community and Critical Facility Vulnerability Assessment (CCFVA)* | Probability of Occurrence | Human Injury Impact | Critical Services and Infrastructure Impact | Property Damage Impact | Severity of Impact | OVERALL RISK (1-16) |
|---|---|---|---|---|---|---|---|---|
| Technological | **Debris Impacted Infrastructure** | **Most dams and bridges** could experience debris impacted infrastructure, including the Battle Street bridge over the Blackwater River, Clothespin Bridge Road over the Blackwater River, and the two bridges on Tyler Road over the Blackwater River. If the log boom, which holds back the logs, breaks, debris could clog the Blackwater Dam. Box culverts as replacements for failing culverts have been recently installed in many Webster roads as a result of recurring flooding events. Debris impacted infrastructure includes blocked roadways (trees & powerlines). | not rated | not rated | not rated | not rated | not rated | not rated |
| Tech | **Transportation Accidents** | **Main highway through Town is Battle Street/Route 127.** Intersections with NH 127 can be dangerous. See Map series for regular accident locations - at certain intersections, curves, straightaways, hills. | not rated | not rated | not rated | not rated | not rated | not rated |
| Technological | **Hazardous/ Radiological Materials Spills** | **NH 127/Battle Street** would be the most realistic routes taken where vehicular traffic transports hazardous waste. The largest or most dangerous **stationary sites** that store and/or handle haz mat on site (fertilizer, pesticides, fuel, etc) are listed in Critical and Community Facilities. **Occupational haz mat sites** where spills could occur include: health care facilities, schools, manufacturing, etc. | not rated | not rated | not rated | not rated | not rated | not rated |
| Human | **Public Health Issues** | **Congregate populations**. Webster Elementary School, Austin Home, populated areas, large employers, senior housing, stores and public assembly venues listed in Critical and Community Facilities - all of these locations increase the risk of exposure to and transfer of illness. The forests, conservation areas, agriculture, wooded areas, ponds can host ticks (Lyme) and mosquitos (West Nile, EEE, Equine Infectious Anemia, etc). | not rated | not rated | not rated | not rated | not rated | not rated |
| Technological | **Fire (Vehicle, Structure, Arson)** | **Entire Town.** Areas most susceptible include: above ground fuel tanks on farms, including Drown, Rose Logging, and Mock; underground storage tanks, Eversource high tension power lines running over auto salvage yards; Mutton Road, Little Hill Road, Deer Meadow Road areas miles away from fire ponds; vacant buildings, foreclosed homes or seasonal buildings; or buildings in densely populated areas. Vehicle fires could occur anywhere, parking lots, driveways, roadways. Above ground LP storage tanks can also pose a potential hazard. | not rated | not rated | not rated | not rated | not rated | not rated |

| Natural, Technological, Human Hazard Events | | Susceptible (Existing) Hazard Locations in the Town *See also Appendix A. Community and Critical Facility Vulnerability Assessment (CCFVA)* | Probability of Occurrence | Human Injury Impact | Critical Services and Infrastructure Impact | Property Damage Impact | Severity of Impact | OVERALL RISK (1-16) |
|---|---|---|---|---|---|---|---|---|
| Human | **Terrorism** | **Unlikely, but possible anywhere in Entire Town.** Most susceptible sites could include: Town Office, School, churches, Library, Blackwater Dam, Pillsbury Lake Water Precinct, Public Safety Buildings, Eversource high tension power lines, Post Office, all other governmental facilities or state facilities, political offices or rallies, churches, the two telecommunications towers (US Cellular at Dustin Road tower and AT&T at Pearson Hill tower), businesses with large quantities of hazardous materials like Roberts Greenhouse & Cloverdale Feeds, grocery or convenience stores, restaurants. | not rated | not rated | not rated | not rated | not rated | not rated |
| Human | **Sabotage/ Vandalism** | **Town or Governmental Facilities.** Sabotage would be most likely to occur at electric utilities, Town Offices (computer systems & website), Town buildings, Blackwater Dams, Pillsbury Lake Water District, other water supplies, cemeteries, vacant buildings, beaver dams, under bridges. | not rated | not rated | not rated | not rated | not rated | not rated |
| Human | **Hostage Situation** | **Unlikely, isolated events.** Locations where hostages could be taken include: Town Offices and other public buildings, School, Post Office, workplaces, grocery and convenience stores, restaurants, high density population areas, public events, and domestic home situations. | not rated | not rated | not rated | not rated | not rated | not rated |
| Human | **Civil Disturbance/ Public Unrest** | **Unlikely, limited events.** Locations where civil disturbance could occur: Town Offices, Pillsbury Lake Community Center, Elementary School, stores, restaurants, establishments serving alcohol, high density population areas. Occasions include: Town Meetings, voting day, local board meetings, during visits from political candidates, large events such as Old Home Day, Veteran's Parade, School sports events, Blackwater Canoeing event. | not rated | not rated | not rated | not rated | not rated | not rated |
| | | | | | | | | |

*Source: Webster Hazard Mitigation Committee 2018*

## Central NH Region Major Disaster Declarations, 1973-2017

The Central NH region, which encompasses parts of Merrimack County (**18** communities) and Hillsborough County (**2** communities), has been damaged by **21** presidentially-declared major disasters in the last **44** years, between **1973-2017**.

While a natural disaster typically befalls multiple counties in New Hampshire, only those damaging either Merrimack County or Hillsborough County were identified in this section. Over the last **12** years (**2005-2017**), the number of presidentially-declared natural major disasters have increased significantly compared to the first NH declarations from the severe storm and floods of **1973** to the **1998** ice storm (**25** years).

Between **2005-2017**, the most recent round of major disasters afflicting the Central NH Region, **13** natural disasters within **12** years were declared for Merrimack and/or Hillsborough Counties, **5** of which were floods, **5** snow/ice storms, and **3** rain/wind storms.

*Emergency declarations* (EM-) are often proclaimed for counties in New Hampshire to help communities receive funding for less serious hazard events that may have caused more damage in nearby declared declaration (DR-) counties or states. Neither the **4** Snow Emergency declarations that occurred between **2005-2018** nor **2012** Hurricane Sandy were counted within the **13** declared disasters, although the **2011** Halloween Snow Storm, a declared disaster (DR-) in Hillsborough County but not in Merrimack County (emergency declaration), was counted in this tally.

The last declared disaster in Merrimack County, in which Webster is located, was the severe wind storm and flooding in **October 2017** for which Webster should receive **$6,490** in federal Public Assistance funding; as of the writing of this Plan, the application had not yet been approved. Details of disasters since **1973** and federal funding provided to the Town are displayed in **Table 9**. Most of these disasters will be described within the following **Recent Disaster Events Summary** section.

Table 9

**Central NH Region Major Disaster Declarations, 1973 to 2017**

| FEMA DR- | Local Disaster Name | Incident Period | FEMA Disaster Name | Includes County* | | FEMA Public Assistance Funding to Webster** |
|---|---|---|---|---|---|---|
| | | | | Merr | Hill | |
| 4355 | **2017** October Wind Storm | Oct 28-20, **2017** | Severe Storm and Flooding | M | --- | **$6,490** |
| 4209 | **2015** January Blizzard | Jan 26-28, **2015** | Severe Winter Storm and Snowstorm | --- | H | N/A |
| 4105 | **2013** Snowstorm NEMO | Feb 8-10, **2013** | Severe Winter Storm and Snowstorm | M | H | **$9,548** |
| 4095 EM-3360 | **2012** Hurricane Sandy Emergency | Oct 26-Nov 8, **2012** | Hurricane Sandy *emergency declaration only for Merr and Hill Cty* | EM- M | EM- H | **$6,529** |
| 4049 EM-3344 | **2012** Halloween Snow Storm | Oct 29-30, **2012** | Severe Storm and Snowstorm *emergency declaration for Merr Cty* | EM- M | H | $0 |
| 4026 | **2012** Tropical Storm Irene | Aug 26-Sep 6, **2012** | Tropical Storm Irene | M | --- | **$5,959** |
| 1913 | **2010** March Flooding & Winds | Mar 14-31, **2010** | Severe Storms and Flooding | M | H | $0 |
| 1892 | **2010** Winter Storm | Feb 23-Mar 3, **2010** | High Winds, Rain, Snow | M | H | **$7,753** |
| 1812 | **2008** December Ice Storm | Dec 11-23, **2008** | Severe Winter Storm | M | H | **$30,177** |
| 1799 | **2008** September Flood | Sep 6-7, **2008** | Heavy Rains and Floods | M | H | $0 |
| 1782 | **2008** July Tornado | Jul 24, **2008** | Tornado, Severe Winds, Heavy Rains | M | --- | $0 |
| 1695 | **2007** April Spring Flood | Apr 15-23, **2007** | Severe Storms and Flooding | M | H | **$62,416** |
| 1643 | **2006** Mother's Day Flood | May 12-23, **2006** | Severe Storms and Flooding | M | H | **$26,914** |
| 1610 | **2005** Columbus Day Flood | Oct 7-18, **2005** | Severe Storms and Flooding | M | H | **$13,304** |
| EM-3207 | **2005** Snow Emergency | Jan 22-23, **2005** | Snowstorm | M | H | **$4,264** |
| EM-3193 | **2003** Snow Emergency | Dec 6-7, **2003** | Snowstorm | M | H | $0 |
| EM-3177 | **2003** Snow Emergency | Feb 17-18, **2003** | Snowstorm | M | H | **$2,301** |
| EM-3166 | **2001** Snow Emergency | Mar 5-7, **2001** | Snowstorm | M | H | **$3,999** |
| 1231 | **1998** Flooding | Jun 12-Jul 2, **1998** | Severe Storms and Flooding | M | H | $0 |
| 1199 | **1998** December Ice Storm | Jan 7-25, **1998** | Ice Storms | M | H | $0 |
| 1144 | **1996** Storms and Flooding | Oct 20-23, **1996** | Severe Storms and Flooding | M | H | $0 |
| 1077 | **1995** Flood | Oct 20-Nov 15, **1995** | Storms and Floods | M | --- | $0 |
| 917 | **1991** Hurricane Bob | Aug 18-20, **1991** | Severe Storm | --- | H | N/A |
| 876 | **1990** Flooding and Severe Storm | Aug 7-11, **1990** | Flooding and Severe Storm | M | H | No data |
| 789 | **1987** Storms and Flooding | Mar 30-Apr 11, **1987** | Severe Storms and Flooding | M | H | No data |
| 771 | **1986** Storms and Flooding | Jul 29-Aug 10, **1986** | Severe Storms and Flooding | --- | H | N/A |
| 399 | **1973** Storms and Flooding | Jul 11, **1973** | Severe Storms and Flooding | M | H | No data |
| **Total Public Assistance (PA) FEMA Funding to Webster, 1993-2017**** | | | | | | **$179,653** |

*Source:* http://www.fema.gov/disasters/grid/state/33?field_disaster_type_term_tid_1=All

*M = Merrimack County (18 towns in CNH region) H = Hillsborough County (2 towns in CNH region)

** *Dollar figures are rounded to the nearest $100 and does not yet include DR-4355 (TBD)*

## Recent Disaster Events Summary

The Town of Webster has been affected by several significant natural disasters within the last decade and applied for and received Public Assistance (PA) funding for many of these events. Severe natural hazard events have been occurring more frequently in Merrimack County than in the past. While these events on occasion disrupted the flow of the community and isolated residents for days, the disaster impacts were relatively mild as few injuries were reported. FEMA provided Public Assistance funding to the Town for tasks such as cleanup, road repairs, tree and brush cutting, and culvert replacement.

The Hazard Mitigation Committee helped provide anecdotal descriptions of how the recently declared natural disasters or emergency declarations for the Central NH Region affected Webster and its residents. Public Assistance disaster funding opportunities open to communities when a disaster is declared within a county. The Town of Webster applied for and received this funding for several recently declared disasters. Also identified were numerous hazard events that occurred locally in the community and within the area. The disaster event listing dates from the 1936 floods to present day.

### PUBLIC ASSISTANCE GRANT FUNDING

To help reclaim some of the costs these disasters wrought on town property and infrastructure, Webster applied for and received FEMA Public Assistance (PA) funds, Categories A-G, a 75% grant and 25% match program for several declared Merrimack County disasters. These PA funds have been used for overtime wages for Town employees, equipment rentals, snow removal, washout repair, road reconstruction, bridge repair, debris removal, and more.

The database where the Public Assistance funding information resides is available from **1993** to present (**2017**). The Public Assistance disaster funding was sought for and received by Webster for **7** of the **15** eligible *Declared* disasters in Merrimack County during this timeframe. *Emergency declaration* funding was sought and received by Webster for **3** of the **4** eligible snowstorms between **2001-2005**, plus for the **2012** Hurricane Sandy. This data is available through FEMA at https://www.fema.gov/openfema-dataset-public-assistance-funded-projects-details-v1.

The most expensive disaster for Webster in terms of FEMA Public Assistance funds received for recovery was the **April 2007 Spring Floods** after which Webster received **$62,400** for **7** projects to help repair the roads and bridges. The last time the Town was awarded funding should be **$6,490** is for the roads and bridges and debris removal from the **October 2017 Storm and Flood**. This was the last major disaster declaration for Merrimack County to date. All Public Assistance funding to date, from **1993** to **October 2017** totals **$179,653**. This detail is rounded to the nearest **$100** in **Table 10** for each disaster and is summarized previously in **Table 9**.

**COLOR KEY for Table 10:**

| | | | |
|---|---|---|---|
| Declared Disasters or Emergencies in Merrimack County or Hillsborough County (Central NH Region) | PA Funding $ Received by Webster | Other Webster Local Hazard Event | Area Hazard Event and/or Webster Received No PA Funding |

**Table 10**

**Local and Area Hazard Event and Disaster History**

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
|---|---|---|---|---|---|---|---|---|
| **Webster Contoocook Earthquake 2.4M 2018** | No | 2018 | Mar 7 | **N/A** | A significant 2.4M earthquake was recorded by the USGS in March 2018. Its epicenter was around the Blackwater River in Hopkinton at a depth of 3.4km. Weak to light shaking was reported by a great number of people in Henniker, Hopkinton, Webster, Salisbury (felt the greatest intensity), Boscawen and Concord. The Concord area has experienced 9 earthquakes in the past 365 days (earthquaketrack) | Webster residents reported a loud noise and shaking, such as when a large truck drives by, only the noise and shaking continued for an extended period. Shelves and windows rattled and homes vibrated. After an extended period, residents recognized the tremor as an earthquake, which are becoming commonplace. So far, no damages have been known to be reported in Webster as the result of an earthquake. | Earthquake, Earth | Webster Hazard Mitigation Committee, Earthquaketrack.com, Earthquake.usgs.gov |
| **Webster Severe Wind Storm and Flood 2017** | **4355** | **2017** | **Oct 28-30** | **$6,500** | Merrimack and Hillsborough Counties experienced downed trees on powerlines, debris to clean up, and some flooding of drainage catch basins and culverts. The storm impacted northern NH, with 6 counties declared disasters. Power was out for an estimated 270,000 customers. | None of the gravel roads were undermined. However, the storm brought the worst wind heard in Town in several years. Damage from downed trees and powerlines all over Town. Long Street power utility transformer exploded. Deer Meadow Road, wires hanging on both sides off road. Highway and Fire Department cleaned up debris and helped cleared the roads to get schoolkids on their bus to embark on Washington DC trip. Power was lost for about (Unitil & Eversource) up to 5-6 days in many sections of Webster. | Wind, Storms, Debris, Flood, Rainstorm | Webster Hazard Mitigation Committee |
| **Webster Thunderstorm and Lightning Strikes 2017** | No | 2017 | Sep 5 | N/A | N/A, although the two waves of thunderstorms rolled through the Central NH Region. Lightning strikes were prolific and there were hundreds of outages in the area. | On Tyler Road, a metal haybarn was struck by lightning several times. The electric fences struck down also, with the fuse blown. | Wind, Storms, Lightning | Concord Patch 09/05/17, CNHRPC |
| **Webster Lyme Disease 2017** | No | 2017 | Summer | N/A | N/A, although Lyme Disease is found in all rural areas like Webster. One national testing outfit states the CDC's confirmed | Anecdotally, Webster is learning about phenomenal numbers of positive cases of Lyme Disease in its residents through conversation or EMS | Public Health, Biological | Webster Hazard Mitigation Committee, CNHRPC, |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
|---|---|---|---|---|---|---|---|---|
| | | | | | total positive Lyme disease cases in NH is 12,712 between 2000 and 2015, and estimates the actual positive cases could be 10 times higher. Merrimack County had 997 confirmed cases during this time. Across the state, LD fell to 93 new cases in 2017, down from nearly 1,500 the previous year. | calls. Since the entire Town is rural, there may be more risk in Webster. Agricultural industries are proactive about vaccinating their farm animals for mosquito & tick diseases. | | tickcheck.com |
| **Severe Storms and Flooding 2017** | **4329** | **2017** | **Jul 1-2** | **N/A for Webster** | The entire State, North Country and Central NH region experienced severe storms with rain, wind, lightning, thunder and flooding. Not a declared disaster in Merrimack or Hillsborough counties. | **Webster did not apply for or receive federal funds.** Webster participated in debris clean up along roads but noted the storm was not out of the ordinary in Town. | Severe Winds Rain Storm, Thunder Storm, Lightning, Downburst | FEMA CNHRPC, WMUR, NOAA |
| **Webster Snowstorm 2017** | No | 2017 | Apr 1 | N/A | N/A, although it is likely other neighboring communities were impacted by this storm. | One day there was no snow, the next day (Apr 1), about 18" of snow cover had fallen. | Winter Weather, Extreme Temp, Snow Storm | Webster Hazard Mitigation Committee |
| **Severe Snowstorm-Town Meeting Blizzard 2017** | **4316** | **2017** | **Mar** | **N/A for Webster** | Many other NH towns had to choose whether to close or not to accommodate the blizzard, which became a legal issue to sort out. Not a declared disaster in Merrimack or Hillsborough counties. | **Webster did not apply for or receive federal funds.** A state-wide blizzard occurred during Town Meeting, (Election Day Storm). Webster stayed open and had lower attendance than usual at the polls. | Winter Weather, Extreme Temp, Snow Storm | Webster Hazard Mitigation Committee |
| **Webster Pillsbury Lake Dam Release 2017** | No | 2017 | Spring | N/A | N/A although bridge or dam failures can affect the Blackwater River's downstream flow, where it joins the Contoocook River in Hopkinton. | In spring 2017, the Lake had more water at the Pillsbury Lake Dam than ever before. It was difficult hard to keep up with draining. | Dam Failure or Release, Flood | Webster Hazard Mitigation Committee |
| **Webster Clothespin Bridge Erosion (Blackwater) 2017** | No | 2017 | Spring | N/A | N/A although bridge or dam failures can affect the Blackwater River's downstream flow, where it joins the Contoocook River in Hopkinton. | Their third grant application attempt to reconstruct, Clothespin Bridge on Clothespin Bridge Road. Erosion and scouring are ongoing, very close to the Blackwater River. The bottom of the bridge is being undermined. Bridge is the primary access road to the east side of the Town for Pillsbury Lake fire response. | Erosion and Scouring | Webster Hazard Mitigation Committee |
| **Webster Vandalism and Sabotage 2017** | No | 2017 | Spring | N/A | N/A although vandalism and sabotage are likely experienced in neighboring rural communities | Police Department and others are noticing destruction of property, vandalism, disturbance - spray painted road signs, putting up plywood signs, tire burnouts, slander of | Vandalism and Sabotage | Webster Hazard Mitigation Committee |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Police Dept, and general vandalism of public property. At the Tyler Road conservation area, the signs the road itself were painted over. | | |
| **Webster White Plains Road Bridge/ Culvert Erosion (Schoodac Brook/ Knights Meadow) 2017** | No | 2017 | --- | N/A | N/A although bridge or dam failures can effect downstream flow communities. | Town wants to upgrade the redlisted White Plains Road triple corrugated culvert to an open box culvert. The bottom of the bridge is being undermined. Town has to apply for Shoreland Protection Permit to repair road. | Erosion and Scouring | Webster Hazard Mitigation Committee |
| **Webster Pillsbury Lake Earthquake 1.9M 2017** | No | 2017 | Feb 27 | N/A | Residents of Contoocook and Warner in Central NH communities also felt this earthquake. Since it occurred overnight, there were fewer reports. | Around about midnight on Feb 27, a 1.9M earthquake jolted the Town. Its epicenter was in Webster at Pillsbury Lake. Residents reported waking up. | Earthquake, Earth | Webster Hazard Mitigation Committee, Earthquaketrack.com, Earthquake.usgs.cov |
| **Webster House Fire 2017** | No | 2017 | Jan | N/A | N/A, although fires are usually responded to via a mutual aid system from other communities in the region | A 3-alarm house fire on Little Hill Rd resulted in one fatality. 13 towns, 4 Fire Marshals and 3 State Troopers responded. | Fire, Wildfire | Webster Hazard Mitigation Committee |
| **Webster/ Merrimack County Drought Severe Emergency 2015-2016** | No | 2015 - 2016 | --- | N/A | Severe Drought (D2), Moderate Drought (D1) and Abnormally Dry (D0) intensities were found in communities of Merrimack Country and Hillsborough in 2016. The State's counties had been experiencing levels of drought for over a year. The NH DES issued a series of statements and tips for homeowner water conservation. Residents and municipalities had been requested to voluntarily conserve water. Some communities or water precincts enacted water restrictions or bans for certain water usage. | The Severe Drought (D2) conditions as of 09/16 caused some problems in Webster. Reports have been made of dry wells and residents going to the Fire Station to obtain water. The Pillsbury Lake Water District had enough water for residents. Some residents have needed to redig wells, trees were uprooted easily in storms (Oct 2017). In 2016, low potato & hay production for farms which resulted in loss of animals, no local sale (not sustainable), because entire area in drought; In 2017, water conditions seemed back to normal. | Drought, Extreme Temperature | US Drought Monitor NH, NH DES |
| **Webster Public Health Concerns 2016** | No | 2016 | Fall | N/A | N/A although the entire region is likely experiencing similar problems | People in the Town and the Police Department noticed an increasing number of used needles alongside White Plains Road, Corn Hill Road which they have to collect. Police cruisers now have sharps a dispenser. The problem has been growing since this time. | Public Health | Webster Hazard Mitigation Committee |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
|---|---|---|---|---|---|---|---|---|
| **NH Severe Wind Rain & Thunder Storm 2016** | No | 2016 | Jul 23 | N/A | The entire region and the State experienced a severe storms with rain, wind, lightning and thunder. A possible microburst was reported. As many as 72,000 customers lost electricity. A similar storm earlier in the week brought several confirmed microbursts and also downed trees. | N/A, although it is likely Webster participated in debris clean up along roads. | Severe Winds Rain Storm, Thunder Storm, Lightning, Downburst | Concord Patch, CNHRPC, WMUR, NOAA |
| **Webster Hazardous Materials and Trash Dumping 2015** | No | 2017 | Summer | N/A | N/A although dumping is likely experienced in neighboring rural communities | Bastion Hollow Road has become a littering and dumping location. Shingles, refrigerator, air conditioner, toilet have been observed. | Hazardous Materials, Vandalism, Human, Public Health | Webster Hazard Mitigation Committee |
| **Earthquake 1.8M Andover Epicenter 2016** | No | 2016 | Oct 31 | N/A | Epicenter in Andover/ Salisbury 1.8M with a depth of 6.1 km. Two other earthquakes occurred within 10 minutes on this day in the same area. | At the Webster Town Office and Police Department, a lot of people reported they heard a loud noise in the Pillsbury Lake community area. | Earth, Earthquake | Webster Hazard Mitigation Committee, Earthquaketrack.com, Earthquake.usgs.cov, CNHRPC |
| **Earthquake 2.8M Warner Epicenter 2017** | No | 2017 | 21-Mar | N/A | Epicenter in Warner/ Hopkinton area, 2.8 magnitude. Felt in the Central NH Region/most of Merrimack County, light in Hillsborough County. Felt most strongly in Hopkinton, Henniker, Warner, Webster, Salisbury, Franklin, Webster, Concord, and Hillsborough | At Webster Town Office, sounded like an explosion like a bomb or plane crash and then a rumble. Since nothing was viewed outside, staff realized it was an earthquake. | Earth, Earthquake | Webster Hazard Mitigation Committee, Earthquaketrack.com, Earthquake.usgs.cov, CNHRPC |
| **Earthquake 2.2M Epsom Epicenter 2015** | No | 2015 | 2-Aug | N/A | Epicenter around Epsom in the Central NH Region in Merrimack County, felt in nearby locations including Concord, Hopkinton, Allenstown, Loudon Chichester and Epsom | Although this event did not seemingly impact Webster, this illustrates Central NH region earthquakes can occur on any side of the community. Epsom is 4 towns to the southeast of Webster. | Earth, Earthquake | Earthquaketrack.com, Earthquake.usgs.cov, CNHRPC |
| **Earthquake 2.3M Boscawen Epicenter 2015** | No | 2015 | May 24 | N/A | Epicenter in lower Boscawen around Queen Street with 2.3M at a depth of 5km. A lot of reports were made at the USGS. | Reports were made of rattling windows in their frames and a brief shaking of homes. | Earth, Earthquake | Earthquaketrack.com, Earthquake.usgs.cov, CNHRPC |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
|---|---|---|---|---|---|---|---|---|
| **Tornado, Severe Thunderstorms 2015** | No | 2015 | 31-Jul | N/A | In Warner, NWS confirmed an EF-0 tornado touched down in the evening. It had a maximum wind speed of 75 mph and was 100 yards wide. Town officials said the tornado ripped the roof off a barn, but there were no injuries reported. | N/A, although Warner is also located in the Central NH Region, abutting Webster to the west. The Town had severe winds and some limbs down but no major damage. | Severe Wind, Tornado, Thunderstorm | WMUR |
| **Severe Winter Storm and Snowstorm - January Blizzard 2015** | **4209** | **2015** | **Jan 26-28** | **N/A for Webster** | Predicted at near blizzard conditions, the end of January, 2015 snowstorm's major declaration ended up having a Hillsborough County wide per capita impact of $3.88, making the storm a fairly expensive one at $3.3 million dollars in Public Assistance over three southern NH counties. Snow approached 30" in some areas with heavy snow and 50 mph whiteout wind conditions. The closest reporting weather station, Concord Airport (CON), had accumulated 29" of heavy snow, 50 mph whiteout wind conditions in the region. Not declared in Merrimack County. | **Webster could not apply for/receive funding.** The storm was not particularly notable by the Town. No recollections of anything other than a typical winter storm, and there were no mentions in Department year-end reports. | Severe Winter Weather, Extreme Temp, Snow, Ice, Power Failure, Severe Winds, Debris Impacted Infrastructure | Webster Hazard Mitigation Committee, fema.gov, Boston Globe |
| **Thanksgiving Day Snowstorm 2014** | No | 2014 | 27-Nov | N/A | Large amount of snowfall fell in a very short period of time ahead of typical seasonal expectations. Power outages were prolific, with a peak of about 200,000 outages, from the Public Service of New Hampshire, Unitil (Concord area), and NH Electric Co-op. Nearby Concord and the towns on the eastern side of the Central NH region accumulated only 6-12" of snow according to PSNH, far less snow than southern and western NH. This was not a presidentially declared disaster in NH. | Webster experienced power outages ranging 24-72 hours in most locations in town. Town Shelter was opened with the generator and Public Safety building was open for showers. Pillsbury Lake Village precinct was open for townspeople to get water. | Extreme Temp, Snow, Power Failure | Webster Hazard Mitigation Committee, Concord Monitor, CNHRPC |
| **Regional Communications Failure by Lightning 2014** | No | 2014 | Summer | N/A | Regional event- Plausawa Hill (Pembroke) Lightning Strike - affected Capital Area Fire Compact Dispatch. Fairpoint (Webster) went down due to equipment failure so | Both of these events affected Webster as the Town uses the Capital Area Fire Dispatch. | Lightning, Communications Failure | Webster Hazard Mitigation Committee |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
|---|---|---|---|---|---|---|---|---|
| | | | | | Merrimack County dispatch went down. | | | |
| **Earthquake 2.6M Warner Epicenter 2013** | No | 2013 | 11-Oct | N/A | Epicenter in Warner, 2.6 magnitude. Felt in the Central NH Region/ northern Merrimack County, most strongly in Hopkinton, Henniker, Warner, Boscawen, Concord, Salisbury, Franklin. | Reports were likely made to the USGS from Webster residents feeling the earthquake as a rumble or loud noise. Warner abuts Webster to the west. | Earthquake, Earth | USGS, CNHRPC |
| **Severe Winter Storm and Snowstorm - Winter Storm NEMO 2013** | **4105** | **2013** | **Feb 8-10** | **$9,500** | Winter Storm "Nemo". FEMA-3360-DR. Blizzard conditions with winds gust of 50-60 MPH and over 20 inches snow hit New Hampshire and the New England area. Disaster declaration received for emergency protective measures in eight counties of the State. | **Webster received $9,500 in FEMA Public Assistance funding** for protective measures (snow removal). Historical Society reported the storm as "…brought the largest snow storm in 125 years. Two feet of snow fell. The blizzard ranked second in history behind a March 1888 storm that dropped more than 27 inches of snow." | Severe Winter Weather, Extreme Temp, Snow, Ice, Wind | FEMA, Webster Hazard Mitigation Committee, CNHRPC, Webster Historical Society |
| **@OK Hurricane Sandy 2012** | **4095 EM-3360** | **2012** | **Oct 26-Nov 8** | **$6,500** | Merrimack County and Hillsborough County received a disaster declaration for Emergency Protective Measures. Five counties experienced severe damage from heavy winds and moderate flooding, 218,000 customers without power. Fallen trees and debris closed roads, building and vehicle damage. | **Webster received $6,500 in FEMA Public Assistance funding** This storm was reportedly very mild in Webster. The Public Safety Building was prepared as the emergency shelter. Trees were down on power lines and on roads. Debris clean up and restoring electricity were the main outcomes from the hurricane. | Wind, Flood, Severe Storm, Hurricane, Debris Impacted Infrastructure | Webster Hazard Mitigation Committee , FEMA, Nashua Telegraph |
| **Earthquake 4.0M Hollis ME Epicenter 2012** | No | 2012 | 16-Oct | N/A | With the epicenter near Hollis Center, Maine, a 4.0 earthquake was measured and felt not only in Central NH, but throughout New England. Reportedly sounding like a jumbo jet and lasting for 10 seconds, calls came in to local Fire Departments inquiring about the event. By two hours later, no calls reporting damages or injuries had been received. | Reports may have been made to the USGS from Webster with an earthquake of this magnitude as it was felt around the Central NH Region. Hollis is several communities to the south of Webster | Earthquake, Earth | Concord Monitor, Earthquake--track.com, CNHRPC |
| **Halloween Snow Storm 2011** | **4049** | **2012** | **Oct 29-30** | **N/A for Webster** | FEMA-4049-DR. Towns in Central NH were impacted by this shocking, early severe snowstorm, although a major disaster declaration was not declared in Merrimack County. Halloween festivities were cancelled in most communities, to | Webster could not apply for/receive funding. A snowy picture of the "Welcome to Webster" sign was the Town Report Cover picture. The snow storm postponed Halloween activities. No mention of the event in year-end reports from highways and police/fire departments | Extreme Temp, Snow | FEMA, Webster Hazard Mitigation Committee |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| | | | | | the heartbreak of young children. In Hillsborough County, damages were at the equivalent of $5.11 per capita (400,721 people in 2010). The storm was also declared in Rockingham County. | nor in Select Board meetings minutes. | | |
| **Tropical Storm- Irene 2011** | **4026** | **2012** | **Aug 26-Sep 6** | **$6,000** | Carroll, Coos, Grafton, and Merrimack Counties suffered severe impacts to roads and bridges as a result of flooding from Tropical Storm Irene, which also caused power outages. Merrimack County reimbursement to towns was $4.29 per capita (146,455 people in 2010), a total of $11m was allocated. Disaster was not declared for Hillsborough County. | **Webster received $6,000 in FEMA Public Assistance funding** for protective measures and debris removal. The Town volunteers and staff were prepared for the Tropical Storm: The Road Agent had undertaken preventive measures such as cleaning drains and culverts. The EMD was prepared and opened the EOC, and the Fire Department was waiting to respond to calls. However, most of Tropical Storm Irene missed Webster and no real damage occurred. The worst impact was the Town lost electricity for ½ day. Only five emergency calls in Town were received related to the storm. Tree limbs were down around Town. Most of the Town's activity was preventive in nature. Although no flooding was reported, roads were closed because of trees down, mostly in the surrounding towns. School was closed for one day. | Wind, Flood, Severe Storm, Rainstorm, Tropical Storm, Debris Impacted Infrastructure | FEMA, Webster Hazard Mitigation Committee |
| **April Fool's Snowstorm 2011** | No | 2011 | 1-Apr | N/A | A Nor'easter snowstorm impacted the State, causing over 30,000 power outages, most by PSNH. Snow fell in depths of up to 8", but stopped by noon. Although dozens of accidents were reported, no serious injuries were reported. | Webster likely experienced some snow and inconvenience requiring extra cleanup efforts and restoration of electric power. | Extreme Temp, Snow | wmur.com, CNHRPC |
| **Earthquake 3.4M Webster/ Boscawen Epicenter 2010** | No | 2010 | 26-Sep | N/A | "A magnitude 3.4 earthquake rattled buildings and nerves across much of New Hampshire Saturday night. The quake occurred at 11:28 p.m. and was centered about 10 miles north of Concord, according to the U.S. Geological Survey. State | The earthquake, closely centered in nearby Boscawen, woke many Webster residents around midnight. People reported the earthquake sounded more like a rumble than an explosion. This was a "close to home" event for Webster residents | Earth, Earthquake | Union Leader, USGS, CNHRPC |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| | | | | | police said they received reports from residents across the state who reported what they thought was an explosion. The quake was felt in places like Fremont, Derry, Durham, Henniker, Penacook and Raymond. There were no reports of damage." The quake was felt all over the state, Southern Maine and Massachusetts, but most reports were received from the Central NH region. | | | |
| **Quebec-Ottawa Earthquake 5.0M 2010** | No | 2010 | Jun | 23 | Earthquake lasted about 30 seconds, epicenter near Buckingham, Quebec 35 north of Ottawa. Ottawa declared this earthquake the most powerful in 65 years. Tremors felt in Central NH. | Webster likely experienced rattling windows but no damage was reported. | Earthquake, Earth | Webster Hazard Mitigation Committee |
| **Severe Storms and Flooding March 2010** | **1913** | **2010** | **Mar 14-31** | **No** | Severe storms and flooding occurred over two weeks and damaged roads and bridges. Merrimack County reimbursement to towns for repair was $0.28 per capita (146,455 people in 2010), and in Hillsborough County reimbursements were $1.80 per capita (400,721 people in 2010) | **Webster did not apply for/ receive funding.** Much of the damage from the previous storm was still being cleaned up and repaired. | Severe Winds, Flooding, Power Failure, Debris Impacted Infrastructure | Webster Hazard Mitigation Committee, FEMA |
| **Severe Winter Storm Feb-March Storm and Flooding 2010** | **1892** | **2010** | **Feb 23-Mar 3** | **$7,800** | This severe weather event included high winds, rain, and snow over a week-long period. The primary impact was debris removal and repair reimbursement for fallen trees and powerlines. In Merrimack County, the reimbursement to communities was the equivalent of $10.39 per capita (146,455 people in 2010), with Hillsborough County at $3.68 per capita (400,721 people in 2010). In the Concord area, 21,000 Unitil customers were out of power at the peak outage period. | Webster received **$7,800 in FEMA Public Assistance funding** for protective measures and debris removal. Storm started with freezing rain bringing trees down and taking power out in multiple places. Warmed up very quickly, had snowmelt to multiply the issues. This severe weather event included high winds, rain, and snow. The 2010 storm disrupted power for many days during cold winter months. **Washouts: White Plains Road at Schoodac Brook, on Long Street north of Couch Pond, Corn Hill Road at Pond Brook, on Deer Meadow Road, and along Little Hill Road. A low spot on Deer Meadow Road often contains standing** | Extreme Temp, Snow, Wind, Flood, Wind Chill, Dam Failure | Webster Hazard Mitigation Committee, FEMA, Unitil |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| | | | | | | **water, with Deer Meadow Brook washing out ditches and crossing over the road during strong events**. It took over a week to fully clean up and fix all the damage. Residents on Walker Pond Road (a private dirt road) were out of power for 6 days. Other sections of Webster were out of power for 3-4 days. People without generators had trouble heating their homes. Residents cooked on propane gas grills. Many Town residents attempted to purchase generators, but reported the stores in the area were sold out. | | |
| **Webster Downbursts Circa 2009/ 2010** | No | Circa 2009 - 2010 | Summer | N/A | Any summer storm is not isolated to one community. It is highly likely other Central NH Region towns experienced this severe storm, with high winds and/or downbursts | A resident on Battle Street reported a daytime loud roar and train noise, their open windows had curtains flying up to ceiling, front door couldn't close. Next door, neighbor's metal roofing on barn rolled off like a sardine can and a 40' pine tree completely uprooted. | Downburst, Wind, Storm | Webster Hazard Mitigation Committee, CNHRPC |
| **Severe Winter Storm - December 2008 Ice Storm** | **1812** | **2008** | **Dec 11-23** | **$30,200** | Accumulating ice, snow, rain, and strong winds caused downed trees and power lines, with power outages and traffic accidents resulting. In Merrimack County, debris removal and repair cost reimbursement FEMA the equivalent of $10.07 per capita (146,455 people in 2010). In Hillsborough County, debris removal costs were $6.35 per capita (400,721 people in 2010). The major disaster was declared in all 10 counties. New England was blanketed with ice and snow during the winter storm. The weight of the ice caused branches to snap, and trees to either snap or uproot, and brought down power lines and poles across the region. About 400 thousand utility customers lost power during the event, with some | **Webster received $30,200 in FEMA Public Assistance funding** for debris removal and protective measures for this severe ice storm. The December 2008 Ice Storm was a tough event on the residents of Webster. Trees were down on multiple roads, effectively cutting off power to residences. Unitil, PSNH, and other power companies from around the Northeast cleared trees on Route 127 late into the night. Some residents were out of power from 3-8 days. The sound of generators pierced the quiet of the Town on every road. The utility wires were down on White Plains Road for quite a long time. People stayed home instead of traveling, although some travelers reported driving into Franklin on Route 127 while trees and limbs fell down around them. After cutting trees all day, the Road Agent added the plow | Extreme Temp, Ice, Wind, Technological, Power Failure, Debris Impacted Infrastructure | Webster Hazard Mitigation Committee, FEMA, CNHRPC |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| | | | | | customers without power for two weeks. Property damage across northern, central and southeastern New Hampshire was estimated at over $5 million. Event was the largest power outage in New Hampshire's history. | to his truck and plowed the trees off to the side of the road to open travel ways. The Police Department went door to door checking to ensure that people were safe. | | |
| **Severe Storms and Flooding - September Flood 2008** | **1799** | **2008** | **Sep 6-7** | **No** | Heavy rain from the remnants of tropical storm Hanna resulted in flooding on small rivers and streams in the Central NH area. The remains of tropical storm Hanna moved through eastern New England dumping 3 to 6 inches of rain in New Hampshire in about 8 hours causing rapid rises on area streams. In Merrimack County, damage to road systems totaled the equivalent of $1.48 per capita (146,455 people in 2010) for town reimbursement. Hillsborough County's damage was much higher at $6.90 per capita (400,721 people in 2010) | **Webster did not apply for/receive FEMA Public Assistance funding** for roads & bridges and protective measures. This event was handled as a normal storm. | Flood, Debris Impacted Infrastructure | Webster Hazard Mitigation Committee, FEMA |
| **Severe Winds, Heavy Rains July Tornado 2008** | **1782** | **2008** | **Jul 24** | **No** | An F2-F1 tornado touched down in Rockingham County then proceeded into another county. Then in Merrimack County, the tornado was rated up to an F-3 and killed a woman in Deerfield trapped in a collapsed house. In the county, there was substantial damage totaled the equivalent of $1.12 per capita (146,455 people in 2010) for the towns' debris removal reimbursement costs. A total of 123 residences statewide were affected, with 17 destroyed and another 37 suffering major damage. Damage was estimated to exceed $10 million. Hillsborough County | **Webster did not apply for/receive FEMA Public Assistance funding** for debris removal and protective measures. The path of the tornado was nowhere near but on the other side of the region 20 miles to the southeast. However, three distinct downbursts touched down in the area of Lake Winnepocket. One resident reported 75 trees toppled on his property on White Plains Road. On Lake Road, a resident reported, "We were about to have a cookout with friends when the mountain (Mt. Kearsarge) turned white and the wind kicked up. We ran into the porch when the trees started toppling over like dominos. There were five of us trapped in the main house with trees all down on the house and yard. A total of 14 trees fell. The Fire | Wind, Tornado, Downburst, Severe Storm, Debris Impacted Infrastructure | FEMA, Webster Hazard Mitigation Committee, CNHRPC |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| | | | | | | Department came in and got us out." | | |
| **Severe Storms and Flooding - April Spring Flood 2007** | **1695** | **2007** | **Apr 15-23** | **$62,400** | Extensive flooding caused by severe storms impacted seven counties. Indirect peak discharge measurements on stream gages on the Suncook River at Short Falls Road in Webster were 14,100 ft3, which was determined to be greater than 100-year flood discharge levels. The heavy rain combined with snow melt to cause small rivers and streams in much of New Hampshire to flood. Over land, the strong winds downed numerous trees. The downed trees caused widespread power outages, especially near the coast, and numerous road closures. The storm also brought heavy rain to the region which, when combined with snow melt, produced widespread flooding across much of the region. | **Webster received $62,400 in FEMA Public Assistance funding** for roads & bridges and protective measures. Many roads were damaged during this storm, although Webster was not as impacted as other towns. | Flood, Wind, Debris Impacted Infrastructure, Rapid Snow Pack Melt | FEMA, USGS Flood of 2007, Webster Hazard Mitigation Committee |
| **Severe Storms and Flooding – Mother's Day Flood 2006** | **1643** | **2006** | **May 12-23** | **$26,900** | Extensive flooding caused by severe storms impacted seven counties including Merrimack and Hillsborough. The USGS recorded the highest flows on record for several rivers including the Contoocook River in Davisville village, Soucook in Concord, and Piscataquog in Goffstown. | **Webster received $26,900 in FEMA Public Assistance funding** for roads & bridges and protective measures. This flooding event was similar to the Columbus Day 2005 flooding. The Long Street beaver dam and swamp were flooded, and the area along the power lines was flooded. Deer Meadow Road was washed out, as was Corn Hill Road. The property adjacent to the junkyard was washed out again, as in 2005. School buses could not make their routes to pick up students. The Pillsbury Lake Dam was washed out and the lake drained. Residents of the Pillsbury Lake shorefront area had no way of leaving their homes as the road was impassable. The Pillsbury Lake sandbagging effort unified the community. Workers toiled all day to make the Town safe. Around | Flood, Wind, Debris Impacted Infrastructure, Erosion, Landslide | Webster Hazard Mitigation Committee, FEMA, USGS, CNHRPC |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| | | | | | | Town, at least one house was damaged by water. This flood resulted in the partial loss of nearly 1/10 of a mile of road on Roby Road; portions of the sides of the road were washed away leaving numerous rocks that had been placed earlier in the ditch for drainage. New or larger culverts were installed where practical. Half of approximately 250 feet of Roby Road collapsed, closing the road to through traffic for a number of days. | | |
| **Webster Pillsbury Lake Dam Breach, 2006** | 1643 | 2006 | May 12-23 | Yes, see above | See Mother's Day Flood impacts above | The Pillsbury Lake Dam in Webster, holding back an artificial lake of about 70 acres, was breached by flooding due to heavy rains. The earth and concrete dam, which blocks the Dear Meadow Brook, was built in the 1960s, creating the Pillsbury Lake District with about 180 households. Floodwaters punched out a 20-foot breach in the dam. The Lake's level fell several feet. The dam breach not only cost the tax payers of Webster a significant amount of money in repairs, it also increased the fire danger as the Lake is an important source of water for firefighting purposes. There are three dry hydrants around the Lake as well as several points of vehicle access to the water. Once the dam breached, the water drained from the Lake and the fire suppression resource was no longer available. The Pillsbury Lake District accounts for approximately 25% of the homes in Webster and is the most concentrated area of homes. With the Lake empty in 2006, the nearest source water was on Clothespin Bridge several miles away. During the time the Lake was empty, an arrangement was made through fire dispatch to upgrade the emergency response for any reported | Flood, Dam Failure, Debris, Fire | Concord Monitor, Webster Hazard Mitigation Committee |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| | | | | | | fire in that section of Town. Two additional tankers were added to the initial response | | |
| **Webster Severe Winds and Fire 2006** | No | 2006 | Feb 26 | N/A | N/A, although it is likely the surrounding towns and region were impacted by this storm. | Very windy conditions caused numerous trees to fall down, along Clough and Sanborn Hill Roads, Battle Street/Route 127, on Corn Hill Road, Roby Road, Pleasant Street, Gerrish Road, Clothespin Bridge Road, Chadwick Hill Road, and Tyler Road. On Rolfe Road, two downed trees across an electric line started a small brush fire. Volunteer firemen living nearby immediately responded, put out the fire and then cleared the road so residents could return home. PSNH electric customers had to wait days to have their service restored. | Wind, Debris Impacted Infrastructure, Wildfire | Webster Hazard Mitigation Committee |
| **Webster Wildfire 2006** | No | 2006 | Apr 20 | N/A | N/A, although that evening, brushfires broke out all of the region NH due to dry, drought conditions. Several counties were under a red-flag warning for high fire danger. | A wildfire burned throughout a night in April over a five acre area in Webster. Fire crews had to dig embers out of the soil that were 4 to 5 inches deep. The Forest Ranger commented that embers embedded that deep in the soil at that time of year was very unusual and it seemed the fire was set intentionally | Wildfire, Fire, Human | WMUR 04/20/06, CNHRPC, firehouse.com |
| **Webster House Fire 2006** | No | 2006 | Jan 21 | N/A | N/A | Holes in the masonry of a farmhouse caused a fire on Battle Street. The fire spread quickly because of the cold air and strong winds. Sixty firefighters from 14 departments battled the fire in temperatures around 20 degrees. The house was completely destroyed by the fire. Extensive mutual aid was provided. | Fire, Extreme Temperatures | Concord Monitor |
| **Severe Storms and Flooding - Columbus Day Flood 2005** | **1610** | **2005** | **Oct 7-18** | **$13,300** | Extensive flooding caused by severe storms impacted five counties, including Merrimack and Hillsborough. Alstead experienced several fatalities as the result of dam failure. | **Webster received $13,300 in FEMA Public Assistance funding** for roads & bridges and protective measures. Townspeople closely watched the Pillsbury Lake Dam to see whether it would flood over, and sand bags in place. That dam was threatened because streams had flooded over Long Street | Flood, Wind, Debris Impacted Infrastructure, Erosion | Webster Hazard Mitigation Committee, FEMA |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| | | | | | | and the beaver dams had let go at that location. Battle Street, Roby Road, White Plains Road, Deer Meadow Road, Corn Hill Road at the Town line, and Mutton Road all had areas of washout. All of Route 127 experienced extensive flooding across the road early in the morning of the event. Debris and rocks contributed to the road blockage. By this time, NH DOT was already responding to the problem. On Deer Meadow Road, people could barely get through. Many streams and brooks flooded which had never seen flooding in years. Many roads could not be used to get into Town. Corn Hill Road flooded to such an extent that residents revise their routes expecting it to flood during other flooding events. This 2005 flood was the first one in the series of serious weather events that the area experienced in the past decade. The flood was also the first time the Town had collected help from FEMA in many, many years. This was the first time the Emergency Operations Center was opened, and the first awareness by the community at large had that such events could occur in Webster. | | |
| **Regional Thunder-storms and Lightning 2005** | No | 2005 | 12-Jun | N/A | During a thunderstorm, lightning struck and severely damaged the historic Loudon Town Hall on Clough Hill Road. Winds from a severe thunderstorm knocked down trees and power lines down in the towns of Warner, Hopkinton, Concord, Bow, Loudon, and Hopkinton in Merrimack County. | Webster likely experienced the thunderstorm and lightning event. | Thunderst orm, Lightning, Severe Winds | CNHRPC, Area Hazard Mitigation Committees |
| **Webster Ice Jams, Various Dates** | No | Vario us | --- | N/A | N/A | Various ice jams along the Blackwater River have occurred along Clothespin Bridge. Ice jams were also reported in an area south of the Battle Street/Tyler Road | Ice Jam, Flood, Debris Impacted Infrastruct ure | US Army Corps of Engineers Ice Jam Database |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| | | | | | | fork. The dates are not specified. | | |
| **Snow Emergency 2005** | **EM-3207** | **2005** | **Jan 22-23** | **$4,300** | Record and near record snowstorm for 8 NH counties including Merrimack and Hillsborough. Emergency protective measures declared for reimbursement. | **Webster received $4,300 in FEMA Public Assistance funding** for protective measures, including snow removal. This severe storm dropped a lot of snow in Webster. | Extreme Temp, Snow | FEMA, CNHRPC |
| **Webster EEE Infection 2005** | No | 2005 | Summer | N/A | N/A, although similar arboviral problems were likely occurring in the region | One horse had to be put down on Mutton Road after being infected with EEE. The area, being forested, is also subject to Lyme disease borne by ticks. | Public Health, Biological | Webster Hazard Mitigation Committee |
| **Webster Brushfire 2005** | No | 2005 | --- | N/A | N/A | This was a two-alarm stump dump fire on Lake Winnepocket. Several stumps were several feet in diameter and required an excavator to dig up the pile of burning stumps so it could be completely extinguished. | Wildfire, Fire | Webster Hazard Mitigation Committee |
| **Webster House Fires 2005** | No | 2005 | Jan 27 | N/A | N/A | Fire crews battled three fires in this date on Webster. The first fire of the day was an early morning fire at the Austin Home that was caused by an improperly disposed cigarette. The second fire of the day was a chimney fire on Battle Street. The third fire started in a barn and spread to a house on Little Hill Road. Firefighters will remember this bitterly cold and snowy day. Mutual aid was provided. | Fire, Extreme Temperatures | Concord Monitor, CNHRPC |
| **Webster Barn Fire 2004** | No | 2004 | Sep 1 | N/A | N/A | A four alarm fire destroyed a three-story barn that was built in 1790. Seventy-five firefighters from 15 departments extinguished the Webster fire. Two horses harnessed inside the barn were not saved. | Fire, Extreme Temperatures | Concord Monitor, CNHRPC |
| **Earthquake 2.2M Henniker-Hopkinton Epicenter 2004** | No | 2004 | 20-Jan | N/A | An earthquake measuring 2.2 on the Richter Scale was centered in the Henniker- Hopkinton area. Shaking and noise were reported, but no damage occurred. | Reports were likely made to the USGS by Webster residents feeling the earthquake as a rumble or loud noise. The epicenter was within a couple miles of Webster, to the west. | Earth, Earthquake | Concord Monitor, January 2004, USGS, Earthquake Monitor, CNHRPC |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| **Snow Emergency Dec 2003** | **EM-3193** | **2003** | **Dec 6-7** | **No** | Record snow fall event impacting much of New England. In NH, 8 counties received emergency protective measures, including Merrimack and Hillsborough. | **Webster did not apply for/receive FEMA Public Assistance funding** for protective measures, including snow removal. The Town took care of this storm's impacts under its own budget and resources. | Extreme Temp, Snow | FEMA, CNHRPC |
| **Snow Emergency Feb 2003** | **EM-3177** | **2003** | **Feb 17-18** | **$2,300** | Record and near record snowstorm for 5 NH counties including Merrimack and Hillsborough. Emergency protective measures declared for reimbursement. | **Webster received $2,300 in FEMA Public Assistance funding** for protective measures, including snow removal. | Extreme Temp, Snow | FEMA |
| **NH Drought Emergency 2002** | No | 2002 | Aug | N/A | All counties in the State of NH except Coos County. One of the hottest Augusts on record in Concord along with drought conditions since March made for a high fire danger in New Hampshire. Numerous forest fires were reported, including a 30-acre blaze in New Durham. | N/A, although Webster was likely affected by dug wells going dry | Drought, Extreme Temperatures, Earth, Fire | Concord Monitor 8/20/02 |
| **Snow Emergency 2001** | **EM-3166** | **2001** | **Mar 5-7** | **$4,000** | Record and near-record snowfall from late winter storm, emergency declaration was issued for protective measures. Merrimack, Hillsborough and 5 other counties declared eligible. | **Webster received $4,000 in FEMA Public Assistance funding** for protective measures, including snow removal. | Extreme Temp, Snow | FEMA, CNHRPC |
| **Regional Downbursts and Severe Winds 1999** | No | 1999 | 6-Jul | N/A | Severe storms in July 1999 bring strong damaging winds and 3 downbursts. Two deaths occurred. The roof of the Pill building in Concord is blown off during a storm. The downburst was designated a macroburst (at least 2.5 miles in diameter). Other communities in the Central NH Region experienced damages | N/A, although Webster likely experienced some heavy winds as it is located in the region. | Severe Wind, Downburst | Concord Monitor, NH HSEM, CNHRPC |
| **Severe Storms and Flooding Summer 1998** | **1231** | **1998** | **Jun 12-Jul 2** | **No** | Heavy flooding in six counties, including Merrimack and Hillsborough Counties. Damages of $3.4m for all counties. | **Webster did not apply for/receive funding.** As Webster is within Merrimack County, it is likely experienced heavy rains and possibly some flooding. | Flood, Wind, Debris Impacted Infrastructure | FEMA |
| **Ice Storm of 1998** | **1199** | **1998** | **Jan 7-25** | **No** | This ice storm was the first to test our statewide and local emergency management systems and utility providers. Tree and | **Webster did not apply for/receive funding**. Little Hill was hit with ice, and residents were without power for a couple days. | Extreme Temp, Ice Storm, Power Failure, | FEMA, US Army Corps of Engineers NH Storms database, |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
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| | | | | | infrastructure damage was extensive and power failures lasted up to two weeks in some parts of the state. In The Central NH Region, many lost power for over a week. This ice storm had severe impacts throughout most of the State, with 52 communities impacted. FEMA Disaster Declaration #1199, Six injuries and one death resulted. Damage totaled $12,446,202. In addition, there were 20 major road closures, 67,586 people left without electricity, and 2,310 people without phone service. | | Communications Failure | Webster Hazard Mitigation Committee, Bow Times |
| **Severe Storms and Flooding 1996** | **1144** | **1996** | **Oct 20-23** | **No** | Heavy rains caused flooding in six counties, including Merrimack and Hillsborough Counties. Damage totaled $2.3m for all counties. | **Webster did not apply for/receive funding.** As Webster is within Merrimack County, it is likely experienced heavy rains and possibly some flooding. | Flood | FEMA, NH HSEM, CNHRPC |
| **Storms and Floods 1995** | **1077** | **1995** | **Oct 20-Nov 15** | **No** | Four NH counties were damaged by excessive rain, high winds and flooding, including Merrimack (not Hillsborough). | **Webster did not apply for/receive funding**. As Webster is within Merrimack County, it is likely experienced heavy rains, trees down and power outages. | Flood, Severe Winds | FEMA, Federal Register, CNHRPC |
| **Severe Storm-Hurricane Bob 1991** | **917** | **1991** | **Aug 18-20** | **N/A for Webster** | Public assistance was available for Hillsborough County and 2 other counties (not declared in Merrimack County) as a result of damages caused by Hurricane Bob. The 2 seacoast counties fared the worst. | As Webster is within Merrimack County, it likely experienced heavy rains, wind gusts, tree debris, power outages and possibly some flooding. | Severe Winds, Hurricane | FEMA, CNHRPC |
| **Flooding and Severe Storm 1990** | **876** | **1990** | **Aug 7-11** | **No data available** | Moderate to heavy rains caused flooding in eight counties, including Merrimack and Hillsborough Counties. Damage totaled $2.3m for all counties | As Webster is within Merrimack County, it likely experienced heavy rains, tree debris, power outages and possibly some flooding. | Flood, Severe Winds | FEMA, NH HSEM |
| **Severe Storms and Flooding 1987** | **789** | **1987** | **Mar 30-Apr 11** | **No data available** | Flooding caused by snowmelt and intense rain was felt in seven counties, including Merrimack and Hillsborough Counties. Nearly $5m in damages. | The highest level of water in the Blackwater Dam was measured, with the capacity at 93%. No flooding was reported. | Flood, Rapid Snow Pack Melt, Debris Impacted Infrastructure | FEMA, NH HSEM, US Army Corps of Engineers |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
|---|---|---|---|---|---|---|---|---|
| **Severe Storms and Flooding 1986** | **771** | **1986** | **Jul 29-Aug 10** | **N/A for Webster** | Severe summer storms with heavy rains, tornadoes, flash floods, and severe winds, damaged the road network statewide. Disaster declared in Cheshire, Sullivan and Hillsborough Counties (not declared in Merrimack County). | It is likely Webster experienced heavy rains and possibly some flooding. | Flood, Wind | FEMA, NH HSEM, CNHRPC |
| **Earthquake 4.5M Sanbornton 1982** | No | 1982 | 18-Jan-82 | N/A | An earthquake originating near in Sanbornton in Belknap County measured 4.5M and was felt in various locations throughout the State. The area it was felt includes all of northern Merrimack County including the Concord area communities in Central NH. | With a quake of this size, it is highly likely Webster experienced some strong shaking and noise. Sanbornton is only a few miles to the northeast. | Earthquake | Earthquake-track.com, CNHRPC |
| **Concord Beaver Meadow Tornado 1979** | No | 1979 | Jul 27 | N/A | In Concord, a small twister was sighted at Beaver Meadow, where 13 trees were toppled, including a 100-foot tall pine. The duration was about 15-20 seconds. | N/A, although Concord abuts Webster to the south | Wind, Tornado | Concord Monitor |
| **NH Blizzard of 1978** | No | 1978 | Feb 5-7 | N/A | RSI Index of Category 5 (Extreme). This snowstorm is described as "a natural disaster of major proportions" and stunned all of New England. The storm was caused by an intense coastal Nor'easter that produced winds in excess of hurricane force and very high snow totals. Most of southern New England received more than three feet of snow, 25-33" in NH and higher throughout New England. Abandoned cars along roadways immobilized infrastructure and blocked major interstates. For over a week, New England remained paralyzed by the storm. All of New Hampshire was impacted. Governor Meldrim Thomson Jr. declared a state of emergency. | Although it is unknown what Webster experienced, it is likely many of the same depths and effects occurred across the Town. | Extreme Temperatures, Severe Snow Storms, Windchill, Power Failure | American Meteorological Society, Northeast States Emergency Consortium, CNHRPC |
| **Quebec Earthquake 4.8M 1973** | No | 1973 | 15-Jun | N/A | An earthquake originating near the Quebec border at a scale of 4.8 was felt in various locations throughout NH. | N/A, although some Webster residents may have felt the effects. | Earthquake | Northeast States Emergency Consortium |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
|---|---|---|---|---|---|---|---|---|
| **Severe Storms and Flooding 1973** | **399** | **1973** | **Jul 11** | **No data available** | All counties in the State of NH experienced storm damage and were declared disaster areas, including Merrimack and Hillsborough Counties. | No information available for Webster. | Flood, Wind | FEMA |
| **Older Hurricanes 1954-1991** | No | 1954 | to 1991 | N/A | Many older hurricanes have impacted New Hampshire including the 1954 – 1991 Hurricanes: Carol on August 31, 1954 (tree and crop damage), Edna on September 11, 1954, Donna on April 12, 1960 (heavy flooding), Dora on August 28, 1971, Bell on August 10, 1976, Gloria on September 27, 1985, and Bob in 1991. | Downed trees, wind damage, and flooding were likely experienced in Webster during many of these hurricanes. | Wind, Flood, Hurricane, Tropical Storm, Debris Impacted Infrastructure | NH Homeland Security and Emergency Management, |
| **10 Severe Snowstorms 1940-1978** | No | 1940 | to 1978 | N/A | Ten severe snowstorms are documented in south-central New Hampshire during this time span, February 14-15, 1940 (depths over 30" and high winds), February 14-17, 1958 (20-33"), March 18-21, 1958 (22-24"), March 2-5, 1960 (up to 25"), January 18-20, 1961 (up to 25", blizzard conditions), January 11-14, 1964 (up to 12"), January 29-31, 1966 (up to 10"), February 22-28, 1969 (24-98", slow-moving storm), December 25-28, 1969 (12-18"), January 19-21, 1978 (up to 16"). | Although it is unknown what Webster experienced, it is likely many of the same depths occurred. | Extreme Temperatures, Severe Snow Storms, Ice, Windchill, Power Failure | American Meteorological Society |
| **Webster Storm of 1953** | No | 1953 | Mar | N/A | N/A, although similar rain or snow storms and rapid snow pack melt likely impacted the region. | The highest level of water in the Blackwater Dam was measured, with the capacity at 93%. No flooding was reported. Uncertain as to exactly what type of storm caused this effect. A total of nearly 8" of precipitation in March 1953. | Flood, Rapid Snow Pack Melt, Debris Impacted Infrastructure | FEMA, NH HSEM, US Army Corps of Engineers |
| **Webster Hurricane of 1938** | No | 1938 | Sep 21 | N/A | Hurricane made landfall as a 3 on the Saffir-Simpson Scale, killed about 682 people and damaged or destroyed over 57,000 homes. Most deadly New England hurricane. Central New Hampshire was inundated with water. Downed trees caused extensive damage to homes, businesses and | Residents reported watching trees fall and landing like matchsticks or pick-up sticks on the ground. Trees fell on houses and dropped 4" of pine needles into homes. Apples fell from the trees over a foot deep. Roofs were blown off and electrical service was | Wind, Hurricane, Flood, Debris Impacted Infrastructure | Wikipedia, Concord Monitor, Webster NH 1933-1983 History |

| Event | Declared Disaster DR- | Year | Date | FEMA Public Assistance | Area Effects Surrounding Webster | Local Effects Occurring in Webster | Hazard Category | Source |
|---|---|---|---|---|---|---|---|---|
| | | | | | community infrastructure. President Roosevelt ordered emergency aid be sent to NH, including Merrimack County | disrupted for a week. Miraculously no buildings were completely destroyed, and there was no loss of life. After the storm, logs were dumped into Lake Winnepocket. The government then bought the lumber and it was stacked in a nearby field. | | |
| **Webster Flood of 1936** | No | 1936 | Mar 11-21 | N/A | Simultaneous high snowfall totals, heavy rains, and warm weather combined to hit all of New England. Floods killed 24 people, caused $133,000,000 in damage, and made 77,000 people homeless in New England. The great flooding of 1936 resulted from heavy rains and rapid snow pack melt. Snow north of Concord contributed to the higher waters in the Winnipesaukee, Contoocook and Pemigewassett rivers that were largely responsible for the destruction in Concord and the surrounding area. NH issued boil water warnings to everyone. | Clothespin Bridge Road was washed out, and flooded Battle Street/Route 127 during this storm, which took out five covered bridges and the steel bridge at Sweatt's Mills. Only Snyder's covered bridge remained in Town. The State paid $1,965 for road repairs in Webster. | Flood, Ice Jams, Rapid Snow Pack Melt | Concord Monitor, Union Leader, Army Corps of Engineers Ice Jam Database, Webster NH 1933-1983 History |
| | | | | | | | | |

*Source: Compilation of Events by Webster Hazard Mitigation Committee; CNHRPC*

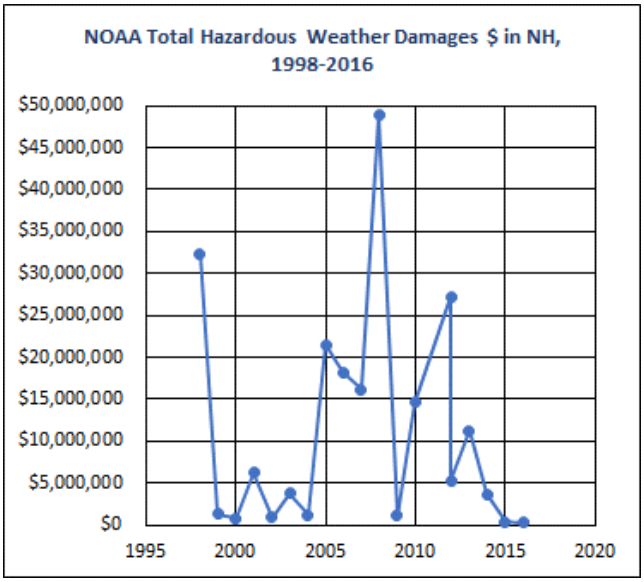
## Local Climate Changes and Extreme Weather

In the State and the Central NH Region, like any other areas, exist our own "micro-climate" areas that can be analyzed for future susceptibility to disasters and hazard events. New Hampshire has obtained high costs of damage over time due to hazardous weather and declared disasters. A review of the state and area history can provide a perspective on what Webster can expect to see in terms of extreme weather in the future.

**Table 11**

**Summary of Hazardous Weather Fatalities, Injuries, and Damage Costs in NH, 1998-2016**

| Year | Fatalities | Injuries | Total Damages $ |
|---|---|---|---|
| 2016 | 1 | 1 | **$270,000** |
| 2015 | 2 | 34 | **$370,000** |
| 2014 | 0 | 2 | **$3,700,000** |
| 2013 | 0 | 30 | **$11,250,000** |
| 2012 | 1 | 4 | **$5,280,000** |
| 2012 | 1 | 2 | **$27,280,000** |
| 2010 | 1 | 6 | **$14,630,000** |
| 2009 | 1 | 0 | **$1,130,000** |
| 2008 | 2 | 5 | **$48,890,000** |
| 2007 | 0 | 3 | **$16,150,000** |
| 2006 | 1 | 9 | **$18,200,000** |
| 2005 | 4 | 9 | **$21,500,000** |
| 2004 | 0 | 11 | **$1,200,000** |
| 2003 | 2 | 29 | **$3,800,000** |
| 2002 | 0 | 7 | **$900,000** |
| 2001 | 0 | 2 | **$6,200,000** |
| 2000 | 2 | 6 | **$800,000** |
| 1999 | 3 | 17 | **$1,300,000** |
| 1998 | 1 | 23 | **$32,400,000** |




*Source: National Oceanic and Atmospheric Administration, last accessed 03/18*
*http://www.nws.noaa.gov/om/hazstats.shtml*

Injuries to people and the costs of damages in New Hampshire have increased as a result of hazardous weather. These increases of injuries and damages can be generally applied to the major disasters declared in the State. As displayed in **Table 11**, the highest numbers of damage costs correlate to the 1998 (**$32m**) and 2008 (**$49m**) ice storms between 1998 and 2015.

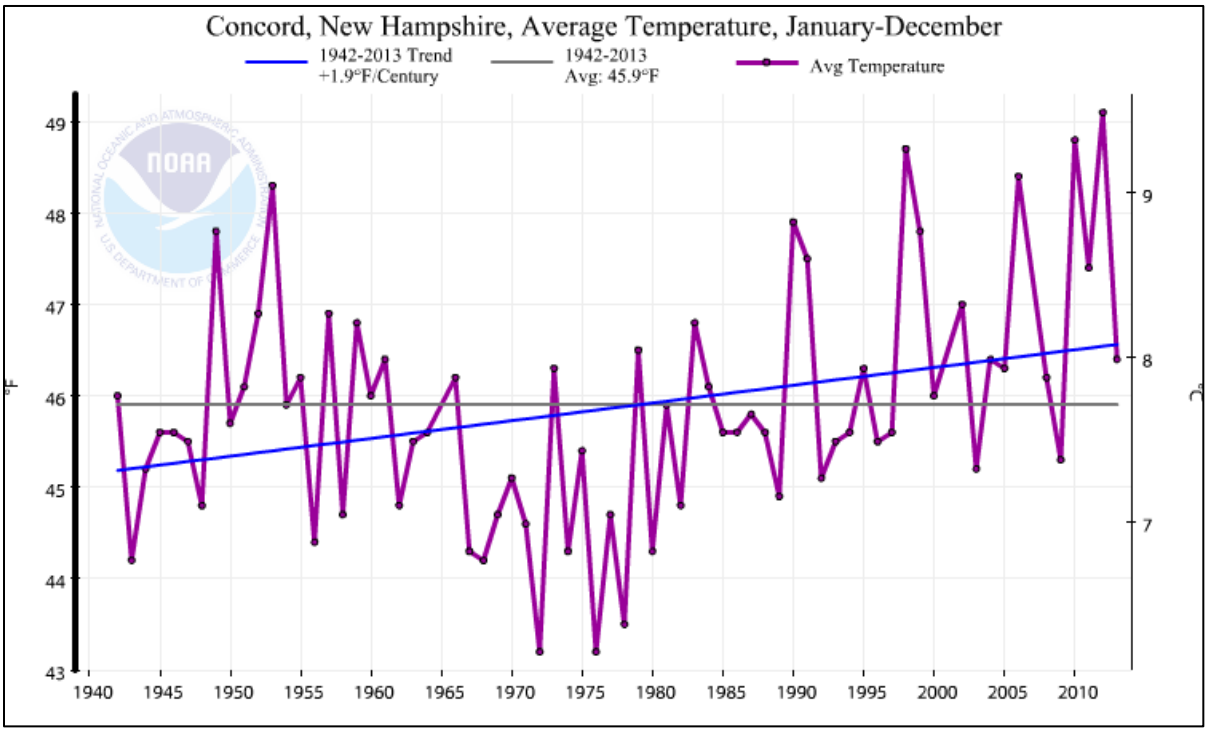
The number of injuries and fatalities have a less distinct association, with the highest numbers shown in 2013 (**30**) and 2003 (**31**). However, the greatest number of fatalities during this time period occurred in 2005 (**4**), likely during the time of the Columbus Day floods that hit the southwestern section of the State very hard.

Much of the rest of the discussion in this section has been directly excerpted or paraphrased from the ***Central NH Regional Plan 2015***. The Central NH Region's weather history is summarized to provide a view of the trends around the Concord area where the weather measurements have taken since 1939 at the Concord Airport. Webster geographically abuts the City of Concord, which comprises some of the Town's southern boundary, so these measurements should have some reasonable basis in Webster.

**Figure 4** displays Concord's average annual temperature between 1942 (**46.0°F**) and 2013 (**46.4°F**). Earlier data was not available. As with typical New Hampshire weather, the seasonal temperatures can vary year after year and without obtaining an average, changes are difficult to see. The displayed trend line allows a definitive way of averaging all of the temperatures and illustrates a **+2.8°F** increase in average annual temperature during this 70-year time period.

**Figure 4**

**Average Annual Temperature for Concord, 1942-2013**

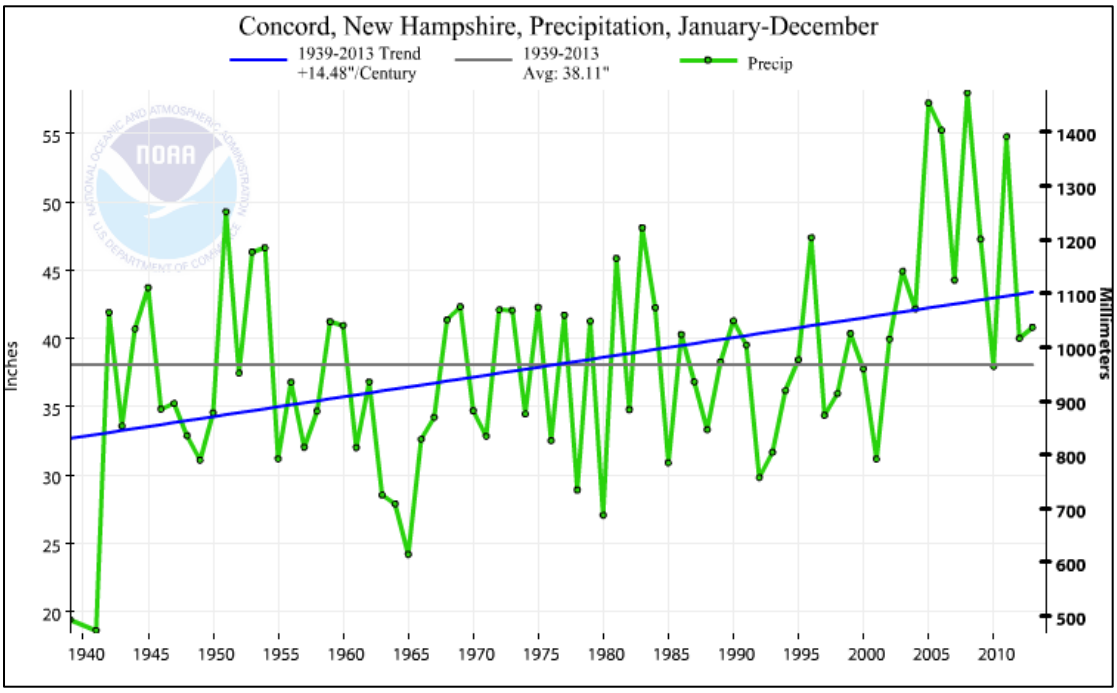



*Source: National Oceanic and Atmospheric Administration*

For precipitation changes, **Figure 5** displays Concord's average annual precipitation rates between 1939 and 2013. Varying seasonal rainfall amounts continue over the decades. The trend line serves the same purpose to illustrate an overall increase of **+14.48"** in precipitation over the 74-year time period from 1939 to 2013.

Figure 5

**Average Annual Precipitation for Concord, 1939-2013**

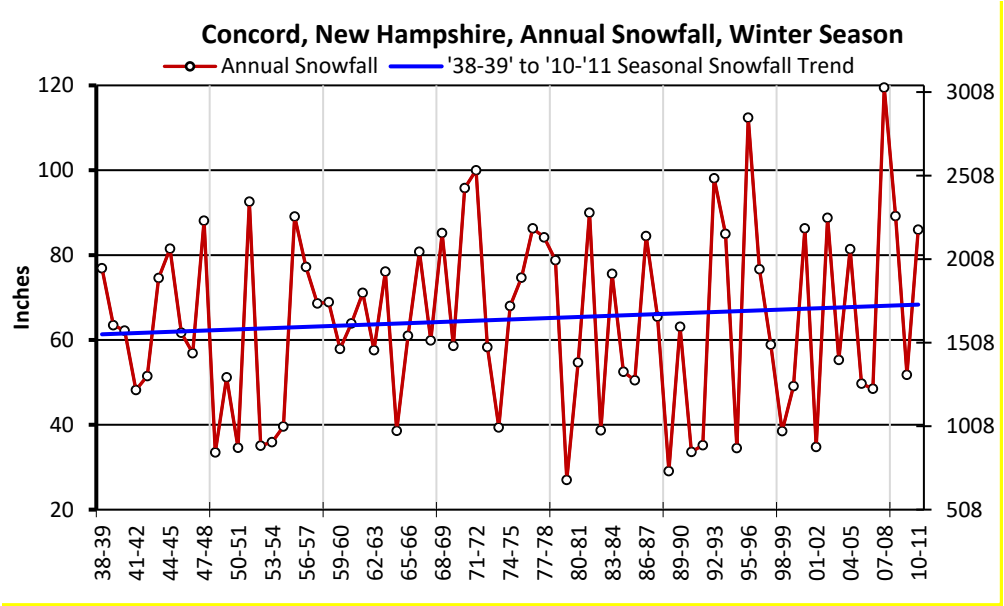



*Source: National Oceanic and Atmospheric Administration*

Similar to temperature and precipitation, annual snowfall amounts as reported by NOAA were observed for Concord starting in the **1938-1939** winter season through the **2010-2012** winter season. Snowfall data from **2012-2013** was not available. As displayed in **Figure 6**, the amount annual of snowfall has varied greatly over the past century. Overall, the trend line indicates a slight increase in annual snowfall inches, from about **60"** in the **1938/39** season to about **68"** in **2010/11**, totaling an increase of **+8"** of snowfall over the 72-year time span.

Figure 6

**Average Annual Snowfall for Concord, Winter Seasons 1938/39 - 2010/11**




*Source: NOAA Compiled by: CNHRPC*

This climate data may certainly be relevant to the entire Central NH Region which includes the Town. The Central NH region climate summation is that the temperature is getting warmer, the precipitation is increasing, and the snowfall is slightly increasing according to the National Oceanic and Atmospheric Administration's data collection at the Concord airport. There are no indications to see these trend lines reverse although the snowfall varies greatly from one season to the next, almost in an alternating pattern.

The Southern NH Climate Change Assessment, formally entitled ***Climate Change in Southern New Hampshire: Past, Present, and Future, 2014*** by the University of New Hampshire, reviewed current climate conditions and projected future conditions of Southern New Hampshire under potential low and high emission scenarios. Their past and future climate overview is illustrated in **Figure 7**.

As a result of anticipated extreme weather continuing and climate changes in Central NH and Webster, consideration should be given for potential impacts to the community. A few new issues are considered, although the list is not detailed. For more information on these topics, refer to the **Central NH Regional Plan 2015**.

**Figure 7**

**Southern NH Climate Assessment Projections**

**Past Data and Future Climate Overview**

**SOUTHERN NH CLIMATE ASSESSMENT Projections**

**TEMPERATURE**

What have we seen since 1970?

- → Average maximum temperatures have warmed by 2.0°F (annual) and 2.9°F (winter)
- → Average minimum temperatures have warmed by 3.2°F (annual) and 6.1°F (winter)

What can we expect?

- → Summers will be hotter: 16-47 days above 90°F
- → Winters will be warmer: 20-45 fewer days below

**RAINFALL**

What have we seen since 1970?

- → Annual precipitation has increased by 8-22%
- → Frequency and magnitude of extreme events

What can we expect?

- → Precipitation annual average will increase: 15-20%
- → More frequent and severe flooding

**SNOW**

What have we seen since 1970?

- → Fewer days with snow cover
- → Lake ice-out dates occurring earlier

What can we expect?

- → Significant decrease of 20-50% in number of snow covered days

*Source: Climate Solutions of New England, 2014*

**More Human Health Emergency Events**

- ☞ Illnesses such as heatstroke, fainting, and heat exhaustion.
- ☞ Excess heat especially dangerous for the aging population and residents without air conditioning.
- ☞ Increase in greenhouse gas emission, energy demand, and air conditioning use and cost.
- ☞ More favorable conditions for insects carrying viruses and diseases, such as West Nile Virus.
- ☞ Increases risk of waterborne illnesses caused by pollutants entering the town's water supply, commonly through stormwater runoff and sewage overflow.
- ☞ Infrastructure failure by adding additional stress, leading to potential injury or loss of life.
- ☞ More air pollution, leading to asthma and breathing disorders.

**Natural Environment Disruption**

- ☞ Too much water and/or lack of water can disrupt trees and plants natural growing cycle, potential leading the tree, plant, and surrounding area to die.
- ☞ Additional water and drought conditions affect wetland discharge, stream flow, and water quality, affecting the habitat's quality of life and species' health within the area.
- ☞ Debris will be a result of harsh flooding, including trash and downed trees, polluting waters, harming habitats, and damaging property and infrastructure.

**Declining Forest Health**

- ☞ Large weather events such as heat stress, drought, and periods of winter thaw followed by intense cold can lead to loss of trees.
- ☞ Become susceptible to invasive species and diseases, such as the Hemlock Wooly Adelgid.
- ☞ Loss of trees can have a direct impact on portions of the region's economic components, including declining tourism.

**Fewer Recreation Opportunities**

- ☞ Weather Impacts on Recreational Trails such as debris, flooding and erosion.
- ☞ Snowmobiling, ice fishing, snow shoeing, skiing and snowboarding provide numerous sources of winter recreation and winter tourism, enhancing the quality of life and economy, will be affected with shorter seasons.

**Risks to the Built Environment**

- ☞ Critical infrastructure such as roads, bridges, culverts, stormwater drainage systems, water and wastewater treatment facilities, natural gas lines, electric lines and poles might be at risk of severe damage or failure if the anticipated extreme weather events occur.
- ☞ Damaged infrastructure cannot provide services to homes and businesses, disrupting the economy and may endanger public health.
- ☞ Culverts are at risk to extreme precipitation events, including rain, snow, and ice.
- ☞ Residents who experience damage with flooding to their homes and personal belonging may lack proper flooding insurance, placing the resident in financial hardship.
- ☞ Dams with High Hazard and Significant Hazard classifications are the most likely to cause the largest amount of damage or loss of life.

**Increasing Municipal Transportation Systems Maintenance Needs**

- ☞ Volume of flooding is expected to increase, potentially closing roads and increasing the travel time for drivers and increasing the cost and energy use.
- ☞ Flooding can also cause damage to pavement and embankments, increasing maintenance, repair, and replacement costs to municipalities.
- ☞ Extreme precipitation will also increase erosion, decreasing certain infrastructure components design life span.

**Aging and Inadequate Stormwater Infrastructure**

- ☞ Stormwater infrastructure such as catch basins, pipes, discharge points, and culverts that redirect stormwater runoff can impacted by flooding and cannot perform their function.
- ☞ Blocking of water can lead to flooding of the area and roadways, potential leading to the closure of nearby roads.

- ☞ Components of stormwater infrastructure are outdated, and increased flows are added stress to the system, more money to maintain and higher replacement costs.
- ☞ Increased development with increased amounts of impervious surface adds the volume of stormwater runoff within more urban area.

**Decreasing Water Resources**

- ☞ Water quality and quantity are both threatened by projected changing weather events, with threats of flooding, drought, erosion and stormwater runoff.
- ☞ By preventing groundwater from replenishing, additional runoff and sediments can lead to intensify flows in rivers and streams with higher contamination levels of unwanted nutrients and pathogens.
- ☞ Additional water treatment may be necessary, potentially overloading treatment systems.
- ☞ Contamination can pollute sewage, threatening the performance of wastewater treatment facilities.
- ☞ Increased occurrences in flooding can also intensify flows, causing overloading of treatment system.
- ☞ When the ground is frozen, rapid snow melt from warm days or intense rain is not able to infiltrate the ground, leading to drought conditions.

**Changing Food and Agriculture Production**

- ☞ Merrimack County is the top county in the State for agriculture sales of higher temperatures will promote a longer growing season for most crops, benefiting a larger number of local crops.
- ☞ Negative impacts can potentially alter the region to a climate not suitable for growing valuable local crops such as apples and blueberries.
- ☞ Temperature are expected to slow weight gain and lower the volume of milk produced by dairy cows.
- ☞ Higher overnight temperatures are anticipated to prevent the dairy cows and cattle from recovering from heat stress.
- ☞ Warmer temperatures and increase in carbon dioxide in the air creates a more ideal environment for pests and weeds, potentially increasing the use of herbicides and pesticides on crop.

This is a sampling of how changing climate and severe weather impacts can affect communities in New Hampshire, in the Central NH Region and in Webster. Consideration should be given to applicable items during the development and update of the **Hazard Mitigation Plan**.

## Detailed Hazard Events in Webster

A compilation of hazards that have occurred in Webster and the Central NH Region area is provided in the prior Table of **Local and Area Hazard Events. Hazard Locations in Town** are areas to watch, areas of particular susceptibility and may be vulnerable to future events. **Potential Future Hazards** are determined based on the past hazard events, possibilities, and existing issues in Town to provide focus to future potential problem areas and to help with mitigation action development.

Each hazard is generally described and then is noted how and where it could occur in Webster. For all hazards examined in this Plan, a table of the **Hazard Locations in Town** and the **Potential Future Hazards** is provided at the end of this Plan Chapter.

Hazard events were researched using a wide variety of sources for the **original Webster Hazard Mitigation Plan 2007** which were the basis for many of the past disaster events and updated to the present. The **Hazard Mitigation Plan Update 2012** provided recent information on many of the extreme disasters experienced between 2005-2008. Sources and techniques included interviewing local townspeople, researching Town Histories and related documents, and collecting information from governmental or non-profit websites. Presidentially declared disasters or other significant hazard events are described for the surrounding area or Merrimack County for the **Hazard Mitigation Plan Update 2018** and some of them may have affected the community. These disasters were also considered by the Committee when determining the risk evaluation.

Committee member experiences, knowledge, and recollections generally comprise the **Local and Area Hazard Events** and **Hazard Locations in Town.** While additional hazards might have occurred in Town, those events in the Plan are what the Committee chose to list, or were familiar with to list, to comprise the hazard events within the in Tables. The same is true for the **Potential Future Hazards** section.

### FLOODING

Floods are defined as a temporary overflow of water onto lands that are not normally covered by water. Flooding results from the overflow of major rivers and tributaries, storm surges, and/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. However, floods can be beneficial to the low lying agricultural areas which are used for active farm lands by enriching the soil.

Floodplains are usually located in lowlands near rivers, and flood on a regular basis. The term *100-year flood* does not mean that a flood 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. It is more accurate to use the phrase *1% annual chance flood*. This phrase means that there is a 1% chance of a flood of that size happening in any year.

Inland floods are most likely to occur in the spring due to the increase in rainfall and melting of snow; however, floods can occur at any time of year. A sudden thaw during 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 drain. Flooding is the most common natural disaster to affect New Hampshire, a common and costly hazard.

There are several types of **Flooding** hazards examined in the **Hazard Risk Assessment**:

- **Floods and Flash Floods**
- **Rapid Snow Pack Melt**
- **Ice Jams**
- **Riverine Fluvial Hazard Flooding, Erosion, Channel Movement**

## Magnitude of Flooding

Flooding magnitude, or how bad flooding could get in Webster, can be measured by the following SFHA Flood Zone scale in **Table 12**. "Flooding" encompasses all types of flooding including **Floods and Flash Floods**, **Rapid Snow Pack Melt**, **River Ice Jams** and **Fluvial Hazard Erosion and Channel Movement**.

**Table 12**

**Special Flood Hazard Area (SFHA) Zones on 2010 DFIRMS**

| Special Flood Hazard Areas on Webster DFIRMs | |
|---|---|
| **Zone A** | **1% annual chance of flooding**<br>• **100-year** floodplains *without* Base Flood Elevations (BFE) |
| **Zone AE** *(with or without floodways)* | **1% annual chance of flooding**<br>• **100-year** floodplains *with* Base Flood Elevations (BFE)<br>• some identified as **floodways** with stream channel and/or adjacent floodplain areas<br>• areas must be kept free of encroachment so 1% annual chance of flood will not substantially increase flood height |
| **Zone X** | **0.2% annual chance of flooding**<br>• **500-year** floodplain *without* Base Flood Elevations (BFE)<br>• sheet flow flooding less than 1-foot deep<br>• stream flooding where the contributing drainage area is less than 1 square mile<br>• areas protected from 100-year floodplains by levees<br>• OR areas determined to be outside the 0.2% annual chance of flood (see DFIRMs) |

*Sources: FEMA and NH Geographically Referenced Analysis and Transfer System (NH GRANIT) websites*

**Webster DFIRMs** can be viewed online at and downloaded from the NH Geographically Referenced Analysis and Transfer System (NH GRANIT) website. Alternatively, the DFIRMs' respective paper FEMA 2009 Floodplain Maps in the Town Office could be consulted. Should the **Zone A** or **Zone X** or **Zone AE** flood to either the 100-year or 500-year level, the DFIRM areas will help **measure the location of the floodplain and potential magnitude of the flood.**

## Flooding in Webster

Webster has few areas particularly susceptible to flooding. Rapid pack snow melt affecting roadways, beaver dam breaches and the controlled US Army Corps of Engineer flooding are the most likely flood events. There are many hilly roads in Town that could washout during flash flooding and heavy rain events. Some key culvert pipes need to be up-sized to address the increased water and these are listed as Actions in **8 MITIGATION ACTION PLAN**. The Town has been working with the State and FEMA to upgrade culverts, often to box culverts.

These small brooks, ponds and wetlands in Webster contribute to flooding these and other areas in Town:

- **Watercourses:** Blackwater River, Beaver Dam Brook, Deer Meadow Brook, Schoodac Brook, Pond Brook, Knight Meadow Brook, and several unnamed brooks.

- **Waterbodies:** Blackwater Reservoir, Pillsbury Lake, Lake Winnepocket, Walker Pond, Couch Pond, Knight Meadow Pond/Marsh, Walker Pond, several Farm Ponds, and several unnamed ponds and wetlands.

### Road and Drainage System Washouts

Roads in Webster are vulnerable to washouts and floods but do not consistently washout during flash flooding and heavy rain events. A listing of past and future potential road washouts is shown on ***Map 1 Potential Hazards*** and ***Map 2 Past Hazards***. A **Table** of undersized Town-owned culverts to be upgraded to ensure their carrying capacity can be found in **5 COMMUNITY VULNERABILITY ASSESSMENT**. These roads are either most common, regular locations of **road washouts** or water flooding over the roadways or are locations which could be washed out during a very heavy rain event:

- Battle Street/ Route 127 (State roads & culverts)
- Corn Hill Road (Pond Brook)
- Clothespin Bridge Road (Blackwater River)
- Clothespin Bridge over Blackwater River
- Deer Meadow Road and Culvert (Deer Meadow Brook)
- Little Hill Road Dam
- Long Street (Beaver Dam Brook beaver dam/swamp)
- Mutton Road and Culvert
- Pillsbury Lake Bridge (beaver dam)
- Pillsbury Lake Dam
- Pillsbury Lake Water Precinct
- Roby Road
- Tyler Road

- Whiteplains Road (Schoodac Brook)
- Whiteplains Road Bridge over Schoodac Brook
- Many other gravel roads (ditching, flood over road, washouts)

**Dam Failure**

There are a few dams in Webster with potential for flooding damage *if* breached. One (**1**) **High Hazard** dam, the US Army Corps of Engineers Blackwater Dam Flood Control Reservoir, could have catastrophic consequences if a failure occurred. The Town Office, Elementary School, and Public Safety are directly downstream of the federal Dam. Three (**3**) **Low Hazard** dams are also located in the community at Pillsbury Lake, Lake Winnepocket, and Knight Meadow. The following areas have been identified by the Hazard Mitigation Committee as being immediately susceptible to the impacts of dam failure **flooding.**

- Blackwater Dam High Hazard (H)
- Pillsbury Lake Dam Low Hazard (L)
- Winnepocket Lake Dam Low Hazard (L)
- Knight Meadow Pond Dam Low Hazard (L)

***US Army Corps of Engineers Blackwater Dam Flood Control Reservoir***

The floodplains in Town are active, dynamic areas primarily situated along Route 127 and in the US Army Corps of Engineer (USACOE) Blackwater Dam Flood Control Area. The Dam was built in 1941 and the Flood Control Reservoir encompasses the northwestern section of Webster and much of western Salisbury. Webster is highly susceptible to flooding because of the close proximity of the population and roadways to tributaries of the Blackwater River. Upstream the water basin is highly regulated by the USACE and has never yet overflowed its channels. Regular releases of water from dam help keep the balance and pressure of the Blackwater River equalized, however unpublished water releases could be dangerous to Blackwater River shoreland property owners. The Blackwater Dam offices are not staffed in Webster so all gages and systems are monitored remotely in the USACOE Franklin Falls office.

## Special Flood Hazard Areas (SFHAs)

For the Town of Webster, the water-surface elevation for the Blackwater River was computed using the USGS step-backwater computer program. Starting water-surface elevations were obtained from the **1988** FIS for the Town of Hopkinton. In Webster, the **2010** **1%** annual chance floodplain boundary remains essentially unchanged from the delineation shown on the previously printed FIS for the Town of Webster in **1993**.

**Base Flood Elevations (BFEs)** are abundant within Central NH along the Merrimack River, Contoocook River, Blackwater River, Warner River, Soucook River, and Suncook River on the DFIRMs of 2010. In Webster (**330236**) New Hampshire (**D33013C**), there are several DFIRMs identifying floodplains. There are **14** DFIRMS in Webster of which **5** panels contain floodplains of the **Blackwater River**: **#0305**, **#0311**,

**#0312**, **#0314**, **#0502**. The **Warner River** floodplains are displayed in **#0501** and **#0513.** The **Meadow Brook** floodplains also contained a **BFE**: **#0318**. These DFIRMs include **Zone AE** floodways (1% annual risk of flooding), **Zone AE** floodplains with **BFEs** (1% annual risk of flooding) or **Zone X** (0.2% annual risk of flooding) locations in Town. A total of **8** DFIRMS in Webster contain **BFEs**. These are highlighted gray in **Table 13**.

Five (**5**) DFIRMs, **#0320**, **#0319**, **#0308**, **#0295**, and **#0285** (**Walker Pond**, **Pond Brook**, **Schoodac Brook**, **unnamed brooks and wetlands**, and **Blackwater River Flood Control Area**) display the only Special Flood Hazard Area (SFHA) **Zone A** (1% annual risk of flooding). These are the white rows in **Table 13**.

The **1** remaining DFIRM, **#0294**, does not display floodplains within Webster, although it displays the floodplains in abutting Warner. DFIRM panels are not printed when floodplains are not present in an area. **Table 13** also provides this information.

**Table 13**

**Locations of Webster Special Flood Hazard Areas (SFHA) on 2010 DFIRMS**

| Panel NH (D33013C) | Flood Zones in Webster (330236) | Base Flood Elevations (BFEs) | Water Body Areas in Floodplains | Community of Webster Geographic Location |
|---|---|---|---|---|
| **#0305** | AE with floodway, A | 472 | **Blackwater River, Blackwater Flood Control Reservoir (FRC), Beaverdam Brook, Little Pond, Walker Pond, Unnamed Brooks** | Eastern edge abutting Boscawen and Salisbury to the north. Mutton Road, Battle Street, Province Road, Cogswell Woods Road, Pleasant Street, Hemlock Hollow Road, Allen Road, Long Street. Detailed study (floodway with elevations) begins at southern panel end. |
| **#0311** | AE with floodway | 472 | **Blackwater River** | West-central section of Webster containing Lake Winnepocket, tiny area of Blackwater FRC. Battle Street, Rolfe Road, Pond Hill Road, Winnepocket Road, West Wind Village Road. |
| **#0312** | AE with floodway, AE, A | 472, 471, 470, 469, 466, 457, 451, 445, 441, 438, 433, 427, 417, 408, 398, 383, 373, 366, | **Blackwater River, Walker Pond** | Center of Town covering most of the Blackwater River. Route 127, Battle Street, Pleasant Street, Deer Meadow Road, Tyler Road, Campground Road. Small section of Walker Pond. |
| **#0314** | AE with floodway, AE, X, A | 366, 365, 364, 363, 362, 361, 360 | **Blackwater River, Unnamed Brooks** | South-central Webster, abutting Hopkinton to the north. Bashan Hollow Road, Tyler Road, Gerrish Road. |
| **#0502** | AE with floodway, AE, X, A | 362 | **Blackwater River, Unnamed Brooks** | Southern edge of Webster abutting Hopkinton. Tyler Road into Hopkinton, Blackwater River. |

| Panel NH (D33013C) | Flood Zones in Webster (330236) | Base Flood Elevations (BFEs) | Water Body Areas in Floodplains | Community of Webster Geographic Location |
|---|---|---|---|---|
| **#0501** | AE with floodway, AE, X | 364 | **Warner River** | Southwestern corner, abutting Warner and Hopkinton. Dustin Road and Warner River. |
| **#0313** | AE with floodway, AE, A | 364 | **Warner River, Unnamed Brook & Pond** | Southwest edge abutting Warner. Sanborn Hill Road, Battle Street, Dustin Road. |
| **#0318** | AE, X, A | 360 | **Meadow Brook, Unnamed Pond** | Southwestern section of Webster, abutting Hopkinton and Concord to the north and southeast edge abutting Boscawen. Deer Meadow Road, Bashan Hollow Road, Pillsbury Lake and its community roads, |
| **#0320** | A | N/A | **Walker Pond, Pond Brook** | Eastern central edge, abutting Boscawen. Northern Pillsbury Lake and its community roads, Corn Hill Road, Kimball WMA, Chadwick Hill Road. |
| **#0319** | A | N/A | **Unnamed Pond and Wetland** | Southeastern corner, abutting Boscawen and Concord. Deer Meadow Road and Pond Brook. |
| **#0308** | A | N/A | **Walker Pond** | Eastern edge abutting Boscawen at Walker Pond. |
| **#0295** | A | N/A | **Schoodac Brook** | Western central edge with Warner, contains Leonard Wildlife Management Area (WMA), Whiteplains Road, Trumbull Pond. |
| **#0285** | A | N/A | **Blackwater Flood Control Reservoir (FRC), Mud Pond and Tributary, Unnamed Brooks** | Northwestern corner abutting Salisbury and Warner. Little Hill Road, Dublin Lane, Leonard Wildlife Management Area (WMA), Knight Meadow Marsh WMA |
| **#0294** | None | N/A | **None** | Tiny area along the edge of Warner, west-central section of Webster. No roads or waterbodies. |
| | | | | |

*Sources: FEMA and NH Geographically Referenced Analysis and Transfer System (NH GRANIT) websites*

**Figure 8** displays the relative location of each of the DFIRM panels in the community used in **Table 13**. This set of DFIRMs is excerpted from the ***Merrimack County Flood Insurance Study (FIS) of 2010***.

**Figure 8**

**DFIRM Panel Location, 2010**

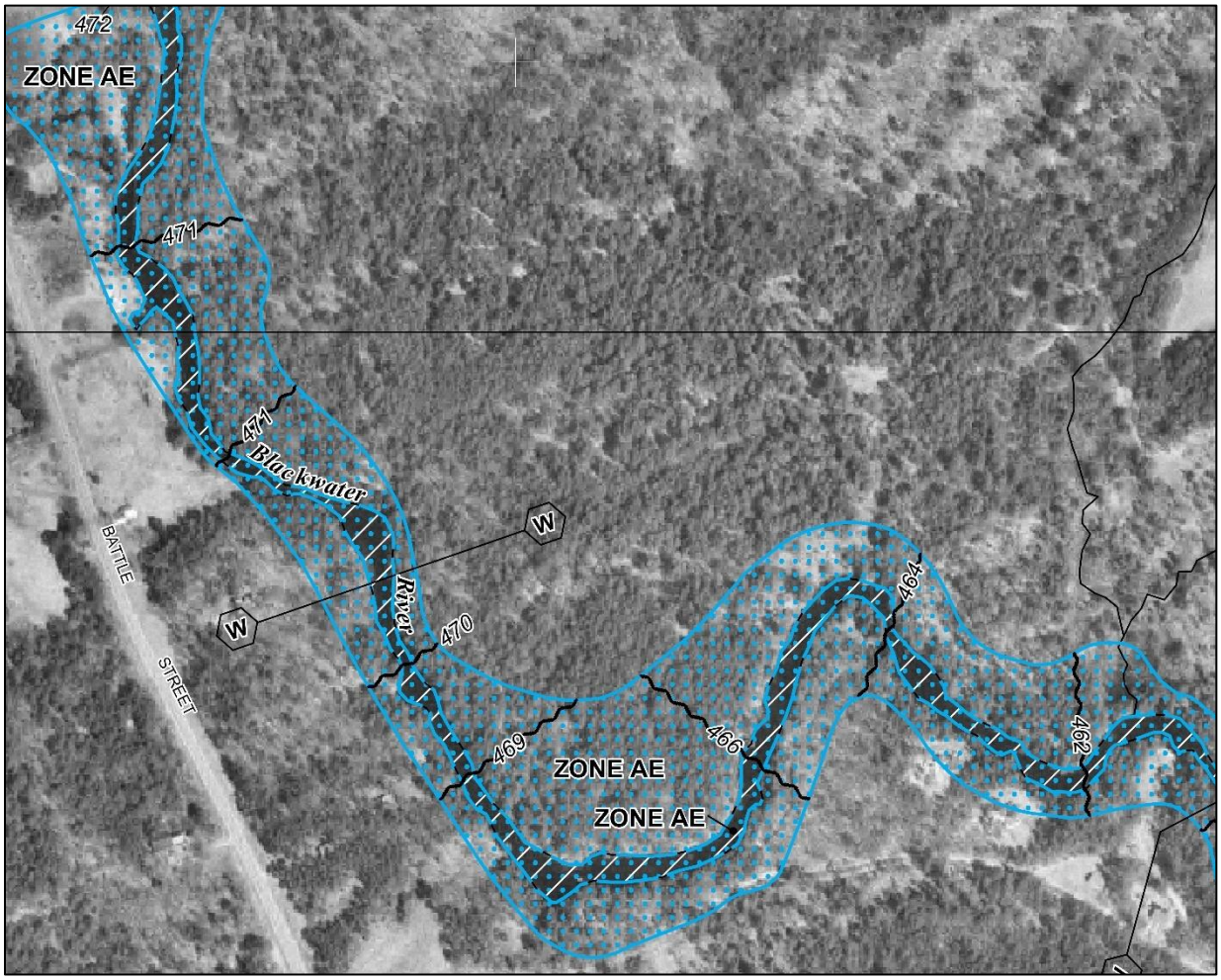



*Source: Webster DFIRMS can be downloaded at http://www.granit.nh.edu/dfirms/, last accessed 03-20-18*

**Figure 9** displays an example of a DFIRM's zoomed-in view of the Blackwater River as it meanders through Webster. The floodplains are depicted in relation to Battle Street (NH 127). This is the where the Town Office, Elementary School and Public Safety Building are located, just south of the Blackwater Dam. DFIRMs illustrate the location of floodplains as a significant upgrade from the previous series of outdated paper maps, known as FIRMs. These new 2010 maps are now set on an aerial photography background that displays roads, buildings, forested areas, waterbodies and watercourses.

**Figure 9**

**Zoom View of Webster DFIRM Panel Location #0312**




*Source: FEMA DFIRMS 2010 for Webster NH, #0312*

## Rapid Snow Pack Melt

Warm temperatures and heavy rains cause rapid snowmelt. The water cannot seep into the frozen ground in early spring and so it runs off into streets and waterways. Quickly melting snow coupled with moderate to heavy rains are prime conditions for flooding.

There is the possibility of damages from the rapid snow pack melt because of the flooding from the Blackwater River and the various brooks along the roads, roadside wetlands, and from the culverts of the watercourses. Locations in Webster that may be vulnerable to rapid snow pack melt include undersized or unmaintained culverts, roads, driveways, slopes, yards or fields, or swollen brooks, or any of the Town's fast moving brooks or drainage areas. Damage to roads is expected.

### Magnitude of Rapid Snow Pack Melt

**Rapid snow pack melt** is a type of flooding. On its own, it has no known magnitude measurement. However, the hazard can share **Flooding's** Special Flood Hazard Areas (SFHAs) table.

### Rapid Snow Pack Melt in Webster

Melt runoff from impervious surfaces and roadways or from tree cover and fields can cause floods over the Entire Town. Road washouts and/or culvert failure locations or other areas flooded have included over the years: Battle Street/ Route 127, Corn Hill Road at Pond Brook, Clothespin Bridge Road at Blackwater River, Deer Meadow Road and Culvert at Deer Meadow Brook, Long Street at Beaver Dam Brook and beaver dam/swamp, Mutton Road and Culvert, Pillsbury Lake Bridge at the beaver dam, Roby Road, Tyler Road at Blackwater River, Whiteplains Bridge and Road at Schoodac Brook, and many other locations in Webster.

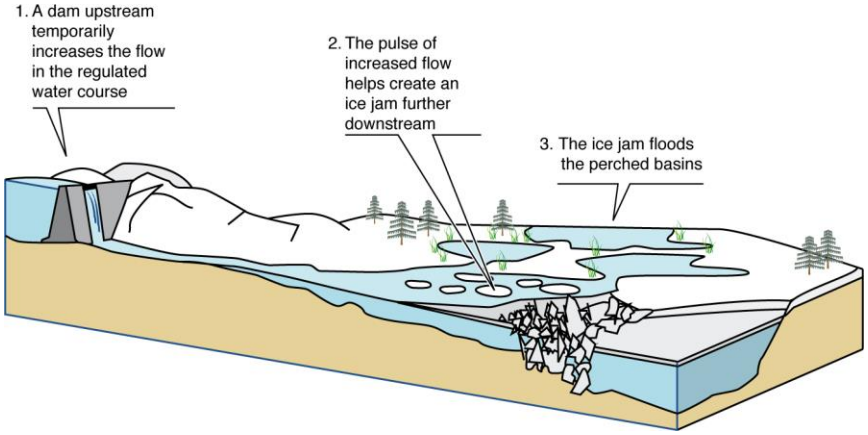
On these and other gravel roads, the road beds may be washed away, preventing traffic from passing. All areas of Town could be susceptible to rapid snow pack melt, particularly those near the wetlands and brooks (Deer Meadow Road, Corn Hill Road, etc).

## River Ice Jams

Rising waters in early spring often break ice into chunks, which float downstream, pile up and cause flooding. Small rivers and streams pose special flooding risks because they are easily blocked by jams. Ice in riverbeds and against structures presents significant flooding threats to bridges, roads, and the surrounding lands. A visual of how ice jams often form is displayed in **Figure 10**.

Figure 10

**Typical Ice Jam Commencement**




*Source: USGS, Internet Accessed May 2014*

## Magnitude of River Ice Jams

There is no known widely-used magnitude scale for **river ice jams**. River ice jams can cause debris impacted infrastructure when they apply pressure to bridges and dams.

## River Ice Jams in Webster

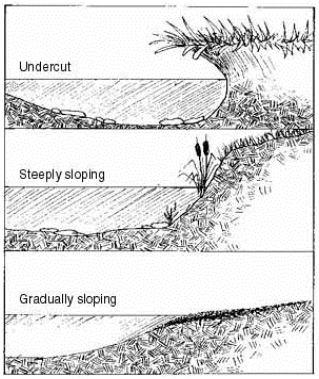
The Blackwater River is significant in Webster and **ice jams** have occurred in the community. These specific locations are capable of **ice jam** conditions: Clothespin Bridge Road, Battle Street/Tyler Road, and east of Tyler Road where the Blackwater flooded. Upstream, the Blackwater River Dam impounds the River, which is released as needed to reduce water. An ice jam here could cause or contribute to a dam breach, in which case, the Blackwater River could flood the downstream community. The federal US Army Corps of Engineers monitors conditions remotely and could take action prior to any significant damage at this location. For other locations, the Town must check along the roads and bridges for any ice jams, particularly during high water and heavy rain/snow melt conditions. Bridges and dams are identified in **APPENDIX A Critical and Community Facility Vulnerability Assessment**.

## Fluvial Erosion, Bed Scouring and Channel Movement

Fluvial erosion is the wearing away of the river/stream bank and floodway. Bed scouring is the wearing away of the bed of the river or stream, typically shown as a pool type formation at downstream culvert outflows. Watercourses with high elevation change (stream gradient) are particularly prone to flash-flooding conditions and most vulnerable to erosion and scouring. During flooding or even high flow events, rivers can erode their banks and migrate into their floodplains. A migrating river, when channel movement is occurring, has the potential to impact nearby structures (berms, dams, buildings, etc.) or infrastructure such as river or stream crossings (culverts and bridges) or transportation features (roads, drainage structures, rail, etc.) in its migration path.

**Fluvial geomorphology** is the study of how processes of flowing water in rivers work to shape river channels and the land around them. Fluvial assessments are a collection of field data undertaken within designated river reaches. A **river reach** is a length of stream that has characteristics similar enough that condition data collected within that length is representative of the entire reach. **Figure 11** displays visual bank erosion characteristics.

**Figure 11**
**Bank Erosion Characteristics**

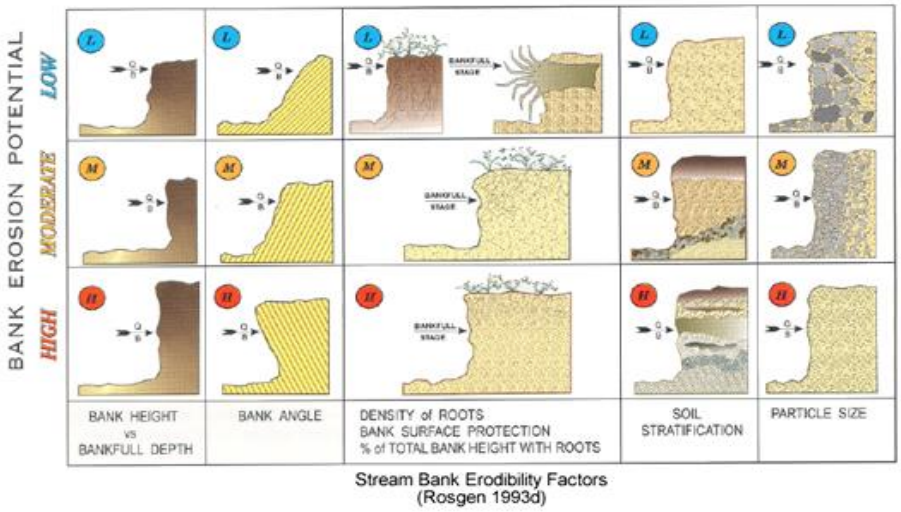



*Source: US Geological Survey (USGS)*

### Magnitude of (Fluvial) River Bank Erosion

**River and streambank erosion** magnitude can be measured by the US EPA Bank Erosion Prediction Index (BEHI), which is used with the Near Bank Stress (NBS) quantification. Taken into consideration for the BEHI are the bank height versus bankfull depth, bank angle, density of roots, soil stratification, and particle size at a river reach. **Figure 12** displays the visual version of the index.

Figure 12
**Bank Erosion Prediction Index (BEHI)**




*Source: US Environmental Protection Agency (US EPA)*

## Fluvial Erosion, Bed Scouring and Channel Movement in Webster

**Erosion** can occur along the Blackwater River, Beaver Dam Brook, Deer Meadow Brook, Schoodac Brook, Pond Brook, Knight Meadow streambanks when development (roads, homes) or human activities (parks, paths, recreational vehicles) are too close or if stream crossing alignments are not adequate for their locations. The Town should remain alert for potential developing erosion sites. Bridges can be contributors to scouring of the Blackwater River streambed. Erosion effects have been felt on Detour Road, Clothespin Bridge Road and Whiteplains Road.

The Hazard Mitigation Committee identified the following as existing or potential future hazards in the case of **stream bank erosion and scouring**:

- Blackwater River and its floodplains
- Clothespin Bridge Road
- Corn Hill Road
- Deer Meadow Road
- Detour Road
- Lake Road / Hollins Drive
- Mutton Road
- Pond Hill Road
- Whiteplains Road and Bridge

## WIND HAZARDS

Hurricane season begins on June 1 and continues through the end of November. August and September are the most active hurricane months. It is not uncommon for New England to be impacted by a hurricane more than once in a season. River and flooding due to heavy rains is a risk to Webster during hurricanes. Numerous hurricane events in recent history have occurred in the State, region, and the local area surrounding Webster that may have also had an impact on the Town.

Wind is also found in severe winter snow and ice storms, making this hazard likely to occur during the entire year. Significantly high winds occur especially during hurricanes, tornadoes, winter storms, and thunderstorms any time of the year. Falling objects and downed power lines are dangerous risks associated with high winds. Property damage and downed trees are common during high wind occurrences. All utilities, including power lines, are at risk and their damage or destruction would create a hazard to the Town. A communications interruption or failure resulting from damage to telecommunications towers could affect the capabilities of emergency personnel to respond to the hazard event.

There are several types of **Wind** hazards examined in the **Hazard Risk Assessment**:

- **Tornadoes**
- **Downbursts**
- **Hurricanes and Tropical Storms**
- **Severe Wind, Rain Storms and Thunderstorms**

### Tornadoes

Significantly high winds that occur especially during hurricanes, winter storms, and thunderstorms, but can also exist independent of other storms. Falling objects and downed power lines are dangerous risks associated with high winds. In addition, property damage and downed trees are common during high wind occurrences.

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

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

## Magnitude of Tornadoes

A tornado occurring in Webster would cause considerable damage. Roofs could be torn off frame houses; dams could be damaged; large trees snapped or uprooted; and light object missiles would be generated by an EF-2 Tornado. Tornado magnitude is measured by the Enhanced Fujita (EF) Scale, a 2007 update from the original F-scale (Fujita Scale), which are provided in **Table 14.**

**Table 14**

**Enhanced Fujita (EF) Scale**

| **Enhanced Fujita (EF) Scale 2007 – Present** | **Old Fujita (F) Scale *replaced*** |
|---|---|
| **F Number with 3-Second Gust mph** | **F Number with 3-Second Gust mph** |
| **EF0** 65-85 mph | **F0** 45-78 mph |
| **EF1** 86-110 mph | **F1** 79-117 mph |
| **EF2** 111-135 mph | **F2** 118-161 mph |
| **EF3** 136-165 mph | **F3** 162-209 mph |
| **EF4** 166-200 mph | **F4** 210-261 mph |
| **EF5** over 200 mph | **F5** 262-317 mph |

*Source: National Oceanic and Atmospheric Administration (NOAA) Storm Prediction Center*

## Tornadoes in Webster

The entire area of Town is vulnerable to a **tornado**. Populated areas include the Webster Elementary, Pillsbury Lake community, Lake Winnepocket community, Austin Home, several day care facilities, Town Office and Public Safety Building, and Cozy Pond Camping Resort, all of which carry greater risk because of density (see **APPENDIX A Critical and Community Facility Vulnerability Assessment** for a complete list of sites). The Blackwater Dam struck by a tornado could immediately do immense damage, because the Town, emergency services, and School facilities are less than 0.5 miles south of the Dam. A tornado occurring in Webster would cause considerable damage. Roofs could be torn off frame houses; mobile homes demolished; large trees snapped or uprooted; and light object missiles would be generated as a result of an EF-2 Tornado.

Forested sections of Town run a risk of isolation through debris impacted infrastructure (trees down on roads and powerlines) resulting in power failure with little emergency access until the way is cleared. These areas include: Little Hill Road, Tyler Road Area, Deer Meadow Road Area, Pillsbury Lake Area, Pond Hill Road, and Clough Sanborn Hill Road. A tornado occurring in Webster would cause considerable damage to this rural community. Roofs could be torn off frame houses; large trees snapped or uprooted;

vehicles crushed by trees; powerlines free; and light object missiles could be generated. Communications towers (Pearson Hill and Dustin Road), telephone lines, power lines and other utilities could also be affected by tornadoes.

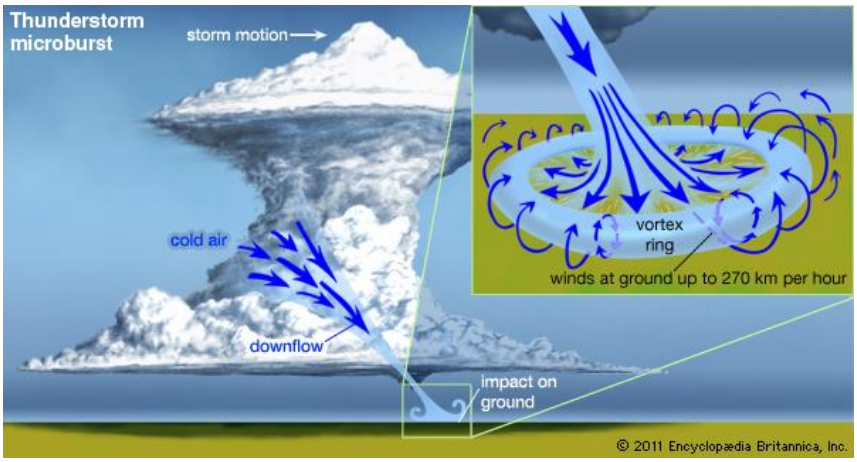
## Downbursts

A downburst is a severe localized wind blasting down from a thunderstorm. These "straight line" winds are distinguishable from tornadic activity by the pattern of destruction and debris. Downbursts are capable of producing winds of up to 175 mph and are life threatening. Downbursts are quite common during Central NH's hot weather months. Microbursts and macrobursts have been known to occur here in the region.

Downbursts of both sizes can produce strong wind shear - or large changes in wind speed and direction over a short distance. Trees are regularly snapped off in a singular direction by a macroburst or microburst. Downbursts typically originate from thunderstorm clouds, with air moving in a downward motion until it hits the ground level and then spreads outward in all directions. In fact, the wind pattern of a downburst is the opposite of a tornado's wind pattern, shown in **Figure 13**.

**Figure 13**

**Microburst Forming from Thunderstorm Clouds**




*Source: Internet (Encyclopedia Brittanica)*

## Magnitude of Downbursts

**Downburst** magnitude is rated on the same NOAA Enhanced Fujita (EF) scale as tornadoes. In addition, downbursts fall into two categories:

- microburst, which covers an area less than 2.5 miles in diameter and
- macroburst, which covers an area equal to or greater than 2.5 miles in diameter.

### Downbursts in Webster

**Downbursts** are considered a greater threat than tornadoes in Webster. The likelihood of future wind events in Town seems high. **High winds** are unpredictable, and are often more prevalent at higher elevations. The Town Center of Webster is at a moderate elevation but is located above the floodplains, in a more open area.

More populated locations could have the potential for higher injury and property damage from downbursts. These include the Webster Elementary, Pillsbury Lake community, Lake Winnepocket community, Austin Home, several day care facilities, Town Office and Public Safety Building, and Cozy Pond Camping Resort, which run a higher risk of damages than many removed or less dense locations. The federal Blackwater Dam would likely withstand a downburst, but such winds may generate tree debris blocks the dam functions.

The entire Town of Webster is forested. The highest elevation, forested or mostly densely populated sections of Town run a risk of isolation through debris impacted infrastructure (trees down on roads and powerlines) resulting in power failure with little emergency access until the way is cleared. These areas include: Little Hill Road, Tyler Road Area, Deer Meadow Road Area, Pillsbury Lake Area, Pond Hill Road, Clough Sanborn Hill Road. Communications towers (Pearson Hill and Dustin Road), telephone lines, power lines and other utilities could also be affected by downbursts.

Agricultural farms and orchards run the risk of high damage from **downbursts** which also brings economic consequences. Some farms are homestead farms which provide food and income for owners. Crop and livestock loss are consequences of downbursts in these locations. In Webster, agricultural operations include George Tree Farm (Roby Road), Drown Dairy Farm (Battle Street/Route 127), Mock Beef Farm (Pleasant Street), Sussman Sheep Farm (Pleasant Street), Coffin Cellars Winery (Battle Street), Milkcan Corner Farm (blueberries) (Mutton Road), Bender Goat Farm (Little Hill Road), Pendleton Beef Farm (Battle Street), Roberts Greenhouse (Long Street), Kimball Sugar House (Whiteplains Road), Tyrn Sugar House (Clough Sanborn Hill), Piper/Miller Sugar House (Tyler Road), Riverfare Beef, Equine & Pork Farm (Tyler Road), Herrick Beef Farm (Call Road), Cloverdale Feedstore/ Boarding Farm (Battle Street), Broker Tree Farm (Gerrish Road), Fallon Honey Farm (Little Hill Road). Many households keep farm animals.

## Hurricanes and Tropical Storms

A hurricane is a tropical cyclone in which winds reach speeds of 74 miles per hour or more and blow in a large spiral around a relatively calm center. Flooding is often caused from the coastal storm surge of the ocean and torrential rains, both of which accompany the storm. The floods and high winds can result in loss of life and property. Hurricanes, high wind and rain events, and thunderstorms can damage Webster just like any other community in Central New Hampshire. Forested lands and trees along the transportation infrastructure can be blown down across roads; the above-ground powerlines along the sides of the road can be snapped either by trees or high winds and fall onto the roads or nearby objects; and runoff flooding and stream/brook and river flooding can occur because of hurricanes and severe storms.

## Magnitude of Hurricanes and Tropical Storms

The Saffir-Simpson Hurricane Wind Scale **measures the magnitude of wind event** on a 1 through 5 rating basis. The definitions of Category 1 through 5 sustained wind miles per hour and their respective threats to people, different types of homes, shopping centers, trees, power lines, water, and more are displayed in **Table 15**.

**Table 15**

**Saffir-Simpson Hurricane Wind Scale**

| Category | Sustained Winds | Types of Damage Due to Hurricane Winds |
|---|---|---|
| 1 | 74-95 mph | **Very dangerous winds will produce some damage:** Well-constructed frame homes could have damage to 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 | **Extremely dangerous winds will cause extensive damage:** Well-constructed frame homes could sustain major roof and siding damage. 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 | **Devastating damage will occur:** Well-built framed homes may incur major 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 | **Catastrophic damage will occur:** Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles 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 | **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. |

*Source: National Oceanic and Atmospheric Administration (NOAA*

## Hurricanes and Tropical Storms in Webster

**Hurricane Sandy**, which was not a declared disaster in Webster, caused many roads to temporarily close while the Highway Department cleared them of debris. Trees and limbs fell onto the roadways and onto powerlines. If vehicles had been traveling on these roads while the hurricane was in progress, they would have been in danger.

When **hurricanes or tropical storms** occur in Webster, the Towns electrical utilities of Eversource (formerly Public Service of NH or PSNH) and Unitil will continue to be prone to power outages. The response time to these outages could be several days in the more remote or densely populated areas of Town, depending on where debris has fallen onto roads. Areas particularly vulnerable to the combination of **flooding**, **wind**, **tree debris** and **power failure** include forested sections of Town: Little Hill Road, Tyler

Road Area, Deer Meadow Road Area, Pillsbury Lake Area, Pond Hill Road, Clough Sanborn Hill Road. Several sections of Town, including the Pillsbury Lake community, would be difficult to access with trees and power lines down on these residential roads, resulting in possible isolation. Radio operability for emergency communications could be adversely affected. Land line utilities are at risk of failure during severe storm weather.

## Severe Wind, Rainstorms and Thunder Storms

More commonly experienced are severe wind storms, rainstorms and thunder storms. The severe wind storms occur during all months of the year while the thunder storms tend to erupt during periods of humidity. On occasion, precipitation in the form of rain or hail is experienced during these storms. Rainstorms bring can flooding and high winds. Thunderstorms can also bring lightning hazards in addition to high winds and flooding.

### Magnitude of Severe Wind and Thunder Storms

Many of the severe wind storms Webster experiences are not hurricanes but are severe wind storms or thunderstorms. Thunderstorms are common in New Hampshire, particularly during the hot weather months. The Thunderstorm Category Criteria scale in **Table 16** measures the magnitude of thunderstorms with their various weather components, including rain, wind, hail, tornado, and lightning.

**Table 16**

**Thunderstorm Criteria Scale**

| Thunderstorm Categories | Rainfall Inches per hour | Wind Gust max mph | Hail Size in | Tornado Potential Highest Category | Lightning Frequency per 5 minutes | Darkness Aspect | Overall Thunderstorm Impact |
|---|---|---|---|---|---|---|---|
| **T-1 Weak Thunderstorms** or **Thundershowers** | 0.03" to 0.10" | < 25 mph | None | None | Few strikes during entire storm | **Slightly Dark** Sunlight may be seen after storm | 1. No damage.<br>2. Gusty winds at times. |
| **T-2 Moderate Thunderstorms** | 0.10" to 0.25" | 25-40 mph | None | None | Occasional 1 to 10 | **Moderately Dark** Heavy downpours might cause the need for car headlights | 1. Heavy downpours.<br>2. Occasional lightning.<br>3. Gusty winds.<br>4. Very little damage.<br>5. Small tree branches might break.<br>6. Lawn furniture moved around.<br>7. Power outages are possible. |

| Thunderstorm Categories | Rainfall Inches per hour | Wind Gust max mph | Hail Size in | Tornado Potential Highest Category | Lightning Frequency per 5 minutes | Darkness Aspect | Overall Thunderstorm Impact |
|---|---|---|---|---|---|---|---|
| **T-3**<br>**Heavy Thunderstorms**<br>1. Singular or lines of storms | 0.25" to 0.55" | 40-57 mph | 1/4" to 3/4" | EF0 | Occasional to Frequent 10 to 20 | **Dark**<br>Car headlights used. Visibility low in heavy rains. Cars might pull off the road. | 1. Minor damage.<br>2. Downpours produce some flooding on streets.<br>3. Frequent lightning could cause house fires.<br>4. Hail occurs with the downpours.<br>5. Small tree branches are broken.<br>6. Shingles are blown off roofs.<br>7. Power outages are likely. |
| **T-4**<br>**Intense Thunderstorms**<br>1.Weaker supercells<br>2. Bow echoes or lines of storms | 0.55" to 1.25" | 58-70 mph | 1" to 1.5" | EF0 to EF2 | Frequent 20 to 30 | **Very Dark**<br>Car headlights used. Some streetlights come on. | 1. Moderate damage.<br>2. Heavy rains can cause flooding to streams and roadway flooding occurs.<br>3. Hail can cause dents on cars and cause crop damage.<br>4. Tornado damage.<br>5. Power outages will occur. |
| **T-5**<br>**Extreme Thunderstorms**<br>1. Supercells with family of tornadoes<br>2. Derecho Windstorms | 1.25" to 4" | > 70 mph | 1.5" to 4" | EF3 to EF5 | Frequent to Continuous<br>> 30 | **Pitch Black**<br>Street lights come on. House lights might be used. | 1. Severe damage to trees and property. Damage is widespread.<br>2. Flooding rains.<br>3. Damaging hail.<br>4. Damaging wind gusts to trees and buildings.<br>5. Tornadoes EF3 to EF5 or family of tornadoes can occur. Tornadoes cause total devastation.<br>6. Widespread power outages. |

*Source: Adapted from Accuweather.com, Henry Margusity, Senior Meteorologist*

Incidentally, hail can accompany thunderstorms, hurricanes, or severe wind events. The Hail Size Description Chart describes the potential size of hail during a hurricane or severe storm event, which could occur anywhere in Webster. The chart is shown below along with a Hail Size Comparison Chart which is a visual representation of some of the relative sizes of hail (note this chart image is not shown to scale). The **Table 17** hail size description and **Figure 14** size comparison scales measure the magnitude of hailstones that could fall on Webster during severe storm events.

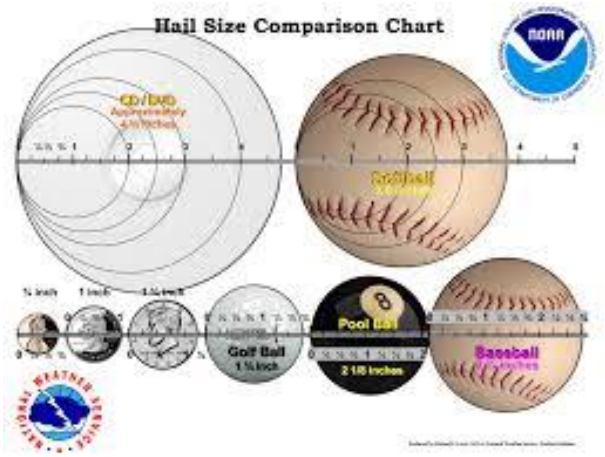
**Table 17**

**Hail Size Description**

| Hailstone Diameter (inches) | Size Description |
|---|---|
| < 1/4 | bb |
| 1/4 | **Pea Size** |
| 1/2 | Mothball Size |
| 3/4 | Penny Size |
| 7/8 | Nickel Size |
| *Severe Criteria* 1 | **Quarter Size** |
| 1 1/4 | Half Dollar Size |
| 1 1/2 | Walnut or Ping Pong Ball |
| 1 3/4 | Golf Ball Size |
| 2 | **Hen Egg Size** |
| 2 1/2 | Tennis Ball Size |
| 2 3/4 | Baseball Size |
| 3 | **Teacup Size** |
| 3 4/5 | Softball Size |
| 4 | **Grapefruit Size** |

**Figure 14**

**Hail Size Comparison**




*Sources: National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS)*

## Severe Wind, Rainstorms and Thunder Storms in Webster

All of Webster has experienced **severe wind**, **rainstorms**, and **thunderstorms**. The Town's electrical utilities of Eversource (formerly Public Service of NH or PSNH) and Unitil (smaller provider) will continue to be prone to power outages. The response time to these outages could be several days in the more remote or densely populated areas of Town, depending on where debris has fallen onto roads. Areas particularly vulnerable to the combination of **flooding**, **wind**, **tree debris** and **power failure** include forested sections of Town: Little Hill Road, Tyler Road Area, Deer Meadow Road Area, Pillsbury Lake area, Pond Hill Road, Clough Sanborn Hill Road. Several sections of Town, including the Pillsbury Lake community, would be difficult to access with trees and power lines down on these residential roads, resulting in possible isolation. Radio operability for emergency communications could be adversely affected. Land line utilities are at risk of failure during **severe storm weather**.

## FIRE HAZARDS

Fire can be caused by several agents and can spread rapidly to consume property and endanger lives. This **2018 Plan** examines **lightning**, and **wildfire** (natural) fire sources and places other **fires (vehicles, structure, arson, explosions**) with **Technological Hazards**.

Wildfire is a significant concern and can quickly get out of control without good infrastructure, easily accessible forested backlots and practiced procedures. Lightning or human folly can cause wildfire. Locations of older narrow graveled roads or densely packed residential areas Little Hill Road, Tyler Road Area, Deer Meadow Road Area, Pillsbury Lake area, Pond Hill Road, Clough Sanborn Hill Road, and other sections of Town or roads with only 1 access/egress are among the most vulnerable locations for fire and wildfire hazards. Rural, forested areas of the community or recreation and conservation areas are often the most vulnerable to both wildfire and lightning.

There are two types of natural **Fire** hazards examined in the **Hazard Risk Assessment**:

- **Lightning**
- **Wildfire**

### Lightning

All thunderstorms contain lightning. During a lightning discharge, the sudden heating of the air causes it to expand rapidly. After the discharge, the air contracts quickly as it cools back to ambient temperatures. This rapid expansion and contraction of the air causes a shock wave that we hear as thunder, a shock wave that can damage building walls and break glass. Lightning strikes can cause death, injury, and property damage. Lightning is often referred to as the “underrated killer”.

#### Magnitude of Lightning

Lightning can be measured to determine how likely it may be for starting fires. Using a Level system of **1** to **6** corresponding with storm development and the number of lightning strikes, the Lightning Activity Level (LAL) measures the magnitude of lightning strikes as displayed in **Table 18**.

Table 18

**Lightning Activity Level (LAL)**

| Level | LAL Cloud and Storm Development | Cloud to Ground Strikes per 5 Minutes | Cloud to Ground Strikes per 15 Minutes |
|---|---|---|---|
| **LAL 1** | No thunderstorms | n/a | n/a |
| **LAL 2** | Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent, 1 to 5 cloud to ground strikes in a 5- minute period. | 1 to 5 | 1 to 8 |
| **LAL 3** | Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, 6 to 10 cloud to ground strikes in a 5-minute period. | 6 to 10 | 9 to 15 |
| **LAL 4** | Scattered thunderstorms. Moderate rain is commonly produced Lightning is frequent, 11 to 15 cloud to ground strikes in a 5-minute period. | 11 to 15 | 16 to 25 |
| **LAL 5** | Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater than 15 cloud to ground strikes in a 5-minute period. | > 15 | > 25 |
| **LAL 6** | Dry lightning (same as LAL 3 but without rain). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning. | 6 to 10 | 9 to 15 |

*Source: National Weather Service*

### Lightning in Webster

**Lightning** regularly strikes in Town and can strike at any time at any given location. Specific sites which would cause the greatest impact if struck by **lightning** include the Town buildings, Schools, electrical utilities, generators, transformers and either of the **2** telecommunications towers (US Cellular at Dustin Road and AT&T at Pearson Hill). Many Town buildings do not have lightning rods. The historic Town Office complex, which includes the Library and Church, could be vulnerable as well as the Public Safety Building. The Pillsbury Lake Village District wells and water system are also vulnerable. If Town functions are unavailable, it would be difficult to quickly respond to the needs of the community. Areas of concern include the forested, remote areas, which could not be easily accessed by emergency vehicles. The more remote forested areas, older narrow graveled roads, and densely packed residential areas are among the most vulnerable locations for fire and wildfire hazards. Lightning regularly shorts out people's well pumps. Higher elevations are of greater concern including Pearson Hill, Clough Sanborn Hill Road and Little Hill Road.

## Wildfire

Wildfire is defined as any unwanted and unplanned fire burning in forest, shrub or grass. Wildfires are frequently referred to as forest fires, brush fires, shrub fires or grass fires, depending on their location and size. They often occur during drought and when woody debris on the forest floor is readily available to fuel the fire. The threat of wildfires is greatest where vegetation patterns have been altered by past land-use practices, fire suppression and fire exclusion. Because fire is a natural process, fire suppression can lead to more severe wildfires due to vegetation buildup.

Increased severity over recent years has decreased capability to extinguish wildfires. Wildfires are unpredictable and usually destructive, causing both personal property damage and damage to community infrastructure and cultural and economic resources.

## Magnitude of Wildfire

The standard of measuring wildfire magnitude is by the National Wildfire Coordinating Group (NWCG)'s wildfire classification scale. Table 19 displays the wildfire classification size per the number of acres burned.

**Table 19**
**National Wildfire Coordinating Group Wildfire Classification Scale**

| Fire Class | Sizes in Acres |
|---|---|
| **Class A** | 1/4 acre or less |
| **Class B** | > 1/4 acre to < 10 acres |
| **Class C** | 10 acres to < 100 acres |
| **Class D** | 100 acres to < 300 acres |
| **Class E** | 300 acres to < 1,000 acres |
| **Class F** | 1,000 acres to < 5,000 acres |
| **Class G** | 5,000 acres or more |

*Source: National Wildfire Coordinating Group*

## Wildfire in Webster

Although **wildfire** damage has been kept to a minimum to date, the potential for losing an immense acreage of Webster to this natural hazard is possible, particularly with the abnormal, severe drought conditions currently occurring in 2015-2016. The heavily forested woodlands of Town are often remote locations and difficult to access by emergency vehicles. The forested dead-end remote residential neighborhoods, especially Pillsbury Lake, would be difficult to evacuate. Any **debris** left over from **flooding**, **winter storms**, or **wind events** are a **wildfire hazard**. When **droughts** or drier conditions occur, the dry vegetation becomes a significant hazard to the Town Fire Department.

All areas of Webster could be impacted by wildfire. Unmaintained Class VI roads and the transmission lines corridor are challenging to access because of the potential lack of emergency vehicle access and the number of people who use them for recreational purposes. Wildfires can also be caused by campfires and other human activity.

## EXTREME TEMPERATURE (COLD-HOT) HAZARDS

Extreme temperature hazards include diverse hazards such as severe cold and snowstorms, excessive heat, drought, and public health. The snow and ice component often results in communications & power failure for a large segment of the Town. This category is meant to encompass all the hazards which can be influenced by the extreme weather temperatures and climate changes that New England, New Hampshire, the Central NH Region, and Webster are experiencing.

There are several types of **Extreme Temperature** (**cold-hot**) hazards examined in the **Hazard Risk Assessment**:

- **Severe Winter Weather, Cold, and Ice Storms**
- **Drought**
- **Excessive Heat**
- **Public Health (Epidemics)**

The National Weather Service (NWS) in Gray, Maine which covers New Hampshire collects and reports climate data in addition to issuing warning and advisories. Winter **2015-2016** was one of the warmest and one of the least snowy on record in Concord, their most local reporting station. The average temperature this season since **1868** was **30.9** degrees, topping the previous record of **30.4** degrees in the season of **1879-1880**. Precipitation was **2.01** inches above normal this winter, totaling **10.53** inches. Total snowfall was **24.7** inches, **20.2** inches below normal. Warmest temperature records were also set during **2015**.

### Severe Winter Weather, Cold, and Ice Storms

Ice and snow events typically occur during the winter months and can cause loss of life, property damage, and tree damage. Severe winter storms, including Nor'easters, typically occur during January and February. However, winter storms can occur from late September through late May.

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 during a 12-hour period or six inches of snow during a 24-hour period.

An ice storm involves rain, which freezes upon impact. Ice coating at least one-fourth inch in thickness is heavy enough to damage trees, overhead wires, and similar objects. Ice storms also often produce widespread power outages.

A Nor'easter is a large weather system traveling from South to North, passing along or near the seacoast. As the storm approaches New England and its intensity becomes increasingly apparent, the resulting counterclockwise cyclonic winds impact the coast and inland areas from a Northeasterly direction. In the winter months, oftentimes blizzard conditions accompany these events. The added impact of the masses

of snow and/or ice upon infrastructure often affects transportation and the delivery of goods and services for extended periods.

Extreme cold temperatures are associated with continental Arctic air masses. The actual temperatures reached depend specifically on the nature of the cold air mass and where it originated. In general, those from the Arctic regions are the coldest. Though cold temperatures are dangerous, they become more so in conjunction with strong winds. The combination produces a wind-chill factor – heat loss measured in Watts per meter squared (Wm-2). A wind-chill factor of 1400 Wm-2 is equivalent to a temperature of -40 degrees F. At 2700 Wm-2, exposed flesh freezes within a half-minute.

Numerous severe winter events in recent history have occurred in the State, region, and the local area surrounding Webster that may have also had an impact on the Town. Unlike the relatively infrequent hurricane, New Hampshire generally experiences at least several Nor'easters each year with varying degrees of severity. They form along the East coast as warm air from the Atlantic Ocean collides with cold arctic winds to the north and west. A hurricane, the nor'easter's warm-weather counterpart, differs in that it has a narrow range of strong winds around a warm, low-pressure core—nor'easter winds are more dispersed around a cold, low-pressure center.

In March **2018**, New Hampshire was hit by 4 cyclonic Nor'easters in a row over a 2- week period because of the changing climate, in a recurring snow-and-melt cycle. These storms have the potential to inflict more damage than many hurricanes because the high storm surge and high winds can last from 12 hours to 3 days, while the duration of hurricanes ranges from 6 to 12 hours.

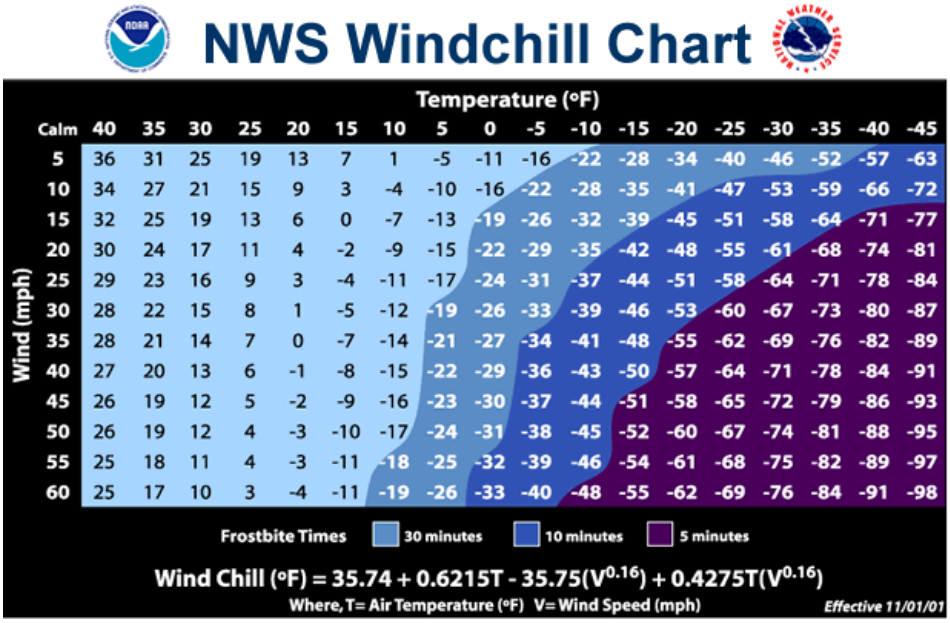
- March 2-3, 2018 (Winter Storm Riley) – Seacoast flooding, Concord wind gusts 36mph, about 1"
- March 7-8, 2018 (Winter Storm Quinn) – Concord 11"
- March 12-14, 2018 (Winter Storm Skylar) – Concord 11", Epsom 23"
- March 22, 2018 (Winter Storm Toby) – Concord 3"

All winter storms make walking and driving extremely dangerous. The elderly and very young are at high risk during winter storms and may be affected by hypothermia and isolation. During winter storms, there is an increased risk of **fire** because people experience **power failure** and use candles, portable gas stoves, generators, and flammable sources of heat and light.

### Magnitude of Severe Winter Weather

Severe Winter Weather magnitude in can be measured for windchill, ice accumulation and snowfall using several different scales and indices including the NWS Windchill Chart, Sperry-Piltz Ice Accumulation Index (SPIA) and NCDC Regional Snowfall Index (RSI) for the Northeast. **Figure 15** displays the Windchill Temperature Index which measures the wind and temperature leading to how quickly frostbite can occur.

**Figure 15**
**Windchill Temperature Index**




*Source: National Weather Service*

**Table 20** displays the Sperry-Piltz Ice Accumulation Index (SPIA) which measure the magnitude of ice damage from severe winter weather. The index is compared to the tornado and hurricane scales note above. Storm total rainfall converted to ice accumulation, wind, and temperatures during the storm period are used to develop SPIA.

Table 20

**Sperry-Piltz Ice Accumulation Index (SPIA)**

| Ice Damage Index | Average NWS Ice Amount *in Inches* | Wind Speed *mph* | Ice 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 to 0.25 | 15 to 25 | Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges might become slick and hazardous. |
| | 0.25 to 0.50 | > 15 | |
| **2** | 0.10 to 0.25 | 25-35 | Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions might be extremely hazardous due to ice accumulation. |
| | 0.25 to 0.50 | 15-25 | |
| | 0.50 to 0.75 | < 15 | |
| **3** | 0.10 to 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. Warming sites needed. |
| | 0.25 to 0.50 | 25 - 35 | |
| | 0.50 to 0.75 | 15 - 25 | |
| | 0.75 to 1.00 | < 15 | |
| **4** | 0.25 to 0.50 | > = 35 | Prolonged and widespread utility interruptions with extensive damage to main distribution feeder lines and some high voltage transmission lines/structures. Outages lasting 5-10 days. Shelters or warming sites needed. |
| | 0.50 to 0.75 | 25 - 35 | |
| | 0.75 to 1.00 | 15 - 25 | |
| | 1.00 to 1.50 | < 15 | |
| **5** | 0.50 to 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 to 1.00 | > = 25 | |
| | 1.00 to 1.50 | > = 15 | |
| | > 1.50 | Any | |

*Source: www.spia-index.com (adapted by CNHRPC)*

The Regional Snowfall Index (RSI) for the Northeast is used to categorize significant snowstorms. The RSI ranks snowstorm effects on a scale from **1** to **5**, similar to the Enhanced Fujita Scale for tornadoes or the Saffir-Simpson Hurricane Wind Scale for hurricanes. The RSI differs from these other indices because it includes population, a social component. The RSI is based on the spatial extent of the storm, the amount of snowfall, and the juxtaposition of these elements with population. The Regional Snowfall Index (RSI) displayed in **Table 21** is a measurement of the magnitude of a snowstorm in the Northeast, which includes New Hampshire.

Table 21
**Regional Snowfall Index (RSI) for the Northeast**

| Storm Category | RSI Value | Snow Description |
|---|---|---|
| 1 | 1–3 | Notable |
| 2 | 3–6 | Significant |
| 3 | 6–10 | Major |
| 4 | 10–18 | Crippling |
| 5 | 18.0+ | Extreme |

*Source: www.ncdc.noaa.gov/snow-and-ice/rsi/ (adapted by CNHRPC)*

### Severe Winter Weather in Webster

**Winter weather events** are as common in Webster as they are in the other areas of Central New Hampshire. The most recent worst winter storm on record was the **December 2008 Ice Storm** with wide-spread power outages that lasting up to **1** week (**7** days) in the most remote areas. Road icing (**transportation accidents**) can occur when **ice and snow storm** events hit. **Communications failure**, **power failure**, **extreme cold** and local road impassibility (trees and/or power lines down) occur as well. Areas above 800 feet in elevation are particularly vulnerable to the effects of severe winter weather.

Areas of particular concern include the Webster Elementary, Pillsbury Lake community, Lake Winnepocket community, Austin Home, several day care facilities, Town Office and Public Safety Building, and Cozy Pond Camping Resort, Little Hill Road, Tyler Road Area, Deer Meadow Road Area, Pillsbury Lake area, Pond Hill Road, Clough Sanborn Hill Road, the Blackwater Dam, remote residential communities, electrical power utilities including the municipal solar array, the communications network and **2** telecommunications towers (US Cellular at Dustin Road and AT&T at Pearson Hill), and older or historic or temporary buildings (roof collapse). People may be subject to cold temperature, snow isolation, transportation accidents, power failure and communications failure during winter storm events. See complete list in **APPENDIX A Critical and Community Facilities**).

## Drought

A **drought** is defined as a long period of abnormally low precipitation, especially one that adversely affects growing or living conditions. Droughts are becoming less rare in New Hampshire that they have been in the past. They have different, widespread damages compared with floods and are more difficult to define. The effect of droughts 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 ground-water levels or increasing streamflow. Low streamflow also correlates with low ground-water levels and commonly cause diminished water supply because ground water discharge to streams and rivers maintains streamflow during extended dry periods.

In the case of **drought**, residential (dug wells especially) and Town water supplies would be threatened. Most homes in Town rely on well water which is not easily replenished during periods of drought. During the **2015-2016** drought, many residences notified the Town of their dug wells going dry. The residents either made arrangements for potable water, such as at the Pillsbury Lake Village District community well system, or they dug new bedrock wells. All farms and orchards in town, including the tree farms, would be affected by drought. Additionally, **wildfires** have the potential of being more severe and commonplace during periods of drought, more difficult to contain.

## Magnitude of Drought

Table 22 displays overall drought magnitude, measured by the Palmer Hydrological Drought Index (PHDI) the extent of hydrological drought in the form of long-term, cumulative monthly moisture conditions. The indices are developed by algorithms taking into consideration precipitation, temperature data, and the local Available Water Content (AWC) of the soil.

**Table 22**

**Palmer Drought Conditions**

| Hydrological Drought Classification | |
|---|---|
| Extremely Moist | +4 and above |
| Very Moist | +3 to +3.99 |
| Moderately Moist | +2 to +2.99 |
| Mid-Range | -1.99 to +1.99 |
| Moderate Drought | -2 to -2.99 |
| Severe Drought | -3 to -3.99 |
| Extreme Drought | -4 and below |

*Source: www.ncdc.noaa.gov/sotc/drought (as compiled by CNHRPC)*

## Drought in Webster

Periods of **drought** in Webster would occur Town-wide and could cause property damage and economic losses. The lack of water would become a community problem to keep people hydrated and the failure of agricultural crops, products and farm animals can occur. Failure of tree farms to thrive can result in economic losses. Increased likelihood of wide-spread **brush fire** and **wildfire** will occur with drier vegetation. **Lightning** strikes could contribute to wildfire risk during droughts. Dug wells can dry up during droughts and interrupt personal water supplies, so few homes remain with dug wells in Town. Property damage and personal injuries or death could occur from drought-related fires or dry wells. The main private community water supply, Pillsbury Lake Village District, could enact water saving measures for their customers to assist with keeping the groundwater table higher. Overall, Webster residents should be encouraged to voluntarily undertake water conservation.

Agricultural farms and orchards run the risk of high damage from **drought** which also brings economic consequences. In Webster, these areas include George Tree Farm (Roby Road), Drown Dairy Farm (Battle

Street/Route 127), Mock Beef Farm (Pleasant Street), Sussman Sheep Farm (Pleasant Street), Coffin Cellars Winery (Battle Street), Milkcan Corner Farm (blueberries) (Mutton Road), Bender Goat Farm (Little Hill Road), Pendleton Beef Farm (Battle Street), Roberts Greenhouse (Long Street), Kimball Sugar House (Whiteplains Road), Tyrn Sugar House (Clough Sanborn Hill), Piper/Miller Sugar House (Tyler Road), Riverfare Beef, Equine & Pork Farm (Tyler Road), Herrick Beef Farm (Call Road), Cloverdale Feedstore/ Boarding Farm (Battle Street), Broker Tree Farm (Gerrish Road), Fallon Honey Farm (Little Hill Road).

Webster has a lot of livestock and the Town would have to find ways of watering them during certain weather events, including drought. During emergencies, the Town can assist people getting their large animals to shelter at the Hopkinton Fairgrounds and small animals to the Blackwater Veterinary Clinic.

## Excessive Heat

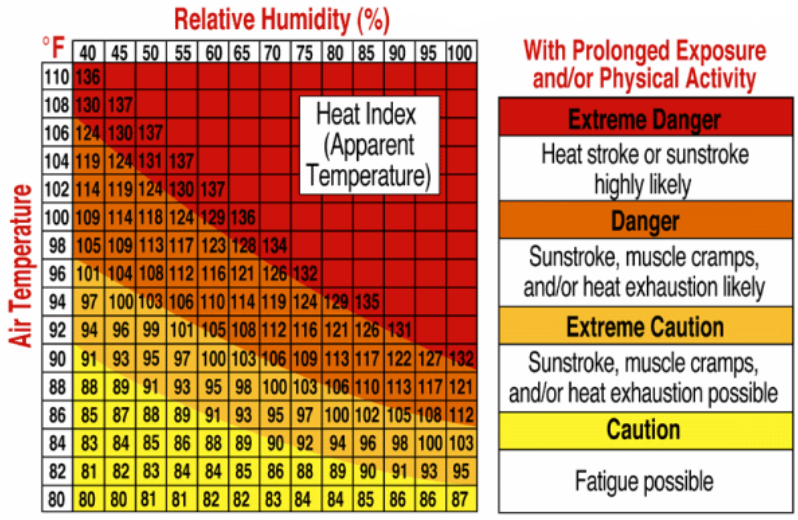
A heat wave is a period of abnormally and uncomfortably hot and unusually humid weather that typically lasts two or more days. The National Weather Services' Heat Index is used to measure humidity against temperature to develop a "real feel" temperature. Heat disorders on the body are quick and can be deadly. These now normal hot temperatures in the summer are commonly known as **excessive heat**.

### Magnitude of Excessive Heat

Excessive heat is measured by the NWS Heat Index and the NWS Excessive Heat Warning Classifications. As both the air temperature and the humidity rise, so will the danger level to people. Heat disorders will become more likely with prolonged exposure or strenuous activity as shown in **Figure 16**.

**Figure 16**

**Heat Index (Temperature and Humidity)**




*Source: weather.gov*

### Excessive Heat in Webster

Webster has experienced **heat waves** where temperatures exceeded 90 degrees for several days. During these times, many specific population sites in Town particularly susceptible to excessive heat, including the Webster Elementary School, Austin Home, and older resident private residences, should have access to either air conditioning or cooling facilities. **Excessive heat** can cause dehydration, heat exhaustion and more serious illnesses. The Public Safety Building can open during these times as a cooling center. Other vulnerable facilities are indicated in **APPENDIX A Critical and Community Facilities Vulnerability Assessment**.

## EARTH HAZARDS

Earth hazards include geologic events such as the small earthquake NH residents experience. The Central NH area is seismically active and small earthquakes (less than 2.5 magnitude on the Richter Scale) occur about 1-2 times per year. Landslides can occur as a result of earthquakes, rain, flooding and result in erosion along roadways and watercourses.

Radon is a naturally occurring radioactive gas with carcinogenic properties. The gas is a common problem in many states, including New Hampshire, seeping into homes from basements. Radon may also enter homes dissolved in drinking water from drilled wells. High levels of radon in water from individual drilled wells is a common occurrence in New Hampshire. Radon is no longer being addressed by the State of New Hampshire Hazard Mitigation Plan as no new studies have made specific data available. It is generally known that radon exists throughout in the State and in communities, including the Central NH Region. Arsenic is a new concern that often co-occurs with radon. Radon is known to be present throughout New Hampshire and is addressed on an individual basis, no longer addressed in the **Hazard Mitigation Plan** because of the lack of state monitoring and available action.

There are two types of **Earth** hazards examined in the **Hazard Risk Assessment**:

- **Earthquake**
- **Landslide**

### Earthquake

An earthquake is a rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. **Earthquakes** can cause buildings and bridges to collapse, disrupt gas, electric and phone lines, and often cause **landslides**, **flash floods**, **fires**, and avalanches. Larger 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. The underground point of origin of an earthquake is called its focus; the point on the surface directly above the focus is the epicenter. The magnitude and intensity of an earthquake is determined by the use of scales such as the Richter scale and Mercalli scale. Geologic events are often associated with California, but New England is considered a moderate risk earthquake zone.

#### Earthquakes in Webster

Multiple small scale **earthquakes**, about **1** quake every **1** year, have been felt by Webster residents, with their epicenters occurring within the Webster, Boscawen, Hopkinton (Contoocook), Hillsborough, Warner or Franklin area in Central NH or otherwise within **25** miles of Webster since **2002** to present day. The Central NH Region is an active seismic area with mild quakes in bedrock. No damages or injuries have been reported from these events, mainly because they are so deep underground in bedrock, from 3-6

kilometers from the surface. Nearby earthquakes with a magnitude greater than 2.5, or that are closer to the earth's surface, would be concerning to the Town.

While It is likely Webster residents will continue to feel **earthquakes** in the future, it continues to be likely that major damage will result. The old Town Buildings (Town Office, Library and Church), the Public Safety Center, Blackwater Dam and Reservoir, Pillsbury Lake Dam, Pillsbury Lake Water Precinct water delivery pipes, and older buildings may be more prone to damage because of their age and structural integrity. The Blackwater Dam on Blackwater River would be disastrous if breached. Loss of these or other community buildings could result in fewer services available to residents.

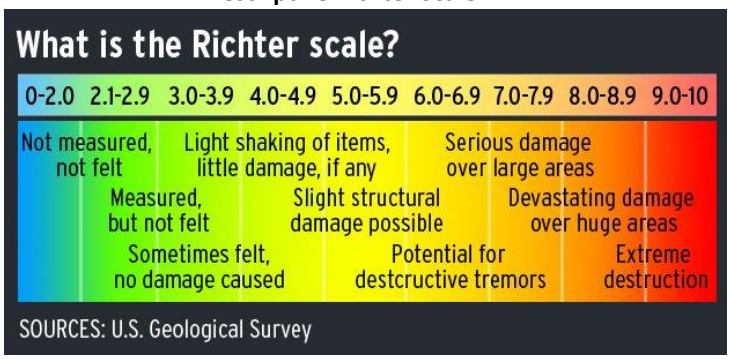
Older buildings (stone foundations) in Town could be particularly susceptible to earthquake damage. Underground utilities, stone walls, dams, bridges, telecommunications towers, utility poles/lines and historic resources could also be susceptible to damage.

## Magnitude of Earthquake Hazards

Earthquake hazard magnitude can be measured by the Richter Scale as shown in **Figure 17**. To better place the Richter Scale magnitude in perspective, the Mercalli Scale describes the *intensity* felt at different magnitudes in **Figure 18**.

**Figure 17**

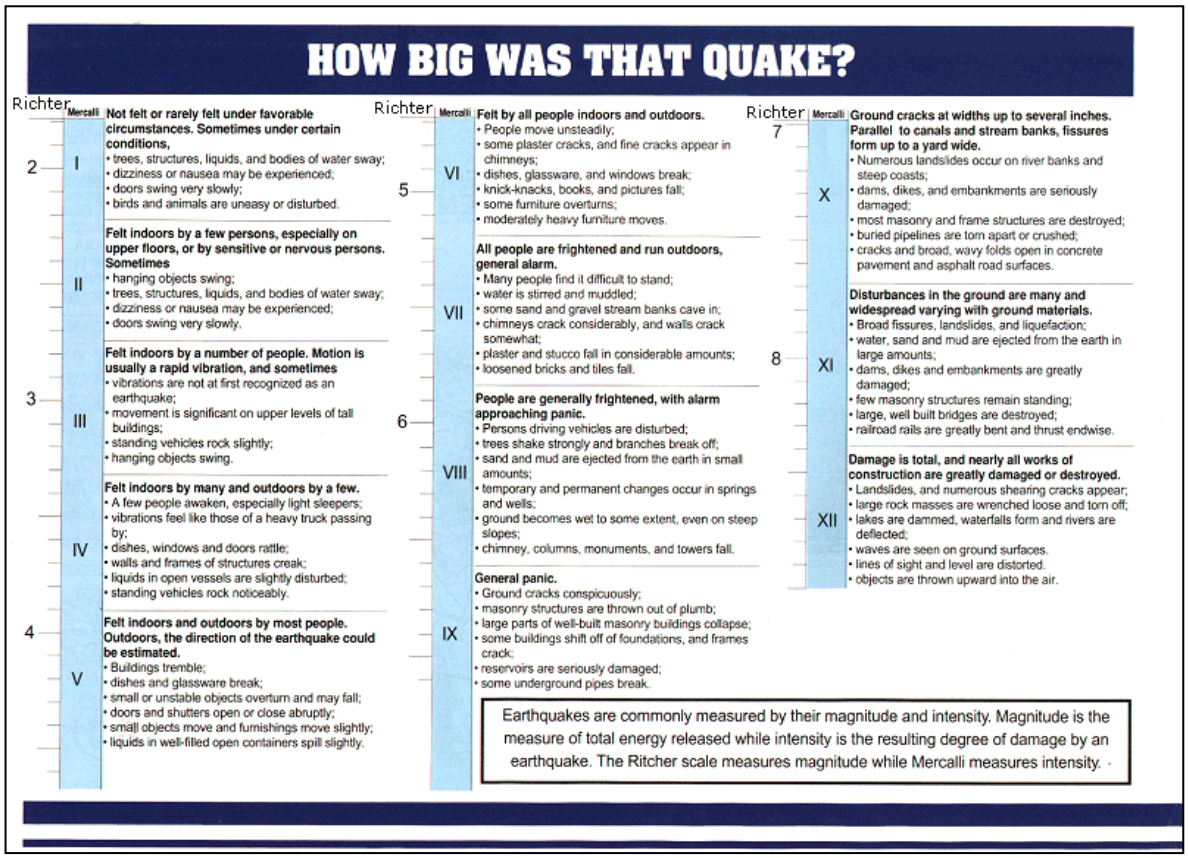
**Descriptive Richter Scale**




*Source: US Geological Survey (USGS)*

**Figure 18**

**Earthquake Impacts on the Richter and Modified Mercalli Scales**



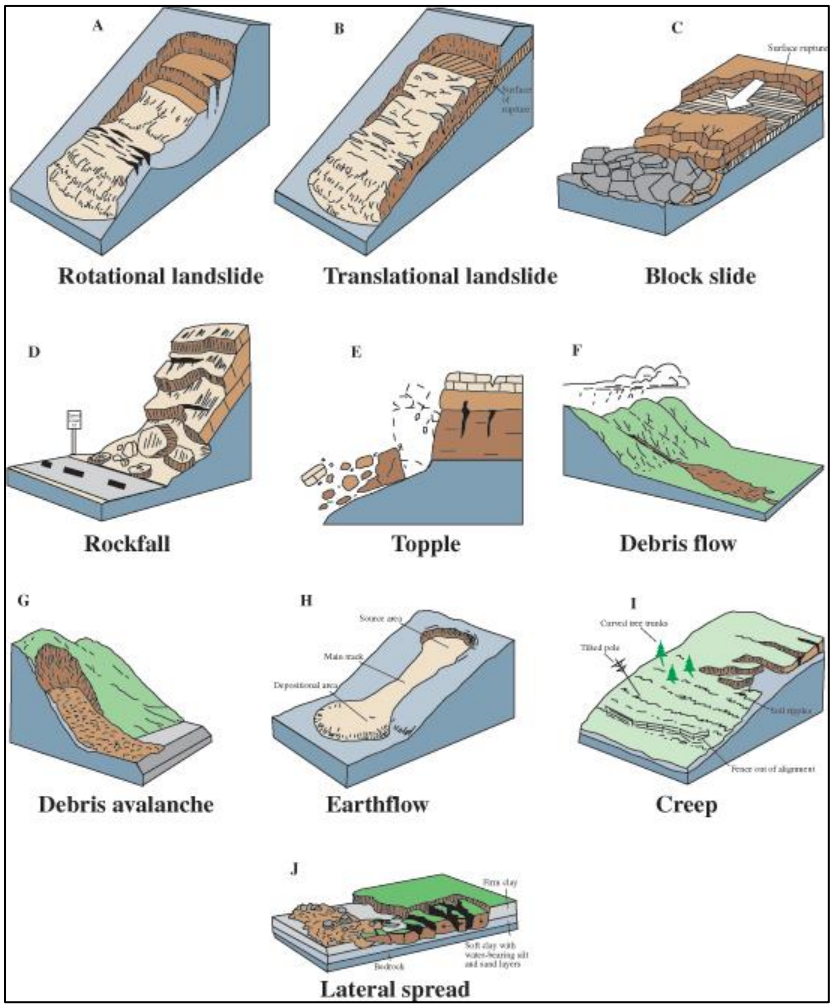

*Source: National Oceanic and Atmospheric Administration (NOAA)*

## Landslide

A landslide is the downward or outward movement of slope-forming materials reacting under the force of gravity including: mudflows, mudslides, debris flows, rockslides, debris avalanches, debris slides, and earth flows. Erosion of soil may also contribute to landslides. **Landslides** have damaged or destroyed roads, electrical and telephone lines, buildings, sewers, bridges, dams, forests, parks, and farms. A display of different types of landslides is shown in **Figure 19**.

**Figure 19**

**Basic Types of Landslides**




*Source: US Geological Survey (USGS)*

### Magnitude of Landslide Hazards

There is no known standardized measurement of landslide magnitude available.

### Landslides in Webster

Landslide is a possibility in limited areas of Webster where certain topological conditions are met. Development in proximity to areas of steep slopes (greater than 15% or 25%) could present a risk to residents. Most potential **landslides** will be in conjunction with another hazard event, such as **flooding**, a severe rain event, **earthquake**, or from the construction of buildings or infrastructure in a topologically vulnerable area. Most roads are gravel roads which already experience washout during heavy rain events, flooding, or rapid snow pack melt. Some of the steeper roads could experience landslide or rockslide erosion during heavy rain events. Although a large-scale road landslide would damage few structures, road (infrastructure) closures are costly and can last for months.

The Blackwater River and brook banks can also slide, usually known as **erosion**. Generally, vegetation in Webster is good at preventing landslides. Roads with steep ditching or embankments are most vulnerable to landslide, including Pond Hill Road (Class VI) section, White Plains Road, Detour Road, Pleasant Street, Gerrish Road, which have active slide in multiple places. Clothespin Bridge Roads in places has the potential to sliding into the River. Road washouts and flash-flooding could cause landslides, but otherwise the Town is not particularly susceptible.

## TECHNOLOGICAL HAZARD EVENTS

Many technological hazards could be construed as secondary hazards, as they often occur as the result of a primary (natural) hazard. For example, **power failure** or **transportation accidents** (technological) can result from severe winter weather (natural). Scientific measures of magnitude are generally not available for individual technological hazards, but they are provided for **debris impacted infrastructure** and **dam failure** which are closely related to **flooding** and for **hazardous materials spills** and **radiological incident**.

There are several types of **Technological** hazards examined in the **Hazard Risk Assessment**:

- **Dam Failure**
- **Power/Utility Failure**
- **Communications Systems Failure**
- **Debris Impacted Infrastructure**
- **Transportation Accidents**
- **Fire (Vehicle, Structure, Arson)**
- **Hazardous Materials Spills**

### Magnitude of Technological Events

Magnitude of most technological hazards are not addressed in this Plan. The only exception is **Dam Failure** because of its close relationship with flooding using the NH DES Dam Hazard Classifications.

### Dam Failure

Dam breach and the resulting failure cause rapid loss of water that is normally impounded by the dam. These kinds of floods are extremely dangerous and pose a significant threat to both life and property as they are quick, unexpected, and if they occur during a flooding event, dam failures can overload an already burdened water channel.

### Magnitude of Dam Failures

Although dam failure is considered a **Technological Hazard**, it is often a secondary hazard caused by flooding conditions. Classifications of dams and their magnitude of failure can be measured by the NH DES Dam Hazard Classifications shown in **Table 23**.

Table 23

**New Hampshire Dam Hazard Classifications**

| NON-MENACE Structure | | Inspection |
|---|---|---|
| NM | Means a dam that is not a menace because it is in a location and of a size that failure or misoperation of the dam would not result in probable loss of life or loss to property, provided the dam is:<br>❍ Less than six feet in height if it has a storage capacity greater than 50 acre-feet;<br>❍ Less than 25 feet in height if it has a storage capacity of 15 to 50 acre-feet. | Every 6 years if criteria |
| **LOW Hazard Structure** | | **Inspection** |
| LH | Means 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 any of the following:<br>❍ No possible loss of life.<br>❍ Low economic loss to structures or property.<br>❍ 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.<br>❍ The release of liquid industrial, agricultural, or commercial wastes, septage, or contaminated sediment if the storage capacity is less than two-acre-feet and is located more than 250 feet from a water body or water course.<br>❍ Reversible environmental losses to environmentally-sensitive sites. | Every 6 years |
| **SIGNIFICANT Hazard Structure** | | **Inspection** |
| SH | Means 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 any of the following:<br>❍ No probable loss of lives.<br>❍ Major economic loss to structures or property.<br>❍ Structural damage to a Class I or Class II road that could render the road impassable or otherwise interrupt public safety services.<br>❍ Major environmental or public health losses, including one or more of the following:<br>♦ Damage to a public water system, as defined by RSA 485:1-a, XV, which will take longer than 48 hours to repair.<br>♦ The release of liquid industrial, agricultural, or commercial wastes, septage, sewage, or contaminated sediments if the storage capacity is 2 acre-feet or more.<br>♦ Damage to an environmentally-sensitive site that does not meet the definition of reversible environmental losses. | Every 4 years |
| **HIGH Hazard Structure** | | **Inspection** |
| HH | Means 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 a result of:<br>❍ 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.<br>❍ 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 dam failure is greater than one foot.<br>❍ Structural damage to an interstate highway, which could render the roadway impassable or otherwise interrupt public safety services.<br>❍ The release of a quantity and concentration of material, which qualify as "hazardous waste" as defined by RSA 147-A:2 VII.<br>❍ Any other circumstance that would more likely than not cause one or more deaths. | Every 2 years |

*Source: NH Department of Environmental Services (NHDES) Dams Bureau, 2012*

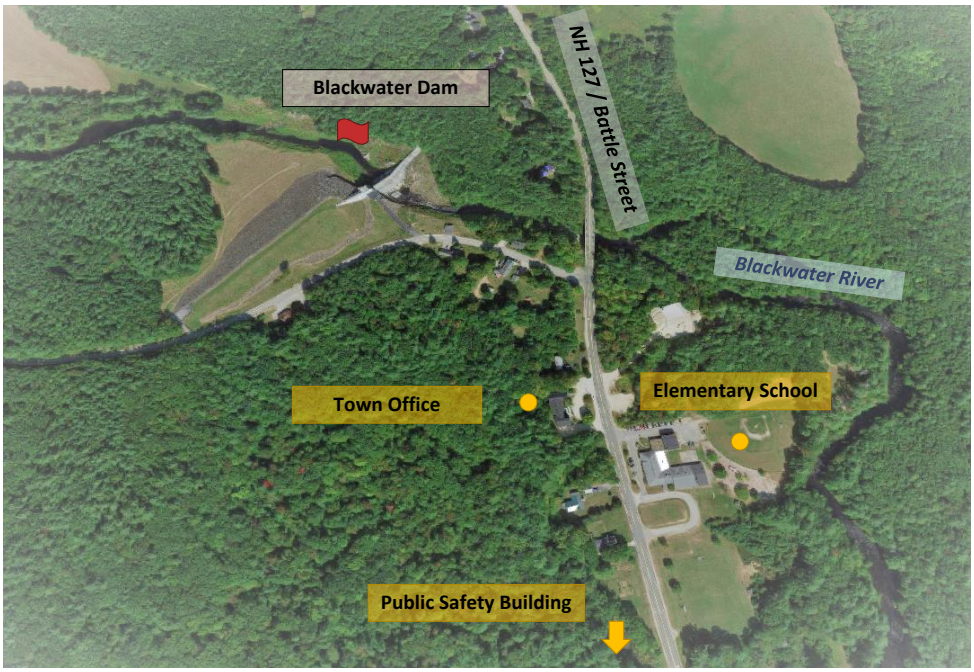
## Dam Failures in Webster

Dam failures, or breaches, are a potential danger to people and property within the dam failure inundation area(s). There are **17** active dams in Webster, all listed in **APPENDIX A**.

One (**1**) dam is of High Hazard (**H**) classification- Blackwater Dam (Blackwater River). Three (**3**) dams are of Low Hazard (**L**) classification- Pillsbury Lake Dam (Deer Meadow Brook), Winnepocket Lake Sam (tributary of Schoodac Brook), and Knight Meadow Pond Dam (Knight Meadow Brook). Five (**5**) dams are of Non-Menace (**NM**) classification- Farm Pond Dams, McCarthy Farm Pond Dam, Recreation Pond Dam, Janeway Dam (all Unnamed Brooks) and Diversion Pond Dam (Blackwater River).

The federal Blackwater Dam was constructed in 1941 and is monitored by the US Army Corps of Engineers remotely at the Franklin Falls Office. This 1,425 foot dam and reservoir holding up to 46,000 acres of water has a drainage area of 128 square miles and was constructed to withstand extreme conditions. The dam is displayed in **Figure 19**.

**Figure 19**
**Imagery of Blackwater Dam and Local Facilities**




*Source: Google Maps, accessed March 2018, enhanced by CNHRPC*

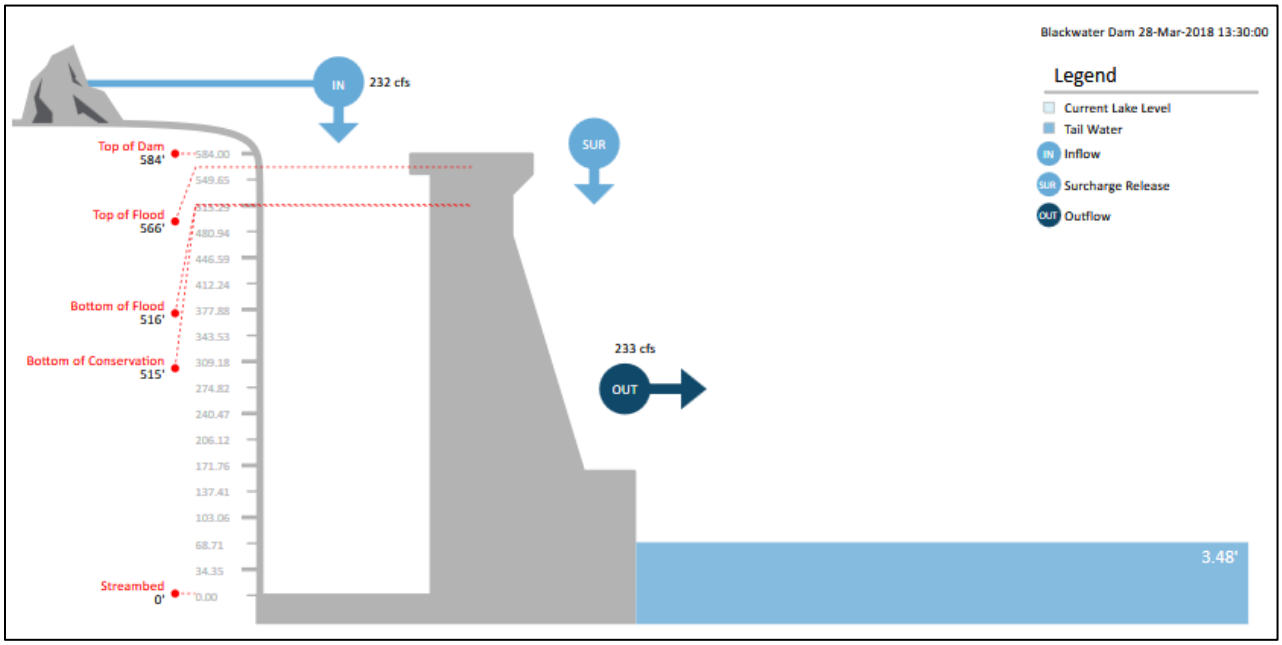
The Pillsbury Lake Dam was breached during the 2006 Mother's Day Flood and was subsequently rebuilt to higher standards. Lake Winnepocket Dam impounds 227 acres of water. Any dam can be experience failure or breach under extreme conditions. A **breach** of the Blackwater Dam (federal) would cause significant damage to life and property. There would not be time to notify downstream residents, Town operations, or the School to evacuate the area, as indicated in **Figure 19**. Several beaver dams in Webster are seasonal or break naturally. Heavy rainfall or quick snow melt can send water over the top of Non-

Menace and beaver dams. All major dams within Webster have operations plans on file with the Emergency Management Director and should be referenced during one of the hazard events at the dams. They are also kept at the Public Safety Building.

Snapshot profile charts of the Blackwater Dam water capacity, inflow, top of normal and other statistics can be accessed for present day and times. The inflow capacity 2,300 cfs, the bottom of normal height is 515 feet, the top of normal is 516 feet, the top of the flood control pool is 566 feet and top of the dam 584 feet. The top of the flood control pool storage is 46,000 acres of water. In **Figure 20**, as of the 03-28-18 profile chart below, the pool height is 519 feet and surcharge release is 3.48 feet, the difference between inflow and outflow. The water height is about 3.5 feet higher than normal but the water would have to climb nearly 50 feet to reach the top of the dam.

**Figure 20**

**Blackwater Dam Profile Chart, 03-28-18**

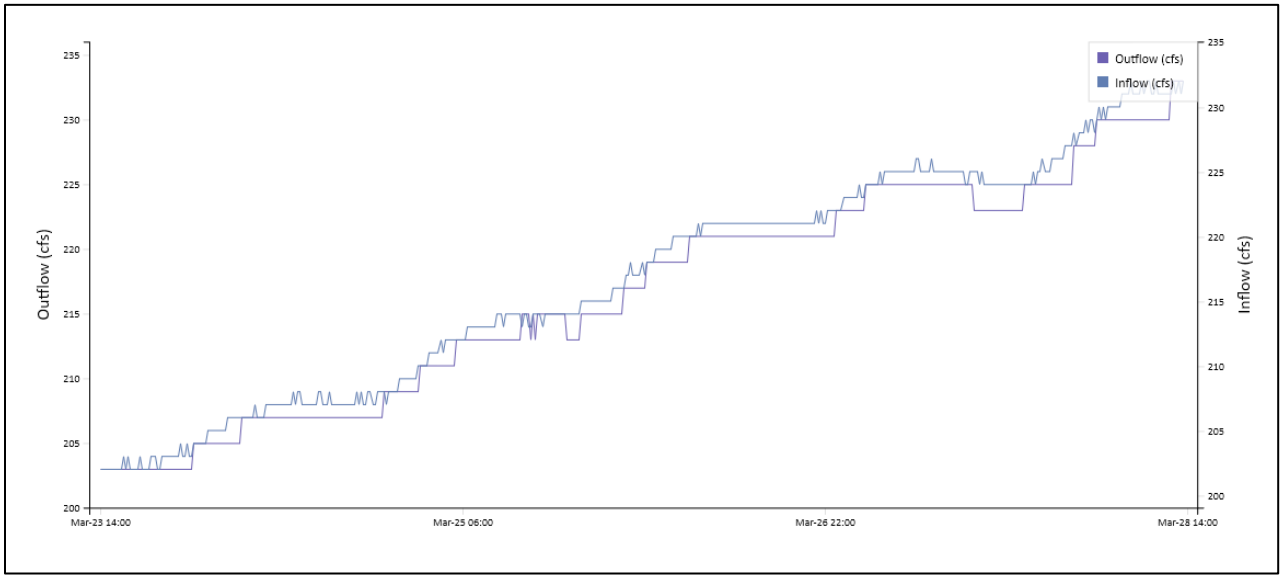



*Source: [http://water.usace.army.mil/a2w/f?p=100:1:0:#](http://water.usace.army.mil/a2w/f?p=100:1:0:#)*

Charts of water inflow and outflow display the amount of water passing through the Blackwater Dam's gates. In **Figure 21**, this data is for the period between **March 23-28, 2018**. Over the past week, water has been rising in the Blackwater River. This is due to spring snowmelt after a series of snowstorms and Nor'easters in the winter of early **2018**.

**Figure 21**

**Blackwater Dam Profile Chart, 03-28-18**




*Source: [http://water.usace.army.mil/a2w/f?p=100:1:0:#](http://water.usace.army.mil/a2w/f?p=100:1:0:#)*

The Hazard Mitigation Committee noted the Town and shoreland property owners are at a disadvantage not knowing the Blackwater Dam's water release schedule. The New England USACE website does contain certain information to help the community and residents undertake their own monitoring of the dam.

On the website and its subpages, are the Dam Release Schedule, which only contained the **2018** white water release schedule on **April 14-15, 2018**; the Dam Gate Operation for viewing and Excel download; the Blackwater Dam Peak Discharge History; and the main webpage with various Blackwater Dam and Blackwater River real-time and historic data and project reports. All data might not be made public for security purposes. Although the federal servers and webpages may not always be accessible, when available the aforementioned data is located at https://reservoircontrol.usace.army.mil/NE/pls/cwmsweb/cwms_web.cwmsweb.cwmsindex.

## Power/Utility Failure

Utilities systems exist everywhere and are subject to damage from construction work, accidents and extreme weather. Many utilities are protected by back-up generators to prevent failure, whatever the cause may be. Nuclear power plants produce roughly 20% of the nation's power, they exist in nearly all states and 3 million Americans live within 10 miles of a nuclear power plant. The greatest risk to life resulting from a nuclear power plant failure is radiation contamination resulting from radiation release into the environment. People in the immediate vicinity are at greatest risk of radiation contamination. Another common source of energy, coal, can be potentially hazardous because coal power plants emit chemicals such as mercury and sulfur dioxide.

New Hampshire contains nuclear, coal and natural gas power plants. There is only one (**1**) coal power plant in New Hampshire, the Merrimack Station in Bow. The Merrimack Station is the largest coal-fired electrical generating station, formerly owned by Eversource and Public Service of New Hampshire, and supplies power to 190,000 households. Coal fuel generated only **7%** of the State's electricity in **2016**. The Merrimack Plant may be decommissioned in the future in favor of other sources. Much of the State's electricity (**56%** in **2016**) is provided by the Seabrook nuclear power reactor.

In the harsh environment that New Hampshire residents are subjected to, power and utility failures on an isolated level are commonplace. During nearly every heavy snow storm, ice storm, or other severe weather event, someone, somewhere, loses power and/or other utilities.

### Power Failure in Webster

Power is disrupted on a regular basis during all seasons, a result of the primary natural hazards occurring. Webster depends on Eversource and Unitil for most of its power needs. The Town installed a municipal solar array at the Elementary School that provides electricity to the Town Offices, Public Safety Building and School. Power outages may last for several days before service is restored to residents in a large event. Power outages in the more rural or isolated areas of Town regularly occur during any wind, storm, winter events or hazard events that cause debris impacted infrastructure.

The Webster Elementary School will serve as the sheltering space available to Webster residents once it obtains and installs an emergency generator. The School District is partnering with the Town and is pursuing generators for its elementary schools. The Town Office can serve as a temporary shelter in the meantime. The Public Safety Building, although serving as a shelter in prior events, has difficulty running its emergency response and operations with residents in the building. However, it can serve as a warming or cooling shelter as needed until a permanent shelter is available. As a rule of thumb, all residents should be able to shelter in place in their homes for up to three days, gathering needed supplies and water ahead of time. The multiple businesses in Town rely on electricity provided by powerlines, and in many cases enterprise comes to a standstill during event.

Power failure can cause inconvenience, loss of economy, extra Town expenditures and staffing, and could restrict emergency response because the typical power failure is a secondary hazard caused by a severe

wind or severe winter weather event. This problem is applicable to the **Hurricanes and Tropical Storms, Downbursts**, **Tornadoes**, and **Severe Winter Weather, Cold, and Ice Storms** hazard events described earlier as well as **Debris Impacted Infrastructure** and **Transportation Accident** hazard events in the following sections.

## Communications Systems Failure

Communications systems, like utilities, are found everywhere and are subject to damage by construction work, severe weather and traffic accidents. Because communications systems depend on electricity, any power outage may cause an interruption in a communications system. In addition, many communications systems have buried cables which are particularly vulnerable to being cut. Communications systems interruptions can negatively impact a region, town, neighborhood or household in the case of a natural disaster, catastrophe or other emergency. Power lines often share cables and poles with communications systems. When power fails, cable, telephone and radio services frequently fail as well.

### Communications Systems Failure in Webster

Any **communications failure** can mean lack of emergency services or delayed emergency services. Police/Fire use digital service and are members of the effective Capital Area Fire Compact Mutual Aid (CAFCMA) Dispatch service. Webster has two telecommunications towers which provide coverage to most of the Town, US Cellular tower at Dustin Road and AT&T tower at Pearson Hill. Beyond that, telephone lines provide service to customers. Traditional broadband cable internet is not available in Webster, although satellite internet is. Some residents are HAM radio operators and can be a last resort for emergency communications. Communications failure can result as a secondary effect of a natural disaster such as severe storm or severe winter weather, like power failure is. Such an interruption would likely affect the majority of residents in Town. The US Army Corps of Engineers no longer staffs their office at the Blackwater Dam but still needs to be able to communicate with the Town and have remote control over the dam; they have satellite access.

Those people at greatest risk in rural Webster are the same as those for **power/utility failure**. There has been a steady migration to cell phone use only with people dropping their landline telephones. A few individuals in Town require oxygen and power failure and the likely accompanying communications systems failure would comprise the most vulnerable populations. The Fire Department has a voluntary registration program for people who want to be checked during emergencies.

## Debris Impacted Infrastructure

Debris impacted infrastructure regularly occurs along the Central NH Region's rivers and streams and also along roadways. Rivers or brooks flowing under bridges or through culverts could get clogged or damaged by woody material or leaves in the watercourse. Culvert maintenance is particularly important before and during heavy rainfall and floods. Tree limbs falling onto power lines and onto roadways, disrupting both electricity and the roadway, occur during wind or winter storms.

### Debris Impacted Infrastructure in Webster

Webster's watercourses, including the brooks and wetlands can **flood** their banks, **overflow culverts**, or **washout roads** during certain conditions. Trees and limbs falling on roads and power lines cause **power failure** or **road blockage**. Infrastructure in Webster can refer to roadways, powerlines, utility lines, culverts, water towers, bridges or dams. These features inventoried in **APPENDIX A Critical and Community Vulnerability Assessment** are those which should be watched carefully before and after storms and should be checked and maintained regularly to reduce the risk of significant **debris impacted infrastructure** events**. Erosion** along the Blackwater River embankments causes sediment and debris to flow downstream and is a hazard to the landowners who have shoreland frontage.

Debris in the form of trees is a constant concern, although they are not considered a particular hazard of concern in Webster. The Town can call the NH Department of Environmental Services for emergency removal. Bridges are vulnerable to debris dislodged during storm events. The Town's Clothespin Bridge over the Blackwater is state redlisted bridges and structurally deficient. The Select Board has applied for NH Bridge Aid funding to help rehabilitate this critical bridge. All outlying roads are susceptible to tree fall and downed powerlines (see **Wind** hazards).

## Transportation Accidents

Automobile accidents could occur on any roadway in the Central NH region. A major accident would have the greatest impact for travelers on Interstates 93, 393 or 89, on US Route 202, US Route 4 or US Route 3, on NH Route 3A, NH Route 9, NH Route 13, NH Route 28, NH Route 31 NH Route 49, NH Route 77, NH Route 103, NH Route 106, NH Route 107, NH Route 114, NH Route 127, NH Route 129 and NH Route 132 or on their bypasses, interchanges, Exits and on/off ramps. These are high speed corridors with high traffic volumes. Many local roads allow for residential and commuter vehicles at low speeds.

The railroad lines along the Merrimack River create the potential for a (railcar) transportation accident. Trains could potentially derail, causing injuries or fatalities and hazardous materials spills. In the Central NH Region, the Concord-Lincoln Line runs 73 miles between Concord and Lincoln. The New Hampshire Maine Line runs between Concord, Nashua and Lowell, MA. Several communities through which these lines travel have expressed the concern about hazardous material spills due to transportation accidents or sabotage. Concord Municipal Airport is the major airport in the Central NH Region but Manchester-Boston Regional Airport (MHT) can be accessed via Route 28 in about 45 minutes. Air traffic can also be hazardous to the region's citizens.

### Transportation Accidents in Webster

**Traffic accidents** may be the most likely future transportation hazard in Webster on Battle Street / Route 127, and at difficult intersections, hills, curves, or straightaways. Traffic accidents occur in several locations along hilly and curvy Little Hill Road, curvy and long Deer Meadow Road, curvy and narrow Clothespin Bridge Road and at intersections such as NH 127 and Roby Road. As the local roads become developed with more homes, more vehicles, pedestrians and bicyclists will find themselves vying for the same space.

As vehicular traffic increases or as the weather turns bad, there is the likelihood that **transportation accidents** will occur in these and other areas.

## Fire (Arson, Vehicle, Structure)

Fires which are not natural hazards are often associated with vehicles, structures or hazardous materials spills, or sometimes an explosion. These are considered **Technological Hazards**. Arson, the deliberate setting of a fire as an act of sabotage or mischief, is a **Human Hazard** but is described in this section for convenience. No magnitude scales were defined for these types of non-natural fires.

### Fire in Webster

The Fire Department annually reports all fires to the NH Fire Marshal's office. The National Reporting System (NRS) provides data on municipal fire events. Over a three-year period between **2014**-**2017**, a total of **17** fires were reported to the NRS in Webster. In **2014** were **11** fires (**9** structure, **1** vehicle, **1** outside fire). In **2015,** only **1** fire (**1** structure) was reported. In **2016, 0** fires were reported, although this is inaccurate. In **2017**, Webster Fire Department reported **5** fires, (**2** structure, **1** natural vegetation, **1** outdoor rubbish, **1** special outside fire).

The Webster Fire Department (WFD) provides data for the Town Annual Reports which differs from the National Reporting System. In **2014**, there were **176** calls for service (medical calls, building fires, carbon monoxide, motor vehicle accidents, animal rescues, wires down, chimney fires, lock outs, etc); in **2015**, there were **168** calls for service (Medical calls, Building fires, Carbon Monoxide in the home, Motor Vehicle Accidents, Animal Rescues, Wires Down, Chimney Fires, Lock outs, etc); in **2016**, there were **185** service calls (activities not specified, but included numerous brush fires and drug overdose emergencies); in **2017**, there were **200** calls for service (medical calls, motor vehicle accidents, wires down, carbon monoxide detectors, forest fires, building fires, and drug response). The WFD responds to all types of calls for service and participates in mutual aid with the Capital Area Fire Mutual Aid Compact, sharing training, drills, dispatching and assisting other communities.

Locations in Webster which are particularly vulnerable to **fire** (from any source – **lightning**, human, **wildfire**, electrical, power lines, **hazardous materials**, etc.) include Town Office complex with Library and Church (old, attached built 3-4 story wood buildings), Cozy Resort Campground (structure vulnerability in a dense, wooded environment), Pillsbury Lake community (densely populated with about **200** wooded seasonal and permanent homes). Several large businesses in Town have materials onsite that render them vulnerable should a fire occur. Additionally, there are dozens of agricultural enterprises in Webster with fertilizer, old barns and hay fields surrounded by woodlands, a vulnerability to both livestock and people.

A list of hazardous materials facilities which could cause fire or explosions in Town is available in **APPENDIX A Critical and Community Facility Vulnerability Assessment**. Also available from these **APPENDIX A** tables are a listing of vulnerable populations that are working or living in close quarters.

## Hazardous Materials Spills

Hazardous materials and hazardous wastes contain properties that make them potentially dangerous or harmful to humans. They can be liquids, solids, contained gases or sludge. Hazardous wastes can be the by-product of manufacturing, as well as discarded commercial products. Most households contain cleaning agents that become hazardous waste when disposed of improperly. Chemicals have numerous benefits but can also cause hazards during their production, storage, transportation, use or disposal. Hazardous materials can have adverse health related effects and may even cause death in certain cases. In addition, hazardous materials may damage homes, businesses and other property, as well as natural ecosystems. Chemical accidents in plants or chemical spills during transportation may often release hazardous chemicals.

The risk from hazardous materials spills or releases into groundwater is present if consumers and homeowners make irresponsible decisions regarding the disposal of household chemicals. These household chemicals can contaminate drinking water in wells and cause damage to various ecosystems. Most people contaminate without being aware that they are doing so. Further education may be needed to reduce hazardous waste contamination.

### Hazardous Materials Spills in Webster

Transportation trucking of hazardous materials on Battle Street / Route 127 is likely an regular occurrence. These trucks could rollover and spill their contents onto these significant roadways. The ***New Hampshire Hazardous Material Commodity Flow Study 2018*** and its accompanying maps may provide some enlightening data the Town can use to help protect the community from spills.

Several occupational facilities in Town could handle, store, or use hazardous materials. The Hopkinton-Webster Transfer Station situated in Hopkinton hosts annual Household Hazardous Waste Collection Days. Large volumes are collected from residents. Local auto body shops and garages, large businesses, the agricultural operations, and the Elementary School (science lab), and Town Salt Shed are stationary site locations which may experience this type of hazard in the future. Any of these facilities could have a spill or an incident at their location. A listing of known facilities which store or could use hazardous materials has been inventoried in **APPENDIX A Critical and Community Vulnerability Assessment**.

## HUMAN HAZARD EVENTS

Events of human nature include terrorism (ecological, cyber and chemical), sabotage/vandalism, hostage situations, and civil unrest. These are often "behind the scenes" hazards that local Police Departments handle on a regular basis. These events are all caused by direct human action.

There are several types of **Human** hazards examined in the **Hazard Risk Assessment**:

- **Public Health Epidemics**
- **Terrorism**
- **Sabotage/Vandalism**
- **Hostage Situation**
- **Civil Disturbance/Public Unrest**

Human Hazards are examined by descriptions of the types of human hazards and in the **Potential Future Hazards**. Scientific measures of magnitude are not available for individual human hazards.

### Public Health Epidemics

Public health issues can be measured in many ways. Students and the elderly are vulnerable to seasonal health outbreaks as they tend to congregate in large numbers and in shared environments where physical contact is common. Large groups can make bioterrorism more effective.

It is difficult to predict where an epidemic would occur due to human, mosquito and wildlife mobility. Commonly occurring epidemics following extreme heat or cold can include **influenza**, rotovirus, Lyme disease, EEE, West Nile, and any could occur in Webster. The Town has swampy areas around its wetlands and brooks which are prime breeding ground for **mosquitoes**. Large deer herds that roam can carry **deer ticks** in the Town's heavily forested sections and into State Forests. **Water quality degradation** (failing septic systems, flooding, pipes breaking) could sicken residents using the public water supplies (those serving over 25 people), dug wells or bedrock wells, or could cause aquatic and wildlife deaths.

#### Public Health Epidemics in Webster

Anecdotal widespread **public health** issues involving Lyme disease indicate tickborne viruses are increasing in Webster. The Town is a wooded, rural community with the Blackwater River, many brooks, and wet meadows, and federal and Town recreation areas. Arboviral (mosquito-borne) viruses may also increase.

For indoor contamination, the highest risk facilities for pick-up or transfer of viruses and bacteria are the Webster Elementary, daycare facilities, Town Office, First Congregation Church, Webster Free Library, and Public Safety Building, as well as stores, restaurants, recreational facilities and gathering places (see **APPENDIX A**). The Pillsbury Lake Village District operates and maintains their own water system for

residents and the old pipes are known to break frequently. The same populations identified as particularly susceptible to **Excessive Heat** would be most vulnerable to public health issues and epidemics.

To help combat local and area public health epidemics, Webster has a plan to join the nearby regional Point of Dispensing (POD) site at the nearby Hopkinton High School, a location where vaccines or other medicines are disseminated to people during an emergency with assistance from the Capital Area Public Health Network (CAPHN).

## Terrorism

The use of force or violence against people to create fear, cause physical harm and/or intimidation or for reasons of ransom. Terrorists often make threats to create fear and change public opinion. Cyber terrorism consists of hackers who threaten the economy by attacking the intricate computer infrastructure, affecting business and communication. Biological and chemical terrorism refers to those infectious microbes or toxins used to produce illness or death in people or animals. Large groups or close quarters of people can make bioterrorism more effective. Terrorists may contaminate food or water, thus threatening an unprotected civilian population. Eco-terrorism refers to the destruction of property by persons who are generally opposed to the destruction of the environment or to make a visible argument against forms of technology that may be destructive to the environment.

### Terrorism in Webster

It is unlikely that the Town would be the target of any act of international terrorism. Domestic terrorism has occurred within the last 15 years regionally. Possible targets could be the Blackwater Dam, Town Office, Webster Elementary School, Library, Public Safety Building, all Town or governmental facilities, State facilities (NHDOT shed) or churches. There could be a massive impact felt in the community even on a small-scale event.

## Sabotage/Vandalism

Sabotage is a deliberate action aimed at someone or some institution in order to weaken that person's or institution's integrity and reputation through subversion, destruction, obstruction or disruption. Sabotage may occur in war, a workplace, in the natural environment, as a crime, in politics or as a direct attack against an individual.

### Sabotage /Vandalism in Webster

Any incident of **sabotage** in Webster could come from within Webster or any nearby Town, or outside of the State or country, but some sabotage efforts would require perpetrators to be on site. **Vandalism** can also be present at cemeteries, vacant buildings, under bridges. While a nuisance, vandalism has a lower potential to harm than sabotage.

Vandalism could occur in the Beaver Dam, Corser Hill, Riverdale and private cemeteries and the private Pillsbury Lake water supply could be sabotaged. These facilities would be the most damaging to the community. Vandalism could occur at vacant buildings in isolated locations.

Technological systems such as computer systems and websites of the Blackwater Dam, Town Office, Webster Elementary School, Public Safety Building, all Town buildings could be subject to computer or network sabotage. Utilities or telecommunications towers could be vulnerable to sabotage or vandalism. Many other significant facilities in Webster could be subject to sabotage including the powerlines, transmission lines, transformers and utility substations.

## Hostage Situation

A hostage situation is an incident where an innocent civilian is held by someone or some group of persons demanding something from another person or group of persons not related to the person or persons being held hostage. The person or persons held are done so pending the fulfillment of certain terms.

### Hostage Situations in Webster

**Hostage situations** can occur anywhere, are isolated events and are nearly impossible to predict; none have been reported for this Plan. Hostage situations are not normal events and therefore are nearly impossible to predict. Domestic violence events generally occur in resident homes, perhaps one per year.

Conventional hostage situations would most likely target such locations as the Town Offices or Elementary School, Public Safety Building, Pillsbury Lake Clubhouse, Austin Home or Blackwater Dam, or at all other Town or governmental facilities, major businesses. There is no Post Office in Town.

## Civil Disturbance/Public Unrest

This hazard refers to types of disturbances that are caused by a group of people, often in protest against major socio-political problems including sit-ins or protests against wars and any general and public expression of outrage against a political establishment or policy. Many instances of civil disturbance and public unrest are quelled by a use of force from police. Participants may be victims of personal injury in severe cases.

The most probable locations of larger civil disturbance and/or protest in New Hampshire are at the State House in Concord and at the universities and colleges. They have also occurred at political locations, such as feminist health centers or political party headquarters.

### Civil Disturbance/Public Unrest in Webster

None have been reported and large scale incidents of civil disturbance and public unrest are unlikely in Webster. Locally, the highest potential for **public unrest** could take place during Town Meetings and

School Meetings, on voting day or during visits from political candidates, or at large events such as Old Home Day, Veteran's Parades, School events or the annual Blackwater River canoe event. Locations where civil unrest could occur include the School and its recreational fields, Town Office, Blackwater Reservoir, Pillsbury Lake Clubhouse, Cogswell Recreation area. Generally, (future) restaurants and establishments serving alcohol, recreational facilities and within other high density population areas are also more susceptible to **civil disturbance**.

The Blackwater River is very popular with outdoor enthusiasts for canoeing, kayaking, fishing and hunting. When the Blackwater Dam holds its first release of the year (April 14-15 in **2018**), a whitewater kayak event is held along the River's **2.5** mile stretch between Clothespin Bridge Road and Tyler Road. The event could cause **civil disturbance** concerns because of visitors parking on private property and not respecting the local property owners.

## Existing and Potential Future Hazards

After the inventory of hazards types and past hazards in Town, hazards that currently exist or that need to be monitored in Webster has been completed along with potential future hazards that could occur in other areas. This unique listing of **Existing and Potential Future Hazards** was compiled so the Town can be aware of areas that might need to be watched for recurring hazardous problems or that may experience some of these hazards for the first time. The listing was developed by knowledge of the Hazard Mitigation Committee and past experiences of hazards. Past locations of hazard events, where they exist for each hazard, are listed under the individual hazard narratives in the previous section. The existing and susceptible hazard locations are taken from the **Hazard Risk Assessment**. With this existing and potential future knowledge listed side by side, it becomes easier for a community to plan mitigation measures for the most prominent hazard events in Town.

Included in **Table 24** is the **Overall Risk** score between **1-16** from the **Hazard Risk Assessment** for **16** natural hazards. The name of the magnitude or extent scale of the natural hazard is represented for ease of reference. Technological and human hazards were not rated for their **Overall Risk** to retain the importance of maintaining a natural hazard perspective for the **Hazard Mitigation Plan 2018**. **NR** is the abbreviation for **Not Rated**.

Table 24

**Existing and Potential Future Hazards**

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Flooding | **Floods and Flash Floods** | 8.0 | **Floodplains of Blackwater River and** the Flood Control Area, Warner River. **Brooks** such as Beaver Dam Brook, Deer Meadow Brook, Schoodac Brook, Pond Brook, Knight Meadow Brook result in expanded flooding. Pillsbury Lake, Lake Winnepocket, Walker Pond, Couch Pond, Knight Meadow Pond/Marsh, Walker Pond and several Farm Ponds can flood. **Beaver dams** can breach, resulting in localized flooding. Homes within the Flood Control Area are at risk. Runoff from roadways or heavy rain can cause floods over the Entire Town. Homes along the Warner River in Webster along Dustin Road, gets very high.<br>**Bridges, drainage systems and areas of past, repaired, or existing potential for road washout**:<br>• Roads: Battle Street/ Route 127 (State roads & culverts), Roby Road, Corn Hill Road (Pond Brook), Deer Meadow Road (Deer Meadow Brook), Little Hill Road, Long Street (Beaver Dam Brook beaver dam/swamp), Mutton Road, Pillsbury Lake (dam breach – the Lake drained), Roby Road, Whiteplains Road (Schoodac Brook).<br>• Bridges: Whiteplains Road Bridge, Clothespin Bridge, Pillsbury Lake Bridge (beaver dam)<br>• Public/private facilities: Pillsbury Lake Water Precinct<br>• Culverts: Deer Meadow Road, Mutton Road, Battle Street/ Route 127 (State)<br>• Dams: Little Hill Road | Because of the Blackwater River Flood Control Area, areas likely to flood surround the River. There are several homes located within floodplains in Webster. Poor drainage exists along Mutton Road, and numerous culverts should be replaced and the road repaired. The potential for flooding from the dam and rain exists along Little Hill Road. Long Street at Beaver Dam Brook has the potential to be flooded. Corn Hill Road floods frequently at the Boscawen town line, and Roby Road floods frequently at the entrance where the culverts cross under Battle Street/Route 127. Various key bridges over the Blackwater River (Battle Street, Clothespin Bridge Road, and Tyler Road) could be subject to flooding as well. On Deer Meadow Road at Deer Meadow Brook, culverts could also be subject to flooding; culverts could be replaced and the road fixed to alleviate some of the problems.<br><br>Other roads that are considered susceptible to flooding or damage are White Plains Road, Roby Road and Detour Road. Parts of White Plain Road are located downstream from a large beaver pond, and should the beaver pond let go, the results could be disastrous. Detour Road needs ditching, which will help with that flooding problem. The Town continues to obtain state funding to help address the Schoodac Brook Bridge on White Plains Road (which the State estimated the cost at nearly $0.5 million dollars in 2007).<br><br>Beavers can also be the cause of flooding. The Pillsbury Lake outlet bridge experienced higher flooding because of a blocked beaver dam, the access to which was on a private road. There are many other beaver dams between Walker Pond and Pillsbury Lake. | Special Flood Hazard Areas (SFHAs) on 2010 Digital Flood Rate Insurance Maps (Zones A, AE, X) |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Flooding | **Rapid Snow Pack Melt** | **12.0** | Snow melt runoff from **impervious surfaces and roadways or from tree cover and fields** can cause floods over the Entire Town. Particularly susceptible areas: flooding potential of the Blackwater River and Reservoir, Deer Meadow Road, the back side of New Hampshire Drive, and all roads in the floodplain. Other areas include the regular road washouts (see Flooding). | There is a possibility of damage through rapid snow pack melt because of the flooding potential of the Blackwater River and Reservoir. Deer Meadow Road, the back side of New Hampshire Drive, and all roads in the floodplain are particularly susceptible. Other areas include the regular washout areas. | None specific known but can use SFHAs |
| Flooding | **River Ice Jams** | **16.0** | **Blackwater River** ice jams could endanger the dams and have occurred in the past, especially near Clothespin Bridge Road, Battle Street, Tyler Road and east of Tyler Road. Warner River is possible. | The potential for ice jams poses a threat to Webster Because ice jams have occurred in the past, there is a likelihood they will occur again. Locations to observe include along Clothespin Bridge Road, Battle Street/Tyler Road, and east of Tyler Road where the Blackwater flooded previously. | No known widely-used scale measuring the magnitude of river ice jams |
| Flooding | **Riverine Scouring, Erosion, Channel Movement** | **10.7** | Because of the **Blackwater River** Flood Control Area, bank erosion, scouring and channel movement may be hazards of potential concern. Erosion of Clothespin Bridge Road south of Detour Road is one most likely to be affected by scouring. | Bank erosion and scouring of the Blackwater River does occur in Webster. Roadways such as Clothespin Bridge Road south of Detour Road is the most likely to be affected because erosion is already occurring and is expected to continue. Scouring will continue along bridges that cross the Blackwater. Any appearance should be monitored and funding obtained for mitigation while interim measures are taken. | EPA Bank Erosion Risk Index |
| Wind | **Tornadoes** | **12.0** | **Entire Town.** Areas of particular concern include high density populations such Blackwater Dam and its reservoir, the bridges in Town, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home and the Elementary School. The entire Town is wooded and forested. Section of Town would be difficult to access with trees and power lines down on the residential roads. Most remote road/area of Town includes Little Hill Road. | Anywhere, the Town could be impacted by a tornado. No particular areas or buildings are thought to be more vulnerable than another. However, those locations with a significant number of people, including the Webster Elementary School and the Pillsbury Lake community, would be most at risk. Other particularly vulnerable sites would be the Blackwater Dam and its reservoir, the bridges in Town, Cozy Pond Camping Resort, and the Austin Home, and Town facilities. See also vulnerable populations in **Appendix A**. | Enhanced Fujita (EF) Tornado Scale |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Wind | **Downbursts** | **8.0** | **Entire Town.** Areas of particular concern include high density populations such Blackwater Dam and its reservoir, the bridges in Town, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home and the Elementary School. The entire Town is wooded and forested. Section of Town would be difficult to access with trees and power lines down on the residential roads. Most remote road/area of Town includes Little Hill Road. Agriculture & farms include: George Tree Farm (Roby Road), Drown Dairy Farm (Battle Street/Route 127), Mock Beef Farm (Pleasant Street), Sussman Sheep Farm (Pleasant Street), Coffin Cellars Winery (Battle Street), Milkcan Corner Farm (blueberries) (Mutton Road), Bender Goat Farm (Little Hill Road), Pendleton Beef Farm (Battle Street), Roberts Greenhouse (Long Street), Kimball Sugar House (Whiteplains Road), Tyrn Sugar House (Clough Sanborn Hill), Piper/Miller Sugar House (Tyler Road), Riverfare Beef, Equine & Pork Farm (Tyler Road), Herrick Beef Farm (Call Road), Cloverdale Feedstore/ Boarding Farm (Battle Street), Broker Tree Farm (Gerrish Road), Fallon Honey Farm (Little Hill Road). Also, Town Forest on Clough Sanborn Road. | Anywhere the Town could be struck by a straight line wind downburst. See also Tornado vulnerable locations. Most remote road/area of Town includes Little Hill Road along which trees and limbs and powerlines could fall. Agriculture & farms include: George Tree Farm (Roby Road), Drown Dairy Farm (Battle Street/Route 127), Mock Beef Farm (Pleasant Street), Sussman Sheep Farm (Pleasant Street), Coffin Cellars Winery (Battle Street), Milkcan Corner Farm (blueberries) (Mutton Road), Bender Goat Farm (Little Hill Road), Pendleton Beef Farm (Battle Street), Roberts Greenhouse (Long Street), Kimball Sugar House (Whiteplains Road), Tyrn Sugar House (Clough Sanborn Hill), Piper/Miller Sugar House (Tyler Road), Riverfare Beef, Equine & Pork Farm (Tyler Road), Herrick Beef Farm (Call Road), Cloverdale Feedstore/ Boarding Farm (Battle Street), Broker Tree Farm (Gerrish Road), Fallon Honey Farm (Little Hill Road) will be subject to erosion and crop loss. Also, Town Forest on Clough Sanborn Road, used for recreation, could have massive limb and tree breakage. | Enhanced Fujita (EF) Tornado Scale |
| Wind | **Hurricanes and Tropical Storms** | **16.0** | **Entire Town.** Areas of particular concern include high density populations such Blackwater Dam and its reservoir, the bridges in Town, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home and the Elementary School, White Mountain Imaging business. The entire Town is wooded and forested. Sections of Town would be difficult to access with trees | Hurricanes bring not only wind hazards but flooding as well. Eversource and Unitil are Town's electric providers. The most remote road/area of Town includes Little Hill Road, Tyler Road Area, Deer Meadow Road Area, Pillsbury Lake Area, Pond Hill Road, Clough Sanborn Hill Road. Large trees falling down on the supply lines or across the roads can result in power loss for days. Particularly vulnerable areas include Blackwater River Dam and Reservoir, the Webster Elementary | Saffir-Simpson Hurricane Wind Scale |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| | | | and power lines down on the residential roads. Most remote road/area of Town includes Little Hill Road, Tyler Road Area, Deer Meadow Road Area, Pillsbury Lake Area, Pond Hill Road, Clough Sanborn Hill Road. Roadways (fallen trees), electrical power utilities (Unitil & Eversource), communications network, 2 telecommunications towers (Pearson Hill and Dustin Road), Public Safety Building communications (generator). Local government operations are susceptible to damage by debris impacted infrastructure. See also previously listed wind and flood vulnerability sites. | School, Pillsbury Lake community, and the Town Buildings. Many homes and buildings have generators. Widescale flooding along previously mentioned roads and areas as well as further erosion of previously mentioned roads and bridges along the Blackwater River. As a forested, rural community debris clean-up is often significant after a hurricane or tropical storm. | |
| **Wind** | **Severe Winds, Rain Storms and Thunder Storms** | **13.3** | **Entire Town.** Areas of particular concern include high density populations such Blackwater Dam and its reservoir, the bridges in Town, Pillsbury Lake Water Precinct, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home and the Elementary School. Regularly flooded areas need to be monitored. The entire Town is wooded and forested. Section of Town would be difficult to access with trees and power lines down on the residential roads. Most remote road/area of Town includes Little Hill Road. Roadways (fallen trees), electrical power utilities (Unitil & Eversource), communications network, telecommunications towers, local government operations are susceptible to damage by debris impacted infrastructure. See also previously listed Wind and Flooding susceptibility areas. | Warm weather storms bring wind, flooding, and lightning hazards. Eversource and Unitil are Town's electric providers. The most remote road/area of Town includes Little Hill Road, Tyler Road Area, Deer Meadow Road Area, Pillsbury Lake Area, Pond Hill Road, Clough Sanborn Hill Road - these may be the most difficult locations to reach in the event of wildfire or isolation. Large trees falling down on the supply lines or across the roads can result in power loss for days. Particularly vulnerable areas include Blackwater River Dam and Reservoir, the Webster Elementary School, Pillsbury Lake community, and the Town Buildings. Many homes and buildings have generators. Widescale flooding along previously mentioned roads and areas as well as further erosion of previously mentioned roads and bridges along the Blackwater River. As a forested, rural community debris clean up can be significant after storms. | Accuweather Thunderstorm Criteria Scale, Hail Size Scale |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Fire | **Lightning** | **8.0** | **Entire Town.** Public Safety Building - metal building with Fire & Police radio array. Areas of concern are remote areas (see Wind) which could not be easily accessed by emergency vehicles. The two telecommunications towers (US Cellular at Dustin Road tower and AT&T at Pearson Hill tower) receive regularly lightning strikes. Other areas most susceptible include forested areas, conservation areas, open recreation fields, points of higher elevation than surrounding area. Buildings without lightning rods would be more susceptible to damage from a strike. Other susceptible structures include aboveground utilities: transformers, water towers, churches and tall buildings. | Lighting can strike at any time at any given location and can begin wildfires. The most remote road/area of Town includes Little Hill Road, Tyler Road Area, Deer Meadow Road Area, Pillsbury Lake Area, Pond Hill Road, Clough Sanborn Hill Road - these may be the most difficult locations to accessed by emergency vehicles. The two telecommunications towers (US Cellular at Dustin Road tower and AT&T at Pearson Hill tower) are susceptible. The wooden, historic Town Office buildings, with their computers, records, artifacts and potential as a population site, are vulnerable to lightning. | Lightning Activity Level (LAL) |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Fire | **Wildfire** | **8.0** | **Entire Town (forested).** Areas of concern are Pillsbury Lake, high density residential areas, along a stretch of the Blackwater River spanning from Route 127 to Clothespin Bridge Road, high tension power lines with dense scrub underneath running through the Deer Meadow Road area, dry slash throughout Town, and remote areas (see Wind) which could not be easily accessed by emergency vehicles. Other areas most susceptible include Town Forest areas, conservation areas, open recreation fields, old historic buildings. | Because of the dry conditions, it takes several times longer to put out fires, and responders have to dig down further with equipment. Areas of concern are Pillsbury Lake, high density residential areas, along a stretch of the Blackwater River spanning from Route 127 to Clothespin Bridge Road, high tension power lines with dense scrub underneath running through the Deer Meadow Road area, dry slash throughout Town, and remote areas (see Wind) which could not be easily accessed by emergency vehicles. The dense scrub brush and juniper that is found under the Deer Meadow Road power lines dries rapidly in the spring and summer. A significant amount of fuel, from the adjacent auto repair shop and salvage yard, the rough terrain, and lack of access for safety vehicles, would allow brush fires under the lines to spread quickly.<br><br>Starting in 2005 a property owner off of Little Hill Road clear-cut nearly 450 acres of land at the end of the Town-maintained section of road. The amount of “slash” left behind from this type of logging operation is significant, and does create a potential hazardous situation. In some areas the amount of “slash” is waist deep. Most of this clear cut land is on a south-facing hillside therefore it is exposed to the sun for a large part of the day. The “slash” will quickly dry and provide a large amount of fuel for any fire that might start, particularly in drought or dry conditions.<br><br>Particular future potential for wildfire was identified in the heavily wooded areas of Town, which are vulnerable primarily due to slash left behind from the ice storms. This can cause a significant hazard that increases over time due to the drying out of materials of the ignitable base in the woods. | NWCG Wildfire Classification |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Extreme Temperature | **Severe Winter Weather, Wind Chill and Ice Storms** | **14.7** | **Entire Town.** Areas of particular concern include Elementary School, individual elderly residences, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home. Roadways (fallen trees), electrical power utilities (Unitil & Eversource), powerlines/ cable/ internet, two telecommunications towers (US Cellular at Dustin Road tower and AT&T at Pearson Hill tower) communications network, local government operations are susceptible to damage. Webster's dispersed residential population, located in wooded and forested sections of Town are vulnerable to loss of power and debris on roads. Most remote road/area of Town includes Little Hill Road. Other sections of Town would be difficult to access with trees and power lines down on these residential roads. People may be subject to cold temperature, snow isolation, transportation accidents, power failure and communications failure during winter storm events. A voluntary "welfare check" list is available for people to sign up at the Town Office. | It is highly likely that Webster will be impacted by severe winter weather in the future. Damage and serious conditions can result in any location of the community. Areas that are particularly vulnerable to severe winter weather would be the higher elevations and remote locations, where alternate access may not be possible, and the Pillsbury Lake community. During these events, most residents are unwilling to leave their homes although there is no electricity or other utilities. Traveling to Concord or points further to find a warm hotel room was not an option for most people, not is leaving pets or livestock behind. Historic buildings or large roofs are vulnerable to snow loads. Most of the roads in Town have been open during snow storms and people have not been isolated, although residences may not have power or may be unable to shovel or plow themselves out. | NWS Windchill Index, Sperry-Piltz Ice Accumulation (SPIA), NCDC Regional Snowfall Index (RSI) for Northeast |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Extreme Temp | **Drought** | **10.7** | **Entire Town / Region.** Areas susceptible include farms and orchards: 1 dairy farm [NAME], but many households keep farm animals. Also vulnerable are those residences with private dug wells and Town water supplies (Pillsbury Lake Water Precinct made water available to any who want it). Drought means increased risk of brush fire with dry vegetation (see Wildfire for areas). Gravel roads affected because can't grade them when water is low. All fire ponds will be low or dry during drought times. Higher elevations and ledgy locations tend to run dry first. | Webster has a lot of agriculture and livestock requiring water. Drought will affect agriculture & farms including George Tree Farm (Roby Road), Drown Dairy Farm (Battle Street/Route 127), Mock Beef Farm (Pleasant Street), Sussman Sheep Farm (Pleasant Street), Coffin Cellars Winery (Battle Street), Milkcan Corner Farm (blueberries) (Mutton Road), Bender Goat Farm (Little Hill Road), Pendleton Beef Farm (Battle Street), Roberts Greenhouse (Long Street), Kimball Sugar House (Whiteplains Road), Tyrn Sugar House (Clough Sanborn Hill), Piper/Miller Sugar House (Tyler Road), Riverfare Beef, Equine & Pork Farm (Tyler Road), Herrick Beef Farm (Call Road), Cloverdale Feedstore/ Boarding Farm (Battle Street), Broker Tree Farm (Gerrish Road), Fallon Honey Farm (Little Hill Road). The Town still has residents with dug wells that will go dry in future droughts. | Palmer Hydrological Drought Index (PHDI) |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Extreme Temp | **Excessive Heat** | **9.3** | **Entire Town.** Areas of particular concern include Elementary School, individual elderly residences, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home. Vulnerable areas most susceptible to extreme heat include farms, orchards including: George Tree Farm (Roby Road), Drown Dairy Farm (Battle Street/Route 127), Mock Beef Farm (Pleasant Street), Sussman Sheep Farm (Pleasant Street), Coffin Cellars Winery (Battle Street), Milkcan Corner Farm (blueberries) (Mutton Road), Bender Goat Farm (Little Hill Road), Pendleton Beef Farm (Battle Street), Roberts Greenhouse (Long Street), Kimball Sugar House (Whiteplains Road), Tyrn Sugar House (Clough Sanborn Hill), Piper/Miller Sugar House (Tyler Road), Riverfare Beef, Equine & Pork Farm (Tyler Road), Herrick Beef Farm (Call Road), Cloverdale Feedstore/ Boarding Farm (Battle Street), Broker Tree Farm (Gerrish Road), Fallon Honey Farm (Little Hill Road). The EOC can be opened as a cooling centers during extended heat conditions. | The farms and agriculture operations listed previously are susceptible to extreme heat. Population groups like the Elementary School or Austin Home or Campground contain people who might be among the first to need help during extreme events. | NWS Heat Index |
| Earth Hazards | **Earthquake** | **6.7** | **Entire Town.** The Central NH Region is seismically active and earthquakes are regularly felt from area epicenters. Site of greatest concern is the Blackwater Dam, Pillsbury Lake Dam. Damage to utility poles and wires, roadways and infrastructure (dams, water lines, bridges) could be significant. Areas with underground utilities, Pillsbury Lake Water Precinct, old buildings, and the Elementary School are particularly susceptible. | Earthquakes are a regular occurrence in Webster's vicinity, about once annually at a 2.0M. Historic, wooden Town buildings can be more susceptible to earthquake because of their age, such as the Town Office facilities. Also taller, rigid buildings are vulnerable. Most homes, although not built to earthquake code, will feel a small intensity and will not experience damage at a 2.0 - 3.0M level. The older underground water pipes at the Pillsbury Lake Village District are vulnerable to breakage. The federal Blackwater Dam is the most feared infrastructure to break because of earthquake. | Richter Magnitude Scale |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Earth | **Landslide** | **2.0** | Development in proximity to **areas of steep slopes** (greater than 15%) is at risk for these events. Roads with steep ditching or embankments are most vulnerable to landslide include Pond Hill Road (Class VI) section, White Plains Road, Detour Road, Pleasant Street, Gerrish Road, and many others alongside roadways. | Generally, vegetation in Webster is good at preventing landslides on hillsides. Development in close proximity to several steep slope areas could be at risk for landslides or rockslides (slopes greater than 15%). Roads with steep ditching or embankments are most vulnerable to landslide include Pond Hill Road (Class VI) section, White Plains Road, Detour Road, Pleasant Street, Gerrish Road, and many others alongside roadways. Road washouts and flash-flooding could cause landslides, but otherwise the Town is not particularly susceptible. | No known widely-used scale measuring the magnitude of landslides |
| Technological | **Dam Failure or Release** | **2.0** | **High Hazard (H) dam** is the Blackwater Dam (H) and **3 Low Hazard (L) dams** are the Pillsbury Lake Dam, Winnepocket Lake Dam and Knight Meadow Pond Dam (L), but **beaver dams** have a high probability of flooding and potential to break. | Federal Blackwater Dam poses a High Hazard threat to area residents should it breach or fail. The BD is monitored remotely at the Franklin Falls office and water is released at certain levels. Three Low Hazard dams, Low Hazard (L) dams are the Pillsbury Lake Dam, Winnepocket Lake Dam and Knight Meadow Pond Dam, can also cause notable damage to life and property if one fails. Beaver dams in Webster also have potential to fail. Dams are susceptible to major flood events, including heavy rain from storms or hurricanes. | NHDES Dam Hazard Classification *either/or criteria* **Dam Failure causes flooding and therefore is included as natural in this instance* |
| Technological | **Power/ Utility Failure** | N/A | **Entire Town.** Areas of particular concern include Elementary School, individual elderly residences, the high population area of Pillsbury Lake, Cozy Pond Camping Resort, the Austin Home, Pillsbury Lake Water Precinct. Wooded, forested and more remote sections of Town would be difficult to access, with trees and power lines down on these routes or residential roads (see Wind). Webster depends on power from Eversource and Unitil. Power outages may last for several days before service is restored in a large event. Isolated areas of Town are particularly vulnerable to outages and the resulting effects. A voluntary | In Webster, the power is disrupted on a regular basis during all seasons. All of Webster depends on Eversource and Unitil for its power needs. Power outages are more common on the Eversource lines, with a time period of sometimes days before service is restored. The isolated areas in Town are particularly vulnerable to both outages and the resulting effects. The Town generates its electricity on new solar arrays arranged aside the Elementary School as of 2017. | N/A |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| | | | "welfare check" list is available for people to sign up at the Town Office. | | |
| Technological | **Communications Systems Failure** | N/A | **Entire Town.** Two telecommunications towers (US Cellular at Dustin Road tower and AT&T at Pearson Hill tower), telephone, Verizon Wireless, and electrical lines (Unitil & Eversource). Communications are detailed in the Community Vulnerability Assessment tables. Communications failure would be worse if it occurred at the Highway Department or Town Offices, especially during a holiday, or inhibited emergency dispatch and EOC operations. Both Town Office and Public Safety Building have backup generators. Most Town radios are interoperable, and they are used in more than one location. The Town is serviced by the Capital Area Mutual Aid Compact, which does all the emergency medical service and Fire dispatching. They have redundant capabilities. Satellite communication is available for the Army Corps of Engineers at the Blackwater Dam. | Communications can fail due to many natural hazards impacting the towers or lines. Two telecommunications towers (US Cellular at Dustin Road tower and AT&T at Pearson Hill tower), telephone, Verizon Wireless, and electrical lines (Unitil & Eversource) provide communications for the Town and its residents. Communications failure would be worse if it occurred at the Highway Department or Town Offices, especially during a holiday, or inhibited emergency dispatch and EOC operations. Webster is serviced by the Capital Area Mutual Aid Compact, which does all the emergency medical service (EMS) and Fire dispatching, and they have redundant capabilities. Satellite communication is available for the Army Corps of Engineers at the Blackwater Dam. | N/A |
| Technological | **Debris Impacted Infrastructure** | NR | **Most dams and bridges** could experience debris impacted infrastructure, including the Battle Street bridge over the Blackwater River, Clothespin Bridge Road over the Blackwater River, and the two bridges on Tyler Road over the Blackwater River. If the log boom, which holds back the logs, breaks, debris could clog the Blackwater Dam. Box culverts as replacements for failing culverts have been recently installed in many Webster roads as a result of recurring flooding events. Debris impacted infrastructure includes blocked roadways (trees & powerlines). | Debris in the form of trees is a constant concern in rural, forested Webster. Trees will fall on powerlines or roads, powerlines fall on roads or buildings, despite utility company preparation. The Whiteplains bridge, Clothespin Bridge, and Tyler Road bridges are vulnerable to debris from the Blackwater River. Town culverts and drainage structures will catch branches, leaves and debris and could back up and runoff if not regularly cleared. | N/A |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Technological | **Transportation Accidents** | NR | **Main highway through Town is Battle Street/Route 127.** Intersections with NH 127 can be dangerous. See Map series for regular accident locations - at certain intersections, curves, straightaways, hills. | Traffic accidents will continue to occur on the main highway through the Town, Battle Street/Route 127, and around Roby Road, along Deer Meadow Road next to Pillsbury Lake, and at the intersections of various roads with Clothespin Bridge Road, particularly during winter weather. | N/A |
| Technological | **Hazardous Materials Spills/ Radiological Accidents** | NR | **NH 127/Battle Street** would be the most realistic routes taken where vehicular traffic transports hazardous waste. The largest or most dangerous **stationary sites** that store and/or handle haz mat on site (fertilizer, pesticides, fuel, etc) are listed in Critical and Community Facilities. **Occupational haz mat sites** where spills could occur include: health care facilities, schools, manufacturing, etc. | Transport to and storage of chemicals and pesticides from agricultural operations and businesses is an added concern, particularly if there is a transportation accident. Any transported chemicals risk being spilled into the River from Clothespin Bridge Road, Whiteplains Road, around Pillsbury Lake, and etc. The Hopkinton-Webster Transfer Station hosts a Household Hazardous Waste Collection Day once per year. Large volumes are collected from residents. Stationary business sites in Webster or those locations with suspected dumping of chemicals may experience haz mat or radiological spills. | N/A |
| Technological | **Public Health Issues** | NR | **Congregate populations**. Webster Elementary School, Austin Home, populated areas, large employers, senior housing, stores and public assembly venues listed in Critical and Community Facilities - all of these locations increase the risk of exposure to and transfer of illness. The forests, conservation areas, agriculture, wooded areas, ponds can host ticks (Lyme) and mosquitos (West Nile, EEE, Equine Infectious Anemia, etc). | Webster is a Member of the Bow POD. Children and people 55+ are most vulnerable to public health epidemics. Lyme Disease cases are expected to rise, as are arboviral and other tickborne diseases in Webster's rural, agricultural, wooded area. More used hypodermic needles are expected to be found along the roadways, a common trend of the last few years. Because of the Town's rural nature, illicit drug use becomes easy to go undetected. | N/A |
| Human | **Fire (Vehicle, Structure, Arson** | NR | **Entire Town.** Areas most susceptible include: above ground fuel tanks on farms, including Drown, Rose Logging, and Mock; underground storage tanks, Eversource high tension power lines running over auto salvage yards; Mutton Road, Little Hill Road, Deer Meadow Road areas miles away from fire ponds; vacant buildings, foreclosed homes or seasonal buildings; or buildings in densely populated areas. Vehicle fires could occur anywhere, parking lots, | Webster is a wooded, rural, agricultural community. The entire Town is vulnerable to all types of fire. Areas most susceptible may include: above ground fuel tanks on farms, including Drown, Rose Logging, and Mock; underground storage tanks, Eversource high tension power lines running over auto salvage yards; Mutton Road, Little Hill Road, Deer Meadow Road areas miles away from fire ponds; vacant buildings, foreclosed homes or seasonal buildings; or buildings in densely populated areas. Vehicle fires could occur anywhere, parking lots, driveways, roadways. Above ground LP | N/A |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| | | | driveways, roadways. Above ground LP storage tanks can also pose a potential hazard. | storage tanks can also pose a potential hazard, including during flooding if they are not anchored. | |
| Human | **Terrorism** | NR | **Unlikely, but possible anywhere in Entire Town.** Most susceptible sites could include: Town Office, School, churches, Library, Blackwater Dam, Pillsbury Lake Water Precinct, Public Safety Buildings, Eversource high tension power lines, Post Office, all other governmental facilities or state facilities, political offices or rallies, churches, the two telecommunications towers (US Cellular at Dustin Road tower and AT&T at Pearson Hill tower), businesses with large quantities of hazardous materials like Roberts Greenhouse & Cloverdale Feeds, grocery or convenience stores, restaurants. | It is unlikely that the Town will be the target of any act of terrorism, but because there are many forms of terrorism and terrorists, the possibility always exists. Possible targets could be the Town Office, School, churches, Library, Blackwater Dam, Pillsbury Lake Water Precinct, Public Safety Buildings, Eversource high tension power lines, Elementary School, Church, etc. There could be a massive impact felt in the community even on a small-scale event. | N/A |
| Human | **Sabotage/ Vandalism** | NR | **Town or Governmental Facilities.** Sabotage would be most likely to occur at electric utilities, Town Offices (computer systems & website), Town buildings, Blackwater Dams, Pillsbury Lake Water District, other water supplies, cemeteries, vacant buildings, beaver dams, under bridges. | Sabotage occurring at the Pillsbury Lake water supply would damage the lakeside community. Vandalism can occur at the Elementary School or at the Town's solar array on the School property. Human activity at these facilities would be the most damaging to the community. | N/A |
| Human | **Hostage Situation** | NR | **Unlikely, isolated events.** Locations where hostages could be taken include: Town Offices and other public buildings, School, Post Office, workplaces, grocery and convenience stores, restaurants, high density population areas, public events, and domestic home situations. | Hostage situations are not normal events and therefore are nearly impossible to predict. Domestic violence events generally occur in resident homes, perhaps one per year. Conventional hostage situations would most likely target such locations as the Town Offices or Elementary School, Public Safety Building, Pillsbury Lake Clubhouse, Austin Home or Blackwater Dam. | N/A |

| Hazard Risk Assessment Hazards | | Overall Risk | Hazard Locations in Town – Existing (Susceptible) From Hazard Risk Assessment | Potential Future Hazards – Locations and Impacts | Magnitude/ Extent Measure-ment Scale |
|---|---|---|---|---|---|
| Human | **Civil Disturbance/ Public Unrest** | NR | **Unlikely, limited events.** Locations where civil disturbance could occur: Town Offices, Pillsbury Lake Community Center, Elementary School, stores, restaurants, establishments serving alcohol, high density population areas. Occasions include: Town Meetings, voting day, local board meetings, during visits from political candidates, large events such as Old Home Day, Veteran's Parade, School sports events, Blackwater Canoeing event. | Large-scale incidents of civil disturbance and public unrest are unlikely in Webster. Potential public unrest may take place at the Town Offices or in the public school system. School sporting events can create irate parents who need to be calmed down or removed from the site. Security has been provided at public meetings, weddings, and funerals in Webster. | N/A |

*Source: Webster Hazard Mitigation Committee*

Although there are many potential hazards in Webster's future, the community is knowledgeable about where some of the worst occurrences might result with this descriptive **Potential Future Hazards** inventory. A comprehensive, specific community facility inventory that indicates each site's ***Primary Hazard Vulnerabilities*** is found next in **5 COMMUNITY VULNERABILITY ASSESSMENT**.

## Webster's Built Environment Changes Since the 2012 Plan

The locations of where people and buildings are concentrated now or where new lands may be developed should be compared to the changing locations of potential natural hazards in order to best mitigate potential property damage, personal injury or loss of life.

### The Town's Statement of Vulnerability Change

**The overall vulnerability of the Town to natural disasters is not believed to have increased with the few development changes (population and housing increases) experienced by the Town over the last 5 years, and for some natural hazards such as flooding or storms, overall vulnerability has decreased.** This is because the Town has become proactive with bridge and culvert mitigation projects and has made headway with the new ***2016 Webster Emergency Operations Plan*** and its preparedness activities. Few natural disasters have occurred that risked life, property or infrastructure since the **2012 Plan**. When natural disaster events did occur, the Town Departments handled the impacts and sought federal Public Assistance funding to help offset some of the costs when necessary.

Facilities and their locations with vulnerabilities to specific natural hazards are listed in **APPENDIX A Critical and Community Facilities Vulnerability Assessment**.

### AREAS OF HIGHEST DENSITIES

Webster is a highly rural and forested community with an overall Town population density of only **66** people per square mile. Webster has clusters of density around its Pillsbury Lake and Lake Winnepocket water bodies and in the Historic Center of Town. These areas include the Pillsbury Lake Village District (water) and Clubhouse and the Town and School facilities on Battle Street, the Town Office, Webster Elementary School, Public Safety Center, municipal solar array and residential homes. The Blackwater River which bisects the Town in a north-south direction below the Blackwater Dam winds along Battle Street / NH 127 under several bridges and dams.

Pillsbury Lake, in the southeast corner of Webster, remains the area with the largest concentration of people (180 homes) in Town. There are many subdivisions off of Deer Meadow Road. Concord Drive and New Hampshire Drive, both east of Pillsbury Lake, provide access for many area residents to Deer Meadow Road and beyond. New Hampshire Drive has experienced rapid snow-melt flooding. The southern section of Pillsbury Lake has experienced flooding at the Pillsbury Lake Dam and may again experience such flooding in the future. To the northwest of Pillsbury Lake, where Clothespin Bridge Road intersects with Pleasant Street, is another population cluster in an area that has experienced flooding and erosion. Several of these roads have experienced **flooding events**, **erosion and scouring**, and **severe wind**

**and winter events** that include trees and powerlines down on roads. **Floodwater runoff** from **rapid snow pack melt**, **debris impacted infrastructure** (culverts) or **severe storms** has occurred in several locations. **Lightning** may pose a threat to the Pillsbury Lake Village District infrastructure and the potential for the inability to **evacuate** without a secondary egress exists.

Another area of high density is the Route 127/Battle Street intersection with Long Street. This area is the Historic Center of Webster and is home to the Old Meeting House, Parish House, the First Congregational Church and other sites of cultural and historic importance. **Fire** from any source (**lightning**, **wildfire**, or **human-generated**) is a concern for these old buildings. The Historic Center is not located in a particularly high-risk area, although the possibility of **flooding** is present to the east, south and west. Long Street near Beaver Dam Brook is located in a flood area and residents of Beaver Dam Road could be affected in the case of an **evacuation**. Along this stretch, icy roads and hazardous driving conditions are often present during **severe winter weather** events. **Severe wind events** can impact every road in the community.

Additional high residential density can be found in the area surrounding Lake Winnepocket, particularly along Lake Road and Westwind Village. The Lake Winnepocket area has experienced **flooding** and Whiteplains Road residents have also been affected by this hazard. Whiteplains Road is identified as a secondary evacuation route but the bridge is a potentially hazardous area prone to **erosion** and **flooding**. The main hazards of concern for subdivisions in Town include **wildfire**, **power failure**, and **severe winter weather** and **wind events**, particularly in the forested, rural sections of Webster, some with the limited **evacuation** options out of the area.

### Changes Since 2012 Plan

The Town has grown little in six years since the **2012 Plan** in terms of both population (**+5** people) and housing (**+11** units). Any new development is scattered throughout the Town. The Town of Webster installed a municipal solar array at the Webster Elementary School on Battle Street/ NH 127 to provide for its long term electric needs in a more efficient manner.

## VULNERABLE POPULATIONS

Several of the high density neighborhoods mentioned above are vulnerable populations located in areas of potential hazards. It has already been mentioned that the Pillsbury Lake area has experienced **flooding** and a **dam breach**, and the Lake will likely experience flooding again. The Blackwater River is in the **Special Flood Hazard Area** and some sections could potentially cause widespread damage in the future. Flooding has occurred at Walker Pond and the residents of this area have only one evacuation route to Pleasant Street. The intersections of Clothespin Bridge Road (**erosion**) with Pleasant Street and Roby Road with Battle Street are in locales vulnerable to **flooding**, and should these bridges fail, evacuation will be much more difficult because roads do not lead directly to Concord. Located in Pillsbury Lake community are the Pillsbury Lake Club House and the Pillsbury Lake Playground. These two areas of entertainment and recreation draw a large number of people to an already vulnerable area. The surrounding neighborhood has experienced **flooding** and **rapid snow melt**.

Also vulnerable is the Webster Elementary School. Childcare providers, including various day care facilities, may need extra assistance during an emergency because there are many children at these sites in proportion to adults. **Severe winter weather** and any of the **severe wind events** may cause damage to the buildings and municipal solar array and create dangerous traveling conditions for buses and parents trying to pick up their children. **Human** and **public health** hazards are possibilities wherever schools and daycare facilities are located.

The Austin Home, an elderly assisted living facility, is located in the northwest section of Lake Winnepocket, and is accessed by Whiteplains Road. It is believed they have a generator. Retirement or assisted living communities require extra care taken during an emergency because the residents may require extra assistance during winter weather or severe wind events. **Power failures** may render the ability to operate oxygen machines or medical equipment. Cozy Pond Camping Resort guests are considered vulnerable populations because of the large concentration of individuals situated in a densely wooded area, with the structural stability of shelter and evacuation access in the event of **downbursts**, **lighting** or **wildfire**, other **severe wind events**, and **snowstorms**, in question. While the area is not believed subject to **flooding** or **wildfire** hazards, extra attention may be required during any other natural disaster event.

Two roads have been identified as **secondary evacuation routes** that are located in or pass through areas of higher vulnerability to **flooding**: Whiteplains Road and Deer Meadow Road. Driving toward Boscawen over Corn Hill Road provides the same scenario. Webster residents have limited evacuation options depending on where they originate and what their destination is.

Webster has experienced **wildfire** east of the Historic Center along Long Street and along Winnepocket Road. **Wildfire** has also occurred near Riverdale Cemetery in Tyler Road. Young's Day Care is located to the south of this area, just north of the Gerrish Road intersection. **Wildfire**, along with **lightning**, can occur virtually anywhere in the community especially following years of **drought** conditions. Agricultural operations contain flammable materials and hayfields and may be particularly susceptible to fire hazards.

## Changes Since 2012 Plan

There were no vulnerable populations changes in Town since the 2012 Plan. Improvements were made to the Pillsbury Lake Village District (water) community and to the Town of Webster (municipal solar array) that might make both communities feel fewer impacts of natural hazards.

## FUTURE DEVELOPMENT IN WEBSTER

Areas which are most likely to experience future growth and development include Battle Street and the two Lake communities. **Severe winter weather** and **wind events** will be hallmark to any new facilities or developments in Webster.

In order to grow, housing development must occur in Webster. Subdivision of legacy parcels, those family-owned large parcels throughout the Town, may occur at any time when these lots are inherited by the next generation. These legacy parcels, if developed under existing zoning regulations, could quickly outweigh the ability of Town services to appropriately respond to resident needs. The developments could be vulnerable to **wildfire**, **severe winter weather**, and **lightning**.

The Town will continue to grow and develop, and attention should be focused on the hazards any new development could face during the consideration process. At this time, techniques to mitigate identified hazards could be undertaken before the facilities are sited and constructed.

When developments come before the Planning Board, potential hazards including **flooding**, **fire**, **traffic accidents**, and **evacuation** are regularly considered. Developers try to solve the problem, before a project is approved. The existing roads and bridges experiencing **erosion** and **flooding** will need to be upgraded for additional usage.

## Changes Since 2012 Plan

Virtually no future residential development changes have occurred with only about **11** more homes being built since this time. There may be more home-based businesses and more agricultural operations, which are now inventoried in **APPENDIX A**. New construction growth has ground to a halt, much of which is a factor of the current real estate conditions.

The main natural hazards for this rural, forested community remain **wildfire**, **severe wind events**, **severe winter weather**, **debris impacted infrastructure** (trees down on powerlines and trees/powerlines down on roads), and **power outages**. The Town will need to ensure Town services are not eclipsed by the needs of new development. One positive new installation is the municipal solar array that generates more electricity than the Town buildings can use.

Any future development in Town could be vulnerable to the various natural hazards identified previously. The Town is heavily forested, rural, and agricultural. New (or replacement) buildings and infrastructure and potential future development appear in **APPENDIX A Critical and Community Facility Vulnerability Assessment**.

# 5 COMMUNITY VULNERABILITY ASSESSMENT AND LOSS ESTIMATION

The Hazard Mitigation Committee developed and/or updated as needed each of the assets tables within this Chapter. Sites were added or removed, and contact information was revised. Modifications were made to the ***Primary Hazard Vulnerability*** column to reflect changes over the last five years. Revisions were made to the future development section, which now includes a clear table. The Plan's maps were also updated from the **Webster Hazard Mitigation Plan 2012**.

The identification of Critical and Community Facilities within Webster is integral to determining what facilities may be at risk from a natural disaster. Every Critical and Community Facility can be damaged by multiple hazards listed in **4 HAZARD RISK ASSESSMENT**. A tabular inventory of facilities in Webster is provided in **APPENDIX A Critical and Community Facilities Vulnerability Assessment**. The ***911 Street Address*** and ***Phone*** number of each facility is supplied, the assessed ***Structure Replacement Value $***, and the ***Primary Hazard Vulnerabilities*** to which the facility is most susceptible are listed. The hazards identified are primarily natural disasters but regularly include the technological (and secondary disasters) such as power failure and communications systems failure as well as human hazards such as vandalism/ sabotage.

Most sites appear on ***Map 3: Critical and Community Facilities*** and ***Map 4: Potential Hazards and Losses.***

Potential dollar losses for each of the facilities' ***Structure Replacement Value $*** (not land) have been obtained through the February 2018 assessments to provide a starting point of the financial loss possible should these structures become damaged or require replacement. These community facility losses are estimated for the value of structure and does not include land (unless indicated), contents, or infrastructure.

**Problem Statements** were then generated for each type of facility when issues were identified by the Hazard Mitigation Committee during discussion of the facility characteristics and ***Primary Hazard Vulnerabilities.*** These **Problem Statements** are listed here.

Potential dollar losses to buildings in the Webster from flooding and other natural hazards are provided using the methods described in the chapter. The Town's participation in the National Flood Insurance Program (NFIP) offers a way for individuals to obtain insurance coverage for flooding. The Town's history with NFIP claims and repetitive losses are examined.

The Chapter provides an inventory of the **Community Facilities** and **Critical Facilities** and the most prevalent hazards to which they are vulnerable. Potential structure damage loss is also provided. The detailed information is available in **APPENDIX A Critical and Community Facilities Vulnerability Assessment**:

| Facility Name | Street Address (911) | Phone | Structure Replacement Value* $ | Primary Hazard Vulnerabilities |
|---|---|---|---|---|

## Critical Facilities

**Critical Facilities** are categorized as those Town or State buildings or services that are first-responders in a disaster or that are required to keep the community running during a disaster. The Town Offices, Fire Department, Police Department, Highway Department (which Webster does not technically have), and Transfer Station services (also which Webster does not have in Town) are the minimum services necessary for providing and coordinating every day and emergency services. Other **Critical Facilities** would include educational facilities, clinics and emergency shelters. Utilities or utility features such as cisterns, culverts, dry hydrants, pump stations, water and sewer lines, and electric transmission lines are included because of the essential communication and power /water services provided.

Many such facilities are located in Webster. The assessed structure/building only value is provided for each facility where available, otherwise estimates are provided to help ascertain the financial impact a disaster can have on the community. To view the detailed **Critical Facilities** sites and tables, see **APPENDIX A**. Most of these facilities appear on ***Map 3: Community and Critical Facilities***.

**Essential Facilities** include: Town Hall/ Webster Free Public Library/ Grange Complex (**~10** staff), Public Safety Building - Police (**~2** staff) & Fire (**~22** + aux ~**8** staff), Blackwater Dam Office (federal building; not staffed in Webster). Assessed structure (only) replacement values for these essential facilities total **$1.9m**.

**Utilities** include: Pillsbury Lake Pump House and 2 Wells (Franklin Pierce Dr), Pillsbury Lake Pump House (NH Drive), Pillsbury Lake Pump House & 2 Wells (NH Drive), Eastern Properties Cell Tower (Pearson Hill), US Cellular Cell Tower (Dustin Rd), Eversource Power Lines, Unitil Power Lines, TDS Poles, TDS Phone Switching Stations (4), and Municipal Solar Array. Assessed values for these utility structures in Town total **$5.7m**.

**Dams** include: **1** High Hazard (**H**) dams- Blackwater Dam (Blackwater River). **3** Low Hazard (**L**) dams- Pillsbury Lake Dam (Deer Meadow Brook), Winnepocket Lake Dam (Tributary of Schoodac Brook), and Knight Meadow Pond Dam (Knight Meadow Brook). **5** Non-Menace Dams- Farm Pond dam (Unnamed brook), McCarthy Farm Pond Dam (Unnamed brook), Recreation Pond Dam (Unnamed brook), Janeway Dam (Unnamed brook), Diversion Pond Dam (Unnamed brook). Estimated structure (only) repair values for these dams total **$4.5m**.

**Bridges** include: White Plains Road over Meadow Brook (Town), NH 127 over Blackwater River (State redlisted), Tyler Road over Blackwater River (State), Clothespin Bridge Road over Blackwater River (Town redlisted, grant application), Tyler Road over Blackwater River (State), Deer Meadow Road over Deer Meadow Brook (Town), and two shared bridges with Boscawen, Corn Hill Road over Pond Brook (Town & Boscawen) and Long Street over Beaver Dam Brook (Town & Boscawen). Estimated structure (only) rehabilitation values for these bridges total **$12.4m**.

**Shelters, Schools, and Medical Facilities** include: Webster K-5 Elementary School (**~100** children & **~27** staff). Assessed structure (only) replacement values for these schools, medical facilities and shelters total **$1.7m**.

## PROBLEM STATEMENTS AND EVALUATION

During discussion of these **Critical Facilities**, the Hazard Mitigation Committee identified specific issues or problems that could be further evaluated. **Problem Statements** were developed after ascertaining the ***Primary Hazard Vulnerabilities*** to the sites and known existing issues. These potential hazards were typically those from the **Hazard Risk Assessment**. The Committee also evaluated these statements to determine whether mitigation actions could be developed.

- Town Office and Public Safety Building do not have lightning rods and surge protectors at the main electrical box source to offset lightning strikes. Lightning is a concern as the computer systems are vulnerable as well as the buildings.
- Town buildings and Public Safety Building are downstream of the Blackwater Dam and would be immediately engulfed in the event of its failure or breach.
- All Town facilities, emergency response, and the Elementary School in the Town Center are clustered on Route 127 and do not have an alternate egress if there is a road closure between Clothespin Bridge and Whiteplains Road.
- Some of the trees that regularly fall on powerlines are located on scenic roads in Town. Power companies and landowners cannot cut back the trees on scenic roads until they fall due to protective regulation. Landowners have to wait until trees fall onto roads and powerlines because utilities trim only once per year in these areas.
- An earthquake could damage wells, resulting in residents without potable water.
- Generator failure during a power outage would result in residents without potable water.
- The federal Blackwater Dam mismanages the releases of Blackwater River floodwaters which affects the integrity of the banks downstream, causing erosion and trees falling, and acres of private property floods. No announcements are given when floodgates will open, resulting in a danger to river users and property owners. The natural environment suffers because of the intensity of release.
- Copies of dam management plans are needed so the Town is aware of the conditions of dams in Webster. Some conditions are unseen and may need attention.
- The Town does not have a medical facility which is a significant problem. The ambulance must transport to Concord (18-20 miles away).

- For the Elementary School to be used as an emergency shelter, a generator application is slated to be submitted for the 2021 grant round in a cooperative venture between the MVSD and Town.

Many of these problem statements were developed into Actions discussed later in **7 PRIOR ACTION STATUS** and **8 MITIGATION ACTION PLAN**.

## CULVERT UPGRADES

A table of culverts in need of upgrade does not appear with the **Community Facility Vulnerability Assessment** but is included here within this section. Culverts (including box culverts, often considered "almost bridges") are responsible for carrying large volumes of water safely under roadways, and with the prior severe flooding events it is necessary to keep Town infrastructure in good condition. **Table 25** displays a listing of culverts in need of upgrade over the next five years and approximately when the upgrades should occur. The estimated cost for replacement of all these culverts is **$820,000** for materials, engineering, design and permitting; contracted labor for the smaller projects is performed by Town staff and usually considered an in-kind cost.

**Table 25**

**Town-Owned Culverts in Need of Upgrade**

| Location of Culvert(s) to Upgrade | # of Culverts | Intersecting Watercourse | Issue(s) with the Culvert(s) | Upgrade Diameter *Inches* | Estimated Upgrade Year | Total Approx $ Cost for All |
|---|---|---|---|---|---|---|
| **Pond Hill Road** | 1 | Stream that leads to Lake Winnepocket | Culvert misshapen; sediment pollution exists | 67" high squashed elliptical | 2018 | **$25,000** |
| **White Plains Road** | 1 | Knights Brook | Undersized and extremely deteriorated; threatens overtopping | 16' wide by 5'high precast concrete | 2019 | **$295,000** |
| **Mutton Road** | 1 | Bog | Deteriorating Culvert prone to flooding and debris; gravel road flooding | Has not been engineered yet | 2019 | **$25,000** |
| **Dingit's Corner** | 1 | Blackwater River | Drainage system undersized; water washes out onto Clothespin Bridge and Pleasant St | Has not been engineered yet | 2019 | **$25,000** |
| **Deer Meadow Road** | 1 | Localized flooding from small stream | No culvert; box culvert should be installed near 167 Deer Meadow Rd | Has not been engineered yet | 2020 | **$450,000** |
| **Totals** | **5** | | | | | **$820,000** |

*Source: Town Administration, April 2018*

This listing of the necessary upgrades to culverts in the community can help begin formulation of a culvert upgrade and maintenance plan. Knowing the location and condition of all culverts to help guide their replacement, maintenance, and monitoring regularly can help alleviate some of the run-off and overtop flooding conditions in Webster, particularly those related to washouts.

Some of the culverts listed in **Table 25** have been developed into **Mitigation Action Plan** items in **8 MITIGATION ACTION PLAN**.

## Community Facilities

The **Community Facilities** inventoried in **APPENDIX A** generally vulnerable to disasters and in need of careful consideration. Some facilities are vulnerable populations, places where people gather, the economic assets of the community, contain the history of the town, or could release hazardous materials during hazard or disaster events. While **Critical Facilities** are strong with emergency preparedness and mitigation measures, **Community Facilities** are typically not as well attuned to these issues and would require more emergency services during a hazard event disaster.

**Vulnerable Populations** include: Young's Day Care (**~4** children + **~1** staff), Chris's Sunshine Day Care (**~4** children + **~1** staff), Pratt Day Care (**~5** children + **~1** staff), Austin Home (**~13** beds + **~6** staff). Assessed structure (only) replacement values for these vulnerable populations total **$1.0m**.

**Economic Assets** include those businesses and services that employ a large number of people or contribute to the local economy: Adam E Mock & Son Logging (**~6** staff), Basketmaker's Shop (**~3** staff), Bear Hill Blacksmith (**~1** staff), Cedar Mill Group LLC (**~4** staff), Chuck Rose Logging (**~6** staff), Cloverdale Feeds (**~1** staff), Coffin Cellars (**~2** staff), Don Brannigan Contractor (**~1** staff), Derby & Sons LLC (**~4** staff), Granite Roots Construction (**~5-10** staff), Mellen Company (**~6** staff), New England Right of Way (**~2** staff), NH Bowl & Bread (**~2-8** staff), Robert's Greenhouse (**~3-15** staff), RT Lake General Contractor (**~4** staff), Santa Cruz Gun Locks, LLC (**~5** staff), All Steel Umbrella (**~2** staff), Stevens Well and Pump (**~2** staff), White Mountain Imaging (**~15** staff). Economic assets also include agricultural operations: Bender Goat Farm (**~1** staff), Broker Tree Farm (**~2** staff), Drown Dairy Farm (**~6** staff), Fallon Honey Farm (**~2** staff), George Tree Farm (**~1** staff), Herrick Beef Farm (**~2** staff), Kimball Sugar House (**~2** staff), LaRochelle Beef and Sheep Farm (**~2** staff), Milkcan Corner Farm (blueberries) (**~3** staff), Mock Beef Farm (**~2** staff), Pendleton Beef Farm (**~2** staff), Piper/Miller Sugar House (**~2** staff), Riverfare Beef, Equine & Pork Farm (**~2** staff), Sussman Sheep Farm (**~1** staff), Tyrn Sugar House (**~2** staff). Assessed structure (only) replacement values for these economic assets total **$9.4m**.

**Cemeteries and Churches** include: First Congregational Church and Food Pantry (**~200** capacity), Beaverdam Cemetery, Corser Hill Cemetery, Private Cemetery, Riverdale Cemetery. As cemeteries do not contain structures, broad estimates of headstone or mausoleum replacement value were provided instead. Assessed structure replacement values for these cemeteries and churches total **$250k**.

**Hazardous Materials Facilities** include: Rich Gagne's Auto (**~3** staff), Rose's Garage (**~3** staff), Town of Webster Salt/ Sand Shed. See also Economic Assets. Assessed structure (only) replacement values for these hazardous material facilities total **$641k**.

**Historic Sites and Buildings** include: Webster Meeting House, Hymar Fire Station, Veteran's Memorial. Assessed structure (only) replacement values for these historic sites total **$631k**.

**Recreational and Gathering Sites** of both land and buildings include: Army Corp Flood Control Recreation Area, Blackwater Reservoir, Cogswell Woods Area, Cozy Pond Camping Resort (**~116** sites), Gaskill Forest (Riverdale Natural Area), Mock Forest, Pearson Park (swimming hole) (**~10** capacity), Pillsbury Lake Clubhouse (**~75** capacity), Pillsbury Lake Playground (**~50** capacity), Webster Free Public Library (**~4** staff + **~25** capacity), White Plains Road Park, William Pearson Memorial Baseball and Soccer Fields (**~200** capacity), Town Forest (Society for the Protection of NH Forests). Some of these sites can be economic assets to the Town even if the land is untaxable. Assessed structure value for the structures within the recreational facilities total **$3.0m**.

**Future Development** includes mostly residential development potential as most of the land in Webster is rural. Approved Planning Board developments: Copart Development, Commercial/Junkyard (**~17** acres). Legacy parcels (large family lots with development potential): Little Hill Road Lot (**~246** acres), Little Hill Road Lot (**~100** acres), Knights Meadow Rd Lot (**~109** acres), Battle St Lot (**~103** acres), White Plains Rd Lot (**~116** acres), White Plains Rd Lot (**~308** acres), Pleasant St Lot (**~152** acres), Little Hill Road Lot (**~129** acres), Tyler Rd Lot (**~194** acres), Dustin Rd Lot (**~158** acres), Deer Meadow Rd Lot (**~127** acres), Pond Hill Rd Lot (**~134** acres), Winnepocket Rd Lot (**~100** acres), Clothespin Bridge Rd Lot (**~160** acres), Call Rd Lot (**~140** acres), Battle St Lot (**~115** acres), Tyler Rd Lot (**~239** acres), Gerrish Rd Lot (**~125** acres), Gerrish Rd Lot (**~126** acres), Battle St Lot (**~183** acres), Dustin Rd Lot (**~114** acres), Call Rd Lot (**~117** acres), Tyler Rd Lot (**~100** acres). Other parcels are currently for sale, as of Feb 2018, include: Call Road Lot (**~19** acres), Mutton Road Lot (**~50** acres), NH Drive Lot (**~1** acre), Mutton Road Lot (**~15** acres), Mutton Road Lot (**~22** acres), Manchester Dr (**~16** acres), Clothespin Bridge Rd Lot (**~85** acres), Call Rd Lot (**~2** acres), Dustin Rd Lot (**~4** acres), Battle St Lot (**~1** acre), Little Hill Road Lot (**~15** acres), Rumford Dr Lot (**~0.5** acres). There are too many large family legacy parcels to identify without an inventory. Assessed vacant land not yet built for these locations totals **$7.7m**.

## PROBLEM STATEMENTS AND EVALUATION

During discussion of these Community Facilities, the Hazard Mitigation Committee identified specific issues or problems that could be further evaluated. **Problem Statements** were developed after ascertaining the ***Primary Hazard Vulnerabilities*** to the sites and known existing issues. These potential hazards were typically those from the **Hazard Risk Assessment**. The Committee also evaluated these statements to determine whether mitigation actions could be developed.

- Wide-scale flooding could hamper evacuation efforts for vulnerable populations.
- Excessive heat events could require evacuation assistance from Town emergency services.
- Mass evacuation of livestock would need to occur if a wildfire or extreme drought occurred. If livestock died, this would become a public health risk to the community.

Evacuation of large animals is to the Hopkinton Fairgrounds and Blackwater Veterinary for small animals.

- Many Town businesses have hazardous materials and explosion risks that may cause wildfire because of their remoteness and/or may require evacuation. A similar problem are the unsecured propane or gas tanks, agricultural fertilizer, and objects along the floodplain of the Blackwater River. When the Dam water is released, it carries unsecured objects downstream. Ice jams form in backyard of shoreland landowner houses. This debris can be large, hazardous and/or explosive if swept away during a flood or during release of Blackwater Dam water.
- Public health of the Pillsbury Lake water supply could be a concern if the local well and septic businesses were unable to function.
- Wind, storms, or lightning could cause structural damage to the Church steeple and storm damage to the food pantry (in the detached parish house) would be detrimental to residents who rely on this food supply.
- Riverdale Cemetery has the potential to be flooded and most of the plots have been taken; headstones are near the Blackwater River.
- The Town's salt and sand shed floods regularly and could be polluting the Blackwater River. The building and site are too close to the river and need to be moved in the future. Some upgrades were made to the road this year, but it will not be enough.
- If something happens to the Hopkinton-Webster Transfer Station, the Town does not have the infrastructure or services to pick up resident trash and recycling.
- The Webster Meeting House is historic, wooden, and very dry with a priceless collection of artifacts that would be damaged or destroyed by fire. A carriage house behind the Meeting House also contains Town artifacts.
- An excessive number of used hypodermic needles are being found throughout the community in public spaces, a danger to public health.
- Some of these large backwoods lots may have been contaminated with hazardous waste as dumping grounds, only discoverable upon a survey.
- Major wildfires could occur on large lots prior to clearing for development, caused by people speculating or camping illegally.
- Any significant future development from large lot subdivision and building would require additional infrastructure and town services not available now, plus the aquifers would be stressed by new wells.

Many of these problem statements were developed into Actions discussed later in **7 PRIOR ACTION STATUS** and **8 MITIGATION ACTION PLAN**.

## Potential Losses from Natural Disasters

Natural disasters, including floods, wind events, severe winter storms and ice storms, secondary disasters as a result of the natural disasters (such as power loss) and to a lesser degree, human and technological hazards as documented in **4 HAZARD RISK ASSESSMENT** have occurred in Webster This section estimates Town-wide structure/building damage in Town from natural hazard events. It is difficult to ascertain the amount of damage caused by a hazard because the damage will depend on the hazard's location and magnitude, making each hazard event somewhat unique. Human and technological hazards are typically even more incalculable. Human loss of life was not included in the potential loss estimates for natural hazards, but could be expected to occur, depending on the severity of the hazard.

While this Plan focuses on being pro-active in those geographic areas of Webster most prone to recurring hazards (like flooding), some initial estimates of measurable property damage and building damage have been discussed by utilizing simple techniques such as the numbers of structures and assessed valuation. This two-dimensional approach of calculating dollar losses from tangible structures offers a basic yet insightful tool to begin further loss estimation analyses.

### TOOLS FOR COMMUNITIES WITH GIS

For gauging more three-dimensional estimation of damages, FEMA has developed a software program entitled HAZUS-MH (for multi-hazard), which is a powerful risk assessment software program for analyzing potential losses from floods, hurricane winds and earthquakes. In HAZUS-MH, current scientific and engineering knowledge is coupled with the latest Geographic Information Systems (GIS) technology to produce estimates of hazard related damage before, or after, a disaster occurs. Developed for ARCGIS which produced the ***Maps*** for this Plan, HAZUS-MH takes into account various effects of a hazard event such as:

- Physical damage: damage to residential and commercial buildings, schools, critical facilities, and infrastructure;
- Economic loss: lost jobs, business interruptions, repair and reconstruction costs; and
- Social impacts: impacts to people, including requirements for shelters and medical aid.

Federal, State and local government agencies and the private sector can order HAZUS-MH free-of-charge from the FEMA Distribution Center. Webster should first ascertain whether a municipal geographic information system (GIS) of hardware and software is appropriate, and if so, consider training staff to perform models. With many Town existing and under-development infrastructure GIS data layers available, HAZUS-MH could prove very helpful for estimating losses for the community on a disaster-specific basis. However, much staff time is necessary to train staff and maintain a GIS system. Official map generation is typically subcontracted out to other agencies now, including ***the mapping and appraisal company Avitar Associates of New England used by the Town*** and the Central NH Regional Planning Commission who developed the Maps for this **Hazard Mitigation Plan**.

## METHODS OF POTENTIAL DOLLAR LOSSES BY NATURAL HAZARDS

A more manageable technique was used for loss estimation for the purposes of this **Hazard Mitigation Plan Update**. Natural hazard losses are calculated based on dollar damage ranges over the entire community, or in the case of flooding, buildings in the Special Flood Hazard Areas (SFHAs) are counted and their value is collected. The number of total parcels in the community as of **January 2018** is **1,549**. Using **January 2018** MS-1 assessment data, **the total assessed value of all residential and non-residential structures ONLY in Webster (\$127,599,000) is the basis for loss estimation calculations.**

### Potential Building Dollar Losses by SFHA Flooding

Parcels within the floodplain were identified using Webster's 2018 digital online tax maps concurrently with the 2010 FEMA Digital Flood Insurance Rate Maps (DFIRMs). Next, parcels containing buildings were identified using the Town tax assessor's January 2018 database for the Town. Building type was characterized into one of four categories, single-family homes, multi-family homes, manufactured homes, and non-residential buildings. Building number and value were excerpted from the assessing database. ***Land value, building content value and infrastructure were not considered in these calculations.*** **Table 26** summarizes this data.

**Table 26**

**Building Value in the Special Flood Hazard Areas (SFHAs)**

| Building Type | Number of Buildings | Total Value of Buildings | Average Replacement Value |
|---|---|---|---|
| **Single Family Homes** | 24 | $3,225,700 | $134,404 |
| **Multi-family Homes** | 0 | $0 | $0 |
| **Manufactured Homes** | 0 | $0 | $0 |
| **Non-Residential Buildings** | 0 | $0 | $0 |
| **Totals** | **24** | **$3,225,700** | ----- |

*Sources: Town of Webster mapping and appraisal systems, 03-17; 2010 DFIRMs*

In **Table 26**, **24** single family residential homes, **0** multi-family homes, **0** manufactured homes, and **0** non-residential buildings were considered to be situated the Special Flood Hazard Areas (SFHAs). The average replacement value is **\$134k** for a single-family home (**\$3.2m** for all single family homes in the SFHA). The total value of all buildings in the Special Flood Hazard Areas is about **\$3.2m** for the **24** structures. The data changed from the **2012 Plan** in that **1** manufactured home was removed and **1** single family home was built within the SFHA during the **5**-year period.

There are alternative ways to calculate potential SFHA losses. In the following tables, the average building replacement value was calculated by adding the assessed values of all structures in the special flood hazard areas and dividing by the number of structures. The Federal Emergency Management Agency (FEMA) has developed a process to calculate potential loss for structures during flooding. The potential

loss was calculated by multiplying the average replacement value by the percent of damage expected from the hazard event, and then by multiplying that figure by the number of structures.
The costs for repairing or replacing infrastructure such as bridges, railroads, power lines, roads, drainage systems, telephone lines, or natural gas pipelines, and land value and the contents of structures have not been included in these estimates in the following figures.

**Table 27** represents the **worst case scenario of *all*** single-family homes, multi-family homes, manufactured homes, and non-residential buildings within the Special Flood Hazard Area that are damaged by a flood hazard event.

**Table 27**

**Dollar Damage Ranges for Total Buildings in Special Flood Hazard Areas (SFHA)**

| Building Type | Total Value of Buildings in SFHA | Total Value of Potential Damages in SFHAs by Respective Building Type | | |
|---|---|---|---|---|
| | | Eight-Foot Flood 49% Damage | Four-Foot Flood 28% Damage | Two-Foot Flood 20% Damage |
| **Single Family Homes** | $3,225,700 | $1,580,593 | $903,196 | $645,140 |
| **Multi-Family Homes** | $0 | $0 | $0 | $0 |
| **Manufactured Homes** | $0 | $0 | $0 | $0 |
| **Non-Residential Buildings** | $0 | $0 | $0 | $0 |

*Sources: See Table 26; FEMA*

If all **24** single family homes were damaged by a ***Two-Foot Flood (20% Damage)***, the dollar damage to the buildings *only* could be **$645k** while an ***Eight-Foot Flood (49% Damage)*** could yield **$1.6m** in damage. There are **0** multi-family homes, **0** manufactured homes and **0** non-residential buildings in the SFHA. Dollar damage estimations vary according to the standard percentages of damage levels associated with flooding levels set by FEMA. Content, land and infrastructure values are not included.

**Table 28** also represents the worst case scenario, but of *individual* single-family homes, multi-family homes, manufactured houses, and non-residential buildings within the Special Flood Hazard Area that are damaged by a flood hazard event.

**Table 28**

**Dollar Damage Ranges for Individual Buildings in Special Flood Hazard Areas (SFHA)**

| Building Type | Average Value of Individual Buildings in SFHA | Individual Value of Potential Damages in SFHAs by Respective Building Type | | |
|---|---|---|---|---|
| | | Eight-Foot Flood 49% Damage | Four-Foot Flood 28% Damage | Two-Foot Flood 20% Damage |
| **Single Family Homes** | $134,404 | $65,858 | $37,633 | $26,881 |
| **Multi-Family Homes** | $0 | $0 | $0 | $0 |
| **Manufactured Homes** | $0 | $0 | $0 | $0 |
| **Non-Residential Buildings** | $0 | $0 | $0 | $0 |

*Sources: See Table 26; FEMA*

If **1** single family home was damaged by a ***Two-Foot Flood (20% Damage)***, the projected dollar damage to the building *only* could be about **$27k** while an ***Eight-Foot Flood (49% Damage)*** could yield **$66k** in damages. Content, land and infrastructure values are not included.

### Potential Building Dollar Losses by Other Natural Hazards

Flooding is often associated with heavy rains and flash floods, hurricanes, ice jams, rapid snow melting in the spring, and culvert washouts. These are all types of flooding hazards discussed or evaluated previously but can also occur outside of the SFHA.

Building damage by natural disasters in New Hampshire is not limited to SFHA flooding alone, which is easier to quantify and predict. Simple calculations can be made based upon generalizations of a disaster impacting a certain percentage of the number of buildings in the Town. **The assessed value of all residential, commercial, and industrial structures in Webster is $127,599,000 (no land).** Disaster damages are often illustrated in the following section utilizing a percentage range of town-wide building damage. At **859** housing units in Webster estimated from the **2016** NH Office of Strategic Initiative (NH OSI) population estimates, any type of disaster impact to **10%** of Webster housing units would yield **86** damaged homes.

The inventory of Town sites or buildings in **APPENDIX A Critical and Community Facilities Vulnerability Assessment** indicates which hazards each site is most susceptible to and provides its assessed valuation. This dollar value can be used as a damage estimate from the natural hazard events listed below. Yet the potential losses discussed in this section involve all buildings across the community to provide a more distinct portrait of potential losses using the assessed valuation of all town buildings. Damages from natural hazards to anything other than buildings, such as infrastructure, land, humans or building contents, are not examined here. Specific individual studies would be needed to assess more detailed scenarios.

#### Wind Events

Damage caused by wind events such as **tropical storms & hurricanes**, **downbursts**, **tornadoes** and **severe wind storms** can be both excessive and expensive. Webster is primarily a wooded, rural community with forested residential neighborhoods along Town roads. The assessed value of all residential, commercial, and industrial structures in Webster is **$127,599,000** (no land).

With a scenario range of **1%** to **5%** of buildings damaged by wind events throughout the Town, a wind event could potentially cause up to **$1.3m (for more localized downburst, high winds, or tornadoes)** to **$6.4m (for more damaging and widespread tropical storms and hurricanes)** in building-only damage costs alone, not including contents, infrastructure, or land.

**Severe Winter Weather**

Heavy **snow loads**, **icy conditions**, **extreme cold**, **wind chill**, and the secondary hazards (including **power failure**, **transportation accidents** and **debris impacted infrastructure**) are result of **winter storms**. Storms with these conditions have been felt in Webster in the past. These hazards and secondary impacts are a risk to the community, including isolation, more falls, (especially by the older residents), and the potential for roof collapse. The most remote locations in Webster include Little Hill Road, Tyler Road Area, Deer Meadow Road area, Pillsbury Lake area, Pond Hill Road, and Clough Sanborn Hill Road. Damage caused by this type of hazard varies according to wind velocity, snow accumulation, and duration.

With a scenario range of **1%** to **5%** of buildings damaged throughout the Town, **severe winter storms** could potentially cause up to **$1.3m** to **$6.4m** in building-only damage costs.

**Rapid Snow Pack Melt**

**Flooding** caused by **rapid snow pack melt** is often found along roadways and from watercourses such as the brooks and wetlands in Town. Those locations which are particularly susceptible would be in the floodplain, along Deer Meadow Road, Clothespin Bridge Road, White Plains Road, Detour Road, Pond Hill Road, Dingit's Corner, Corn Hill Road, Lake Road/ Hollins Drive, and along hilly gravel roads with limited drainage. Anywhere the water cannot yet percolate into the frozen ground could be vulnerable.

With a scenario of **0.5%** of buildings flooded throughout the Town, **rapid snow pack melt flooding** could potentially cause **$640k** in building-only damage costs alone, not including contents, infrastructure, or land.

**River Ice Jams and Debris Impacted Infrastructure**

**Ice jams** on the Blackwater River, Warner River or the local large brooks would be the major causes of **ice jam flooding** which could recur in the future, particularly along Tyler Road, near Clothespin Bridge Road, and along Battle Street/ NH 127. Woody material causing **debris impacted infrastructure** would be more likely to occur to bridges than ice jams. Six (**6**) bridges are located in Town and an additional **2** are jointly owned with the Town of Boscawen (Corn Hill Road over Pond Brook and Long Street of Beaver Dam Brook). Multiple additional small brooks culverts and drainage systems abound. The ***2018-2026 NH Department of Transportation Ten Year Plan (TYP)*** provides many examples of basic cost estimates bridge replacement and rehabilitation. Within or near the Central NH Region rehabilitation of small local bridges can average **$450,000** while replacement of small local bridges can average over **$600,000**.

This average figure of **$600,000** can be used for one (**1**) local bridge *replacement* in Webster due to the physical damage caused by **river ice jams** or **debris impacted infrastructure**. The same bridge damaged by **ice** or **debris** which only requires *rehabilitation* could cost **$450,000**.

Or, if half of the **24** (**12**) single family homes in the floodplain were damaged by **Two-Foot Flooding *(20% Damage)*** resulting from **river ice jams** or **debris impacted infrastructure**, there could be up to **$325k** in building damage costs.

**Earthquake or Landslide**

**Earthquakes** can cause buildings and bridges to collapse, disrupt water supplies, electricity and phone lines and are often associated with **landslides** and **flash floods**. Buildings that are not built to a high seismic design level could be susceptible to structural damage. The old Town Buildings (Town Office, Library and Church), the Public Safety Center, Blackwater Dam and Reservoir, Pillsbury Lake Dam, and Pillsbury Lake Water Precinct water delivery pipes could be more vulnerable to earthquakes as buildings are older, wooden frame-built, and may be located close together and not built to modern codes. Buildings which are located on or near the sides of river and stream banks or that are located on a hill over **15%** could be subject to **landslide** triggered by rains or **erosion**. The Central NH Region area with Webster, Boscawen, Hopkinton (Contoocook), Henniker, Hillsborough and Warner (Davisville) are frequent epicenters for deep earthquakes.

With a scenario of **0.5%** of buildings damaged throughout the Town, an **earthquake** or **landslide** could potentially cause up to **$640k** in building-only damage costs alone, not including contents, infrastructure, or land.

**Wildfire**

The risk of **wildfire** is difficult to predict based on location. Forest fires are more likely to occur during years of **drought**. In addition, areas and structures that are surrounded by dry vegetation that has not been suitably cleared are at high risk. Humans can contribute by accidents in the woods or dry fields, or by the deliberate setting of **fire** in a structure. The heavily forested woodlands of Town are often remote locations and difficult to access by emergency vehicles. The forested dead-end remote residential neighborhoods, especially Pillsbury Lake, would be difficult to evacuate. Fire danger is generally universal and could occur at any time. The Fire Department displays a Fire Danger sign visible from Battle Street. Dollar damage would depend on the extent of the fire, the number and type of buildings burned, and the amount of contents destroyed within the buildings.

With a scenario of **1.0%** of buildings damaged in the Town, a **wildfire** could potentially cause up to **$1.3m** in building-only damage costs alone, not including contents, infrastructure, or land.

**Lightning**

Damage caused by **lightning** would not be Town-wide because it typically strikes in smaller areas. Few places in Webster are at specific risk but lightning strikes can cause fires. Damages will vary according to the value of the structure and home and the contents inside, and dollar amounts would depend on if the hazard hit an area with a high density of buildings. The Town Office and Public Safety are looking into having lightning rods placed on their respective buildings.

With a scenario of **0.5%** of buildings damaged throughout the Town, a **lightning strike** could potentially cause up to **$640k** in building-only damage costs alone, not including contents, infrastructure, land, or through fire spreading.

**Drought**

**Drought** is often declared on state-wide or region-wide basis, and sometimes by individual town. Dollar damage caused by drought would be difficult to quantify, but would most likely impact the agricultural and economic base of a community. Although everyone could be charged to conserve water, orchards, farms, and nurseries would be most affected.

As physical damage is usually isolated to specific locations, the effects of potential disasters at certain facilities could be researched utilizing the Town's assessor's database for valuation on targeted land. Agricultural land may be among the most affected by drought. Dozens of farm operations have been inventoried in Webster. People who rely on well water, which is nearly all of the community, have found their dug wells running dry in **2015-2016**. About **878** acres in Town (**5%** of its land) are categorized as agricultural use along with forest land acreage (**8,696** or **48%** of its land) and forest land with stewardship acreage (**1,824** or **10%** of its land) that could be vulnerable to **droughts** and physically and economically damaged by these long-term hazard events.

**Severe Winds, Rainstorms and Thunder Storms**

This general **storm** hazard crosses into other hazards previously mentioned, including the **wind events**, **flooding** and **lightning**. When summer **rainstorms** or **thunderstorms** occur, they are often regional in nature, but could just as commonly be localized in some areas, easily identifiable when one section of a roadway is dry and another section of the same road is wet. Sometimes **hail** accompanies these storms. **Thunderstorms** and **rainstorms** are more likely to damage trees, powerlines or crops than buildings. These storms typically cover most of, if not the entire, Town, as **winds** and **rainstorms** are large enough and blow through to impact multiple New Hampshire counties.

When buildings are damaged, any of the separate hazard events (**wind**, **flood**, **hail** or **lightning**) could have debilitated the structures. With a scenario of **0.5%** of buildings damaged throughout the Town, a **rainstorm** or **thunderstorm** could potentially cause up to **$640k** in building-only damage costs alone, not including contents, infrastructure, land or through **fire** spreading from **lightning**.

**Extreme Heat**

Similar to **drought** cataloged above, **extreme heat** can harm landscaping and agriculture. People will draw more water from their wells to help alleviate these conditions. Extreme heat can sicken people, causing sunstroke, heat exhaustion and dehydration if the environment is not cool enough or water intake is too low. In this manner, extreme heat is not measurable for dollar damage. An inventory of ***Vulnerable Populations*** was undertake which can be used by emergency responders to ensure susceptible people remain healthy.

**Critical Facilities Buildings**

These dozens of essential facilities, utilities, dams, bridges, and shelters and medical facilities inventoried in **APPENDIX A Critical and Community Facilities Vulnerability Assessment** provide the **Structure Only Value $** from the ***appraisal systems***. Multiple hazards are identified which may damage each inventoried building. Therefore, if the Town wanted to ascertain the damage cost from any natural hazard to an individual critical facility, this dollar value is available for evaluation. In addition to the **APPENDIX**, critical facilities in Webster are displayed on ***Map 3 Critical and Community Facilities***.

**Community Facilities Buildings**

Dozens of community facilities such as vulnerable populations, recreation and gathering sites, historic sites, economic assets, hazardous materials facilities, and more are inventoried in **APPENDIX A Critical and Community Facilities Vulnerability Assessment** provide the **Structure Only Value $** from the ***appraisal systems***. Multiple hazards are identified which may damage each inventoried building. Therefore, if the Town wanted to ascertain the damage cost from any natural hazard to an individual critical facility, this dollar value is available for evaluation. In addition to the **APPENDIX**, community facilities in Webster are displayed on ***Map 3 Critical and Community Facilities***.

## National Flood Insurance Program (NFIP)

In 1968, Congress created the National Flood Insurance Program (NFIP) to help provide a means for property owners to financially protect themselves. The NFIP offers flood insurance to homeowners, renters, and business owners if their community participates in the NFIP. Participating communities such as Webster agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding. For more information on the National Flood Insurance Program, visit https://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp.

The initial identification of the Special Flood Hazard Areas (SFHAs) occurred in **January 17, 1975**. Webster has been a participant in the National Flood Insurance Program (NFIP) since **April 15, 1986**, when the first Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRM)s were provided by FEMA. An amended FIS was completed for Webster in **January 1992**, while the date of the amended FIRMs was **June 2, 1993**.

In the present day, Webster's effective FIRMs are digital (DFIRMs) dated **April 19, 2010** as is the Merrimack County Flood Insurance Study (FIS) which includes Webster (community **#330236**); individual community FIS are no longer being developed. According to the newest **2010** FIS, the Blackwater Dam Reservoir built in **1941** by the USACE has a capacity of **1.5b** gallons of water. These **2010** newest documents were adopted by the Select Board, supercede all previous NFIP documentation, and are placed into the Town Zoning Ordinance. **Table 29** summarizes the historical background of the Town's NFIP effective dates.

**Table 29**

**NFIP History of Webster – Effective Dates**

| Flood Insurance Study (FIS) | Flood Insurance Rate Maps |
|---|---|
| April 15, 1986 | April 15, 1986 |
| January 1992 | June 2, 1993 |
| April 19, 2010 | April 19, 2010 |

*Source: FEMA Merrimack County Flood Insurance Study (FIS) Table 7, 2010*

### WEBSTER'S NFIP STATISTICS

In **Table 30** is a cumulative history of the trends and overall totals of flood insurance policies and losses of those property owners utilizing the NFIP insurance in Town. Three snapshots in time, one from each of Webster's **Hazard Mitigation Plan** versions, display the number of NFIP policies in force and paid loss statistics between **February 2007 – January 2018**.

In **February 2007**, after the **2006 Mother's Day Flood** but before the **April 2007 flood**, the number of NFIP flood insurance policies in force in the Town totaled **12**. Five years later, by **January 2012**, **12** flood

insurance policies were active on properties across Webster. By **January 2018**, the number of policies decreased to **9** total policies. To date, since Webster joined the NFIP in **1986**, there have been **$0** in paid losses to policyholders for insurance claims. Although the Town of Webster experienced flooding conditions over the last few decades, there has been little damage in the Special Flood Hazard Areas, or anywhere else where a policy is held, to place a claim. The small decrease of **3** policies by **January 2018**, totaling **9** flood insurance policies throughout Town, could be influenced by the lack of flooding events and the recent changes in flood insurance regulation and cost.

**Table 30**

**History of NFIP Policy and Paid Loss Statistics**

| Report Date | Policies in Force | Insurance in Force | Number of Paid Losses Since 1986 | Total Losses Paid Since 1986 |
|---|---|---|---|---|
| **February 2007** | 12 | $1,697,700 | 0 | $0 |
| **January 2012** | 12 | $2,466,700 | 0 | $0 |
| **January 2018** | 9 | $2,712,500 | 0 | $0 |

*Source: Webster Hazard Mitigation Plan 2012, FEMA last accessed 03-30-18*

**Table 30** also illustrates that while the entire Town of Webster is eligible to purchase flood insurance, only **9** parcels out of the **1,549** total parcels in the community are insured against flooding. As described previously, a total of **24** homes and non-residential buildings are approximated to be situated in the Special Flood Hazard Areas (SFHA).

Most buildings are uninsured in the SFHA for when the next flooding event occurs in Webster. However, flooding conditions can occur anywhere in the community due to runoff, debris impacted infrastructure (culverts), drainage overflow, rapid snowpack melt, road washouts, etc which are not limited to the floodplain (SFHAs).

## REPETITIVE LOSS PROPERTIES

A specific target group of properties is identified and serviced separately from other NFIP policies when repetitive losses occur on the same properties. The group includes every NFIP-insured property that, since **1978** and regardless of any change(s) of ownership during that period, has experienced four or more paid flood losses of more than $5,000 each or two or more separate claim payments (building payments only) where the total of the exceeds the current value of the property. Two of the claim payments must have occurred within 10 years of each other. The loss history includes all flood claims paid on an insured property, regardless of any changes of ownership, since the building's construction or back to **1978**.

Webster joined the NFIP in **1986** and has (**0**) repetitive loss properties in the community, even after the significant flooding and infrastructure damage sustained over the active hazard event period of **2005-2012** (See **4 HAZARD RISK ASSESSMENT**). **Table 31** displays the repetitive loss data:

Table 31

**Number of Repetitive Loss Properties**

| Building Type | Number of Repetitive Loss Properties |
|---|---|
| Single Family | 0 |
| Multi-Family | 0 |
| Non-Residential | 0 |
| **Total Properties** | **0** |

*Source: NH Office of Strategic Initiatives (NH OSI) on behalf of FEMA, January 2018*

## FLOODPLAIN ORDINANCE

A major objective for floodplain management is to continue participation in the National Flood Insurance Program. Communities that agree to manage Special Flood Hazard Areas shown on NFIP maps participate in the NFIP by adopting minimum standards. The minimum requirements are the adoption of the Floodplain Ordinance and Subdivision Regulation / Site Plan Review requirements for land designated as Special Flood Hazard Areas (SFHAs). Flood insurance is available to any property owner located in a community participating in the NFIP.

### Community Assistance Visits in Webster

A Community Assistance Visit (CAV) is a process required by the National Flood Insurance Program (NFIP) as a way of reviewing a town's compliance with established floodplain regulations to be sure that they meet NFIP requirements. If the Town is not in compliance with regulations in any way, the officials that conduct the CAV provide assistance and guidance to assist with correcting any violations.

If the NH Office of Strategic Initiatives (NH OSI) identifies Webster as a repetitive loss community in the future, which is based upon **Table 31** data, a new CAV will be undertaken every five years or if there is a severe flooding event. This would classify Webster as a Tier 1 community. Otherwise, a telephone call may be made to the community every 5-10 years or otherwise as needed (classified as a Tier 2 community).

The Town of Webster contains **0** repetitive loss properties and is a Tier 2 community. Although the Blackwater River runs through the community along its main highway, Battle Street/ NH 127, with the US ACE Blackwater Dam future flooding in the floodplains may be minimal. For other SFHA locations, several steps have been taken to help plan for the flooding hazard in terms of life and property protection, and possibly provide necessary recovery assistance should such a flooding threat arise.

The most recent CAV was conducted on August 16, 2005. A letter was sent to Webster Selectmen on **August 23, 2005** reviewing the visit and discussing the results. Revisions were made to the building permit process, zoning ordinance, and subdivision regulations, including requiring an Elevation Certificate when issuing building permits within SFHAs, improving Substantial Improvement Requirements, and clarifying NFIP requirements regarding the cost of correcting code deficiencies. A discussion was held of the benefits

of the Community Rating System (CRS). This NFIP program discounts flood insurance premiums in exchange for exemplary community floodplain management activity. The Town was encouraged to consider the development of a Hazard Mitigation Plan to reduce the consequences of a further emergency or disaster and allow Webster to qualify for some new FEMA competitive mitigation grant programs.

This was the last CAV held in Webster. Several rounds of changes were made to the Zoning Ordinance and the Planning Board's Site Plan Review and Subdivision Regulations in following years in accordance with FEMA requirements. Because Webster is **Tier 2** community, a follow up phone call should be made NH OSI to review Building Department procedures and the contents of the Floodplain Ordinance, Subdivision Regulations and Site Plan Review Regulations prior to **2023**, when this **2012 Plan** expires.

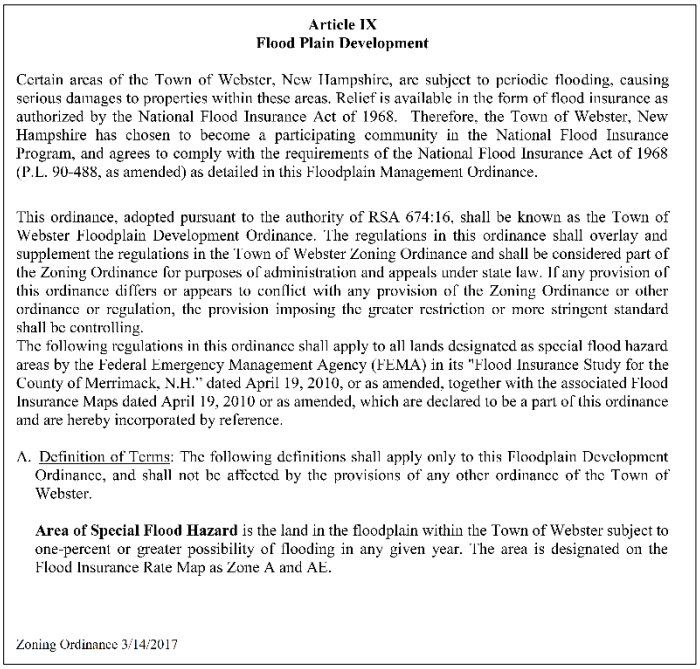
## Floodplain Ordinance Amendments

The Town of Webster has a Floodplain Development Ordinance that currently contains the required FEMA regulations to remain eligible for the NFIP. The first Floodplain Development Ordinance was adopted in **1993** along with the FIRMS and the Flood Boundary and Floodway Maps. Revisions were made in **March 2008** and lastly in **March 2010** to correct/ add language and insert the new, adopted effective **April 19, 2010** Digital Flood Insurance Rate Maps (DFIRMs).

The **2017** Webster Zoning Ordinance contains all the elements to date requested by FEMA and the NH Office of Strategic Initiative's Floodplain Management Program. An excerpt of the Floodplain Ordinance is displayed in **Figure 22**.

**Figure 22**

**Floodplain Development Zoning Ordinance**



**Article IX**
**Flood Plain Development**

Certain areas of the Town of Webster, New Hampshire, are subject to periodic flooding, causing serious damages to properties within these areas. Relief is available in the form of flood insurance as authorized by the National Flood Insurance Act of 1968. Therefore, the Town of Webster, New Hampshire has chosen to become a participating community in the National Flood Insurance Program, and agrees to comply with the requirements of the National Flood Insurance Act of 1968 (P.L. 90-488, as amended) as detailed in this Floodplain Management Ordinance.

This ordinance, adopted pursuant to the authority of RSA 674:16, shall be known as the Town of Webster Floodplain Development Ordinance. The regulations in this ordinance shall overlay and supplement the regulations in the Town of Webster Zoning Ordinance and shall be considered part of the Zoning Ordinance for purposes of administration and appeals under state law. If any provision of this ordinance differs or appears to conflict with any provision of the Zoning Ordinance or other ordinance or regulation, the provision imposing the greater restriction or more stringent standard shall be controlling.
The following regulations in this ordinance shall apply to all lands designated as special flood hazard areas by the Federal Emergency Management Agency (FEMA) in its "Flood Insurance Study for the County of Merrimack, N.H." dated April 19, 2010, or as amended, together with the associated Flood Insurance Maps dated April 19, 2010 or as amended, which are declared to be a part of this ordinance and are hereby incorporated by reference.

A. Definition of Terms: The following definitions shall apply only to this Floodplain Development Ordinance, and shall not be affected by the provisions of any other ordinance of the Town of Webster.

**Area of Special Flood Hazard** is the land in the floodplain within the Town of Webster subject to one-percent or greater possibility of flooding in any given year. The area is designated on the Flood Insurance Rate Map as Zone A and AE.

Zoning Ordinance 3/14/2017

*Source: Section of Webster Zoning Ordinance 2017*

## NFIP Familiarity in Webster

According to NFIP policies, when an applicant files a request for a building permit in the floodplain, the applicant must include an elevation certificate in order to be in compliance. In addition, if an applicant intends to fill onsite, a letter of map of revision must be submitted along with the application. According to NFIP requirements in the Floodplain Ordinance, building permits should be reviewed to assure sites are reasonably safe from flooding and require anchoring to prevent flotation, collapse, or lateral movement and construction out of flood resistant materials.

Ongoing attention and familiarity with the NFIP will keep Town staff and volunteers in top form. In order to reduce flood risks, the Building Inspector, Town Assessor, volunteer Planning Board members, and other Town staff whose duties include review/inspection of development or construction, should be familiar with the Floodplain Ordinance and the NFIP.

Because of their unique position to ensure development conforms with ordinances prior to approval, the Planning Board should be familiar with NFIP policies, especially those regulations that are required to be incorporated into the Subdivision and Site Plan Review regulations. A workshop sponsored by the NH Homeland Security and Emergency Management (NHHSEM) or the NH Office of Strategic Initiatives (NHOEP) would be appropriate to educate current staff and volunteers. New online courses by FEMA for floodplain management, mapping, elevation certificates and more are available at no charge. For online training taken at the convenience of the individual, see the ***FEMA Emergency Management Institute's*** current training course index for flooding: **https://www.training.fema.gov/is/searchis.aspx?search=Flood&all=true.**

An essential step in mitigating flood damage is Town and property owner participation in the NFIP. Webster should work to consistently enforce NFIP compliant policies to continue its participation in this program. Currently, Town staff are fielding many property owners asking for assistance because their mortgage lenders are requiring proof that the properties in question are not located in a Special Flood Hazard Area to determine whether NFIP flood insurance is required. The only way to rectify this growing problem is to have a survey done of the property to complete a Certificate of Elevation to keep on file at the Town Office. If the property is shown to be located out of the floodplain, a Letter of Map Amendment should be completed by the owner or by the Town to ensure future flood maps are corrected. This time of interaction with property owners is emotional and intense and may therefore not be the best time to advertise the availability of flood insurance. When possible, Town staff should try promote flood insurance to property owners in Town; only **9** properties out of the **1,549** parcels in Webster are protected by flood insurance and currently take advantage of the NFIP insurance opportunity.

# 6 CAPABILITY ASSESSMENT

Local mitigation capabilities are existing authorities, plans, ordinances, policies, mutual aid, programs, staffing, technical skills and assets, funding, outreach, public education, and resources that reduce hazard impacts or that could be used to help implement hazard mitigation activities. These capabilities were inventoried for the **Webster Hazard Mitigation Plan Update 2018**.

The **Capability Assessment** contains an inventory of locally-important existing mitigation support activities, or capabilities, which have a positive impact on the way hazard events are handled within the community. Most capabilities are not hazard mitigation Actions but support the Action Plan and help decrease the community's hazard risk. These community-strengthening capabilities are not STAPLEE-rated (Social Technical Administrative Political Legal Environmental and Economics questions) like the Actions**,** but instead the capabilities serve to sustain and assist the community to maintain and accomplish its hazard mitigation Actions and priorities. Selected ***Future Improvements*** (mitigation-oriented) to some of these capabilities have the potential to be considered as Actions in **7 PRIOR ACTION STATUS** and **8 MITIGATION ACTION PLAN**.

| Capability Assessment Types |
|---|
| Planning & Regulatory |
| Administrative and Technical |
| Financial Resources |
| Education and Outreach |

There are four overall Capabilities considered for which an inventory of mitigation support items was identified by the Hazard Mitigation Committee, **Planning & Regulatory**, **Administrative and Technical**, **Financial Resources**, and **Education and Outreach**.

Each Capability had inventoried the latest version or adoption Date; a Description of the item; the location of the capability in Town; the Level of Effectiveness of the Capability; which Department, Board or other has Responsibility for the capability; what Changes were made to the capability since the **2012 Hazard Mitigation Plan**; and Future Improvements to the Capability.

## Town Capabilities

A summary of the items within the four Capability tables is provided here to offer a portrait of resources Webster has at hand to assist with mitigation. Careful consideration of each Capability's ***Level of Effectiveness*** helped the Departments to determine any clear ***Future Improvements*** to undertake. Many of the Town's Capabilities involved existing plans, procedures, reports, policies, regulations, and resource documents from individual Departments. These plans and documents were reviewed and incorporated into the **Capability Assessment**. ***Future Improvements*** to these documents were identified and many later became Action items in **8 MITIGATION ACTION PLAN**. Capabilities of all Town Departments and the School District as related to hazard mitigation are detailed within the following tables.

| Level of Effectiveness | Description |
|---|---|
| High | Capability is working well and is regularly followed |
| Moderate | Capability could use some revisions but is followed |
| Low | Capability is not working and needs revisions |

**DEPARTMENT ABBREVIATION KEY:**

| | |
|---|---|
| **CC** | Conservation Commission |
| **EM** | Emergency Management |
| **FD** | Fire & Rescue Department |
| **HD** | Highway Department (Road Agent) |
| **LS** | Life Safety |
| **PD** | Police Department |
| **PB** | Planning Board |
| **PL** | Pillsbury Lake (Water Precinct) |
| **SB** | Select Board |
| **SD** | (Merrimack Valley) School District |
| **US** | US Army Corps of Engineers (Blackwater Dam) |
| | |

## PLANNING AND REGULATORY CAPABILITIES

The planning and regulatory capabilities displayed in Table 32 are the plans, policies, codes, and ordinances that reduce the risks or impacts of hazards. There are 3 categories: Plans, Codes, and Regulations. Most of the documents listed below are the Town's documents, but others are School, local, regional, state and federal which support the Town's the hazard mitigation goals, objectives, and/or Actions.

**Table 32**

**Planning and Regulatory Capabilities**

| Latest Adoption or Version Date | Capability Assessment: Planning and Regulatory Resources | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| **PLANS** | | | | | | | |
| Dec 2012 | **EM Hazard Mitigation Plan** | HMP was last updated and approved by FEMA in 2012. Will begin updating in Fall 2017 | Town | High | EMD | Held HMC meetings, attempted action completion | Updating as of Jan 2018 |
| 2016 | **EM Emergency Operations Plan** | Recently updated to 2015 ESF format. Prior EOP was 2006. | Town | High | EMD | All ESFs updated to new format; attachments updated with latest contact information. | Annual review, update and concurrence |
| May 2011 | **EM Evacuation Plan for Cozy Pond Camping Resort** | Developed a notification and evacuation plan for Cozy Pond Camping Resort. Completed May 2011. | Cozy Pond Camping Resort | High | EMD/ Fire | No changes since last plan. Not used. | Continually monitor and update. Plan to hold a drill |
| 2016 | **EM Dam Plans** | Town has dam plans in the EOP, and the Army Corps has them too. During the last major flood in 1987, they were followed and were extremely effective. Army Corps: "Continue to use FEP during any high water event" | Black-water Dam, other dams | High | EMD | Contact list updated in the EOP revision. | Army Corps stated: "Update FEP contact list regularly" |
| 2018 | **PB Master Plan** | Planning Board in process of updating 2005 Master Plan. | Entire Town | High | Planning Board | Used by Town Boards to develop regulations & ordinances and to approve applications | Planning Board update slated for completion end of Spring begin Summer 2018. |
| 2015 | **SD Emergency Management Plan for Elementary School** | The EMP contains information for fire drills, what students, parents, and teachers will do in the event of an emergency. All | Elementary School | High | School Principal | Webster Police Department has worked with school to identify updates to building to | Add changes from the drill exercises to make it safer for students. |

| Latest Adoption or Version Date | Capability Assessment: Planning and Regulatory Resources | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| | | schools in the Blackwater Valley School District are operating under the dame procedure. | | | | increase safety and preparedness in an emergency. | |
| 2017 | **US ACOE Flood Emergency Plan** | Updated yearly, it states how to run the dam during an emergency event, who to contact for various events, which structures to remove in the event of a breach, etc. Also has a flood inundation map. | Blackwater Dam | **High** | Army Corps | Army Corps: "Continued to use FEP during any high water event" | Army Corps: "Update contact list regularly" |
| **BLDG** | **CODES,** | **PERMITTING, INSPECTIONS** | | | | | |
| April 19, 2010 | **PB FEMA Flood Insurance Rate Maps** | Adopted by Town, used for Blackwater River, streams, brooks | Floodplains | **High** | Planning Board/Land Use Department Staff | FEMA has not provided new maps since then | Continue using maps in Town offices and noting any substantial deviations |
| 2013 | **LS Life Safety Code Inspections for electrical, plumbing, furnaces, wood stoves.** | On call Life Safety Code Enforcement Officer in Lieu of Building Inspector. Certificates of Occupancy/Completion are issued only to say the structure was constructed according to Zoning Ordinance. | Entire Town | **Low** | Life Safety Code Enforcement Officer | Town did not adopt building code. Life Safety is just that – life safety inspections for electrical, plumbing, etc. | CEO should do all enforcement activities. CEO should have written policies and procedures. CEP should be looking at structure in the floodplain. |
| 2009 | **LS State Life Safety Code 2009, Construction Inspected by the Town Building Inspector and Fire Dept** | New construction is continually evaluated during the process with the final inspection conducted by both the Fire and Building Officials prior to the issuance of a certificate of occupancy/completion. | Entire Town | **High** | Life Safety Code Enforcement Officer with Fire Dept assistance | Town only enforce when State adopts the new code | Would like to see the State adopt the current version |
| 2009 | **LS State Building Code (International Building Code 2009)** | Contains a suite of residential, commercial, plumbing, electrical, mechanical, energy, and existing buildings | Entire Town | **High** | Life Safety Code Enforcement Officer | Town still follows the code from 2009 | Would like to see the State adopt the current version |
| 2018 | **FD NFPA 101 Life Safety Codes Occupancy Inspections** | Contains 15 types of occupancies that may be inspected by Fire Departments<br>**- Places of Assembly**<br>- Mercantile<br>- Business | Places of Assembly, Day Cares, and Educational sites | **High** | Fire Dept | Continued inspections for these 3 types | All NFPA codes need to be updated; Fire Chief is looking into cost of in-line subscription. |

| Latest Adoption or Version Date | Capability Assessment: Planning and Regulatory Resources | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| | | - Health Care<br>- Ambulatory Health Care<br>- Residential Board and Care<br>**- Day Care**<br>**- Educational**<br>- Apartment Buildings<br>- Lodging or Rooming Housing<br>- Hotel or Dormitory<br>- 1 and 2 Family Dwellings<br>- Industrial<br>- Storage<br>- Detention and correctional | | | | | |
| 2018 | **FD NFPA 1 Fire Codes Permitting** | Section 1:12, and Table 1.12.7a specifically outline instances when permits are required | Select Structures | **High** | Fire Dept | Continued to issue permits | All NFPA codes need to be updated; Fire Chief is looking into cost of in-line subscription |
| LAND USE PLANNING ORDINANCES, REGS | | | | | | | |
| 2010 | **PB Floodplain Zoning Ordinance** | Latest CAV showed that Webster is currently in compliance with the Flood Insurance Program. Newest FEMA Maps adopted Apr 2010 | Floodplains | **High** | Planning Board & Code Enforcement Officer | Consulted ordinance during application and approval process | Update the Floodplain Ordinance when FEMA determines changes are needed. |
| 2014 | **PB Updated Driveway Regulations for Fire Regulation Compliance** | Original regs dated 2007. Developed updated driveway regulations for safety and emergency vehicular access purposes. | Driveways | **High** | Planning Board | Streamlined the regs in 2014 and included Fire Reg. Compliance | Continue to monitor and update |
| 2017 | **PB Manufactured Housing Ordinance in Zoning** | The Manufactured Housing regulations in Zoning disallows additional units to be placed on individual lots and disallows new manufactured housing subdivisions. State building codes need to be reviewed to ensure regulations are consistent. This project helps mitigate the effects of flood disaster events. | Floodplain areas | | Planning Board/ Code Enforce | Consulted ordinance during application and approval process | Continue to monitor and update. |
| 2018 | **PB Flood Hazard Regulations in** | The Subdivision Regulations contains provisions that state | Floodplain Hydric Soils | **Medium** | Planning Board/ | Consulted ordinance during | PB updating Sub division regs. |

| Latest Adoption or Version Date | Capability Assessment: Planning and Regulatory Resources | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| | **Subdivision Regulations** | land to be subdivided which is subject to periodic flooding or has poor drainage must be proven to be able to sustain development. | areas, Wetlands | | Code Enforce | application and approval process | Should be done in 2018. |
| 2017 | **PB Shoreland Ordinance** | Cites the Shoreland Water Quality Protection Act 483-B | Shorelands and Great Ponds | **High** | Planning Board | Consulted ordinance during application and approval process | Town is not more restrictive than RSA 483-B, |
| 2009 | **PB Road Design and Construction Standards (Subdivision /Site Plan Regulations)** | PB updated documents recently. Engineer contracted for application to follow the standards | Entire Town | **High** | Planning Board | Consulted regulation during application and approval process | Subdivision Regs being updated. Should be done sometime in 2018. |
| 2009 | **PB Stormwater Construction and Maintenance Standards (Subdivision /Site Plan Regulations)** | PB updated documents recently. Engineer contracted for application to follow the standards | Entire Town | **High** | Planning Board | Consulted regulation during application and approval process | Subdivision Regs being updated. Should be done sometime in 2018. |
| 2009 | **SB Weight Limit Ordinance** | This policy was adopted to help control the damage to the road infrastructure | Roadways | **High** | Select Board (With help from Road Agent) | Reviewed periodically but limits have not changed. | Keep the ordinance up to date to comply with the needs of the Town. |
| 2014 | **SB Speed Limit Lowered** | Speed Limit was lowered on Bashan Hollow Rd in response to Copart trucking | Bashan Hollow Rd | **High** | Select Board (With input from residents) | Speed limit lowered as a result of junkyard business in operation. | Monitor safety on road, now that Copart is no longer operating. |
| 2015 | **SB No Through Trucking Ordinance** | Ordinance adopted for Bashan Hollow Rd and Gerrish Rd in response to Copart trucking | Gerrish Rd and Bashan Hollow Rd | **High** | Select Board (With input from PD) | Ordinance adopted as a result of junkyard business in operation. | Monitor safety on road, now that Copart is no longer operating. |
| 2016 | **SB Weight Limit Lowered** | Weight Limit lowered on state red listed Clothespin Bridge (municipal) | Clothespin Bridge | **High** | Select Board (With input from NHDOT) | Weight limit lowered on Clothespin Bridge; participating in State Bridge Aid Program | Seek replacement of Bridge in State Bridge Aid Program, 2021-2022. |
| | | | | | | | |

*Source: Webster Hazard Mitigation Committee*

## ADMINISTRATIVE AND TECHNICAL CAPABILITIES

The administrative and technical capabilities in **Table 33** include staff, volunteers, and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. Smaller jurisdictions without local staff resources often rely on public or shared resources. There are 3 categories: Admin Programs, Staffing, and Technical Capabilities.

**Table 33**

**Administrative and Technical Capabilities**

| Latest Adoption or Version Date | Capability Assessment: Administrative and Technical | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| ADMINISTRATIVE | | PROGRAMS AND POLICIES | | | | | |
| 2016 | **EM Better Communi-cation with USACE** | During Hurricane Irene, EMD was asked to close the flood gates by the State Police & EMD had no current contact list of ACE personnel. | Flood Control Area | High | EMD | USACE contact list was updated as part of the 2016 EOP update. | Update USACE contact list regularly |
| 2017 | **HD Verbal Mutual Aid Agreements with Contractors** | Webster has verbal mutual aid agreements with contractors. There are no agreements with neighboring towns or through the state wide mutual aid. | Roads | High | Road Agent | Communicated with contractors as needed. | Update contact information with surrounding Towns regularly. |
| 2017 | **HD Plow Route Procedures** | There are four designated plow routes. | Roads | High | Road Agent | Plow routes used during storms. | Constant road maintenance and construct improved turnarounds for ease of plowing. Clearing of rocks & cleaning of ditches for better drainage. |
| 2018 | **HD Highway Crew Training** | Contractor hires experienced drivers only. Drivers do a truck check before leaving the garage, and follow the laws of the State of NH. | Roads | High | Road Agent | Highway crew keeps up to date working with NHMA, Selectmen and rules and regulations of the State of NH. | Full –time Highway Department is being planned through a Capital Reserve. |
| 2017 | **HD Road Re-Construction and Maintenance** | Each year, funding is provided for the complete replacement of under pavement, culverts & pavement for approximately 1,500' or as appropriated. | Roads | High | Road Agent | Recently completed 1500' of Deer Meadow Rd, Little Hill Rd and Dustin Rd; 550' of Clothespin Bridge Rd | Deer Meadow Rd improvements, Pillsbury Lake drainage ditches, clothespin bridge, White Plains culverts, Gerrish Rd spring, Deer Meadow Rd |

| Latest Adoption or Version Date | Capability Assessment: Administrative and Technical | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| | | | | | | | culvert, Corn Hill Rd Bridge shared with Boscawen. |
| 2017/2018 | **HD Town Roads Policy** | Indicates which uses are permitted on which roads, road maintenance procedures | Roadways | **Moderate** | Highway Dept | The Capital Improvement Plan Committee has updated the CIP in 2017/2018, with specific road maintenance recommendation | Formalize and adopt the Town Roads Policy using the latest version of the RSMS or similar type of data capturing planning tool. |
| 2017 | **HD Procedure to Communicate with Utility Companies to Cutback Overgrown Limbs** | Removing overhanging limbs near power-lines will reduce that potential hazard in the Town. Communicate regularly with PSNH and other utility companies to make sure that branches are cut back from power lines to reduce the potential hazards from wind. | Roadways | **Moderate** | Highway Dept | Eversource and Unitil have developed municipal planning, information and communication tools. | The Town and utilities should coordinate with the Road Agent to insure he and his employees have access to these newly developed utility tools. |
| 2017 | **SB Workplace Violence Policy** | Adopted Workplace Violence Policy as required by PRIMEX, the Town's liability insurer. | Town Property | **High** | Select Board | Policy adopted in 2017; was not in force previously | Workshops for Town staff, public officials and Town volunteers on harassment in the Workplace and dealing with the public. |
| 2017 | **SB Communi-cation with Road Agent** | Town has an appointed road agent, not a full time employee, and has only contracted road crew members. The Road Agent is on call 24/7 and can be reached through cell phones, fire pager and radio. | Roads | **High** | Select Board/ Road Agent | Road Agent now has portable radios in the trucks and equipment and can communicate through Merrimack County Dispatch by telephone. Can talk to Concord Fire Alarm & Webster PD & FD via radio. Repeater installed as recommended in 2012 plan. | Continue to update communication equipment as it becomes available and affordable. |

| Latest Adoption or Version Date | Capability Assessment: Administrative and Technical | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| 2013 | **SB Highway Building Committee** | This committee was established in 2011 to advise the Select Board in the future needs of the Highway Department and future construction of a Highway Building | Entire Town | **Low** | Select Board | Committee has not been active since early 2013. | Purchase land for a Highway Building |
| 2017 | **SB Joint Loss Management Committee** | This Committee has a responsibility to all of the public buildings and properties in the Town. | Entire Town | **High** | Select Board (with help of Joint Loss Manage-ment Comm-ittee) | Continued improvements made to a public facility due to regular inspections | Promote workshops available through other agencies relative to the safety and well-being of the Community and its assets. |
| 2017 | **SB Refuse Disposal Committee** | This is a joint committee with the Town of Hopkinton. They ensure that the landfill is up to date and able to support the two towns. Improvements made at the landfill site ensure the ability to properly dispose of any materials. | Landfill | **High** | Select Board (with help of Refuse Disposal Comm-ittee) | Purchased new equipment as well as improved the site for disposal purposes | Continue the updating of the buildings, equipment and the site, and purchase new land as feasible |
| 2018 | **WP Regular Waterline Maintenance Programs** | User Fees are deposited into the general fund and allocated for different projects; the Precinct also has trust fund money to be used as well. | Water Precinct | **High** | Water Precinct | The precinct's state certified water operator continues to monitor the system daily. | Upgrade to water infrastructure on Deer Meadow Rd planned in 2018-2019. |
| 2015 | **SD Webster School Evacuation Procedures** | Short term, Reverse and Off-site evacuation procedures reduce potential casualties and improve the safety of students, staff and first responders. | Elementary School | **High** | School Principal | Webster Elementary School EMP was updated in 2015 and includes comprehensive evacuation procedures which have been practiced. | Continue to practice procedures with Webster emergency responder involvement. |
| 2017 | **PD Operation Policies** | Police Department Policies which govern the day to day operation of the department. Constantly updated. | Entire Town | **High** | Police Dept | Updated to include pursuit use of force, and investigation policies. | Continue to update as new decisions come from Supreme Court. |

| Latest Adoption or Version Date | Capability Assessment: Administrative and Technical | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| 2016 | **PD Mutual Aid Agreement** | Police Department Mutual Aid with Warner, Hopkinton, Webster, Salisbury, Merrimack County Sheriff, Concord. All are up to date. | Entire Town and Region | High | Police Dept | Updated all mutual aid agreements | Improve the MUA through training together for response in other towns. |
| 2018 | **PD Officer Annual Training** | Officers undergo annual police training, including Trained by emergency vehicle operations, tasers, batons, OC spray. | Entire Town | High | Police Dept | Trained in emergency vehicle operations, tasers, batons, OC spray, firearms and other. | Continue to update officer certifications. |
| 2017 | **PD In-Service Training** | Ongoing in-service training and education including: active shooter, incident command, firearms, handcuffing, pepper spray, baton, motor vehicle hazards, containment procedures. | Entire Town, and resources to other communities | High | Police Dept | Held in-service training for field officers, evidence room procedures, driver training and annual certifications. | Train with MUA towns and with Webster's Franklin Savings Bank on how each Department would respond. |
| 2018 | **FD Member of Capital Area Fire Mutual Aid Compact** | Request would be made by Fire Department for CAFMAC response to incident. CAFMAC staffed by Concord. Share in funding and the use of it. | Entire Town | High | Fire Dept | New dispatch consoles were purchased and new changes to software was made (not Webster, but dispatch) | Obtain vote of all towns for changes. Fire Chief continues to attend meetings. |
| 2018 | **FD Fully Equipped and Trained Fire Department** | Normal response to all fire incidents, with mutual aid available. New members joined medial team and have gone through training. More people joined the FD. Monthly in-house trainings. New truck purchased. Actively recruited members and continue with new advances in technology and training | Entire Town | High | Fire Dept | Continued training and equipping. | Equipment needs updating, 2018 and 2019 warrant articles for purchase of new radios; Anticipated purchase of new SCBA equipment in 2020 and tanker in 2019. |
| 2016 | **FD Downed Wires Response** | Normal response to wires down road hazard calls, depending on situation, is with engine or forestry vehicle. Some instances require FD | Entire Town | High | Fire Dept | If not an emergency situation, FD members do not stay on scene until public utility shows up. Instead will | Continue to work with power companies for quick notification and response. |

| Latest Adoption or Version Date | Capability Assessment: Administrative and Technical | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| | | to stay on scene. Communications between companies and towns have increased greatly since the previous winter storms. | | | | erect blockade / detours signage. | |
| 2016 | **FD Water/ Ice Water Rescue Emergencies** | Normal response with Fire Department members. Mutual aid from Concord, Hopkinton, Penacook, Boscawen, Warner Fire is automatic for water rescue assistance. More boat operators licenses are now held. | Entire Town | **High** | Fire Dept / Rescue Squad | Has own boat with a motor. Rely on MUA dive teams. Completed MUA training in 2012. | Hold a class with one of the other towns to ensure more people are trained on water rescue. |
| 2012 | **FD Brush Fires Response Procedures** | Fire Department has wildland firefighting equipment. Still relying on MUA response if needed, otherwise will respond themselves. FD members climb into the back bed of the Department's Ford pick-up truck to travel to the site. | Entire Town | **High** | Fire Dept | Continued MUA response. Undertook certified forest fire training and practiced every year with it. Received grant for 15 sets of wildland fire protective clothing. | Acquire an extended cab so FD members can be seat-belted in. |
| 2018 | **FD Standard Operating Guidelines** | An LGC class identified weaknesses in FD documentation. Better documentation suggestions include: actual driving time of vehicle, truck checks for all equipment on-board, mechanical checks for fuel, etc | Entire Town | **Moderate** | Fire Dept | Currently being revised as of January 2018 | Need Department-wide Standard Operating Guidelines with formal training. |
| 2017 | **PD Standard Operating Procedures (SOPs)** | SOPs include pursuit policies, taser, rifle, domestic violence, arrest procedures, homicide, bank procedures, sexual assaults, accidents, psychological problems, and multiple others. LCG will come up with base policy and procedures, has not yet come out. | Entire Town | **High** | Police Dept | Updated SOPs as needed and as training changes | Continue to review and update policies according to trends in police operational procedures. |
| 2017 | **PD Traffic Management Procedures** | Traffic management procedures are used to control traffic | Roadways | **High** | Police Dept | Trained in new procedures. | Keep up to date on training and |

| Latest Adoption or Version Date | Capability Assessment: Administrative and Technical | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| | | corridors when an accidents, hazardous materials spills, or natural disasters occur. Invested in emergency traffic management equipment related to procedures. Training has also occurred. | | | | | equipment purchases. |
| 2017 | **PD Procedure to Rely on NH State Police SWAT Unit** | Police Dept relies on Central NH State Police SWAT unit for high risk warrants, missing persons, barricaded subjects, hostage situations. | Town-wide | **High** | Police Dept | No longer a part of the Central NH SOU, changed to NH State Police SWAT | Continue relationship to benefit from services |
| 2017 | **PD Merrimack County DWI Task Force Member** | Merrimack County DWI Task Force members to provide 12-14 sobriety check points in 6 towns, and 22 saturation speed grants with three other towns. Still active with them, sat speed grants. | Entire Town | **High** | Police Dept | Do not participate due to staffing levels. | Utilize DWI State command bus RV. Everything done on scene at sobriety checkpoints with no need to transport off the scene. Increase the number of speed patrols. |
| 2018 | **FD Call "Response Cards"** | Call "Response Cards" indicate who responds to which emergencies or disasters within the Mutual Aid (MUA) Compact. Town was rezoned into 6 different fire protection zones for MUA towns coming in. | Entire Town | **High** | Fire Dept | Used on a regular basis. System is currently being revised. | As Webster grows, reevaluate the effectiveness of the 6 protection zones. |
| 2018 | **FD Sand-Bagging of Dams Procedure During Periods with Potential for Flooding** | This activity is jointly undertaken by the Fire Department, Highway Department, Police Department, and volunteers with materials provided by the NH HSEM. | Areas prone to flooding in Town | **High** | Fire Dept | Procedure is currently being revised. | Complete revision with the input of departments noted. |
| 2018 | **FD Standard Operating Guidelines (SOGs)** | This activity is under taken by the Fire Department and communicated to volunteer members as updated. | Entire Town | **High** | Fire Dept | Currently being revised. | Continue to review and revise |
| | | | | | | | |

| Latest Adoption or Version Date | Capability Assessment: Administrative and Technical | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| TECH | SKILLS, | ASSETS, AND RESOURCES | | | | | |
| 2016 | **EM Emergency Management Shelter** | The Public Safety Building is open for the public offering sanitary facilities, water, cooking; etc. but serves as EOC, so is not considered primary shelter. | Entire Town | High | Welfare Officer and EMD | The 2016 EOP identifies Webster Elementary School as the primary shelter and the Town Hall as the secondary. | Sign shelter MOU with School district; have CAPHN assess school for sheltering; replace old generator for Town Hall for secondary sheltering. |
| 2016 | **HD List Road Equipment Vendors and Subcontract-ors List** | The list of private contractors/ vendors and the equipment they own can be tapped as a resource during disasters and emergencies to fill in where labor and equipment is necessary but is in short supply. | Entire Town | High | Highway Dept | The Town's Emergency Operation Plan was updated in 2016 and includes an equipment vendor list. | Continue to update vendor list as part of the annual LEOP concurrence. |
| 2009 | **SB Panic Buttons in Town Office** | Each individual working in the Town Hall has an individual panic button, including in the Library. | Town Hall | High | Select Board | Buttons are available for staff to use, maintained units and changed batteries. | Ensure units are regularly tested and batteries are replaced. Explore new technology for purchase. |
| Mobiles, Portables, & Base Stations | **PD/FD/HD /EM Department Radios with Interoperability** | Current Radios allow for this for interoperability. Received grants, now digitally capable on same frequencies to communicate. Analog frequencies for Highway and Town Hall communications. | Entire Town | High | Police Dept/ Fire Dept/ Highway Dept | Installed new PD (~2016) repeater, working well. | 2018 Town Warrant Article to purchase 15 of 30 FD radios needed, planning 2019 Warrant Article for the remaining 15 radios; HD to research upgrade to radios and funding sources. |
| 2017 | **PD Provided Backup Power for Town Services** | Backup power for the Emergency Operations Center at the Public Safety Building secured. Town Office also has backup facility as the backup EOC. | Public Safety Building, Town Offices | High | Police Dept | Serviced regularly and up to date. | Continually monitor and update backup power as needed |
| 2017 | **PD Provided Mobile Data Terminal for Police Department** | Provided mobile data terminal (MDT) for the Webster Police Department (State Police & Merrimack County). | Entire Town | High | Police Dept | Bought 3 in 2016. New software installed. | Continually monitor and update technology as needed |
| 2017 | **PD Dispatch Service** | Dispatch is through Merrimack County. Town relies on cellular | Town | Moderate | Merrimack | New system install at the MCSO. Still | Obtain in-vehicle repeaters if radio reception declines |

| Latest Adoption or Version Date | Capability Assessment: Administrative and Technical | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| | | service which is poor in Webster and the system needs to be improved. Town replies on State Police & County bands. | | | County Sheriff | working out the bugs. | with the narrowing of the bands.<br><br>Obtain MDT mobile data availability. |
| 2017 | **PD Communi-cations** | Each Department has a frequency in vehicles and can talk to one another. Police Dept. is compatible with Highway and Fire, as the radios are digital. Town has a local channel, the same frequency. | Entire Town | **High** | Police Dept | Replace and update as needed. All car radios are with 3 years old. | Encourage all fire fighters to procure a CDL license to drive a fire truck. |
| 2016 | **FD Fully Equipped Rescue Squad** | Normal response to all rescue calls, with mutual aid available. Changing from a paramedic level of response to an intermediate level of response. | Entire Town | **High** | Fire Dept | Membership has increased and a renewed interest by volunteers has taken place. | Actively recruit members and continue with new advances in technology and training. Encourage high school training/equipment to be certified as EMT or state FF1. |
| 2016 | **FD EMS Mass Casualty Training** | Training occurs on a regular basis for continuing accreditation. FD must continue to keep its accreditation by training and volunteers take a 24-hour refresher course every 2 years. | Entire Town | **High** | Fire Dept | FD volunteers continued to keep the Dept's accreditation with appropriate training. | Continue to keep up with state and national training requirements. |
| 2016 | **FD Water Rescue Capabilities** | The Town has a boat to use for water rescue in response to the extreme flooding Webster experienced. More equipment was obtained to facilitate rescue during flooding conditions: trailer, ice rescue suits, ropes, personal flotation devices, and water rescue helmets | Blackwater River, Water bodies | **High** | Fire Dept | Mutual aid now includes Boscawen and Warner Fire for water rescue. | Continue to locate and take training related to water rescue. Ice Rescue suits to be updated. |
| 2016 | **FD Capital Area Public Health Network Member** | Point of Dispensing (POD) for Webster is at Hopkinton High School for distribution of vaccines or pharmaceuticals for communicable | Entire Town | **Low** | Fire Dept | Participated in training | Fire Chief appointed in 2016 to receive training and education in this area. |

| Latest Adoption or Version Date | Capability Assessment: Administrative and Technical | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| | | disease, human, biological problems, exposure to chemicals, etc. | | | | | |
| 2016 | **FD Explorer Post** | The Explorer Post gives experience of community and volunteering to 15-21 year olds. The Fire Department gets assistance and the teens may one day join the Fire Department, or establish a career, as a result of their positive experience | Entire Town | **Low** | Fire Dept | Webster partnered with Salisbury Post. | Encourage continued growth; more interest has been taken place recently. |
| 2017 | **PD & TO Generators** | Generators in Town Office and Police Department were purchased through a FEMA grant. This will keep emergency operations functioning during a disaster event. | Town Office and Police Dept | **High** | Emergency Mgt | Serviced and up to date. Held discussions during EOP rewrite in 2016 and during 2018 HMP process. | Seek grant funding to replacement of Town Office generator, as Town Hall building is a secondary shelter as identified in the LEOP. |
| 10 people | **FD EMS Training** | The Town has 2 paramedics, 1 advanced, 4 basics, 1 EMR, 2 training. | Entire Town | **High** | Fire Dept | Continued training more volunteer and advanced | Continue to participate in Paramedic training at Fire Academy. |
| 26 paid call | **FD Fire Academy Training** | Fire Department staff and volunteers have undergone required training at the Fire Academy. | Entire Town | **High** | Fire Dept | 2016 – New Fire Chief and Deputy Fire Chief appointed. | Continue to encourage new volunteers interested in Fire Academy training. |
| | | | | | | | |

*Source: Webster Hazard Mitigation Committee*

## FINANCIAL CAPABILITIES

The financial resources in Table 34 available for hazard mitigation projects are those the Town has access to, has used in the past, or may be eligible to use in the future for hazard mitigation projects. These often include FEMA Public Assistance Grants (Disaster Recovery Costs), Warrant Articles, Town Capital Improvements Program (CIP) 2018 Project Funding, Department Operating Budgets, Bonds and FEMA and NH Department of Transportation grants.

**Table 34**

**Financial Capabilities**

| Latest Adoption or Version Date | Capability Assessment: Financial | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| FINANCIAL | PROGRAM | OR FUNDING RESOURCE | FOR | HAZARD | MITIGATION | | |
| 2017 | **SB FEMA Public Assistance Grants (Disaster Recovery Costs)** | Application for culvert replacement at Knights Brook – Pre Disaster Mitigation Grant | White Plains Rd | High | Town Admin with Right Angle Engineering | Earlier applications were denied in 2016, this is the third attempt. | Continue to utilize the FEMA PA program to help with disaster costs |
| 2015 | **SB NH Department of Transportation (NH DOT) Bridge Program** | Accepted into the Bridge Aid Program for the replacement of Clothespin Bridge, a red listed bridge critical for emergency access. | Clothespin Bridge Rd | High | Select Board | Bridge has maintained E-2 rating but weight was lowered to 35,000 GVW in 2016 | RFQ for engineering services in 2018; funding anticipated in 2021-2022. |
| | | | | | | | |
| PROGRAM | TO BE | USED | BY TOWN | FOR | FUTURE | PROJECTS | |
| 2011 last used; not yet used for haz mit activities | **CC Conservation Easement Fund** | The Conservation Easement Fund protects water supplies through purchase of conservation easements. | Priority locations | High | Conservation Commission | Money continues to be deposited into fund when current use land is converted to developable land as available. | Consider using fund for water and flood protection |
| Not used yet for haz mit | **PB Town Capital Improvements Program (CIP) 2018 Project Funding** | Sets aside funds for large equipment/ projects. | Entire Town | High | CIP Committee | CIP document is being updated 2017/2018 | CIP could include expensive or long-term hazard mitigation projects |
| Not used yet for haz mit | **EM Emergency Management Operating Budget** | Budget could contain funding for outreach programs, mitigation projects | Entire Town | High | Emergency Mgt | Small amount of funding placed into account annually | Use Emergency Management Operating Budget to finance future hazard mitigation improvements |

| Latest Adoption or Version Date | Capability Assessment: Financial | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

*Source: Webster Hazard Mitigation Committee*

## EDUCATION AND OUTREACH CAPABILITIES

In Table 35, identifying Town Department education and outreach programs and methods already in place or those which could be implemented can supplement or encourage mitigation activities and communicate hazard-related information to residents, businesses and the general public.

**Table 35**

**Education and Outreach Capabilities**

| Latest Adoption or Version Date | Capability Assessment: Education and Outreach Programs | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| PUBLIC | OUTREACH | PROGRAM | | | | | |
| 2018 | **SD School District Automated Calling System** | Used only for emergencies. Automated phone, text, email service to parents for alert. Used for snow delays and snow days. A new version is being tested - text, then audio from Department. Through PowerSchool | School District area homes | High | MV School District | School has been sending automated phone messages to parents since at least 2012. | Update regularly when parents require notification |
| 2016 | **CC Conservation and Wetland Monitoring** | Conservation Commission monitors open space and conservation lands and wetlands through data collection. The data includes Class VI Roads. This project helps mitigate the effects of natural disaster events | Entire Town | High | Conservation Commission | The Select Board notifies the Conservation Commission of upcoming wetland permits related to Town projects. | Improve communication between the Select Board and the Conservation Commission during the permitting process related to Town projects. |
| Not yet enacted | **EM NH Alert** | People choose to receive notification calls from NH Alert, a statewide app. Town has advertised for people to join, used by Police, Highway, and Fire Departments | Entire Town, General Public | Low | EMD and Town Admin | Has not been implemented. | Publicize better to ensure more people are connected. Consider a Twitter feed |
| Not yet enacted | **EM Civic Talks for Emergency Response & Preparedness** | Engage with the community during emergencies, churches can help. | Entire Town, General Public | Low | Emergency Management | Has not been implemented. | Publicize better to ensure more people are connected. Continue to develop social media options. |
| 2018 | **PD Drug Take Back Box & Drug Day** | People can drop off narcotics or whatever people have with immunity and also unused prescription | Police Station | Moderate | Police Dept | Continued program | Improve education and awareness of drop off locations and availability |

| Latest Adoption or Version Date | Capability Assessment: Education and Outreach Programs | Description Related to hazard mitigation planning and coordination | Location of Capability Entire Town or Selected Areas | Level of Effectiveness | Responsibility | Changes Since Last Haz Mit Plan (2012) | Future Improvements to Plans |
|---|---|---|---|---|---|---|---|
| | | medication. Getting people to turn their medicine in is difficult. | | | | | |
| 2018 | **PD School Resource Officer/ Education for Students** | Educational tool not only for drugs but safety protocol for children | Webster Elementary, Merrimack Valley Middle and High Schools | **High** | Police Dept | Participated in SRO program when staffing allowed | Continue to support school SRO programs |
| 2012 | **FD Public Education Program** | Held informal programs for seniors on emergency preparedness, and maintain daily call lists | Entire Town, | **High** | Fire Dept | Held a few informal programs | Continue to promote events through use of new Town website. |
| 2015 | **FD Annual Open House and Fire Prevention Week** | Open House each fall, introduce fire safety to the community and Fire Prevention Week in School. | Entire Town, General Public | **High** | Fire Dept | Fall open house held on Halloween "Truck or Treat" | Continue to promote events through use of new Town website. |
| | | | | | | | |

*Source: Webster Hazard Mitigation Committee*

## Review of Existing Plans

As described above, during the Hazard Mitigation process and the identification of existing mitigation **Capabilities**, the Hazard Mitigation Committee used their knowledge of the existing plans, policies, procedures and other documents utilized for their Department duties to develop Capability ***Future Improvements***. However, several additional documents not listed in the **Capability Assessment** are also utilized by the community and have a positive relationship to the **Hazard Mitigation Plan 2018**. Most of the documents below are not the Town's documents, but the hazard mitigation goals, objectives, and/or Actions in this Plan are supported by the **Mitigation Support and Resource Documents** listed below in **Table 36**.

**Table 36**

**Mitigation Support and Resource Documents**

| Latest Adoption or Version Date | Mitigation Support and Resource Documents Not Listed within Capability Assessment Tables |
|---|---|
| Feb 2007 | **NH DHHS NH Influenza Pandemic Public Health Preparedness & Response Plan 2007** |
| 2009 | **NFPA 1 Fire Code 2009** |
| 2010 | **NWS Thunderstorms, Tornadoes, Lightning. Preparedness Guide** |
| Apr 2010 | **FEMA Flood Insurance Study for Merrimack County 2010** |
| Apr 2010 | **NH Hospital Mutual Aid Network MOU** |
| 2011 | **NH DES Management of Collected Debris Following Severe Storm Events Fact Sheet** |
| Dec 2011 | **NH DHHS Disaster Behavioral Health Response Plan** |
| Feb 2012 | **NH DHHS Child Care Center Emergency Preparedness Guide** |
| Oct 2013 | **State of NH Multi-Hazard Mitigation Plan Update 2013** |
| Jul 2014 | **NH DOS Statewide Fire Mobilization Implementation Master Plan 2014** |
| Jul 2014 | **American Red Cross of NH Strategic Plan – Humanitarian Services FY 2014-2019** |
| Jul 2014 | **NH DHHS NH Excessive Heat Emergency Response Plan 2014** |
| 2015 | **NFPA 101 Life Safety Code 2015** |
| Feb 2015 | **Central NH Regional Plan 2015** |
| Mar 2015 | **NH State of NH Tickborne Disease Plan 2015** |
| Aug 2015 | **NH DOT Recommendations for the Ten-Year Transportation Improvement Plan (Projects) 2017-2026** |
| Sep 2015 | **NH DOS Bureau of Emergency Management Services EMS Provider Manual 2015** |
| Jul 2015 | **NHHSEM NH Recovery Plan with RSFs 2015** |
| Aug 2015 | **Webster Elementary School Emergency Management Plan** |
| Jan 2016 | **Eversource Energy Electric Operations Response Plan** |
| Sep 2016 | **Unitil Electric Emergency Response Municipal Information** |
| Oct 2016 | **CNHREPC Central New Hampshire Regional Emergency Planning Committee Regional Hazardous Materials Emergency Plan 2016** |
| Aug 2016 | **CAPHN Capital Area Public Health Network Public Health Emergency Preparedness and Response Plan for the Capital Area 2016** |
| Jul 2017 | **NH DHHS NH Arboviral Illness Surveillance, Prevention and Response Plan & Map 2017** |

*Source: Webster Hazard Mitigation Committee*

# 7 PRIOR ACTION STATUS

With the completion of the inventory of the ***Overall Risks*** of hazards in the **Hazard Risk Assessment,** the historical recording of hazard events and declared disasters occurring in Webster and what could happen in the future documented in the **Potential Future Hazards**, and the Town's evaluation of its mitigation and support activities in the **Capability Assessment** have all provided the opportunity to develop mitigation Actions.

**Mitigation Actions were developed to emphasize both new and existing buildings and infrastructure to better protect the populations and properties of Webster.**

The **Hazard Mitigation Plan Update 2012** provided a basis to begin Action development, many of which originated from the previous **2007 Plan** and were encompassed as **2012** Actions. A review of the **2012** Actions is provided by the Hazard Mitigation Committee, determining which Actions have been **Completed**, **Deleted**, or **Deferred** to the **2018 Plan**.

## Action Status Determination

The status of all Hazard Mitigation Plan Actions varies. Priorities over the previous five years can change, budgets are uncertain, and staff are allocated time for certain tasks. To accommodate the **2012 Plan's 55 total** Actions in addition to the **New** Actions from the **2018 Plan**, there are four designated Action types to describe the detailed Actions following within the **7 PRIOR ACTION STATUS** and/or **8 MITIGATION ACTION PLAN**:

- **Completed**
- **Deleted**
- **Deferred**
- **New**

Actions which were **Completed** from the **2012 Plan** are listed in **Table 37** along with completion dates.

Actions which were **Deleted** from the **2012 Plan** might have been no longer necessary or a priority to the Town, no longer relevant to the Town's situation or objectives, could not realistically be undertaken, were not financially feasible, were modified and incorporated into other existing Actions, or duplicated existing efforts of Webster's activities. Deleted Actions are listed in **Table 38.**

Actions which were **Deferred** from the **2012 Plan** are still important to the Town but were not completed because they did not have the staff capability or the funding to undertake them, other Actions took higher priority, more time was required for completion, or they may need to be repeated to be effective. These **Deferred** Actions are in **Table 39** and have been re-prioritized with the **New** Actions in the **Mitigation Action Plan.**

Changes in priority of the **Deferred** 2012 Actions occurred over the last five years. The **2012 Plan** used the **12-36 Priority Score enhanced STAPLEE** system while the **2018 Plan** included both a ***Ranking Score*** and an ***Action Timeframe*** to determine priorities with a more useful **15-75 Priority Score enhanced STAPLEE** system. Both methods are described.

**New** Actions are described later in **8 MITIGATION ACTION PLAN**.

## DEFINITIONS

The following definitions were used to ascertain which Actions should be considered *mitigation* Actions versus which should be considered *preparedness* Actions more suitable for incorporation into the ***Town Emergency Operations Plan***. The mitigation Actions are those which are carried forth in this **2018 Plan** into the **Mitigation Action Plan**.

| Action Type | Duration | Definition or Characteristics |
|---|---|---|
| **Mitigation** | **Long Term** | **Action supports sustained risk prevention or reduces long-term risk to people, property and infrastructure.** ↪ Best suited for *Town Hazard Mitigation Plan*. |
| **Preparedness** | **Short Term** | Action assists or supports planning, protective activities, public education, training and exercise. ↪ Best suited for ***Town Emergency Operations Plan***. |
| **Response, Recovery, Other Related** | **Short Term** | Action supports preventative, response, recovery-related, repeated or deferred maintenance activities. ↪ Best suited for ***Town Emergency Operations Plan***. |

## HAZARDS CONSIDERED

With **26** different hazards examined in this Plan, it is not always practical to list each one when describing location vulnerabilities or solutions. Brevity will suffice where possible. In many cases, simply listing the more encompassing main hazard group names taken from **4 HAZARD RISK ASSESSMENT**, such as **Flood**, **Wind**, **Fire**, **Extreme Temperature**, **Earth**, **Technological** and **Human**, will cover most of the situations.

For further detail at a specific location, the addition of **Scouring & Erosion** from the *Flood* category, **Storm** (applying to the warm weather all-encompassing storms) from the *Wind* category, **Winter** from the *Extreme Temperature* category, or **Dam Failure** from the *Technological* category can provide the necessary amount information needed to understand certain issues in Webster. These are already used as sub-grouped hazards in the **APPENDIX A Critical and Community Facilities Vulnerability Assessment**.

When the main hazard group names or sub-group hazards names are not precise enough, the exact hazard name from the group of **26** examined will be utilized for accuracy. Where possible however, simply using the main hazard group name (for example, **Flood** or **Wind** instead of each of its sub-hazards), can reduce the need for listing every type of hazard that may impact a certain location and be better accommodated in its broadness.

## Review of 2012 Actions

The **2012 Hazard Mitigation Plan** was written in a different format and its content had to comply with less specific review guidelines before the ***Local Hazard Mitigation Review Guidebook (FEMA), 2012*** became standardized and tailored by each FEMA Region over the years.

Webster's **55** Actions from **2012, which** included the original **2007 Plan's** Actions, were allocated **Action Numbers** and each **Project**'s status was determined by the Hazard Mitigation Committee as either **Completed**, **Deleted** or **Deferred**. Out of the **55** Actions, **18** were **Completed** as shown in **Table 37**. Thirty-two (**32**) Actions were **Deleted** as shown in **Table 38** and the remaining **5** were **Deferred** (**Table 39**) and appear within the **Mitigation Action Plan**.

**Table 37**

**Completed Mitigation Actions**

| Priority Score (2012) | Action Number | Action | Completed By Date | Who is Responsible | Approx $ Cost | Natural Hazards Addressed |
|---|---|---|---|---|---|---|
| 17 | #01-2012 | Evacuation Plan for Cold Brook Campground [Cozy Pond Camping Resort] | May 2011 | Emergency Management | $0 | Flood, Wind, Storms, Winter, Lightning, Wildfire, Fire |
| 31 | #02-2012 | Build-up of Mutton Road with Riprap and Gravel, and Replace Culverts | Summer 2005 | Highway Department | $45,000 | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Storms |
| 24 | #03-2012 | Encourage Tree Maintenance at Cozy Pond Camping Resort | June 2009 | Fire Department | $0 | Wind, Storms, Winter, Lightning, Wildfire, Fire |
| 36 | #04-2012 | Provide Backup Power for Town Services | November 2007 | Police Department | $45,000 | Wind, Storms, Winter, Lightning |
| 28 | #05-2012 | Purchase Portable Radio(s) for Road Agent | December 2011 | Highway Department | $1,505 | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Wind, Storms, Winter, Lightning, Wildfire |
| 19 | #06-2012 | Provide Mobile Data Terminal for Policy Department | November 2009 | Police Department | $2,000 | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Wind, Storms, Winter, Lightning, Wildfire |
| 30 | #21-2012 | Upgrade the Culvert on Bashan Hollow Road at Deer Meadow End | August 2017 | Highway Department | $550,000 | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Storms |
| 30 | #22-2012 | Upgrade First Culvert on 524 Deer Meadow Road | August 2017 | Highway Department | $5,000 | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Storms |
| 30 | #24-2012 | Install Dry Hydrant Behind the Elementary School | July 2016 | Fire Department | $5,000 | Lightning, Wildfire, Other Fires |
| 29 | #29-2012 | Perform Life Safety Code Inspections for Building Permits | April 2013 | Life Safety | $1,000 | Wind, Earthquake, Winter, Flood, Fire |

| Priority Score (2012) | Action Number | Action | Completed By Date | Who is Responsible | Approx $ Cost | Natural Hazards Addressed |
|---|---|---|---|---|---|---|
| 28 | #30-2012 | Install Box Culvert on Deer Meadow Road | September 2016 | Highway Department | $450,000 | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Storms |
| 26 | #35-2012 | Install Repeater for Police Channel Support | October 2017 | Police Department | $12,000 | Flood, Wind, Storms, Winter, Lightning, Wildfire, Fire |
| 25 | #36-2012 | Upgrade Town Roads Policy | 2009 | Select Board | $0 | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Storms, Winter, Wind |
| 28 | #37-2012 | Educate the Public about Storm Preparation | April 2017 | Emergency Management, Fire and Police Departments | $1,000 | Flood, Wind, Storms, Winter, Lightning, Wildfire, Fire |
| 26 | #39-2012 | Erect Fire Index Signage at Safety Building | June 2013 | Fire Department | $2,000 | Lightning, Wildfire, Other Fires |
| 26 | #40-2012 | Educate Public about Flood Insurance | April 2017, Ongoing | Town Admin, Life Safety | $0 | Flood, Rapid Snow Pack Melt, Dam Failure or Release |
| 24 | #46-2012 | Hold Quarterly Disaster Drills for Departments | April 2014, Ongoing | Emergency Management, Fire and Police Departments | $500 | Flood, Wind, Storms, Winter, Lightning, Wildfire, Fire |
| 23 | #47-2012 | Require ICS & NIMS Certification for Town Emergency Personnel | October 2016 | Town Admin, Emergency Management | $100 | Flood, Storms, Wind, Winter, Wildfire |
| | | | | | | |

*Source: Webster Hazard Mitigation Committee*

The pink highlighted rows indicate the **32 Deleted** Actions in Table 38. Many of the Actions were deleted because they were preparedness, response or recovery items and more appropriately belonged in the Town's ***Emergency Operations Plan***.

Table 38

**Deleted Mitigation Actions**

| Priority Score (2012) | Action Number | Action | Deleted Date | Who is Responsible | Approx $ Cost | Why Deleted? The Action… |
|---|---|---|---|---|---|---|
| 29 | #07-2012 | List of Floodplain Residents | March 2012 | Select Board | $0 | Was not a realistic activity to undertake |
| 23 | #08-2012 | Local Building Code Adoption | March 2012 | Select Board | $1,000 | Was no longer a priority or necessary to the Town (voted down at Town Meeting 2007 WA#5) |
| 24 | #09-2012 | Code Enforcement Officer Policies and Duties | March 2012 | Select Board | $15,000 | Was no longer a priority or necessary to the Town |
| 31 | #10-2012 | Beaver Pond Maintenance and Culvert Replacement | March 2012 | Highway Department | $50,000 | Was no longer a priority or necessary to the Town |
| 30 | #11-2012 | Install an Automatic Dialing System for Public Notification | March 2012 | Emergency Management | $5,000 | Was incorporated into another Town activity |
| 36 | #12-2012 | Movement of Equipment to Higher Ground | March 2012 | Emergency Management | $0 | Was not a realistic activity to undertake (no accessible higher ground that has access) |
| 36 | #13-2012 | Mutual Aid Agreement with US ACE | March 2012 | Emergency Management | $0 | Was not a realistic activity to undertake |
| 28 | #14-2012 | Installation of Dry Hydrants/Cisterns in Areas Which are Particularly Prone to Fire; Deer Meadow/ Mutton, and Little Hill Road | March 2012 | Fire Department | $75,000 | Was incorporated into another Town activity |
| 36 | #15-2012 | Purchase Signage to Warn Public of Flooding Conditions | March 2012 | Highway Department | $3,000 - $5,000 | Was no longer a priority or necessary to the Town |
| 32 | #16-2012 | Improve Fire Access Roads | March 2012 | Highway Department | $20,000 | Was not a realistic activity to undertake and Was not financially feasible |
| 25 | #17-2012 | Develop List of Areas Subject to Erosion | March 2012 | Highway Department | $0 | Duplicates existing efforts |
| 20 | #18-2012 | Develop Written Highway Mutual Aid Policies | March 2012 | Highway Department | $0 | Was not a realistic activity to undertake |
| 10 | #19-2012 | Identify Wind Shelters | March 2012 | Emergency Management | $0 | Was not a realistic activity to undertake |
| 30 | #23-2012 | Install Dry Hydrant at Pond on 1612 Battle Street Property | January 2018 | Fire Department | $5,200 | Was not a realistic activity to undertake |
| 30 | #25-2012 | Install Dry Hydrant at Pond on 1093 Long Street Property | January 2018 | Fire Department | $5,000 | Was not a realistic activity to undertake |

| Priority Score (2012) | Action Number | Action | Deleted Date | Who is Responsible | Approx $ Cost | Why Deleted? The Action… |
|---|---|---|---|---|---|---|
| 30 | #26-2012 | Install Cistern at the Fire Station | January 2018 | Fire Department | $3,500 | Was not financially feasible |
| 29 | #27-2012 | Encourage Utility Company Tree Trimming | January 2018 | Select Board, with Highway Department | $0 | Was no longer relevant to the Town's situation (Utilities now trim when needed) |
| 29 | #28-2012 | Inspect Cozy Pond Camping Resort for Fire Regulation Compliance | January 2018 | Fire Department | $0 | Duplicates existing efforts |
| 30 | #33-2012 | Provide House Calls to Ensure Public Safety During Storms | January 2018 | Police Department | $0 | Was a preparedness, response or recovery activity |
| 28 | #34-2012 | Utilize Reverse 911 Notification to Residents | January 2018 | Emergency Management, Fire and Police Departments | $1,000 | Was a preparedness, response or recovery item |
| 27 | #38-2012 | Provide Radon Informational Pamphlets to Building Permit Recipients | January 2018 | Town Administration | $100 | Was no longer a priority or necessary to the Town |
| 26 | #41-2012 | Educate Public about Shoreline Erosion | January 2018 | Conservation Commission | $1,000 | Duplicates existing efforts |
| 30 | #42-2012 | Educate Emergency Responders about Hazardous Materials | January 2018 | Fire Department | $0 | Was a preparedness, response or recovery activity |
| 28 | #43-2012 | Hold Interdepartmental Training Sessions | January 2018 | Emergency Management, Fire and Police Departments | $0 | Was a preparedness, response or recovery activity |
| 28 | #44-2012 | Continue Incident Training | January 2018 | Emergency Management, Fire and Police Departments | $6,700 | Was a preparedness, response or recovery activity |
| 27 | #49-2012 | Identify Potential Targets for Attack | January 2018 | Police Department | $0 | Was a preparedness, response or recovery activity |
| 27 | #50-2012 | Develop Evacuation Plan for Multiple Hazards | January 2018 | Emergency Management | $2,000 | Was a preparedness, response or recovery activity |
| 27 | #51-2012 | Develop School Evacuation Plan | January 2018 | School District, with help from Emergency Management | $0 | Was a preparedness, response or recovery activity |
| 27 | #52-2012 | Develop Maps and Foster Communication for Brush Fires in the Flood Control Area | January 2018 | Fire Department | $0 | Was a preparedness, response or recovery activity |
| 26 | #53-2012 | Develop List of Residents in Need of Special Assistance | January 2018 | Emergency Management, Fire and Police Departments | $0 | Was a preparedness, response or recovery activity |

| Priority Score (2012) | Action Number | Action | Deleted Date | Who is Responsible | Approx $ Cost | Why Deleted? The Action… |
|---|---|---|---|---|---|---|
| 26 | #54-2012 | Develop Map of Flood Control Roads & Gates and Erect Road Signs | January 2018 | Emergency Management | $500 | Was a preparedness, response or recovery activity |
| 25 | #55-2012 | Develop Relocation Plan for Residents Requiring Services | January 2018 | Emergency Management | $0 | Was not financially feasible |
| | | | | | | |

*Source: Webster Hazard Mitigation Committee*

The tan highlighted rows in Table 39 indicate the **5 Deferred** mitigation Actions which also appear in the forthcoming **Mitigation Action Plan** for **2018**. Many Action titles will be revised to reflect the new focus on mitigation although the principle for each remains the same. They will all be reevaluated to accommodate **2018** needs.

**Table 39**

**Deferred Mitigation Actions**

| Priority Score (2012) | Action Number | Action | Deferred Date | Who is Responsible | Approx. Cost | Why Deferred? Because… | Hazards Addressed |
|---|---|---|---|---|---|---|---|
| 30 | #20-2012 | Repair Clothespin Bridge | January 2018 | Select Board | $2m | More time is required for completion (pass a bond) | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Storms |
| 25 | #31-2012 | Repair Detour Road | January 2018 | Highway Department | $100,000 | Other activities took higher priority | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Storms |
| 25 | #32-2012 | Upgrade White Plains Road over Schoodac Brook Culvert Bridge | January 2018 | Highway Department | $450,000 in 2007 + 15% | More time is required for completion (NH DOT grant) | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Storms |
| 26 | #45-2012 | Participate in National Flood Insurance Program (NFIP) Training | January 2018 | Town Administration, Emergency Management | $0 | Town did not have the staff capability | Flood, Rapid Snow Pack Melt, Dam Failure or Release |
| 36 | #48-2012 | Update the Zoning Ordinance to Comply with NFIP Requirements | January 2018 | Planning Board | $0 | Action needs to be repeated regularly to be effective | Flood, Rapid Snow Pack Melt, Ice Jams |
| | | | | | | | |

*Source: Webster Hazard Mitigation Committee*

# 8 MITIGATION ACTION PLAN

The Chapter provides a summary discussion of the Actions the community can consider completing to help mitigate the effects of hazard events.

The **Mitigation Action Plan** is the culmination of the work of the previous Assessments, inventories, and evaluations from the previous Chapters. Actions to help Webster mitigate the damages caused by disasters have been developed and prioritized by Hazard Mitigation consensus in consideration of both existing and new development.

## SOURCES OF ACTIONS

After determining the status of the existing Actions, **New** Actions can be determined. **New** Actions were evaluated by Hazard Mitigation Committee the using the **Problem Statements** determined during discussion of critical facility and community facility sites' potential vulnerability to hazards in the **Critical Facility and Community Vulnerability Assessment**. Many of these problems were further evaluated and developed into **New** mitigation Actions.

The **Capability Assessment** yielded a wealth of information from the ***Future Improvements*** of the plans, programs, ordinances, policies, agreements, technical skills, financial resources, and other resources the Town Departments, School District, and Stakeholders had available. These activities are important to the community. They assist Departments with the procedures, training, regional coordination, mutual aid, planning and purchases needed to perform their duties effectively. These activities in turn increase the capability for mitigating hazard events. For the **2018 Plan**, most of the **Capability Assessment's *Future Improvements*** activities were not utilized as Actions since they are more appropriate for the Town's ***Emergency Operations Plan*** recommendations.

Other community ideas were introduced to or by the Hazard Mitigation Committee as a result of Department, Board, Commission or Town discussions. Where appropriate, supported activities were introduced as New mitigation Actions.

Several uncompleted **Deferred** (2012) Webster mitigation Actions have been carried forward into the **2018 Plan** with the updates to the evaluation, cost, prioritization, etc.

## ACTION MATRIX

A listing of **5 Deferred** mitigation Actions from **2012** and **24 New** mitigation Actions from **2018** important to the Town of Webster was developed for evaluation. Each Action identifies at least one ***Hazard Mitigated*** which correlates to **3 GOALS AND OBJECTIVES**, describing how it can mitigate these identified natural hazard objectives. A short ***Description and Evaluation*** is provided and the ***Affected Location*** is listed to ensure easier understanding and reassessment of the Actions in the future during implementation.

The Actions are numbered for easier tracking. The **2012** Actions received the designation of **#01- 2012** through **#55- 2012**. The **2018** Actions picked up where the prior Actions left off, beginning with **#56-2018** through **#79- 2018**. Over time, the Actions can be tracked to see which have been **Deferred** and to organize the **Completed** or **Deleted** Actions. For those with funding needs, the ability to reference an Action within the Capital Improvements Program or in a Warrant Article can alleviate confusion and further support the mitigation Actions.

Each Action is sorted into one of these four mitigation Action categories, although it might identify with several:

**Local Planning and Regulation**
**Structure and Infrastructure Projects**
**Natural Systems Protection**
**Education and Awareness**

Within the **Mitigation Action Plan**, the **Deferred 2012** Actions and the **New 2018** Actions are evaluated by the relative ease of completion using a numeric ***Ranking Score*** generated by the enhanced STAPLEE prioritization, by the ***Action Timeframe*** by which the Hazard Mitigation Committee would like to see the Action implemented, and by a basic **Cost to Benefit Analysis** as contained within the STAPLEE.

The ***Responsible Department*** is indicated for each Action as the party who will ensure the Action gets completed. An ***Approximate Cost*** is provided, although no definitive cost estimates or quotes have been obtained now. Ways the Action can be ***Funded*** is identified and offered as an avenue to explore during implementation. The purpose is to offer an idea of how much funding is provided for each Action and how it may be paid for.

## Webster's Mitigation Action Plan 2018

At the meetings, the Hazard Mitigation Committee identified by consensus these mitigation Actions from the various **Assessments** and evaluations conducted. The process for Action development has been described in previous Chapters and sections. Combined with the visual Maps of the **Hazard Mitigation Plan 2018**, the **Mitigation Action Plan** shown in **Table 40**, **Table 41**, **Table 42** and **Table 43** should be able to guide future hazard mitigation efforts in the Town through an annual implementation process.

Five (**5**) **Deferred** Actions from **2012** and **24** **New** Actions from **2018** combine to develop the **29** Actions of the **2018** **Mitigation Action Plan**. The **Deferred** Actions' cells are highlighted in tan.

Table 40

**Local Planning and Regulation Actions**

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| **#48-2012** | **Update the Floodplain Zoning Ordinance to Comply with NFIP Requirements to Regulate Building in the Floodplain** | **Long Term 4-5 Years** | **72** | Planning Board | $0 | The Zoning Ordinance needs to be updated as new requirements to the National Flood Insurance Program are necessary for retention of NFIP participation. The Floodplain Ordinance protects life and property by regulating distance of structures to flood hazard areas, regulating elevation, clarifying definitions, regulating new structures and encroachments, stating duties of the Life Safety Officer, etc. In 2010, the Town adopted the recommended updates to the ordinance. The existing ordinance is amended with federal updates on an ongoing or as-needed basis. | Flood, Ice Jams | Floodplain | Cost is for in-kind staff and volunteer labor. | N/A |
| **#56-2018** | **Develop New Policy for Landowners and Electric Companies to Proactively Collaborate on Trimming Hazardous Trees on Scenic Roads to Reduce Storm Damage** | **Short Term 1-2 Years** | **69** | Select Board, Planning Board | $0 | A new Policy is needed for electric companies to proactively seek Planning Board permission to trim hazardous trees on scenic roads on behalf of landowners who have hazardous tree problems. This will differ from the existing PB regulations regarding tree trimming on scenic roads. Some of the trees that regularly fall on powerlines during storms are located on scenic roads in Town. Power companies and landowners cannot cut back the trees on scenic roads until they fall due to protective regulation. Landowners have to wait until trees fall onto roads and powerlines because utilities obtain approval to trim perhaps once per year in these areas. | Wind, Storms, Winter, Lightning, Wildfire | Designated Scenic Roads | Cost is for in-kind staff and volunteer labor. | N/A |

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| **#57-2018** | **Develop a Database to Update and Utilize the 2013 RSMS Data** | **Short Term 1-2 Years** | **64** | Select Board | $0 | The CIP Subcommittee recommends the Town adopt a Road Surface Management System (RSMS), in cooperation with the UNH Technology Transfer, CNHRPC, the Road Agent and the Select Board. Participation in the new RSMS program should begin as soon as it is available. The Select Board, the Road Agent and the Financial Administrator should work together to develop a reporting requirement and a system and format for data collection to categorize and document road work as it is budgeted for and as it is completed. The Town should begin collecting specific road repair data now to build a future RSMS or similar road repairing planning program. | Flood, Scouring & Erosion, Storms, Wind, Wildfire | Town Roads | Cost is for in-kind staff and volunteer labor. | N/A |
| | | | | | | | | | | |

*Source: Webster Hazard Mitigation Committee*

Table 41

**Structure and Infrastructure Projects**

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| **#20-2012** | **Upgrade Clothespin Bridge over the Blackwater River to Protect from Floods and Erosion** | **Long Term 4-5 Years** | **66** | Select Board | $2,000,000 | Clothespin Bridge is structurally deteriorating - deckings, its footings eroded by water, etc. The bridge is red-listed and an old one-lane bridge. Clothespin Bridge serves as the primary access road to the east side of the Town for Pillsbury Lake fire response, and the Fire Dept needs to get apparatus across. The bridge is also the primary route for Concord Fire Dept trucks coming through. The bridge is inspected every year by the State, which provides maintenance funding every 2 years. This is a school bus route for the Elementary School. Include a static river gage on the bridge to measure water height. | Flood, Scouring & Erosion, Storms | Clothespin Bridge Road, Blackwater River | Cost is for engineering and construction and design and construction of approaches to bridge. | NH State Bridge Aid for 2020-2022 (80/20), Bridge and Culvert Improvements CRF |
| **#31-2012** | **Upgrade Detour Road to Protect from Erosion after Clothespin Bridge Project is Completed** | **Long Term 4-5 Years** | **58** | Select Board | $250,000 | Detour Road suffers from erosion due to flooding, and repairing 1/2 - 1/3 of a mile of the road would prevent future occurrences. Ditching and fixing swales would help correct the problem. Must occur after Clothespin Bridge project. | Flood, Scouring & Erosion, Storms | Detour Road | Cost is for engineering, design and construction. | Capital Outlay |
| **#32-2012** | **Upgrade White Plains Road over Schoodac Brook/Knight's Meadow Culvert-Bridge to Protect from Floods and Erosion** | **Short Term 1-2 Years** | **66** | Highway Department | $295,000 | Currently, the three 33" culverts which comprise a bridge under White Plains are considered a redlisted bridge by NHDOT. Town has their share of the funding ready, and the State (FEMA) is evaluating the application. | Flood, Scouring & Erosion, Storms | White Plains Road | Cost is for engineering, design and construction, plus some in-kind labor. | FEMA HMGP (75/25) 25% funded by Bridge and Culvert CRF |
| **#58-2018** | **Install Lightning Rods and Grounding Equipment at the Town Office and Public Safety Building to Redirect Lightning Strikes** | **Medium Term 3-4 Years** | **64** | Select Board | $15,000 | The Town Office and Public Safety Building do not have lightning rods and surge protectors at the main electrical box source to offset lightning strikes. Lightning is a concern as the computer systems are | Lightning | Town Office, Public Safety Building | Cost is for installation, lightning rods, surge protectors. | FEMA EMPG (50/50), Town Hall CRF and Public |

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | vulnerable as well as the buildings. Lightning has caused similar problems in surrounding communities. | | | | Safety Building CRF |
| **#59-2018** | **Upgrade Mutton Road Culvert to Protect from Floods and Erosion** | **Medium Term 3-4 Years** | **71** | Select Board | $25,000 | Scenic road, gravel and deteriorating. Old rotten culvert, prone to flooding and debris. | Flood, Scouring & Erosion, Storms | Class VI Mutton Road at the bog | Cost is for engineering, design and construction, NHDES permitting. | Bridge and Culvert CRF |
| **#60-2018** | **Upgrade Pond Hill Road Culvert to Protect from Sedimentation, Floods and Erosion** | **Short Term 1-2 Years** | **70** | Select Board | $25,000 | Sediment pollution control work on the Class VI road. Want a squashed elliptical culvert for the turtles and salamanders. | Flood, Scouring & Erosion, Storms | Pond Hill Road | Cost is for engineering, design and construction, NHDES permitting. | Bridge and Culvert CRF |
| **#61-2018** | **Upgrade Dingit's Corner Drainage System on Pleasant Street to Protect from Floods and Erosion** | **Short Term 1-2 Years** | **64** | Select Board | $25,000 | Washes out onto Clothespin Bridge and Pleasant Street. Water needs to be diverted | Flood, Scouring & Erosion, Storms | Pleasant Street (gravel) onto Clothespin Bridge (asphalt) | Cost is for engineering, design and construction, NHDES permitting. | Bridge and Culvert CRF |
| **#62-2018** | **Upgrade Corn Hill Road Bridge with the Town of Boscawen to Protect from Floods and Erosion** | **Long Term 4-5 Years** | **60** | Select Board | $500,000 | Split 50/50 with Boscawen. Water floods over the bridge during storms, wetland inundation. Guardrails also need to be replaced. Box culvert would be necessary. Have to raise profile of the road. | Flood, Scouring & Erosion, Storms | Corn Hill Road at Boscawen Town line | Cost is for engineering, design and construction, NHDES permitting. | Town of Boscawen (50/50), raise money Bridge and Culvert CFR |
| **#63-2018** | **Upgrade Deer Meadow Road (151-167) Culvert to Protect from Floods and Erosion** | **Long Term 4-5 Years** | **66** | Select Board | $100,000 | Deer Meadow Road floods at a dip (downslope to culvert), and the road has been closed in the past as a result. The location of culvert upgrade may be a future dry hydrant site. Because it is a two-lane road, the Town may consider box culvert. The Town and/or Pillsbury Lake VD will upgrade the respective section of water line also. | Flood, Scouring & Erosion, Storms | Deer Meadow Road at Little Pond Brook | Cost is for engineering, design and construction, NHDES permitting. | Raise money Bridge and Culvert CFR |

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| **#64-2018** | **Upgrade the Pillsbury Lake Village District Water Lines to Protect from Breakage During Earthquakes, Floods and Other Natural Hazards** | **Long Term 4-5 Years** | **59** | Pillsbury Lake Village District (PLVD) | $2,000,000 | All lines are small, 2"undersized and old, some may be 3/4". They regularly break all over the PLVD community. No schematics of existing lines, no idea of shut off valves. Beginning a mapping program. This may be a very long term project as it would be very expensive. The PLVD would need to agree to undertake this action. | Earthquake, Drought, Flood, Public Health | Pillsbury Lake Village District (PLVD) | Cost is for engineering, design and construction, NHDES permitting. | PLVD, possible Town contribution, and NH DES grants |
| **#65-2018** | **Install a Dry Hydrant on Deer Meadow Road at Little Pond Brook to Provide Fire Suppression** | **Medium Term 3-4 Years** | **68** | Fire Department | $5,000 | Coordinate with the upgrade of the Deer Meadow Road culvert (bridge). Little Pond Brook would be a good drafting site. | Lightning, Wildfire, other Fires | Little Pond Brook | Cost is for installation and PVC or steel barrel hydrant. | Dry Hydrant CRF |
| **#66-2018** | **Install a Dry Hydrant on Deer Meadow Road (268) to Provide Fire Suppression** | **Short Term 1-2 Years** | **68** | Fire Department | $5,000 | About 300' from the road, use fire pond and place about 150'. Landowner permission needed. | Lightning, Wildfire, other Fires | Private Fire Pond | Cost is for installation and PVC or steel barrel hydrant. | Dry Hydrant CRF |
| **#67-2018** | **Retrofit the Public Safety Building with a Wall Hydrant System to Fill Tankers to Provide Faster Fire Suppression** | **Long Term 4-5 Years** | **49** | Fire Department | $10,000 | Need to be able to obtain water supplies for fires. During cold months, cannot draw water at frozen hydrants or ponds. Can fill at the station. Upgrade existing pump, reservoir and retention system 300 gallons. Also serves as the EOC and could be used for showers. | Lightning, Wildfire, other Fires | Public Safety Building (Entire Town benefits) | Cost is for upgrading existing pump, and installing 300 gallon reservoir and retention system. | Public Safety CRF, FEMA Assistance to Firefighter Grant (AFG), EMPG |
| **#68-2018** | **Upgrade Lake Road/Hollings Drive Drainage to Protect from Sedimentation, Floods and Erosion** | **Long Term 4-5 Years** | **67** | Select Board | $25,000 | Flooding is leading to road erosion. Sediment flows into Lake Winnepocket as well. Upgrading Lake Road's drainage will improve road conditions and mitigate sediment pollution. | Flood, Scouring & Erosion, Storms | Lake Road/ Hollings Drive | Cost is for engineering, design and construction, NHDES permitting. | Bridge and Culvert CRF, FEMA HMPG or PDM (75/25) |
| | | | | | | | | | | |

*Source: Webster Hazard Mitigation Committee*

Table 42

**Natural Systems Protection Actions**

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| **#69-2018** | **Purchase Land and Construct a New Town Salt Shed to Protect the Quality of the Blackwater River** | **Medium Term 3-4 Years** | **65** | Select Board | $200,000 | The Town's salt and sand shed floods regularly and could be polluting the Blackwater River. The building and site are too close to the river and need to be moved in the future. Some upgrades were made to the road this year, but it will not be enough. The long term solution is to purchase new Town land and build a new salt shed with appropriate shoreland setbacks to protect the quality of the Blackwater River. | Flood, Scouring & Erosion, Ice Jam, Wind, Storms, Dam Failure or Release, Winter, Hazardous Materials | Blackwater River Shoreland and Floodplain | Cost is for purchase of land, construction of building, driveway. | Highway Building and Land Expendable Trust Fund |
| **#70-2018** | **Work with USACE to Develop a Policy for the Specific Notification of Shoreland Landowners and the Town of the Impending Releases of Blackwater Dam Water to Protect from Flash Floods and Erosion** | **Medium Term 3-4 Years** | **58** | Select Board | $0 | The federal Blackwater Dam mismanages the releases of Blackwater River floodwaters which affects the integrity of the banks downstream, causing erosion, mass bank failure with trees falling, flooding of acres of private property along the shoreland. No announcements are given when floodgates will open, resulting in a danger to river users and property owners. The natural environment suffers because of the intensity of release. The Tow can work with abutting communities along the Blackwater collectively to encourage the ACOE to develop the policy. | Flood, Scouring & Erosion, Dam Failure or Release | Blackwater River Shoreland and Floodplain | Cost is for in-kind staff and volunteer labor. | N/A |
| **#71-2018** | **Develop a Policy between the Town and Pillsbury Lake Community to Communicate about Pillsbury Lake Problems and Environmental Issues** | **Short Term 1-2 Years** | **70** | Select Board, Pillsbury Lake Village District, Pillsbury Lake Management | $0 | Shorefront landowners very concerned about and are notified when milfoil treatment is conducted, but other Pillsbury Lake landowners and the Town are not notified during the Lake's milfoil treatment. This affects the Town because if NHDES does not pay for milfoil eradication, the Town may need to contribute | Flood, Biological (Milfoil), Drought | Pillsbury Lake, Watershed | Cost is for in-kind staff and volunteer labor. | N/A |

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | funds for this effort. As of 02-18, one of the three PLVD wells is nonfunctional and they are looking to truck in water for residents, but the Town was not notified of this issue. Pillsbury Lake Management is a separate group that manages the milfoil, building permits, and more while the PLVD Water Committee handles the drinking water for the community. | | | | |
| **#72-2018** | **Develop a Feasibility Study for Clothespin Bridge Road Parcels Along the Blackwater to Potentially Acquire Parcels Prone to Flooding and Erosion** | **Short Term 1-2 Years** | **63** | Select Board | $15,000 | Much private land along Clothespin Bridge Road is eroding, including close proximity to where the new bridge project replacement is occurring. The Town cannot pay for stabilization on private property. This area is vulnerable to future flooding and erosion. A sinkhole is also in the vicinity. A voluntary acquisition of private land may be the solution. | Flood, Scouring & Erosion, Dam Failure or Release | Blackwater River Shoreland | Cost is for an engineered study to ascertain future flooding and damages potential to identify the best parcels for volunteer acquisition. | NH DES Funding, FEMA Acquisition Funding 80/20 |
| **#73-2018** | **Upgrade the Town Office and Public Safety Building's Oil & Propane Heating Systems with Energy Efficient Electrical Heating Systems** | **Medium Term 3-4 Years** | **66** | Select Board | $50,000 - $100,000 | The Town owns a solar array and has to pay back the extra energy generated at the end of the year. For energy and fiscal efficiency, the Town should upgrade its reliance on oil and propane at the Town Office and Public Safety Facility to electrical energy powered by the solar array. | Storms, Wind, Winter, Energy Efficiency | Town Office, Public Safety Building | Cost is for analysis installation, and the systems replacement. | Town Hall Improvements CRF, Public Safety Building CRF, Warrant Article |
| **#74-2018** | **Identify and Study the Locations in Town that Have Potential Hazardous Contamination in the Soil or Aquifer** | **Long Term 4-5 Years** | **65** | Select Board | $25,000 | Some sites were preliminarily identified for possible hazardous waste contamination: 1) Copart facility on Deer Meadow Road (former automobile yard & junkyard) initially tested by NHDES, and prior to that the Planning Board required test wells, which were not completed - the facility closed and is now vacant. | Flood, Storms, Aquifer Quality, Hazardous Materials | Specific Locations in Town, Aquifer | Cost is for environmental consulting and NHDES testing. | NHDES or federal funding for landfill monitoring and testing |

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2) The old dump/ landfill on 1091 Pleasant Street, owned by the Town. 3) 253 Deer Meadow Road in Pillsbury Lake. 4) Possible old dumping sites off Gerrish Road, White Plains Road and other locations. 5) Possibly consider old farms. | | | | |
| | | | | | | | | | | |

*Source: Webster Hazard Mitigation Committee*

**Table 43**

**Education and Awareness Actions**

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| **#45-2012** | **Participate in National Flood Insurance Program (NFIP) Training to Interpret Floodplain Regulation** | **Short Term 1-2 Years** | **69** | Emergency Management, Police and Fire Departments, Life Safety, Town Administration | $0 | In order for Planning Board and Zoning Board of Adjustment members, Emergency Management Director and the Life Safety Officer and Town Administrator to remain current with NFIP procedures and policies, regular training must be taken. Online (free) webinars or local workshops are occasionally offered by the State and/or FEMA and address flood hazard planning and management. | Flood, Rapid Snow Pack Melt, Dam Failure or Release | Blackwater River Shoreland and Floodplain | Cost is for in-kind staff and volunteer labor. | N/A |
| **#75-2018** | **Develop a Public Education Program for Blackwater River Shoreland Landowners of the Flotation Risks of Unsecured Tanks, Objects and Agricultural Supplies and Provide Resources for Anchoring Contents to Protect** | **Short Term 1-2 Years** | **71** | Emergency Management | $100 | A public education campaign for landowners along the Blackwater River is necessary regarding the anchoring and securing against flotation aboveground tanks and agricultural supplies. Landowners of large brooks and streams may also benefit. The unsecured propane or gas tanks, agricultural fertilizer, and objects along the floodplain of the | Flood, Scouring & Erosion, Rapid Snow Pack Melt, Ice Jam, Dam Failure or Release, Wildfire, | Blackwater River Shoreland and Floodplain | Cost is for a mailing an informational flyer to shoreland landowners. | Administrative Operating Budget |

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Against Floods and Dam Releases** | | | | | Blackwater River are a real risk if swept away during a flood or during release of Blackwater Dam water. When the Dam water is released, it carries unsecured objects downstream. Ice jams form in backyard of shoreland landowner houses and collect objects. Swept away debris can be large, hazardous and/or explosive. Website links, flyers, mailing to residents along the river to the appropriate websites. | Hazardous Materials | | | |
| **#76-2018** | **Develop a Public Education Program Connecting the Electric Companies and Scenic Road Landowners Enabling the Advance Trimming of Hazardous Trees to Reduce Storm Damage** | **Medium Term 3-4 Years** | **74** | Town Planning, with Planning Board assistance | $100 | After the new Planning Board Policy is developed enabling electric companies to proactively seek Planning Board permission to trim hazardous trees on scenic roads on behalf of landowners who have hazardous tree problems, a public education campaign of scenic road landowners will be necessary. Some of the trees that regularly fall on powerlines during storms are located on scenic roads in Town. Power companies and landowners cannot cut back the trees on scenic roads until they fall due to protective regulation. Landowners have to wait until trees fall onto roads and powerlines because utilities obtain approval to trim perhaps once per year in these areas. Road Agent can trim up to 4" without going to Planning. Utility companies are working hard to be proactive with the Towns and landowners. Place information on Town website, send flyers to landowners on scenic roads. | Wind, Storms, Winter, Lightning, Wildfire | Designated Scenic Roads | Cost is for a mailing an informational flyer to scenic road landowners. | Administrative Operating Budget |

| Action Number | Action | Action Timeframe | Ranking Score | Who is Responsible | Approx Cost to Town | Description and Evaluation of Action | Hazards Mitigated? | Affected Location in Town | What Cost Will Pay For | How Funded |
|---|---|---|---|---|---|---|---|---|---|---|
| **#77-2018** | **Sponsor Semi-Annual Household Hazardous Waste Collection Days** | **Short Term 1-2 Years Then Ongoing** | **70** | Refuse Disposal Committee | $0 | A current program exists to host HHW collections twice per year at the Hopkinton-Webster Transfer Station. The public is notified about the opportunities via articles in local newsletters, on the Town website and by mailer to residents encouraging materials drop off. This program discourages the accumulation or dumping of hazardous substances. | Flood, Storms, Winter, Hazardous Materials | Entire Town | Cost is included as part of Transfer Station fees, includes public notification and collection of waste. | Part of cost of utilizing the Transfer Station, and likely NHDES HHW grants |
| **#78-2018** | **Educate the Public for Fire Prevention in the Schools and in Place into the Annual Town Report** | **Short Term 1-2 Years Then Ongoing** | **75** | Fire Department | $400 | The Webster Fire Department's Fire Prevention Program is advertised on their website. Every October is fire prevention week in the schools. The annual Town Reports, distributed to each household and business, describe fire prevention methods. Everyone reads the Town Reports and this is thought to be an effective public information dissemination technique. | Lightning, Wildfire, Fire | Entire Town | Cost is for materials in the schools and flyers for children. | Fire Department Dues Budget, Community Relations Budget |
| **#79-2018** | **Develop a Public Education Program Informing Residents About Available Emergency Notification Systems** | **Short Term 1-2 Years Then Ongoing** | **73** | Emergency Management, with Police and Fire Dept assistance | $100 | Information about emergency notifications is reported during regularly scheduled Select Board meetings, through mailings to property owners, and by links on the Town website's emergency management webpage. The annual Town Report also provides information on NH Alerts (individuals can sign up), Reverse 911 (State), and School notification (MVSD for parents of students). A more complete listing should be developed along with more diverse ways of getting the notification systems out to the public. | Flood, Storms, Wind, Winter, Wildfire | Entire Town | Cost is for a mailing an informational flyer to landowners. | Administrative Operating Budget |
| | | | | | | | | | | |

*Source: Webster Hazard Mitigation Committee*

**Great Projects… And the Realities of Project Implementation in New Hampshire**

These important but costly and/or time consuming mitigation projects identified in the **Mitigation Action Plan** represent the best case scenarios (or to some, "wish-list" items) for completion. There are many barriers to successful implementation of any project which is outside the typical duties of a Town staff member. The annual struggle to obtain municipal funding at Town Meetings and the uncertainty of political & local support needed for hazard mitigation projects, the limited staff time available to administer and complete the projects, and dwindling volunteer support to help locate grants and work on the Action Plan items all reduce the Town's ability to complete successful hazard mitigation projects within the Plan's **5**-year lifespan. Town staff and volunteers are usually forced to be reactive to their numerous daily duties or annual processes and have little availability to be proactive. This is especially true for the Central NH region's smaller communities that rely on voter support for staff hiring and/or hazard mitigation project budget funding, which is 19 out of 20 municipalities.

Therefore, mitigation and other projects are generally completed on an "as-needed basis" or on an "as-available basis" despite the different ways of evaluation and prioritization shown within the **Hazard Mitigation Plan 2018**. Small New Hampshire communities do the best they can with the resources available to them to make ends meet, particularly in times of economic duress or hardship and our aging population. Town Meeting voters decide whether to approve new zoning ordinances which can help mitigate hazards, vote to approve Department Budgets which usually are sustainable and do not allow enough flexibility to plan ahead, and vote to approve Warrant Articles for a hazard mitigation project. Town Volunteers are relied upon to do much of the hazard mitigation work as Town staff are already engaged in real-time, constant public engagement issues and have little additional time available for planning. Few younger people are stepping up to the plate of community volunteering when our existing volunteers are retiring. Indeed, many staff or volunteers have dual or triple roles in the community to fill vacancies, such as a Town Administrator serving as Health Officer and Human Services Officer and a volunteer Fire Chief serving as volunteer Emergency Management Director.

NH communities are used to "toughing it out" and will try to accomplish all they can with the time, funding and resources available to them. However, many of these **2018** Actions may end up **Deferred** to **2022** simply because of the unique nature of our independent State and community culture.

## Action Evaluation and Prioritization Methods

A variety of methods were utilized to evaluate and prioritize the Actions. These methods include the enhanced STAPLEE (Social Technical Administrative Political Legal Environmental and Economics) criteria, designating the Action to be completed within a certain timeframe, and completing a basic **Cost to Benefits Analysis**, a later section. These prioritization methods are meant to enable the community to better identify which Actions are more important and are more feasible than others.

### ENHANCED STAPLEE METHOD

An enhanced provided a better methodology for prioritization the Actions against one another. The Hazard Mitigation Committee ranked each of the mitigation Actions derived from the evaluation process. The total ***Ranking Score*** serves as a guide to the **relative** ease of Action completion by scoring numerous **societal and ethical impact questions** and does not represent the Town's Action *importance* priority. Instead, the STAPLEE process evaluates each Action and attempts to identify some potential barriers to its success. A score of **75** would indicate that the mitigation strategy, or Action, would be relatively among the easiest Actions to complete from a social and ethical standpoint.

All enhanced STAPLEE answers are subjective and depend on the opinions of the Committee members discussing them. The Committee answered these **15** questions with a numeric score of "**1**" indicating a **NO** response, "**2**" indicating an **UNCERTAIN** response, "**3**" indicating a **MAYBE** response, "**4**" indicating a **LIKELY** response or "**5**" indicating a **YES** response, about whether the Action can fulfill the criteria:

| Action Completion | |
|---|---|
| RANKING | SCORE |
| Excellent | 75 - 60 |
| Good | 45 - 59 |
| Fair | 44 - 30 |
| Poor | 29 - 15 |

- Does the action reduce damage and human losses?
- Does the action contribute to community objectives?
- Does the action meet existing regulations?
- Does the action protect historic structures?
- Can the action be implemented quickly?
- Is the action socially acceptable?
- Is the action technically feasible?
- Is the action administratively possible?
- Is the action politically acceptable?
- Does the action offer reasonable benefits compared to its cost in implementing?
- Is the action legal?
- Is the action support or protect the environment?
- Have the funding necessary for completion?
- Have the necessary staff or volunteers to undertake?
- Support historic preservation?

The STAPLEE scores can range from a low of **15** to a high **75**. Webster's **Mitigation Action Plan** STAPLEE rating is shown in **Figure 23**.

**Figure 23**

**STAPLEE Ranking of Mitigation Actions**

| Action Number | Does the Action..... or Is the Action..... ACTION | Reduce Damage? | Contribute to Town Objectives? (Supported by Master Plan or current thinking?) | Meet Regulations ? (If there are any) | Protect Sensitive Structures? (Buildings, roads, culverts, human-made things?) | Implemented Quickly? (See also Action Plan for Timeframe) | Socially Acceptable ? (People like it) | Politically Acceptable ? (Public Officials like it) | Administratively Realistic? (Have admin skills or time for paperwork) | Technically Feasible? (Have tech skills or special equipment) | Have a Reasonable Cost to Benefits Gained? | Legal? (Or will be legal upon completion) | Support or Protect the Environment ? | Have the Funding? | Have Necessary Staff or Volunteers ? | Support Historic Preservation ? | Ranking Score 15-75 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #20-2012 | Upgrade Clothespin Bridge over the Blackwater River to Protect from Floods and Erosion | 5 | 5 | 5 | 4 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 1 | 66 |
| #31-2012 | Upgrade Detour Road to Protect from Erosion after Clothespin Bridge Project is Completed | 5 | 5 | 5 | 4 | 3 | 4 | 4 | 4 | 5 | 3 | 5 | 5 | 2 | 3 | 1 | 58 |
| #32-2012 | Upgrade White Plains Road over Schoodac Brook/Knight's Meadow Culvert-Bridge to Protect from Floods and Erosion | 5 | 5 | 5 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 5 | 1 | 66 |
| #45-2012 | Participate in National Flood Insurance Program (NFIP) Training to Interpret Floodplain Regulation | 5 | 5 | 5 | 3 | 5 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 69 |
| #48-2012 | Update the Floodplain Zoning Ordinance to Comply with NFIP Requirements to Regulate Building in the Floodplain | 5 | 5 | 5 | 5 | 5 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 72 |
| #56-2018 | Develop New Policy for Landowners and Electric Companies to Proactively Collaborate on Trimming Hazardous Trees on Scenic Roads to Reduce Storm Damage | 5 | 5 | 5 | 5 | 3 | 4 | 4 | 4 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 69 |
| #57-2018 | Develop a Database to Update and Utilize the 2013 RSMS Data | 5 | 5 | 5 | 5 | 3 | 4 | 5 | 3 | 4 | 5 | 5 | 5 | 4 | 4 | 2 | 64 |
| #58-2018 | Install Lightning Rods and Grounding Equipment at the Town Office and Public Safety Building to Redirect Lightning Strikes | 5 | 5 | 5 | 5 | 3 | 4 | 4 | 5 | 5 | 3 | 5 | 2 | 3 | 5 | 5 | 64 |
| #59-2018 | Upgrade Mutton Road Culvert to Protect from Floods and Erosion | 5 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 5 | 5 | 71 |
| #60-2018 | Upgrade Pond Hill Road Culvert to Protect from Sedimentation, Floods and Erosion | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 70 |
| #61-2018 | Upgrade Dingit's Corner Drainage System on Pleasant Street to Protect from Floods and Erosion | 5 | 5 | 5 | 5 | 3 | 4 | 4 | 5 | 5 | 4 | 5 | 5 | 3 | 5 | 1 | 64 |
| #62-2018 | Upgrade Corn Hill Road Bridge with the Town of Boscawen to Protect from Floods and Erosion | 5 | 5 | 5 | 5 | 2 | 3 | 4 | 5 | 5 | 3 | 5 | 5 | 2 | 5 | 1 | 60 |
| #63-2018 | Upgrade Deer Meadow Road (151-167) Culvert to Protect from Floods and Erosion | 5 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 3 | 5 | 1 | 66 |
| #64-2018 | Upgrade the Pillsbury Lake Village District Water Lines to Protect from Breakage During Earthquakes, Floods and Other Natural Hazards | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 3 | 3 | 5 | 5 | 2 | 3 | 1 | 59 |

## Figure 20, continued

## STAPLEE Ranking of Mitigation Actions

| Action Number | Does the Action..... or Is the Action..... ACTION | Reduce Damage? | Contribute to Town Objectives? (Supported by Master Plan or current thinking?) | Meet Regulations? (If there are any) | Protect Sensitive Structures? (Buildings, roads, culverts, human-made things?) | Implemented Quickly? (See also Action Plan for Timeframe) | Socially Acceptable? (People like it) | Politically Acceptable? (Public Officials like it) | Administratively Realistic? (Have admin skills or time for paperwork) | Technically Feasible? (Have tech skills or special equipment) | Have a Reasonable Cost to Benefits Gained? | Legal? (Or will be legal upon completion) | Support or Protect the Environment? | Have the Funding? | Have Necessary Staff or Volunteers? | Support Historic Preservation? | Ranking Score 15-75 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #65-2018 | Install a Dry Hydrant on Deer Meadow Road at Little Pond Brook to Provide Fire Suppression | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 1 | 68 |
| #66-2018 | Install a Dry Hydrant on Deer Meadow Road (268) to Provide Fire Suppression | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 1 | 68 |
| #67-2018 | Retrofit the Public Safety Building with a Wall Hydrant System to Fill Tankers to Provide Faster Fire Suppression | 3 | 5 | 5 | 3 | 2 | 3 | 3 | 3 | 5 | 2 | 5 | 3 | 1 | 4 | 2 | 49 |
| #68-2018 | Upgrade Lake Road/Hollings Drive Drainage to Protect from Sedimentation, Floods and Erosion | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 5 | 1 | 67 |
| #69-2018 | Purchase Land and Construct a New Town Salt Shed to Protect the Quality of the Blackwater River | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 3 | 5 | 1 | 65 |
| #70-2018 | Work with USACE to Develop a Policy for the Specific Notification of Shoreland Landowners and the Town of the Impending Releases of Blackwater Dam Water to Protect from Flash Floods and Erosion | 3 | 5 | 5 | 3 | 3 | 5 | 5 | 3 | 3 | 3 | 5 | 5 | 5 | 4 | 1 | 58 |
| #71-2018 | Develop a Policy between the Town and Pillsbury Lake Community to Communicate about Pillsbury Lake Problems and Environmental Issues | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 70 |
| #72-2018 | Develop a Feasibility Study for Clothespin Bridge Road Parcels Along the Blackwater to Potentially Acquire Parcels Prone to Flooding and Erosion | 5 | 5 | 5 | 5 | 4 | 3 | 5 | 4 | 4 | 4 | 5 | 5 | 3 | 5 | 1 | 63 |
| #73-2018 | Upgrade the Town Office and Public Safety Building's Oil & Propane Heating Systems with Energy Efficient Electrical Heating Systems | 1 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 3 | 5 | 5 | 66 |
| #74-2018 | Identify and Study the Locations in Town that Have Potential Hazardous Contamination in the Soil or Aquifer | 5 | 5 | 5 | 5 | 3 | 4 | 4 | 5 | 5 | 4 | 5 | 5 | 3 | 5 | 2 | 65 |
| #75-2018 | Develop a Public Education Program for Blackwater River Shoreland Landowners of the Flotation Risks of Unsecured Tanks, Objects and Agricultural Supplies and Provide Resources for Anchoring Contents to Protect Against Floods and Dam Releases | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 71 |
| #76-2018 | Develop a Public Education Program Connecting the Electric Companies and Scenic Road Landowners Enabling the Advance Trimming of Hazardous Trees to Reduce Storm Damage | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 74 |
| #77-2018 | Sponsor Semi-Annual Household Hazardous Waste Collection Days | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 70 |
| #78-2018 | Educate the Public for Fire Prevention in the Schools and in Place into the Annual Town Report | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 75 |
| #79-2018 | Develop a Public Education Program Informing Residents About Available Emergency Notification Systems | 5 | 5 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 73 |

*Source: Webster Hazard Mitigation Committee*

## ACTION TIMEFRAMES

The Actions are also prioritized by an estimated ***Action Timeframe*** for completion based upon the other Town activities (hazard mitigation-related or not), funding potential for the Action, the need for the Action project, and possible staff time and volunteers available to complete the Action. This **relative** Action importance priority is measured by the **time indicated for project completion**. All Action projects within the **Mitigation Action Plan** have been assigned an ***Action Timeframe***.

Those projects which are designated as **Ongoing** mean the Action should be undertaken on a regular basis throughout the five-year lifespan of the Plan. Actions that could qualify as **Ongoing** include public education, zoning ordinance or regulation revisions, essential mitigation maintenance and more. However, even **Ongoing** Actions are completed once before repetition. As a result, those Actions with an **Ongoing** ***Action Timeframe*** also include a duration (**Short**, **Medium** or **Long Term**) included.

| Action Timeframe | Description of Timeframe |
|---|---|
| Ongoing | Action undertaken throughout the life of the 5-year Plan |
| Short Term | Action should be undertaken during Years 1-2 of the Plan |
| Medium Term | Action should be undertaken during Years 3-4 of the Plan |
| Long Term | Action should be undertaken during Years 4-5 of the Plan |

**Short Term** projects are those which are the more important Actions and should be undertaken during **Years 1-2** of the Plan's lifespan if possible. **Medium Term** Actions are recommended by the Hazard Mitigation Committee to be undertaken during **Years 3-4** of the Plan's lifespan, while **Long Term** Actions are those which should wait until last, with suggested implementation undertaken during Plan **Years 4-5**. It is important to remember the ***Action Timeframes*** are relative to each other and are another an indication of Action importance. If an Action cannot be completed within the ***Action Timeframe***, it may still be a higher priority than other Actions but was unable to be implemented for some reason.

Both the ***Action Timeframe*** and the ***Ranking Score*** are incorporated into the **Mitigation Action Plan** to assist the Town with implementing the hazard mitigation Actions. The Actions can be sorted within their Action Category by either priority for easy display of the desired characteristic; Actions can also be sorted by **Responsible Department** to keep them all together for ease of completion.

## COST TO BENEFIT ANALYSIS

A simple **Cost to Benefit Analysis** ranking is contained within the enhanced STAPLEE criteria.

## Natural Hazards Evaluated for Which Specific Actions Were Not Identified

The Hazard Mitigation Committee assessed each of hazards and made determinations whether to specifically develop mitigation Actions for all natural hazards. Nearly all the potential Actions can be applied to multiple natural or other hazards based upon the generality of the Action's effect. Still, there could be no solutions or mitigation Actions developed for some of the more difficult to mitigate natural hazards. Many possible reasons are considered such as feasibility, prohibitive cost, jurisdiction, staff availability to develop and administer the project, lack of local support, unrealistic favorable outcome for the effort and more, all resulting in the point that for some natural hazards, potential Actions would not have worked for the Town.

Many Actions are general in nature and have the capacity to mitigate multiple types of natural hazards. Those hazards for which no specific or feasible Action was identified are displayed in **Table 44**.

**Table 44**

**Committee Assessment of Natural Hazards with No Mitigation Actions**

| Natural Hazard | Committee Assessment |
|---|---|
| Excessive Heat | The Committee believes Excessive Heat issues may be better addressed at the public education level than by mitigation projects. The Fire Department has lists of vulnerable residents to check on. Along with Heat comes the potential for more severe arboviral and tick-borne diseases. The Public Safety Building, Town Office and Library offer cooling centers. The Committee did not feel additional mitigation Actions could be proposed for Excessive Heat beyond those which generally cover public health education. |
| Tornadoes | The Committee felt Tornadoes would be a difficult, unpredictable hazard event to mitigate. Although if a Tornado were to occur, existing activities such as the State Building Code, current practices of Highway or utility company hazardous tree removal, and generators are in place. Several of the Severe Wind-related Actions could also apply to Tornadoes. The Committee felt no specific Actions were within the scope of their jurisdiction. |
| Downbursts | The Committee's assessment of Downbursts is the same as Tornadoes. They felt Downbursts could be mitigated by those Actions that addressed Wind or Storm events. The Committee did not feel specific mitigation Actions for Downbursts could be pursued. |
| Earthquake | The Committee recognizes Earthquakes will continue to occur in this area but are likely to have a small impact. Low magnitude (<2.0M) and deep epicenters (3-6 km) in the bedrock should keep Earthquake intensity to just a loud noise and mild rattling of windows and shelves. Beyond the existing State Building Code, the Committee felt no mitigation Actions would be within the scope of their jurisdiction or would be financially feasible at this time. |
| Landslide | The Committee feels Landslide (and/or Erosion) is not a significant hazard in Town although road washouts could experience both. Steep slopes (over 15-25%) and local roads are reconstructed as needed and when funds are available. At this time, the Committee felt no mitigation Actions could be proposed beyond the upgrade of drainage facilities along roadways. |
| | |

*Source: Webster Hazard Mitigation Committee*

# 9 ANNUAL IMPLEMENTATION AND EVALUATION

The Town received FEMA approval for the prior **Hazard Mitigation Plan** in **December 2012.** The completion of a planning document is merely the first step in its life as an evolving tool. The **Hazard Mitigation Plan Update** is a dynamic document that should be considered by all Town Departments, Boards, and Committees within their normal working environments. While evaluating the effectiveness of Actions in its everyday implementation, everyone should be able to contribute to the relevancy and usefulness of the Plan and to communicate with the Hazard Mitigation Committee where changes should be made. An annual effort will be undertaken to complete Actions and add new Actions as old tasks are completed and new situations arise. This Chapter will discuss the methods by which the Town of Webster will review, monitor, and update its new **Webster Hazard Mitigation Plan Update 2018**.

## Annual Monitoring and Update of the Mitigation Action Plan

The Select Board should vote to establish a permanent Hazard Mitigation Committee within **3 months** of receiving the FEMA **Letter of Formal Approval** as indicated in **1 PLANNING PROCESS**. The purpose is to meet on a regular basis to ensure the **Hazard Mitigation Plan's** Actions are being actively worked on and the Plan is evaluated and revised to fit the changing priorities of the Town.

The Emergency Management Director or Select Board designee should continue to serve as Chair of the Committee for Hazard Mitigation meetings, and should be appointed to such a capacity by the Select Board. Current Hazard Mitigation Committee members can be appointed to continue to participate as members of the permanent Committee. More information is provided in **APPENDIX B**.

Committee membership should include:

- ✓ Emergency Management Director
- ✓ Town Administrator
- ✓ Fire Chief
- ✓ Police Chief
- ✓ Highway Director (Road Agent)
- ✓ Building Inspector/ Life Safety Officer
- ✓ Land Use Coordinator
- ✓ 1 Select Board member
- ✓ 1 Planning Board member
- ✓ 1 Conservation Commission member
- ✓ 1 School District Representative
- ✓ Members at Large (Stakeholders)

Stakeholders who should be solicited to attend meetings and to participate equitably in the Plan development process include the Historical Society, Library, US Army Corps of Engineers, Business Community members, Non-profits, and local, State or Federal agency representatives and members of the public. This composition provides a wide spectrum of potential interests and opportunities for partnership to develop and accomplish Actions.

This Committee will **aim to meet up to 4-6 times per year** with the following potential future meeting activities to update the **Mitigation Action Plan** and complete the Plan's annual evaluation as displayed in **Table 45**.

**Table 45**

**Hazard Mitigation Committee Preliminary Annual Future Meeting Activities**

| Meeting Month | Preliminary HMC Interim Meeting Agenda Items |
|---|---|
| **February** | HMC sends **Progress Reports #3** to Departments for completion by beginning of March. HMC continues update to the **Mitigation Action Plan** using **Department Mitigation Action Progress Reports** and an updated **Action Status Tracking sheet.** HMC provides revised copies to Department Heads, keeps original Word and Excel files accessible on Town computer system. |
| **MARCH HMC Meeting** *$ available* | **Annual funding is received from Town Meeting.** HMC completes annual update of the **Mitigation Action Plan and the associated Plan Chapter and sections (CHAPTER 8)** with **Progress Reports #3**. HMC determines Action Plan items to pursue for this year, including $0 cost items. |
| **March – June** | **HMC ensures Department Heads are provided with information to work on their Actions.** HMC meets with Department Heads to inform about the Action priorities and requests attention to **Short Term (1-2 Years)** Actions. Departments begin working on Actions. |
| **JUNE HMC Meeting** *Infrastructure projects underway* | **Infrastructure projects will be underway.** HMC provides a **Progress Report #1** for all Actions to responsible Depts/Boards for response by beginning of July. HMC reviews **Annual Evaluation of the Plan (CHAPTER 9)**. HMC works with the CIP Committee to get certain projects placed into CIP. Depts to begin placement of next year's high-cost Action Plan items into the CIP. |
| **August** | HMC to assist Department Heads with their budget requests to include **Action Plan** items, and to determine which Actions should have warrant articles. HMC continues assistance to Departments for **Action Plan** items. HMC begins to update the **Action Status Tracking Sheet.** HMC ensures Haz Mit Actions are added into the CIP. |
| **SEPTEMBER HMC Meeting** | HMC will identify projects to accomplish (including $0) for the upcoming year. HMC provides a **Progress Report #2** for all Actions to responsible parties for response by beginning of October. The **Action Status Tracking Sheet** is sent to Department/ Boards to display Action progress and request updates. HMC attends Select Board budget meetings and suggests warrant articles for Action Plan items. HMC attends Budget Committee meetings scheduled through January to champion Action item funding. |
| **DECEMBER HMC Meeting** *Budget determined* | **Town operating budgets are determined for the next year.** HMC assists Select Board and Budget HMC with getting their mitigation projects funded and written into budgets. Action implementation continues. HMC continues update to the **Action Status Tracking Sheet** using the **Department Mitigation Action Progress Reports #2 from October.** |

*Sources: Webster Hazard Mitigation Committee*

Annually and independent of the Town's budget cycle, a simpler listing of the Hazard Mitigation Committee's tasks should include:

- **Document New Hazard Events that Occurred in Town**
  - Hazard Risk Assessment (Chapter 4 table)
  - Local and Area History of Disaster and Hazard Events (Chapter 4 table)
- **Coordinate Completion of Annual Mitigation Actions by Assigning to Departments**
  - Appendix B Mitigation Action **Progress Report**
- **Seek and Help Departments Acquire Funding for Actions & Fill in Tracking File**
  - Appendix B Mitigation **Action/Project Status Tracking**
- **Evaluate Effectiveness of the Plan and Its Actions Yearly**
  - Appendix B Plan **Evaluation Worksheet**
- **Obtain Semi-Annual Progress Reports from Departments & Update Tracking File**
  - Appendix B Mitigation **Action/Project Status Tracking**
- **Update & Reprioritize Mitigation Action Plan and Update Supporting Plan Document Sections**
  - Mitigation Action Plan (Chapter 8)
  - Enhanced STAPLEE Prioritization (Chapter 8)
  - Hazard Mitigation Plan Update 2018 sections as needed (make note of the new information added/changed)
- **Repeat**

For each of the Hazard Mitigation Committee meetings, the Emergency Management Director (or Staff Coordinator) will invite other Department members, Board and Committee members, Town Staff, Webster School District representatives, and other participants of the **2018 Plan** Committee meetings. Identified and general members of the public will also be invited as indicated previously. Their purpose is to attend and participate in the meetings as full participants, providing input and assisting with decision making. Public notice will be given as press releases in local papers, will be posted in the public places in Webster, and will be posted on the Town of Webster website at www.webster-nh.gov.

The **Hazard Mitigation Plan's Mitigation Action Plan** will be updated and evaluated annually generally following the suggestions outlined within the Chapter. All publicity information, Agendas, and Attendance Sheets, should be retained and compiled for inclusion into **APPENDIX C**.

The Emergency Management Director and Department heads will work with the Select Board to discuss the funding of Action projects as part of the budget process cycle in the fall of each year. The projects identified will be placed into the following fiscal year's budget request if needed, including the Capital Improvements Program (CIP), Town Operating Budgets, and other funding methods.

The Federal Emergency Management Agency (FEMA) encourages communities to upload their Hazard Mitigation Plan Actions into an online database. The **Mitigation Action Tracker** follows municipal Actions through their completion. This added attention to the Town's Actions could enable additional support for grant opportunities when it is shown the Town can complete its mitigation projects. The Town would need to set up an account to enter their Actions into the **FEMA Mitigation Action Tracker** at https://mat.msc.fema.gov.

## Tasks of the Plan Update

A number of tasks will be accomplished for the complete (five-year, FEMA approved) update to the Hazard Mitigation Plan. Note that information from many Chapters will be used or referenced by other Chapters. The annual **Mitigation Action Plan** update tasks for the Hazard Mitigation Committee are indicated in bulleted list above and are noted below under the brief instructions for chapter updates.

### 1 PLANNING PROCESS

Add the new Hazard Mitigation Committee members, contributors, and the public who participated in meetings. Add any new Agendas to the Table. Retain all meeting, attendance, publicity and invitation documents in updated **APPENDIX C Meeting Information**.

### 2 COMMUNITY PROFILE

Revise the Tables with new demographic and housing information as it becomes available. Update the building permit figures. Revise land use data from the Vision Appraisal System and compare to previous years' data. Update any zoning changes. The text analysis will need to be revised to reflect all changes.

### 3 GOALS AND OBJECTIVES

Review and update the general and hazard-specific objectives (Flood, Wind, Fire, Extreme Temperature, Human, Technological) to ensure their continued relevance.

### 4 HAZARD RISK ASSESSMENT

Review and update the **Hazard Risk Assessment**. Add new disasters, new Public Assistance funding received, and significant new hazard events since the last Plan into the Tables and Appendices**.** Determine the magnitude of new declared disasters. Add any specific narrative dialogue about new hazard events occurring in Webster. Update **Local and Area Hazard Event History** with new disasters or hazard events and review the **Hazard Risk Assessment** for necessary changes. Update **Potential Future Hazards** to document the possible new hazards that could occur in Town based on historic or current evidence.

### 5 COMMUNITY VULNERABILITY AND LOSS ESTIMATION

Review and update the **APPENDIX A Critical and Community Facility Vulnerability Assessment** Tables to ensure accuracy. Update the Structure Valuation cost when new Avitar assessing data

becomes available. Generate additional **Problem Statements** that arise because of issues with facilities. Update the Culvert Upgrade Table. Revise the number and type of buildings in the Special Flood Hazard Areas (floodplains) including new structure valuation and recalculate the discussion values. Once the new structure assessments are available, recalculate the building dollar losses by the other natural hazards. Update the NFIP Tables and changes to the Floodplain Ordinance.

## 6 CAPABILITY ASSESSMENT

Each Department and Board are to review and update the **Capability Assessment** for adoption date revisions, changes since the last plan, or future improvements. List additional example capabilities in the Chapter. Add additional mitigation support resource documents to the Table.

## 7 PRIOR ACTION STATUS

Review **Mitigation Action Plan** Actions for validity and revise as needed to place them in different categories: Completed, Deferred or Deleted. Explain why each Action was Deleted or Deferred and indicate when each Action was Completed.

## 8 MITIGATION ACTION PLAN - ANNUAL UPDATE

Remove Completed and Deleted Actions and move to **7 PRIOR ACTION STATUS.** Add New Actions to the **Mitigation Action Plan 2018** and ensure they are reviewed in the previous Chapter, listed above. Reevaluate Actions not yet completed, remove the Deleted, and evaluate any New Actions utilizing the enhanced **STAPLEE Mitigation Action Prioritization** matrix. Modify the approximate cost, date for completion, and funding changes as needed.

## 9 ANNUAL IMPLEMENTATION AND EVALUATION - ANNUAL ACTIVITY

The Hazard Mitigation Committee (HMC) should be permanently appointed by the Select Board to hold up to **4-6** meetings yearly to review, implement, and evaluate the Plan. Updates any procedures or processes in the Chapter. Use the **APPENDIX B Annual Plan Evaluation and Implementation Worksheets** to guide the annual update of **8 MITIGATION ACTION PLAN**. Keep track of publicity, Department Reports, and all progress made towards the identified Actions. Add progress since the last Plan for implementation programs. Review continued public involvement for accuracy. Add other new information to the Chapter or revise as needed if new information becomes available.

## 10 APPENDICES

Revise the **APPENDICES A-D** as needed to update the data and documentation for Webster. Ensure all the publicity documents, Agendas, Attendance Sheets, revised files and more are available for transfer to CNHRPC when the **5-year** Plan update is due. These interim files will be placed into an updated **APPENDIX C Meeting Information.**

### 11 MAPS

Update *Map 1*, *Map 2*, *Map 3*, and *Map 4* of the Plan as needed to reflect the changes of the hazard event locations and site locations. Mapping assistance may be sought elsewhere, such as with the Central NH Regional Planning Commission (CNHRPC).

## Implementing the Plan through Existing Programs

In addition to work by the Hazard Mitigation Committee and Town Departments, several other mechanisms exist which will ensure that the **Webster Hazard Mitigation Plan Update 2018** receives the attention it requires for optimum benefit. Incorporating Actions from the Plan is often the most common way the Hazard Mitigation Plan can be integrated into other existing municipal programs, as described below.

### MASTER PLAN

The **Webster Master Plan** was adopted in **June 2005**, developed by the Planning Board with assistance from the CNHRPC. Chapters include detailed information on Current Land Use, Population and Economics, Historic and Cultural Resources, Community Facilities and Services, Natural Resources, Housing, Transportation, and Future Land Use. The Master Plan influences the Zoning Ordinance and the Subdivision and Site Plan Review Regulations along with the Capital Improvements Program.

The Planning Board should consider adopting the Hazard Mitigation Plan Update as a separate Chapter to its Master Plan in accordance with **RSA 674:2.II(e)**. The **Hazard Mitigation Plan** should be presented to the Planning Board after FEMA's **Formal Approval**. The Plan can be considered for adoption after a duly noticed public hearing, just as any typical Chapter of a Master Plan.

### Process to Incorporate Actions

The Hazard Mitigation Committee will present the approved **Hazard Mitigation Plan** to the Planning Board within **6** months after FEMA's **Letter of Formal Approval** is received for consideration and adoption into the Master Plan after a duly noticed public hearing. This is the same process used to adopt other components of the Master Plan. The NH State law supporting the development of a natural hazard mitigation plan as a component of a community Master Plan is **RSA 674:2-III(e).** The Hazard Mitigation Committee will oversee the process to begin working with the Planning Board to ensure that the relevant **Hazard Mitigation Plan** Actions are incorporated into the Master Plan.

## Implementation Progress through the Master Plan Since the 2012 Plan

The existing **2005** Master Plan developed by the Planning Board does not contain the **Hazard Mitigation Plan 2012** (or **2018**) as an Appendix.

**How Was This or Will This Be Accomplished?**

The **2005** Master Plan may be updated by the Planning Board within the **5-year** Plan cycle. This is an opportune time to integrate the **Hazard Mitigation Plan 2018**. The Planning Board will be given a copy of the **2018 Plan** and can choose to incorporate several Action items that pertain to the Planning Board or incorporate the entire Plan by reference. Several Actions include revisions to Board regulations and to Capital Improvements, Zoning Amendments, or Subdivision and Site Plan Review regulations. The Emergency Management Director or designee will recommend that the Board incorporate the identified Planning Board-responsibility Actions as appropriate into the Future Land Use, Natural Resources, and Community Facilities and Services Chapters and include the **Hazard Mitigation Plan** into the Master Plan Appendix whenever the Planning Board updates the Master Plan.

## CAPITAL IMPROVEMENTS PROGRAM

Webster's newest **Capital Improvements Program (CIP)** is a **10**-year plan for **2018-2023** with the intention of an annual or bi-annual update. The HMC would like to ensure Actions requiring capital improvements funding from the **Hazard Mitigation Plan Update** will be inserted into the Capital Improvements Program for funding during the CIP's next update. Depending on the Town's funding needs, a Capital Reserve Fund for Hazard Mitigation Program Projects may be established to set aside funding for the many projects identified in the Hazard Mitigation Plan Update.

## Process to Incorporate Actions

The Hazard Mitigation Committee will oversee the process to begin working with the Planning Board's CIP Committee to incorporate the various Hazard Mitigation Plan projects into the updated CIP. As the CIP is amended, a representative from the Hazard Mitigation Committee could request to sit on the CIP Committee or submit a CIP Project Application to ensure the mitigation projects are added, especially if the CIP is not updated as frequently as intended.

## Implementation Progress through the CIP Since the 2012 Plan

Many of the Completed Actions could be finalized because of their placement into and purchase out of the Town's new Capital Improvements Program (CIP). Since the CIP is brand new in **2018**, there had been no opportunity to add mitigation Action projects.

**How Was This or Will This Be Accomplished?**

The Town Departments and Town Administrator will work together with Planning Board to identify the items needed for the **Hazard Mitigation Plan** Action implementation. The Actions identified will be requested to be added to the next CIP or any of its interim updates.

## ZONING ORDINANCE AND REGULATIONS

Several of the implementation strategies proposed involve revisions to the Zoning Ordinance, Subdivision Regulations, and/or the Site Plan Review Regulations. The Town Staff and/or Planning Board annually draft Zoning Ordinance amendments for Town Meeting approval. The Land Use Coordinator and Board may be requested to draft zoning amendments in order to accommodate Actions. The Land Use Regulations (Subdivision Regulations and Site Plan Review Regulations) are updated by the Planning Board as needed.

### Process to Incorporate Actions

A Hazard Mitigation Committee member, perhaps the Town Administrator or Land Use Coordinator, will work with Planning Board to develop appropriate language for modifications to the Zoning Ordinance and the Subdivision and Site Plan Review Regulations as they deem appropriate as appropriate to accommodate Actions in the **Hazard Mitigation Plan**. Other Committee members, if requested, could help Town staff draft language for respective changes to the Regulations or the Zoning Ordinance, and assist Town staff with presenting the language to the Planning Board for consideration.

The Hazard Mitigation Committee representative will request from the Planning Board a copy of future required language for any FEMA Zoning Ordinance Updates for incorporation into the Plan.

### Implementation Progress through Zoning Since the 2012 Plan

The Town adopted the **April 19, 2010 NFIP** DFIRM Maps and respective updates to the Zoning Ordinance via the Select Board, a very special power granted by the NH Statutes **RSA 674:57**. Other Zoning Ordinance changes must be voted on at the Webster Town Meeting held annually in March. Revisions to Subdivision Regulations and Site Plan Review Regulations do not require Town Meeting approval, but occur after duly noticed Planning Board public hearings.

**How Was This or Will This Be Accomplished?**

The Planning Board directly obtains the required NFIP floodplain ordinance revision information from the NH Office of Strategic Initiatives and provides it to the Select Board for approval, a legislative power granted to them. For any future updates to the Floodplain Development Ordinance not required by FEMA, the changes will have to be approved at Town Meeting.

## TOWN MEETING

In Webster, the annual Town Meeting is held in March where the voters of the Town vote to raise money for capital projects and approve the annual operating budget of the Town. This is an opportunity to get some of the Actions of the **Hazard Mitigation Plan Update** funded.

### Process to Incorporate Actions

The Hazard Mitigation Committee members will work with the Budget Committee and Select Board to develop warrant article language for appropriate Actions. The HMC members may also request deposits to appropriate Capital Reserve Funds for some of the larger projects. A representative from the Hazard Mitigation Committee will provide a copy of the current **Mitigation Action Plan** to both the Budget Committee and Select Board and validate the need for funding at the annual Town Meeting to accomplish the projects. The representative will work with the Town Administrator to write warrant article language for approval Action items if needed or to get the items placed into Department Operating Budgets.

### Implementation Progress through Town Meeting Since the 2012 Plan

Town Meetings are used to accomplish many of the Action purchases**. Mitigation Actions Completed** could be implemented through various local funding sources: separate warrant articles, warrant articles to remove funds from the Capital Reserve Funds, or through adoption of Department Operating Budgets and the General Fund.

#### How Was This or Will This Be Accomplished?

The Emergency Management Director or designee, a member of the Hazard Mitigation Committee, brings Action items to be purchased to the Select Board and Budget Committee for consideration. The CIP contains many of the Actions, as discussed previously. The Select Board and Budget Committee bring Actions to the Town Meeting via warrant articles, as well as the Operating Budgets, additional warrant articles which may include Action items in the CIP, and warrant articles to add funding into the capital reserve funds. Many of the Action items are funded in this manner.

## OPERATING BUDGETS

Many of the Actions will not require specific funding but are identified as requiring in-kind Staff labor to perform the work required to undertake the Actions. Town Departments and Staff have rigorous job functions that demand their undivided attention to the tasks required to run their respective Departments. Additions to the work load to accommodate the Actions can put a strain on their ability to serve the public during performance of their normal job duties. When possible, Webster Departments and Staff will be able to prioritize their tasks to work on **Hazard Mitigation Plan Update 2018** Actions. The in-kind work performed comes out of the Operating Budget for that particular Department.

## Process to Incorporate Actions

With obtaining assistance from the HMC, the Department or Board is given the responsibility to ensure their Actions are completed, either by working on the Actions allocated to him/her when their normal job duties permit or by delegating the Action to another person. The funding for the Actions comes out of the Department's operating budget as work is undertaken by the Staff person on an as-time-permits basis unless the Action is a component of the Town staff members' normal work duties. Staff or volunteers will attempt to follow the **Action Timeframe** as a guideline for completion. A yearly review of the **Mitigation Action Plan** by the Hazard Mitigation Committee will reprioritize the Actions, and the members can report on their progress, asking for assistance or more time as needed.

## Implementation Progress through Operating Since the 2012 Plan

The Operating Budgets of the Town Departments typically served to implement many of the Actions displayed in **Mitigation Action Plan**. Most of the Completed projects required small amounts of funding from the respective Department Operating Budget or were completed in-kind using staff or volunteer time. In small New Hampshire communities like Webster, many mitigation projects are completed with the existing staff and materials within the Operating Budget or are completed by volunteers. In either case, Action completion may take longer to implement to help reduce taxpayer costs.

### How Was This or Will This Be Accomplished?

Department heads who participated in the Hazard Mitigation Committee submitted their Action items to Select Board and Budget Committee for consideration. Individual Department needs are recognized as part of their respective Operating Budgets and are proposed to the Select Board and Budget Committee. All Operating Budgets are approved (and often amended) by voters at the annual March Town Meeting.

## Continued Public Involvement

On behalf of the Hazard Mitigation Committee, the Emergency Management Director and the Staff Coordinator, under direction of the Town Administrator, will be responsible for ensuring that Town Departments and the public have adequate opportunity to participate in the planning process. Administrative staff may be utilized to assist with the public involvement process.

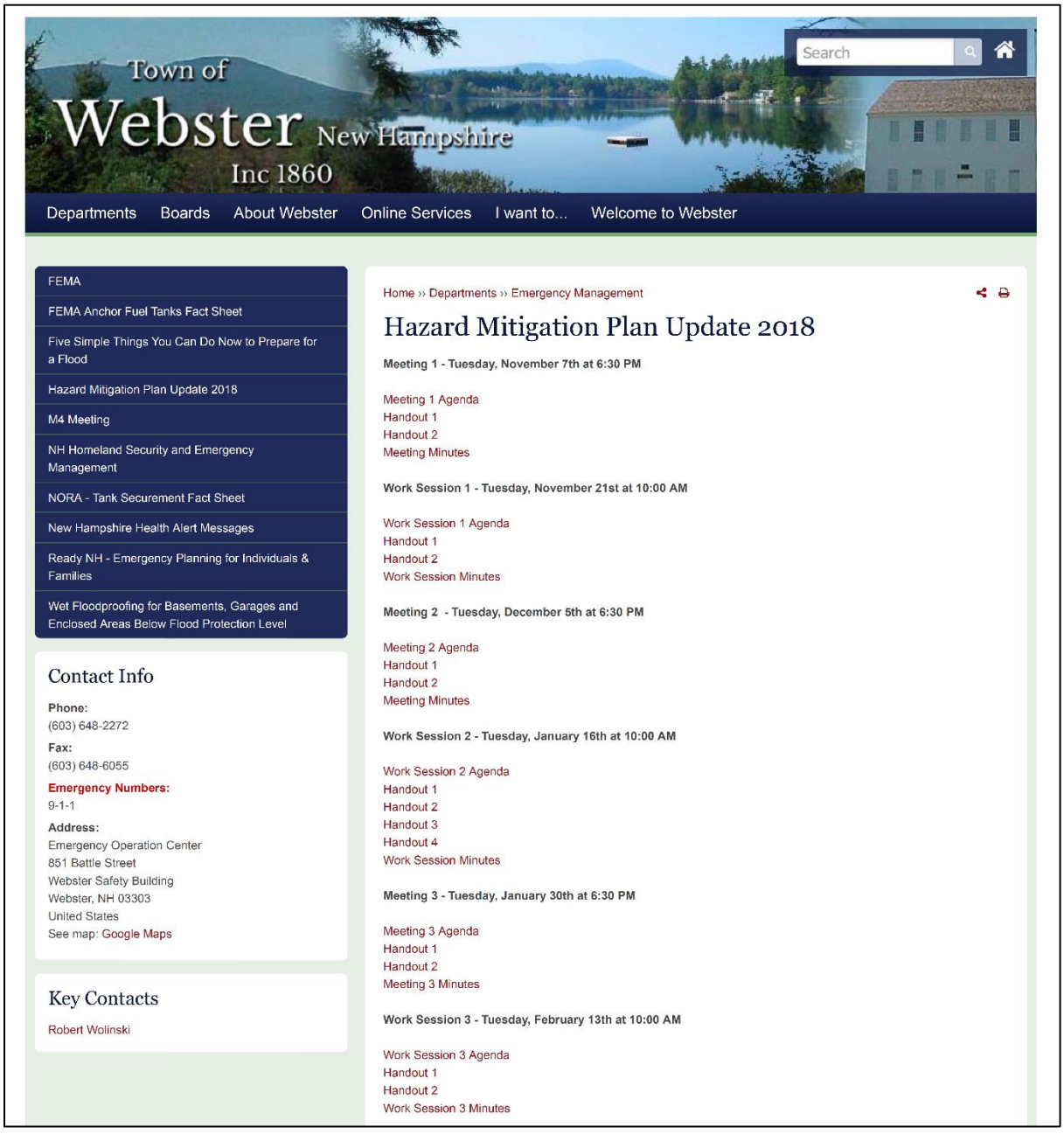
For each interim meeting in the annual update process, and for the five-year update process procedures that will be utilized for public involvement include:

- Provide personal invitations to Town volunteer Board and Committee Chairs, and Budget Committee members;
- Provide personal invitations to Town Department heads;
- Provide personal invitations to the following entities listed below;
- Post public meeting notice flyers on the Town's website at www.webster-nh.gov and in the Town Offices, Town Library, and at the Post Office and/or local business(es);
- Submit media releases to the daily Concord Monitor (a regional newspaper serving **39** communities around the Concord area) and the weekly Suncook Valley Sun (serving **5** local communities).

Agencies and businesses to invite to future **Hazard Mitigation Plan Update** meetings include the Webster School District, Us Army Corps of Engineers, Historical Society, Library and representatives from Business and Non-profit communities (see **APPENDIX A Critical and Community Facilities Vulnerability Assessment** Tables: Vulnerable Populations, Economic Assets and Recreational and Gathering Sites). The Emergency Management Directors of the neighboring communities will again be invited as will the NH Homeland Security and Emergency Management Field Representative for Merrimack County. The Town will contact the Central NH Regional Planning Commission with Agendas, Minutes and other materials for archiving, to be used when the **5-year** update again becomes necessary.

The HMC will ensure the Town website's Hazard Mitigation Committee webpage is regularly updated (https://www.webster-nh.gov/hazard-mitigation-committee) with meeting notices and materials that first appear on the Town's welcoming Home page. As displayed in **Figure 24**, one of the Emergency Management webpages contains all the meeting dates and materials for the development of the **2018 Plan** (https://www.webster-nh.gov/emergency-management/pages/hazard-mitigation-plan-update-2018). This would be an optimal location to continue materials for update of the 2018 Plan. A number of Action Plan items which will be undertaken relate to public education and involvement and this website is an exemplary method of getting the word out.

**Figure 24**
**Webster HMP Update 2018 Webpage**




*Source: Webster Town Website www.webster-nh.gov, accessed 04-04-18*

## Implementation and Evaluation of the Plan

During the Committee's annual review of the **Mitigation Action Plan,** the Actions are evaluated as to whether they have been **Completed, Deleted**, or **Deferred.** Those Action types are placed into their respective Tables. Any **New** Actions will be added as necessary. Each of the Actions within the updated **Mitigation Action Plan** will undergo the enhanced STAPLEE ranking as discussed in **8 MITIGATION ACTION PLAN.**

A set of comprehensive **Annual Interim Plan Evaluation and Implementation Worksheets** is available to assist the community with Plan implementation in **APPENDIX B**. These worksheets are to be used during the Hazard Mitigation Committee basic meeting schedule outlined previously in **Table 45**.

The worksheets include administrative and organizational documents, those that are used with the Appendices spreadsheets developed, and two Agendas to get started with HMC Interim Update meetings:

- **Permanent Hazard Mitigation Committee Establishment**
- **Organization of Public Invitees to Join Meetings**
- **HMC Interim Meeting (IM) Publicity Tracking 2018-2023**
- **Annual Interim Plan Update Evaluation Worksheet 2018-2023**
- **Hazard Mitigation Actions Status Tracking 2018-2023**
- **Department Mitigation Action Progress Report 2018-2023**
- **Attendance Sheet Example**
- **Agenda IM1 Example**
- **Agenda IM2 Example**

The **5-year** full Plan update will evaluate the Actions in the same manner in addition to fulfilling all of the **TASKS OF THE PLAN UPDATE** earlier in this Chapter.

# 10 APPENDICES

The following **APPENDICES A-D** are included under a separate electronic or paper document to maintain the relative brevity of this **Hazard Mitigation Plan Update**.

## Listing of Webster Hazard Mitigation Plan Update 2018 Appendices

**Some of these documents should be updated annually as part of the interim Action implementation and Plan evaluation process*.** The remaining **APPENDICES** could be amended as a result of the new or revised annual information, but they are optional. It is necessary to establish a location for placing any new or updated hazard, Action, meeting or Plan data over the **5-year** interim until the Plan is fully updated again.

- **A Critical and Community Facility Vulnerability Assessment**
- **B Annual Plan Evaluation and Implementation Worksheets ***
- **C Meeting Information ***
- **D Plan Approval Documentation**

# 11 MAPS

Four detailed Maps were created during the development of the **Webster Hazard Mitigation Plan 2018**. Data from the previous Plan maps were used, new standardized data layers were available, and Hazard Mitigation Committee members added their own knowledge of sites and hazard events.

## Plan Update 2018 Maps

***Map 1 - Potential Hazards*** illustrates potential hazard event locations in Webster that have the possibility of damaging the community in the future. The ***Map 1*** legend includes (technology) infrastructure hazards such as dams, bridges, electric transmission lines and evacuation routes. Natural hazards are displayed such as Special Flood Hazard Areas (SFHAs), locations of potential flooding/ washout, fire/wildfire, bridge washout, ice and snow, steep slopes (>15%), seismic lines, and more.

***Map 2 - Past Hazards*** illustrates the locations of where hazard events have occurred in Webster in the past, including areas of SFHA, flooding/washout, snowmelt, dam breach, fire/wildfire, wind damage, ice damage, seismic lines, crash locations, and more.

***Map 3 - Critical and Community Facilities*** includes the infrastructure included in ***Map 1 Potential Hazards*** on a background of aerial photography and the SFHAs to give viewers a better, real world perspective. The locations of all critical facilities and community facilities as recorded in the **APPENDIX A Critical and Community Facilities Vulnerability Assessment** are displayed on the Map. Each of these sites is numbered on a key listing the names of each facility.

***Map 4 - Potential Hazards and Losses*** utilizes all the features of ***Map 3*** on an aerial photography background and includes the ***Map 1 Potential Hazards*** and any realistic ***Map 2 Past Hazards*** locations where hazard events can occur again in Webster.

- **Map 1 - Potential Hazards**
- **Map 2 - Past Hazards**
- **Map 3 - Critical and Community Facilities**
- **Map 4 - Potential Hazards and Losses**