

Albany

Hazard Mitigation

Plan

Update 2017



This Plan integrates the following:

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

August 16, 2017
Final Plan for Town Adoption

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

By
The Albany Planning Team

With assistance from Mapping and Planning Solutions

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

-Dwight D. Eisenhower

HAZARD MITIGATION PLAN DEFINITIONS

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

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

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



Plan Prepared and Authored By

June E. Garneau, Owner/Planner
Mapping and Planning Solutions
105 Union Street, Suite 1
Whitefield, NH 03598
jgarneau@mappingandplanning.com

Cover: The Albany Covered Bridge
Photo Credit: Brian Taylor

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Acknowledgements

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

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

This Plan is an update to the original Albany Hazard Mitigation Plan, adopted June 10, 2011.

Approval Notification Dates for 2017 Update

Approved Pending Adoption (APA):..... August 16, 2017
 Jurisdiction Adoption: _____, 2017
 CWPP Approval: _____, 2017
 Plan Approval Date (FEMA):..... _____, 2017
 Plan Distribution (MAPS): _____, 2017

Town of Albany Hazard Mitigation Planning Team

The Town of Albany would like to thank the following people for the time and effort spent to complete this Plan; the following people have attended meetings and/or been instrumental in completing this Plan:

- Rick Hiland..... Albany Board of Selectmen Chair
- Cathy Ryan Albany Board of Selectmen
- Joe Ferris Albany Board of Selectmen
- Kathleen Golding .. Albany Town Administrator
- Leah Valladares Albany Zoning Board of Adjustment
- Tara Taylor Albany Planning Board (Chair)
- Kelly Robitaille Albany Health Officer
- Ronald Ryan Albany Zoning Board
- Thomas Currier Albany Citizen
- Steve Solomon..... Conway Fire Chief
- Dick Van Dyne Albany Citizen
- Whitney Welch NH HSEM
- Jennifer Gilbert..... NH OSI
- Heidi Lawton NH HSEM
- June Garneau MAPS
- Olin Garneau..... MAPS

Many thanks for all the hard work and effort given by each and every one of you. This Plan would not exist without your knowledge and experience. The Town of Albany also thanks the Federal Emergency Management Agency and NH Homeland Security and Emergency Management as the primary funding sources for this Plan.

Acronyms associated with the Planning Team list above:

- NH HSEM NH Homeland Security & Emergency Management
- NH OSI..... NH Office of Strategic Initiatives
- MAPS..... Mapping and Planning Solutions

Two NH Departments have recently changed their names:

- **The NH Office of Energy & Planning (OEP) is now the NH Office of Strategic Initiatives (NH OSI)**
- **The NH Department of Economic Development (DRED) is now the NH Department of Natural & Cultural Resources (DNCR)**

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Executive Summary

The Albany Hazard Mitigation Plan Update 2017 was compiled to assist the Town of Albany in reducing and mitigating future losses from natural or human-caused hazardous events. The Plan was developed by participants of the Town of Albany Hazard Mitigation Planning Team, interested stakeholders and Mapping and Planning Solutions (MAPS). The Plan contains the tools necessary to identify specific hazards and aspects of existing and future mitigation efforts.



This Plan is an update to the 2011 Albany Hazard Mitigation Plan. In an effort to produce an accurate and current planning document, the Planning Team used the 2011 Plan as a foundation, building upon that Plan to provide more timely information.

This Plan addresses the following natural hazards and human-caused hazards.

Natural Hazards

- | | |
|--|--------------------------|
| 1) Severe Winter Storms & Ice Storms | 8) Earthquake |
| 2) Severe Thunderstorms & Lightning | 9) Wildfire |
| 3) High Wind (windstorm) | 10) Landslide & Mudslide |
| 4) Flooding (riverine, local road, beaver dam) | 11) Erosion |
| 5) Downburst & Tornado | 12) Hailstorm |
| 6) Hurricane & Tropical Storms | 13) Drought |
| 7) Extreme Temperatures (hot & cold) | |

Human-Caused Hazards

- | | |
|---|------------------------|
| 1) Hazardous Materials – Fixed Location | 4) Epidemic & Pandemic |
| 2) Extended Power Failure (>3 days) | 5) Terrorism |
| 3) Hazardous Materials – Transport | |

Some hazards that are listed in the 2013 NH Hazard Mitigation Plan were not included in this Plan as the Team felt they were extremely unlikely to occur in Albany or not applicable. These include: *Coastal Flooding, Radon, Dam Failure, Radiological, Fire & Hazardous Materials and Snow Avalanche*. It is explained in more detail as to why these hazards are not addressed in Chapter 3.

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

This hazard mitigation plan was designed to include a detailed study and analysis of wildfires. The original goal was to produce separate plans but that concept produced excessive overlap and cost. To streamline the process, the Community Wildfire Protection Plan (CWPP) was fully integrated into this hazard mitigation plan as were risks from human-caused hazards.

Mitigation action items are the main focus of this Plan. Some communities, when faced with an array of natural hazards, are able to adequately cope with the impact of these hazards. For example, although Severe Winter Weather is often a common hazard in New Hampshire and more often than not considered to be the most likely to occur, most New Hampshire communities handle two to three foot snow storms with little or no disruption of services. On the other hand, an unexpected ice storm can have disastrous effects on a community. Mitigation for this type of sudden storm is difficult to achieve; establishing warming and cooling centers, establishing notification systems, providing public outreach, tree trimming, opening shelters and perhaps burying overhead power lines are just a few of the action items that may be put in place.

In summary, finding mitigation action items for every hazard that affects a community is at times difficult. In addition, with today's economic constraints, cities and towns are less likely to have the financial ability to complete some mitigation action items, such as burying power lines. In preparing this Plan, the Albany Planning Team has considered a comprehensive list of mitigation action items that could diminish the impact of hazards but has also decided to maintain a list of preparedness action items for future reference and action.

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

Albany Hazard Mitigation Plan Update 2017	the Plan or this Plan
Albany	the Town or the Community
Hazard Mitigation Planning Team.....	the Team
Hazard Mitigation Plan	HMP
Emergency Operations Plan	EOP
Community Wildfire Protection Plan	CWPP
Mapping and Planning Solutions	MAPS
Mapping and Planning Solutions Planner.....	the Planner
NH Homeland Security & Emergency Management	HSEM
Federal Emergency Management Agency	FEMA

For more acronyms, please refer to *Appendix F: Acronyms*

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

Vision Statement:
 The community of Albany will reduce the impacts of natural hazards and other potential disasters through implementing mitigation measures, public education and deliberate capital expenditures within the community. Homes and businesses will be safer and the community's ISO rating may be improved.

Chapter 1: Hazard Mitigation Planning Process

A. Authority & Funding

The Albany Hazard Mitigation Plan Update 2017 was prepared in accordance with the Disaster Mitigation Act of 2000 (DMA), Section 322 Mitigation Planning, signed into law by President Clinton on October 30, 2000. This hazard mitigation plan was prepared by the Albany Hazard Mitigation Planning Team under contract with New Hampshire Homeland Security & Emergency Management (HSEM) operating under the guidance of Section 206.405 of 44 CFR Chapter 1 (10-1-97 Edition) and with the assistance and professional services of Mapping and Planning Solutions. This Plan was funded by HSEM through grants from FEMA (Federal Emergency Management Agency); matching funds for team members' time were also part of the funding formula.

B. Purpose & History of the FEMA Mitigation Planning Process

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

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

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

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

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

HSEM's goal is to have all New Hampshire communities complete a local hazard mitigation plan as a means to reduce future losses from natural or human-caused events before they occur. HSEM outlined a process whereby communities throughout the state may be eligible for grants and other assistance upon completion of this hazard mitigation plan.

The Albany Hazard Mitigation Plan Update 2017 is a planning tool to use to reduce future losses from natural and human-caused hazards as required by the Disaster Mitigation Act of 2000; this Plan does not constitute a section of the Town's Master Plan, however mitigation action items from this Plan may be incorporated into future Master Plan updates.

The DMA places new emphasis on local mitigation planning. It requires local governments to prepare and adopt jurisdiction-wide hazard mitigation plans as a condition to receiving Hazard Mitigation Grant Program (HMGP) project grants. Local governments must review this Plan yearly and update this Plan every five years to continue program eligibility.

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

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

C. Jurisdiction

This Plan addresses one jurisdiction – the Town of Albany, NH.

D. Scope of the Plan & Federal & State Participation

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

In seeking approval as a Hazard Mitigation Plan and a Community Wildfire Protection Plan (CWPP), the planning effort included participation of Homeland Security and Emergency Management, the US Forest Service, the Department of Natural & Cultural Resources (DNCR), NH Office of Strategic Initiatives (OSI) as well as routine notification of upcoming meetings to the state and federal entities above. Designation as a CWPP will allow a community to gain access to federal funding for hazardous fuels reduction and other mitigation projects supported by the US Forest Service. By merging the two federal planning processes (hazard and wildfire), duplication is eliminated and the Town has access to a larger pool of resources for pre-disaster planning.

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

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

Finally, as required under Code of Federal Regulations (CFR), Title 44, Part 201.6(c) (2) (ii) and 201.6(c) (3) (ii), the Plan must address the Community's participation in the National Flood Insurance Program (NFIP), its continued compliance with the program and as part of vulnerability assessment, the Plan must address the NFIP insured structures that have been repetitively damaged due to floods.

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

E. Public & Stakeholder Involvement

Public and stakeholder involvement was stressed during the initial meeting and community officials were given a matrix of potential team members (page 18). Community officials were urged to contact as many people as they could to participate in the planning process, including not only residents but also officials and residents from surrounding communities. The Town of Albany understands that natural hazards do not recognize corporate boundaries.

It was noted that there are no schools in Albany; all students (K-12) are tuitioned to Conway. School representatives from Conway School District were invited to attend the hazard mitigation planning meetings, but did not attend. The Team provided excellent public and stakeholder notification; many interested citizens and stakeholders had the opportunity to become aware of the hazard mitigation planning taking place in Albany. A Press Release (see below) was posted at the Town Offices and added as a link to the Town’s website (**Figure A**). In addition, meeting dates and meeting progress were posted in the Town Column in the Conway Daily Sun (**Figure B**). The planning process was also discussed in both the 2015 and 2016 Annual Reports (**Figure C**).

*Mapping and Planning Solutions
P.O. Box 283
Twin Mountain, NH 03595*

Press Release

FOR IMMEDIATE RELEASE March 20, 2016
Contact: June Garneau
603.846.5720

**TOWN OF ALBANY COMMENCES
HAZARD MITIGATION PLANNING**

Members of the Albany Boards of Selectmen and Planning have met on two occasions with June Garneau, Mapping and Planning Solutions, to discuss the required five-year update to the 2011 Albany Hazard Mitigation Plan. As a result of this meeting the Board of Selectmen, serving as the Emergency Management Directors, are conducting a series of Hazard Mitigation Plan planning meetings over the next few months.

Through this series of public meetings, the Hazard Mitigation Planning Team will address issues such as flooding, hurricanes, drought, landslides and wildfires and determine efforts the Town can take to mitigate the effects of both natural and human-caused hazards. By examining past hazards, the Planning Team will establish priorities for future mitigation projects and efforts that can be taken to increase public awareness of hazards in general.

As mandated by the Disaster Mitigation Act of 2000, all communities are required to complete a local hazard mitigation plan in order to qualify for FEMA funding should a natural disaster occur. The planning processes are made possible through grants from the Federal Emergency Management Administration (FEMA).


The Hazard Mitigation Planning Team is currently being formed; the public and any interested stakeholders are invited to participate. All interested parties should contact the Town Offices, 447-6038 if they wish to be included in the process.


The next meetings have been scheduled for Thursday, April 14 and Thursday, April 21 from 6-8:00 PM at the Albany Town Offices. The general public is encouraged to attend all meetings whether or not they are a part of the Planning Team.

For more information on the hazard mitigation planning process, please contact June Garneau at Mapping and Planning Solutions, 603.846.5720.

Figure A
Announcement of March 17, 2016 meeting and ink to Press Release;
Albany Town Website

Home
Boards
Departments
General Info
Selectmen
Town Clerk





Multi-Hazard Mitigation Meeting 3/17 @ 6 pm.

« 2015 < FEB
📅 MARCH 2016
APR > 2017 »
📅 Month ▾

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 Selectmen's meeting 4:00 pm	2	3	4
6	7 Absentee Ballots submitted in person must be received by 5:00 p.m. 3:00 pm	8 Selectmen's office closed Town Elections/Town Meeting 10:00 am Absentee ballots submitted by mail must be received by 5:00 p.m. 5:00 pm	9 Selectmen's office is closed 3/8/16	10	11	12
13	14 Planning Board meeting 7:00 pm Planning Board Public Hearing-Site Plan Review Regs. 7:00 pm	15	16 Selectmen's meeting 4:00 pm	17 Multi-Hazard Mitigation Meeting 6:00 pm	18	19
20	21	22	23 Selectmen's meeting 4:00 pm	24	25	26
27	28 Planning Board Meeting-Work Session 7:00 pm	29	30 Selectmen's meeting 4:00 pm	31		

« 2015 < FEB
📅 MARCH 2016
APR > 2017 »

Figure B
Articles posted in the Conway Daily Sun regarding Hazard Mitigation Planning in Albany

Conway Daily Sun Town Column, November 20, 2015

Cathy Ryan reported she met with the Hazard Mediation Emergency Management people. They made some adjustments to the plan on hand. They are expecting to meet again at 6 p.m. on January 11 which should enable more people to attend. For every attendee, there is a reduction of \$25 from the \$2000 Albany must put into the program.

Conway Daily Sun Town Column, February 4, 2016

Cathy Ryan reported that the Hazardous Mitigation Meeting has been postponed until after town meeting. The new date is March 16 at 6 p.m. Attendance is important as money is paid to the town for each person at the meeting. She brought the death

Conway Daily Sun Town Column, March 10, 2016

All are welcome to attend the Multi-Hazard Mitigation Plan meeting on Thursday, March 17, at 6 p.m. at town hall In the planning board room.



Figure C
Town of Albany Annual Reports, 2015 (top) and 2016 (bottom; Hazard Mitigation Plan

Albany’s Hazard Mitigation plan is due for an update in 2016. Cathy Ryan is leading the project. We have signed a memorandum of understanding with June Garneau of Mapping & Planning Solutions, who worked with us in 2012 to create the plan. Albany has received a grant to offset June’s cost. With June’s guidance and Cathy’s leadership, this will be completed with ease.

Albany’s Hazard Mitigation Plan was updated in 2016. Cathy Ryan led the project with great success. There are just a few finishing touches left and Albany will be in compliance until 2020.



The Planner also sent a monthly calendar to NH Emergency Management Directors, Police Chiefs, Fire Chiefs, Rangers and other State, Federal and Private Officials throughout the State, including stake-holders for the Town.

MAPS Mapping and Planning Solutions | **MAPS EOP & Hazard Mitigation Meetings | 2016**

New or changed Emergency Operations, Hazard Mitigation or Master Plan meetings; highlighted by "Counties". Status update: 6/4/16

Day	Date	Time	Town/Location	Plan Type	HSEM Field Rep	County
Monday	Jun 6	6:00 PM	Stark Fire Department	HMP	Heidi Lawton	Coos
Tuesday	Jun 7	8:00 AM	Lancaster Ambulance Bay	EOP	Heidi Lawton	Coos
Tuesday	Jun 7	1:00 PM	Lyme Town Offices	EOP	Paul Hatch	Grafton
Tuesday	Jun 7	7:00 PM	Shelburne Town Offices	MP	N/A	Coos
Wednesday	Jun 8	12:00 PM	Lyman Town Offices	EOP	Paul Hatch	Grafton
NH Preparedness Conference, June 9, 2016 – Come see us at our Exhibitor Booth						
Monday	Jun 13	10:00 AM	Alexandria Town Offices	EOP	Paul Hatch	Grafton
Tuesday	Jun 14	9:00 AM	Ashland Fire Department	EOP	Paul Hatch	Grafton
Tuesday	Jun 14	1:30 PM	Brentwood Town Offices	EOP	Heidi Lawton	Rockingham
Wednesday	Jun 15	9:00 AM	Lincoln Town Offices	EOP	Paul Hatch	Grafton
Wednesday	Jun 15	10:00 AM	Wakefield Public Safety Complex	HMP	Heidi Lawton	Carroll
Wednesday	Jun 15	5:00 PM	Albany Town Offices	HMP	Heidi Lawton	Carroll
Thursday	Jun 16	9:30 AM	Eaton Town Office	EOP	Heidi Lawton	Carroll
Wednesday	Jun 22	1:00 PM	Canaan Public Safety Complex	HMP	Paul Hatch	Grafton
Wednesday	Jun 22	6:00 PM	Bethlehem Library	MP	N/A	Grafton
Thursday	Jun 23	9:30 AM	Whitefield Town Offices	EOP	Heidi Lawton	Coos
Monday	Jun 27	10:00 AM	Alexandria Town Offices	EOP	Paul Hatch	Grafton
Monday	Jun 27	6:00 PM	Brentwood (TBD)	EOP	Heidi Lawton	Rockingham
Tuesday	Jun 28	6:30 PM	Lancaster Ambulance Bay	EOP	Heidi Lawton	Coos
Wednesday	Jun 29	6:00 PM	Whitefield Town Offices	EOP	Heidi Lawton	Coos
Thursday	Jun 30	9:30 AM	Eaton Town Offices	EOP	Heidi Lawton	Carroll
Monday	Jul 11	TBD	Lyme Fire Station	EOP	Paul Hatch	Grafton
Wednesday	Jul 13	6:00 PM	Lincoln Town Offices	EOP	Paul Hatch	Grafton

Notice of one of the six hazard mitigation planning meetings in Albany.

It was noted that Team composition is expected to be lower in smaller communities because of the small population base and the fact that many people “wear more than one hat”. It is often very difficult to attract individual citizens to participate in town government and those that do generally hold full-time jobs and work as volunteers in a variety of town positions. With very small populations, the percent of interested citizens in the rural towns’ planning processes is extremely small. Due to the lack of employment opportunities and other economic factors, the Town has a relatively high elderly population and a dwindling amount of young people with interest in politics.

While much effort was made to promote public participation at the Albany hazard mitigation meetings, there were only two general community members who took the opportunity to participate. Their comments have been integrated into the narrative discussion and incorporated into the essence of the document.

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

F. Incorporation of existing plans, studies, reports and technical information

The planning process included a complete review of the Albany Hazard Mitigation Plan of 2011 for updates, development changes and accomplishments. In addition, as noted in the Bibliography and in footnotes located throughout the Plan many other documents were used to create this mitigation plan. Some, but not all, of those plans and documents are listed as follows:

Albany Hazard Mitigation Plan of 2011.....	Compare & Contrast
Albany Annual Reports, 2015 & 2016.....	Fire Report & Development
Area Hazard Mitigation Plans (Conway, Berlin & Columbia).....	Formats & Mitigation Ideas
Albany Subdivision & Site Plan Review Regulations.....	Development Regulations
Albany Master Plan.....	General Community Information
Albany Zoning Ordinance & Floodplain Ordinance.....	Floodplain Regulations
Census 2010 Data	Population Data
The NH DRA Summary of Inventory of Valuation MS-1 2015 for Albany	Structure Evaluation
The Economic & Labor Market Information Bureau Community Response	Population Trends
The American Community Survey (ACS 2011-2015).....	Population Trends
NH Forest Forests & Lands (DNCR)	DNCR Fire Report
NH Office of Strategic Initiatives	Flood Losses
The NH Department of Revenue property tax valuation by property type.....	Property Information

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

G. Hazard Mitigation Planning Process & Methodology

The planning process consisted of twelve specific steps; some steps were accomplished independently while other areas were interdependent. Many factors affected the ultimate sequence of the planning process such as the number of meetings, community preparation, attendance and other community needs. The planning process resulted in significant cross-talk regarding all types of natural and human-caused hazards by team members.



All steps were included but not necessarily in the numerical sequence listed. The list of steps is as follows:

PLANNING STEPS

Step 01: Team Formation and Orientation, Goal Identification

Step 02: Formulate Hazards List, Hazards Description and Threat Matrix

Table 3.1 – Hazard Risk Analysis

Step 03: Profile, List and Map Historic and Potential Hazards, Wildfire, Natural and Human-Caused

Table 3.2 – Historic and Potential Hazards

Step 04: Profile, List and Map Critical Infrastructure and Key Resources

Tables 4.1 to 4.4 – Critical Infrastructure & Key Resources

Step 05: Assess Community's Participation in National Flood Insurance Program

Chapter 3, Section C

Step 06: Prepare an Introduction to the Community, discuss Emergency Service Capabilities, discuss Development Trends and review the Town Statistics

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

Step 07: List Existing Mitigation Strategies & Brainstorm to Identify Potential Mitigation Strategies

Table 6.1 – Current Plans, Policies and Mutual Aid

Step 08: Examine the Mitigation Strategies from the Prior Plan

Table 7.1 – Accomplishments since the Prior Plan Approval

Step 09: Evaluate and Categorize Potential Mitigation Action Items

Tables 8.1 - Potential Mitigation Strategies & the STAPLEE

Step 10: Prioritize Mitigation Action Items to Determine Action Plan

Table 9.1 – The Mitigation Action Plan

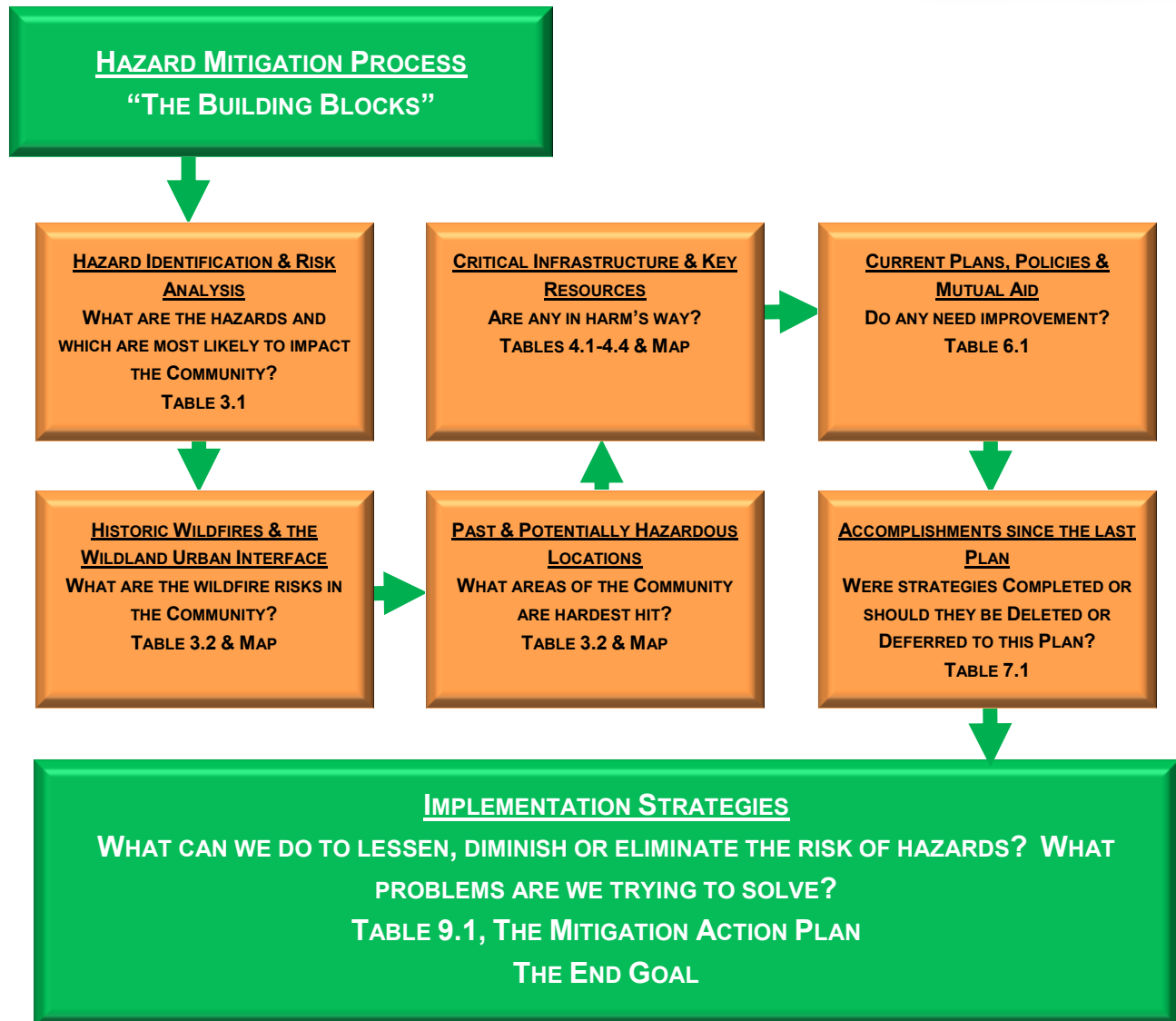
Step 11: Team Review of Plan Contents for Submission to HSEM/FEMA

Step 12: Adopt and Monitor the Plan

H. Hazard Mitigation Building Blocks & Tables

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

Ultimately, the “building blocks” lead to the final goal, the development of prioritized mitigation “action items” that when put into an action plan, would lessen or diminish the impact of natural hazards on the Town.



I. Hazard Mitigation Goals

Before identifying new mitigation actions, the Team established and adopted the following broad hazard mitigation goals. The goals that are in the 2013 State of New Hampshire Multi-Hazard Mitigation Plan were reviewed as were the goals that were in the 2011 Albany Hazard Mitigation Plan. After discussing these goals, the Albany Hazard Mitigation Team (2017) agreed to the following goals for this Plan.

Community & Resource Protection

- To improve upon the protection of the general population, the citizens of Albany and visitors, from all natural and human-caused hazards.
- To reduce Albany's potential exposure to risk with respect to natural and human-caused hazards.
- To minimize the damage and public expense which might be caused to public and private buildings and infrastructure due to natural and human-caused hazards.

Coordination & Communication

- To improve the Town of Albany's:
 - *Emergency preparedness and communication network.*
 - *Disaster response and recovery capability.*
- To identify, introduce and implement improvements to establish and maintain a reliable communication system.
- To improve communication capabilities so that the citizens of Albany can be notified in the most efficient manner as possible.
- To ensure that regular communication occurs between various departments and with local, regional and state officials and to have up-to-date plans in place to address various emergency situations and ensure that those involved are aware of their responsibilities.

Outreach & Education

- To build an awareness of public responsibility for hazard mitigation.
- To raise the awareness and acceptance of hazard mitigation opportunities through public education and outreach programs.
- To increase public awareness of the fire risk and the Town's potential liability with respect to wildfires.

Damage Prevention & Reduction

- To reduce the potential impact of natural and human-caused disasters on the Town of Albany's:
 - *Emergency Response Capability*
 - *Critical Infrastructure & Key Resources*
 - *Private property*
 - *Economy*
 - *Natural environment*
 - *Historic treasures and interests, as well as other tangible and intangible characteristics that add to the quality of life of the citizens and visitors to Albany.*
- To identify, introduce and implement cost effective hazard mitigation measures so as to accomplish the Town's Goals and Objectives.
- To reduce the occurrence of road closures and road erosion due to localized flooding within the Town of Albany.

J. Narrative Description of the Process

The Plan was developed with substantial local, state and federal coordination; completion of this new hazard mitigation plan required significant planning preparation. All meetings were geared to accommodate brainstorming, open discussion and an increased awareness of potential hazardous conditions in the Town.

The planning process included a complete review of the 2011 Albany Hazard Mitigation Plan. Using the 2011 Plan as a base, each element of the old plan was examined and revised to reflect changes that had taken place in development and in the priorities of the Community. In addition, referring to the 2011 Plan, the Team was able to reassess strategies from the past and to improve upon mitigation these strategies for the future.

The following narrative explains how the 2011 Albany Hazard Mitigation Plan was used during each step of the planning process to make revisions that resulted in this Plan.

Meeting 1, November 18, 2015

The first full meeting of the Albany Hazard Mitigation Team was held to kick off the hazard mitigation planning. Meeting attendance included Rick Hiland (Board of Selectmen, Chair), Kathleen Vizard (Town Administrator), Leah Valladares (Zoning Board of Adjustment), Cathy Ryan (Board of Selectmen), Thomas Currier (Resident), Tara Taylor (Planning Board), Kelly Robitaille (Health Officer), Joe Ferris (Board of Selectmen), Ronald Ryan, (Zoning Board of Adjustment), Olin Garneau, (Mapping & Planning Solutions) and June Garneau, (Mapping & Planning Solutions).

To introduce the Team to the planning process, June reviewed the evolution of Hazard Mitigation & Community Wildfire Protections Plans. She also explained the reasons for doing a hazard mitigation update, the importance of Community involvement, the funding, the 12 Step Process (handout), the collaboration with other agencies and the Goals (handout). June also explained the need to sign-in, track time (handout) and to provide public notice to encourage community involvement.

Work then began on *Table 2.1, Town Statistics*. Parts of this table were pre-populated with information from the prior plan and information that is available from the Community Profile provided by the Economic & Labor Market Information Bureau. This table enables the Team to see where things currently stand in the Community, provides the Planner with information to write the Plan and stands as a benchmark for future planning.

Most of the work on this table was completed at this meeting with the exception of a few items that June would either determine through GIS or get at a later date. There was some discussion about the weekend population change in Albany which is considerable, particularly during the summer months.

**HAZARDS MITIGATION
POTENTIAL TEAM MEMBERS**

FEDERAL
US Forest Service

STATE
Department of
Transportation
DNCR
RC&D (Non-Profit)

LOCAL
Selectmen (Past/Present)
Town Manager/Administrator
Town Planner
Police Chief
Fire Chief
EMD
Emergency Services
Fire Warden
Health Services
Education/School
Recreation Directors
Public Works Director
Road Agent
Water Management
Public Utilities
Waste Management
Dam Operators
Major Employers

LOCAL - SPECIAL INTEREST
Land Owners
Home Owners
Forest Management
Timber Management
Tourism & Sportsman's
Groups
Developers & Builders

EXPERTS
GIS Specialists
Watershed Oversight
Environmentalists
Media

Next on the Agenda were hazard identification and the completion of *Table 3.1, Hazard Threat Analysis*. Using the 2011 Plan, Table 3.1 was pre-populated with the hazards that were chosen by the last planning team. A few changes were made to the hazard list based on current events and climate change. Additionally, unlike the prior plan, hazards were separated by “natural” and “human-caused”. The hazards from the NH State Hazard Mitigation Plan were also reviewed; several hazards from this Plan were considered unlikely to occur in Albany (see Chapter 3, Section E).

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

- The Human ImpactProbability of Death or Injury
- The Property ImpactPhysical Losses and Damages
- The Business ImpactInterruption of Service
- The Probability.....Likelihood of this occurring within 25 years

The rankings were then calculated to reveal the hazards which pose the greatest risks to the Community; 13 natural hazards and five human-caused hazards were identified. After analyzing these hazards in Table 3.1, Severe Winter Storms & Ice Storms, Severe Thunderstorms & Lightning and High Wind (windstorm) were designated as the primary concerns.

With time running out the Team scheduled the next meeting for Monday January 11, 2016; this date was later changed to March 17, 2016.

Meeting 2, March 17, 2016

Meeting attendance included Rick Hiland, Kathleen Vizard, Leah Valladares, Cathy Ryan, Tara Taylor, Ronald Ryan, Kelly Robitaille, Thomas Currier, Joe Ferris and June Garneau.

First on the agenda was a review of the work done at the last meeting including a review of Tables 2.1 and 3.1. Flooding was thought to be a higher risk than was initially shown in Table 3.1; flooding was determined to be the fourth likely hazard that may affect Albany.

Having completed, reviewed and adjusted Table 3.1, the Team provided descriptions for each hazard and how they could or do affect the Town of Albany. In order to gain more knowledge of the impact of these hazards, June asked the Team to describe each hazard as it relates to Albany.

Meeting 1 – November 18, 2015

- 1) Introduction**
 - a) Evolution of Hazard Mitigation Plans & Community Wildfire Protection Plans
 - b) Reasons for Hazard Mitigation and Update
 - c) Community involvement to solicit input on how to mitigate the effects of hazards
 - d) Devise a plan that lessens, diminishes or completely eliminates the threat of Hazards to the Town
- 2) The Process**
 - a) Funding
 - b) Review of 12 Step Process & The Team (handout)
 - c) Collaboration with other Agencies (HSEM, WMNF)
- 3) Meetings**
 - a) Community Involvement - Public Notice, Press Release
 - b) Stakeholders
 - c) Signing In, Tracking Time, Agendas, Narrative (handout)
- 4) Today's Topics**
 - a) Table 2.1, Town Information
 - b) Table 3.1, Hazard Identification & Analysis
 - c) Hazard Descriptions
 - d) Table 4.1-4.4, Critical Infrastructure & Key Resources (time allowing)
- 5) Homework**
 - a) Homework – Critical Infrastructure & Key Resources
 - b) Digital Photos – contributions welcome
- 6) Future Meetings**
 - a) _____

Meeting 2 – March 17, 2016

- 1) Last Meeting**
 - a) Discussed the process, community and stakeholder involvement, our overall goal to establish mitigation action items and the collaboration of other agencies.
 - b) Completed Table 2.1
 - c) Completed Table 3.1
- 2) Today's Topics**
 - a) Review Table 2.1
 - b) Review Table 3.1 to see if order of hazards should remain as it is
 - c) Hazard Descriptions
 - d) Table 3.2, Historic Hazard Identification & Mitigation Ideas
 - e) Tables 4.1-4.4, Critical Infrastructure & Key Resources (time allowing)
- 3) Next Meeting**
 - a) Table 7.1, Accomplishments since the last Plan
 - b) Table 6.1, Current Plans, Policies & Mutual Aid
- 4) Future Meetings**
 - a) _____
 - b) _____

For example, some of the questions asked were:

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

In addition to bringing more awareness to the hazards, these questions provided information to further analyze the impact of the hazards on the Community. June noted that these descriptions would be used in *Chapter 5, Hazard Effects in Albany*, to describe the hazards and to bring the Plan to a more local level.

The Team then began work on *Table 3.2, Historic Hazard Identification*; this table included a list of past and potentially hazardous locations and/or events. First, the Team looked at the hazards that were listed in the 2011 plan and determined which they would like to see kept in this Plan. Next, the Team examined the record of Presidential Disaster and Emergency Declarations that have taken place in recent years. At this point, the Team assisted June in mapping some of the hazards that were identified in Table 3.2 for inclusion in *Map 3, Past & Potential Areas of Concern*.

With time running out, the Team was not able to complete Table 3.2, so it was tabled until the next meeting. June and the Team determine the next two meeting dates, April 7 and April 21; the meeting was adjourned.

Meeting 3, April 7, 2016

Meeting attendance included Leah Valladares, Cathy Ryan, Tara Taylor, Ronald Ryan, Thomas Currier, Joe Ferris, Olin Garneau and June Garneau.

To pick up from the last meeting, the first item the Team worked on was the completion of Table 3.2. While discussing past and potentially hazardous areas, June took the opportunity to explain the Wildland Urban Interface (WUI) and the Base Risk Analysis. Using GIS projection, June showed the Team *Map 1, Wildfire Base Risk Analysis*, and explained the process that was used to develop the map. June explained that slope, type of fuel (i.e., softwood or hardwood) and exposure (southwest being the most susceptible) were analyzed in GIS to determine where the high, medium and low risk areas of the Town are located.

Meeting 3 – April 7, 2016

1) Last Meeting

- a) Discussed “mitigation” and reviewed tables already worked on
 - i) Table 2.1, Town Statistics
 - ii) Table 3.1, Hazard Risk Analysis (some changes)
- b) Worked Hazard Descriptions & Mitigation Ideas
- c) Worked Table 3.2, Historic Hazard Identification ; completed only through “Wildfires”

2) Today’s Topics

- a) Continue worked Table 3.2, Historic Hazard Identification ; start at “High Winds”
- b) Tables 4.1-4.4, Critical Infrastructure & Key Resources
- c) Table 7.1, Accomplishments since the last Plan
- d) Table 6.1, Current Plans, Policies & Mutual Aid

3) Next Meeting

- a) Review Table 7.1, Accomplishments since the last Plan
- b) Review Table 6.1, Current Plans, Policies & Mutual Aid
- c) Start work on Mitigation Strategies (time allowing)

4) Future Meetings

- a) April 21, 2016 @ 6:00 PM

It was obvious in *Map 1, Wildfire Base Risk Analysis* that there are many areas that are highly susceptible to wildfires; these areas are primarily within the White Mountain National Forest and include the two highest peaks in Albany, Mount Chocorua (3,474') and Mount Paugus (3,201'). Other areas of Albany, including a small area southeast of Iona Lake, would also be considered high risk for wildfires.

Next, June discussed the Wildland Urban Interface (WUI) and projected a map of the Wildland Urban Interface over the Albany base layer and topography. The WUI was determined using GIS analysis to create a 300 foot buffer from the center line of all Class I-V roads and then an additional 1320 foot buffer from the first buffer (see *Map 2, Historic Wildfires & the Wildland Urban Interface (WUI)*). This area is determined to be the area in which the urban environment interfaces with the wildland environment and the area that is most prone to the risk of wildfires. Using GIS analysis and a 1-foot aerial imagery (2015), June explained how she would determine the number of Critical Infrastructure & Key Resources (CIKR) that are within the defined WUI. It should be noted that although the "WUI" was defined for the purpose of this Plan, many rangers and firefighters believe that towns with substantial wooded land, such as Albany, are entirely within the Wildland Urban Interface. In fact, 87.3% of the land in Albany is conserved with the majority of that being within the White Mountain National Forest.

Mitigation action items were discussed to protect structures and to educate the Town's citizens about the risk in the high risk and WUI areas. It was determined that the Town would acquire Firewise materials to have available at the Town Offices.

Next on the agenda were *Tables 4.1–4.4, Critical Infrastructure and Key Resources (CIKR)*. The Emergency Response Facilities, the Non-Emergency Response Facilities, the Facilities & Populations to protect and the Potential Resources from the 2011 Plan were examined and a few minor adjustments were made for this Plan. In addition, the evacuation routes, helicopter landing zones and bridges on the evacuation routes were defined. Lastly, each of the Critical Infrastructure and Key Resources were analyzed for their "Hazard Risk".

The meeting was adjourned and the next meeting was set for April 21, 2016.

Meeting 4, April 21, 2016

Meeting attendance included Kathleen Vizard, Leah Valladares, Rick Hiland, Cathy Ryan, Tara Taylor, Ronald Ryan, Thomas Currier, Joe Ferris, Olin Garneau and June Garneau.

Table 6.1, Current Plans, Policies & Mutual Aid, was first on agenda. Looking closely at the existing policies from the last plan and current mechanisms that are in place, the Team was able to determine whether the existing policies were effective or in "need of improvement". It was explained to the Team that those items that needed improvement would become "new action items" for this Plan and be discussed again when we got to our final table, *Table 9.1, The Mitigation Action Plan*.

Meeting 4 – April 21, 2016

1) Last Meeting

- a) Finished....
 - i) Table 3.2, Historic Hazard Identification
- b) Discussed....
 - i) Base Risk
 - ii) Wildland Urban Interface (WUI)
- c) Worked on....
 - i) Table 4.1-4.4, Critical Infrastructure & Key Resources

2) Today's Topics

- a) Table 7.1, Accomplishments since the last Plan
- b) Table 6.1, Current Plans, Policies & Mutual Aid
- c) Being thinking about Mitigation Ideas

3) Next Meeting

- a) STAPLEE
- b) Priority & Ranking

4) Future Meetings

- a) _____

Using the following scale which was provided by FEMA, the Team determined the effectiveness of each current plan, policy or mutual aid system.

KEY TO EFFECTIVENESS:

Excellent..... The existing program works as intended and is exceeding its goals.

Good The existing program works as intended and meets its goals.

Average The existing program does not work as intended and/or does not meet its goals.

Poor The existing program does not work as intended, often falls short of its goals and/or may present unintended consequences.

Next, the Team next worked on *Table 7.1, Accomplishments since the Last Plan*. Having pre-populated the table with the implementation strategies from the 2011 Plan, June lead the Team through each strategy to determine which of these were “Completed”, should be “Deleted” or should be “Deferred” to this Plan as a new mitigation action item. Many of the strategies from the 2011 Plan had been completed by the Town; several were deleted as they were felt to be no longer useful and/or were considered to be emergency preparedness.

With time running out June reviewed what would take place at the next meeting which was set for May 26, 2016 and gave the Team a handout listing potential mitigation strategies (see Chapter 8, Sections A & B and Appendix E). June thanked the Team and the meeting was adjourned. (*Note: the following link was included on every meeting agenda*)

Reading Material

Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards

-FEMA, February 2013

http://www.fema.gov/media-library-data/20130726-1904-25045-0186/fema_mitigation_ideas_final508.pdf

Meeting 5, May 26, 2016

Meeting attendance included Cathy Ryan, Ronald Ryan, Thomas Currier, Joe Ferris, Dick Van Dyne (Citizen), Olin Garneau and June Garneau.

The meeting began with a review of Tables 6.1 and 7.1 to ensure the accuracy of the information. Having taken notes at the previous meeting, June wanted to be certain that nothing was lost in her translation from her notes to the tables. A few minor corrections were made before starting on the next agenda item.

June then provided an overall recap of the work that had already been done. The recap included a brief look at each of the following completed tables:

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

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

June projected the final pre-populated table for the Town’s review. This table, a combination of Table 8.1 and Table 9.1, enabled the Team to examine each strategy from Tables 6.1 and 7.1 that they had previously determined to be either in “need of improvement” or “deferred” for further action. June had also added a few additional mitigation action items that had come up during discussions with the Team, and with the Team’s help, several more action items were added. Before completing the list of action items, the Team also reviewed the hazard descriptions that were provided at the second meeting to be certain that any potential action items that had been discussed in the past were included in this new table.

Meeting 5 – May 26, 2016

- 1) Last Meeting**
 - a) Worked on....
 - i) Table 6.1, Current Plans, Policies & Mutual Aid
 - ii) Table 7.1, Accomplishment since the Last Plan
- 2) Today’s Topics**
 - a) Table 9.1, Mitigation Action Items
 - b) STAPLEE
 - c) Priority & Ranking
- 3) Next Meeting**
 - a) Priority & Ranking (if not finished)
- 4) Future Meetings**
 - a) _____

The Team was now able to see and understand the “Action Items” for this hazard mitigation plan. Looking carefully at each “Action Item”, the Team was able to assign responsibility, the time frame for completion, the type of funding that would be required and the estimated cost of the action. After much discussion and a careful review, ultimately, the Team settled on 20 “Mitigation Action Items” they felt were achievable and that would help to diminish the impact of natural hazards in the future.

Next on the Agenda was the STAPLEE process, a systematic method used to gauge the quality of each of the Action Items; each Team member was given a handout describing the process (Chapter 8, Section C). The Social (S), Technical (T), Administrative (A), Political (P), Legal (L), Economic (E) and Environmental (E) impact for each action item was discussed; this analysis then became Table 8.1. After reviewing each action item using the STAPLEE process, the final scores ranged from 18-21, with 21 being the highest score. The average of all scores was 20.35.

With time running out, June quickly reviewed the last handout, a description of the Priority & Ranking Methodology (see Chapter 9, Section A). The next meeting was set for June 15, 2016.

Meeting 6, June 15, 2016

Meeting attendance included, Rick Hiland, Kathleen Vizard, Cathy Ryan, Heidi Lawton (Homeland Security & Emergency Management (NH), and June Garneau.

First, June asked the Team if there were any additional mitigation action items to add. Then, June reviewed the explanation of the ranking and priority methods (see Chapter 9). June had organized the “Action Items” by ranking them from 0-3, roughly in order of time frame, the Town’s authority to get the strategy accomplished and the STAPLEE score. The Team reviewed the ranking and made a couple of changes based on the expected time frame.

Meeting 6 – June 15, 2016

- 1) Last Meeting**
 - a) Worked on ...
 - i) Table 9.1, Mitigation Action Items
 - ii) STAPLEE (handout)
- 2) Today’s Topics**
 - a) Priority & Ranking
- 3) Future Meetings**
 - a) _____

Based on this “ranking”, each action item was placed in four categories as follows:

- **Category 0** was to include those items which are being done and will continue to be done in the future.
- **Category 1** was to include those items under the direct control of town officials, within the financial capability of the Town using only town funding, those already being done or planned and those that could generally be completed within one year.
- **Category 2** was to include those items that the Town did not have sole authority to act upon, those for which funding might be beyond the Town’s capability and those that would generally take between 13—24 months to complete.
- **Category 3** was to include those items that would take a major funding effort, those that the Town had little control over the final decision and those that would take in excess of 24 months to complete.

Then within each rank, the Team assigned a priority; for example, if seven action items were ranked “1” then the priority rank was 1-7 (see explanation in Chapter 9). In this fashion, the Team was able to determine which action items were the most important within their rankings and in which order the action items would be accomplished.

With Tables 8.1 and 9.1 completed, the Team’s work was complete, with the exception of the final review. June agreed to put the final plan together and email a copy for the Town’s review. June explained the process from this point forward and thanked the Team for their hard work. No additional meeting was scheduled.

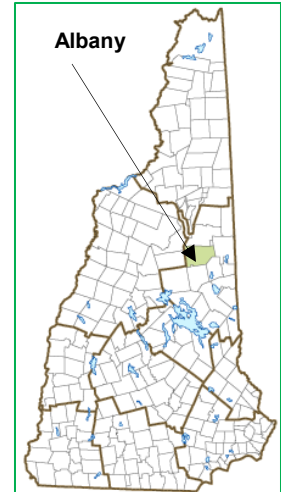
Documentation for the Planning process, including public involvement, is required to meet DMA 2000 (44CFR§201. (c) (1) and §201.6 (c) (1)). The Plan must include a description of the Planning process used to develop the Plan, including how it was prepared, who was involved in the process, and how other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

Chapter 2: Community Profile

A. Introduction

Albany is located in Carroll County in the White Mountain Tourist Region in the mid-eastern part of New Hampshire. The Town is bordered by Bartlett and Hales Location (unincorporated place) to the north, Conway to the east, Tamworth and Madison to the south and Sandwich, Waterville Valley and Livermore (unincorporated place) to the west. The Town is probably most well-known for the scenic Kancamagus Highway and the White Mountain National Forest.

A three-member Board of Selectmen governs the Town of Albany. The Town's departments include, but are not limited to, Planning Board, Zoning Board of Adjustment and Board of Selectmen.



DEMOGRAPHICS & HOUSING

Over the last 30 years, the population of Albany has increased steadily; the population change from 1980 to 2010 showed an increase of 352 according to US Census 2010. Albany's population in 2010 was estimated to be 735. The American Community Survey (ACS 2011-2015) estimates a total of 566 housing units, most of which are single family (462). Multiple-family structures total 25 and mobile homes and other housing units number 79. The median household income is estimated to be \$55,208 (ACS 2011-2015) and the median age is 42.2 years.⁴

EDUCATION & CHILD CARE

Albany students in grades K-12 are tuitioned to Conway. There are no licensed child care facilities in Albany according to the Economic & Labor Market Information Bureau, Community Response, 2017.

NATURAL FEATURES

The Town of Albany covers approximately 75.4 square miles of land area located in the scenic White Mountains tourism region of New Hampshire. Vegetation is typical of northern New England including both deciduous and conifer forests, open fields, swamp and riverine areas. Albany's terrain lends itself to an abundance of lakes, ponds, streams and rivers, most notably, the Swift River and Iona Lake.

Incorporated: 1795

Origin: One of the grants made to soldiers who fought the French at Louisburg, Nova Scotia, in 1745, this town was first chartered in 1766 as Burton, to honor General Johnathan Burton of Wilton. In 1833, the town was incorporated and renamed Albany, probably in recognition of the charter of the New York City to Albany New York railroad in that same year. Mount Chocorua, Mount Paugus and the southeastern corner of the White Mountain National Forest are within Albany's borders. Also located in Albany is the Albany Bridge, a 120-foot covered bridge spanning the Swift River, built in 1858.

Villages and Place Names: Ferncroft, Passaconaway, Paugus Mill

Population, Year of the First Census Taken: 170 residents in 1790

Population Trends: Population change for Albany totaled 631 over 55 years, from 146 in 1960 to 777 in 2015. The largest decennial percent change was 77 percent between 1960 and 1970; though the numeric change was only 113. The 2015 Census estimate for Albany was 777 residents, which ranked 201st among New Hampshire's incorporated cities and towns.

Population Density and Land Area, 2015 (US Census Bureau): 10.3 persons per square mile of land area, which tied with Lincoln. Albany contains 75.4 square miles of land area and 0.4 square miles of inland water area.

Source: NH Community Profiles; April 2017, <https://www.nhes.nh.gov/elmi/products/cp/profiles-pdf/albany.pdf>

⁴ Economic & Labor Market Information Bureau; NH Employment Security; <https://www.nhes.nh.gov/elmi/products/cp/profiles-pdf/albany.pdf>

TRANSPORTATION

NH Route 16 (5.26 miles) runs southeastern Albany from Conway to the east to Tamworth in the south. NH Route 16 is a major north-south highway that is very well-travelled by not only thousands of tourists heading for the tourist attractions of the Mount Washington Valley but also by large trucks and busses traveling from southern New Hampshire through the “Valley” and on into the northern White Mountains and the towns of Gorham and Berlin.

NH Route 112 (13.88 miles), also known as the Kancamagus Highway, begins in Conway, travels westerly through the entire width of Albany, through a small part of Waterville Valley and Livermore (unincorporated place), through Lincoln and on to other western New Hampshire communities. The “Kanc”, which in Albany is within the White Mountain National Forest, is a very beautiful and very busy tourist route and a destination for campers and hikers. Although not as busy during winter months, the “Kanc” is used for commercial vehicles and commuters travelling to the Conway area from the west.

Other smaller and less travelled roadways also exist in Albany. Albany’s contracted Road Agent maintains 19.75 miles of Class V roads, 6.51 miles of which are unpaved.⁵

EMERGENCY MANAGEMENT DIRECTOR

The Emergency Management Director (EMD) works closely with all emergency response managers as the Town collectively prepares for and responds to emergencies. The EMD is located at the EOC and coordinates the community-wide response to emergency events. Current EMD duties are the responsibility of the Board of Selectmen.

EMERGENCY OPERATION CENTER

The Town of Albany maintains an Emergency Operations Center (EOC) as part of the Town’s emergency preparedness program. The EOC is where department heads, government officials and volunteer agencies gather to coordinate their response to a major emergency or disaster event. The EOC is where the officials responsible for responding to major emergencies and disasters assemble to direct and control the jurisdiction’s response. The EOC goes into operation when town officials decide that the situation is serious enough to require a coordinated and other-than-routine response.

In Albany the designated EOC is the Albany Town Hall & Chapel. Security and maintenance of the EOC facilities will be carried out in accordance with EOC Standard Operating Procedures (SOPs) to be developed by the EMD.

ALBANY POLICE DEPARTMENT

Albany does not have a municipal Police Department. All law enforcement activities are carried out by either the Carroll County Sheriff’s (contracted) or the NH State Police.

ALBANY FIRE DEPARTMENT & EMERGENCY MEDICAL SERVICES

Albany does not maintain either a municipal Fire Department or Emergency Medical Services. All fire calls and emergency medical services are carried out by Conway Fire & Rescue.

⁵ Using GIS Analysis of 2016 NH DOT Road Layer

ALBANY ROAD AGENT

Although Albany does not maintain a municipal Highway Department, the Town contracts with a contracted Road Agent for road and plowing services. The Road Agent’s mission is to support the citizens of Albany through the safe operation, proper maintenance and future development of highway, supporting infrastructure and utilities in a manner that is cost conscience without sacrificing quality. Albany is not a member of the NH Public Works Mutual Aid Program.

NH EMERGENCY NOTIFICATION SYSTEM (ENS)

The entire town is serviced by NH ENS through e911. NH ENS allows the Town to notify either a section(s) of the Town or the entire town in the case of an emergency.

MEDICAL FACILITIES

Memorial Hospital, North Conway (11 miles, 25 beds) is the primary medical facility for Albany.

EMERGENCY SHELTER(S)

The primary shelter is the location to which evacuees are directed at the time of an emergency. In Albany, the designated primary shelter is the Albany Town Hall and Chapel. If the situation warrants, Albany may utilize regional sheltering options.

C. Albany’s Current & Future Development Trends

Over the last eighteen years, annual new housing starts in Albany have gone up and down, reaching a peak in growth in 2004 and a drop to the lowest point in 2010 (see chart to the right)⁶. Like the rest of New England, housing starts and development have followed the national lead with good steady growth prior to the economic instability of the late 2000s and a steady decline, or stagnant growth, after 2007. Many Communities, like Albany, have only recently begun recovering; some NH communities are now experiencing development growth, although the recovery continues to be slow.

Most recently, in the 2015 Annual Report, the Planning Board reported approvals for “...a site plan review resulting in a new business, a boundary line adjustment, and a minor subdivision”. In the 2016 Annual Report, the Planning Board reported “...two site plan applications resulting in renovations, improvements and upgrades to existing businesses and only one boundary line adjustment.”

Single-family New Home Construction Building Permits	
• 1997:	3 buildings, average cost: \$80,000
• 1998:	1 building, cost: \$62,000
• 1999:	7 buildings, average cost: \$50,000
• 2000:	4 buildings, average cost: \$55,000
• 2001:	5 buildings, average cost: \$91,000
• 2002:	12 buildings, average cost: \$141,100
• 2003:	8 buildings, average cost: \$109,100
• 2004:	17 buildings, average cost: \$166,500
• 2005:	5 buildings, average cost: \$178,600
• 2006:	4 buildings, average cost: \$287,500
• 2007:	3 buildings, average cost: \$283,300
• 2008:	3 buildings, average cost: \$182,400
• 2009:	3 buildings, average cost: \$182,400
• 2010:	1 building, cost: \$165,900
• 2011:	2 buildings, average cost: \$172,800
• 2012:	2 buildings, average cost: \$168,300
• 2013:	2 buildings, average cost: \$235,300
• 2014:	3 buildings, average cost: \$164,300

⁶ <http://www.city-data.com/city/Albany-New-Hampshire.html>

The Town reported that there have only been a few requests in recent years for building permits and that no new development has occurred in hazard prone areas. No development since the prior plan has impacted the Town's vulnerability to hazards.

As the economic recovery continues and as the overall economy of the region grows, the Town anticipates slow growth and the possible construction of more single family homes, second and vacation homes and requests for subdivisions. The Planning Board will closely monitor any future building requests, especially those requested in flood and wildfire urban interface zones.

The Albany Planning Board along with the Board of Selectmen will monitor growth in Albany using existing regulatory documents such as the Master Plan, Subdivision Regulations, Site Plan Review Regulations, the Flood Ordinance and the Capital Improvement Plan. The Town recognizes the importance of growth, but also understands the impact that hazards can have on new facilities and homes if built within hazardous areas of the Community. Although the likelihood of substantial development in Albany in the near future is low, Town officials will continue to monitor any new growth and development, including new critical facilities, with regards to potentially hazardous events

TABLE 2.1: TOWN STATISTICS

Table 2.1 - Town Statistics				
Census Population Data	2010	2000	1990	1980
Albany, NH - Census Population Data	735	661	538	383
Carroll County	47,818	43,918	35,526	27,929
<i>Elderly Population-% over 65 (*ACS 2011-2015)</i>	17.8%			
<i>Median Age (*ACS 2011-2015)</i>	42.2			
<i>Median Household Income (*ACS 2011-2015)</i>	\$55,208			
<i>Families below the poverty level (*ACS 2011-2015)</i>	19.5%			
<i>Estimated Population 2015 (*ACS 2011-2015)</i>	777			
<i>Change in Population-Summer (%)</i>	100%			
<i>Change in Population-Winter (%)</i>	25%			
Housing Statistics (2010 Census)				
<i>Total Housing Units</i>	560			
<i>Occupied Housing Units</i>	318			
<i>Owner Occupied Units</i>	253			
<i>Renter Occupied</i>	65			
<i>Vacant Housing Units</i>	242			
<i>Units for Seasonal, Recreational, Occasional Use</i>	223			

Table 2.1 - Town Statistics

Assessed Structure Value (2015-MS1)

Type of Structure	Value	1% Damage	5% Damage
<i>Residential Buildings</i>	\$56,972,200	\$569,722	\$2,848,610
<i>Manufactured Housing</i>	\$1,925,000	\$19,250	\$96,250
<i>Commercial Buildings</i>	\$10,080,100	\$100,801	\$504,005
<i>Other Utilities</i>	\$0	\$0	\$0
<i>Tax Exempt Buildings</i>	\$1,551,600	\$15,516	\$77,580
<i>Utilities</i>	\$1,261,400	\$12,614	\$63,070
Total	\$71,790,300	\$717,903	\$3,589,515

Regional Coordination

<i>County</i>	Carroll
<i>Tourism Region</i>	White Mountains

Municipal Services & Government

<i>Town Manager</i>	No
<i>Board of Selectmen</i>	Yes; Elected
<i>Planning Board</i>	Yes; Appointed
<i>School Board</i>	Yes; Elected SAU 9
<i>Zoning Board of Adjustment</i>	Yes; Appointed
<i>Conservation Committee</i>	Yes; Appointed
<i>Master Plan</i>	2014
<i>Emergency Operation Plan (EOP)</i>	Yes; 2012
<i>Hazard Mitigation Plan (HMP)</i>	Yes; June 10, 2011
<i>Zoning Ordinances</i>	Yes; Adopted 1982, Amended 3/13/12
<i>Subdivisions Regulations</i>	Yes; Adopted 1981, Amended 3/13/12
<i>Site Plan Regulations</i>	Yes; Amended, March 14, 2016
<i>Capital Improvement Plan</i>	Yes; 2015
<i>Capital Reserve Funds</i>	Yes
<i>Building Permits Required</i>	Yes
<i>Town Web Site</i>	Yes; http://www.albanynh.org/
<i>Floodplain Ordinance</i>	Adopted, March 9, 1993; Amended 3/13/12
<i>Member of NFIP</i>	1-Mar-95
<i>Flood Insurance Rate Maps (DFIRMS)</i>	19-Mar-13
<i>Flood Insurance Rate Study (FIS)</i>	19-Mar-13

Table 2.1 - Town Statistics

Percent of Local Assessed Valuation by Property Type (NH Department of Revenue, 2015)

<i>Residential Buildings</i>	84.5%
<i>Commercial Land & Buildings</i>	13.3%
<i>Other (including Utilities)</i>	1.3%

Emergency Services

<i>Town Emergency Warning System(s)</i>	NH Emergency Notification System
<i>School Emergency Warning System(s)</i>	Blackboard Connect
<i>Emergency Page</i>	No
<i>Facebook Page</i>	Yes (Town)
<i>ListServ</i>	No
<i>Local Newspapers</i>	Conway Daily Sun
<i>Local TV Stations</i>	WMUR channel 9; Channel 6 WCSH, Portland; Channel 3-Public TV (cable only Valley Vision)
<i>Local Radio</i>	WMWV, 93.5; 104.5 Magic (both Conway)
<i>Police Department</i>	No; NH State Police & Carroll County Sheriff (contracted)
<i>Police Dispatch</i>	Carroll County Sheriff's Department
<i>Police Mutual Aid</i>	By mandate
<i>Animal Control Officer</i>	Yes
<i>Fire Department</i>	No; Conway Fire Rescue
<i>Fire Dispatch</i>	Conway Police Dispatch Center
<i>Fire Mutual Aid</i>	Conway Fire Department -Ossipee Valley Mutual Aid & Mt. Washington Valley Mutual Aid
<i>Fire Stations</i>	No
<i>Fire Warden</i>	Yes
<i>Emergency Medical Services</i>	Conway Fire & Rescue
<i>EMS Dispatch</i>	Conway Police Dispatch Center
<i>Emergency Medical Transportation</i>	Conway Fire & Rescue
<i>HazMat Team</i>	Carroll County HazMat Team
<i>Established EMD</i>	No (Board of Selectmen)
<i>Established Deputy EMD</i>	No
<i>Public Health Network</i>	Carroll County Coalition for Public Health
<i>Health Officer</i>	Yes
<i>Code Enforcement Officer</i>	Yes
<i>Established Public Information Officer (PIO)</i>	No

Table 2.1 - Town Statistics	
<i>Nearest Hospital(s)</i>	Memorial Hospital, North Conway (11 miles, 25 beds)
<i>Local Humane Society or Veterinarians</i>	Conway Humane Society; North Country Animal Hospital; Conway Veterinarian; MWV Mobile Veterinarian Clinic
<i>Primary EOC</i>	Town Hall
<i>Secondary EOC</i>	The Town Chapel
<i>Primary Shelter</i>	Town Hall (until or if a regional shelter is available)
<i>Secondary Shelter</i>	The Town Chapel (until or if a regional shelter is available)
Utilities	
<i>Town Sewer</i>	Private Septic
<i>Highway Department</i>	No; Contracted Road Agent
<i>Road Agent</i>	Yes; elected
<i>Public Works Mutual Aid</i>	No
<i>Water Supply</i>	Private Wells; small private water systems; some Albany residents on Conway Town Water
<i>Waste Water Treatment Plant</i>	No
<i>Electric Supplier</i>	Eversource
<i>Natural Gas Supplier</i>	None
<i>Cellular Telephone Access</i>	Yes
<i>High Speed Internet</i>	Yes
<i>Telephone Company</i>	Fairpoint; Time Warner
Transportation	
<i>Primary Evacuation Routes</i>	State Routes; 16, 112 & 113
<i>Nearest Interstate</i>	I-93, Exits 23 & 32 (35 miles)
<i>Nearest Airstrip</i>	Eastern Slopes, Fryeburg, ME (4,200 ft. Asphalt runway)
	Moultonborough Airport, Moultonborough (3,475 ft. Asphalt runway)
<i>Nearest Commercial Airport(s)</i>	Portland (ME) International (62 miles, 13 airlines)
	Manchester-Boston Regional (89 miles, 13 airlines)
<i>Public Transportation</i>	Blue Loon (Tri-County Cap)
<i>Railroad</i>	No
Education & Childcare	
<i>Elementary/Middle School/High School</i>	Grades K-12 tuitioned to Conway
<i>School Administrative Unit</i>	SAU 9
<i>Licensed Childcare Facilities</i>	0 facilities, 0 capacity

Table 2.1 - Town Statistics

Conserved Land as a Percent of Land in the Community (GIS Analysis)

	Square Miles	Percent of Town Land
<i>Approximate Square Miles in Community</i>	75.7	100.0%
<i>Approximate Square Miles Not Conserved (%)</i>	9.6	12.7%
<i>Approximate Total Conserved Land (%)</i>	66.1	87.3%
<i>Approximate Municipal/County Land (%)</i>	0.2	0.3%
<i>Approximate Federal Owned land (%)</i>	65.0	85.8%
<i>Approximate State Owned Land (%)</i>	0.3	0.4%
<i>Approximate Private Land (%)</i>	0.6	0.8%

Fire Statistics (NH Fire Warden & State Forest Ranger Report & from Town of Albany)

<i>Wildfire Calls (16)</i>	2 Wildland; 1 Brush fire (per Conway Fire Department)
	330 Acres in White Mountain National Forest
<i>Carroll County Fire Statistics (16)</i>	70 fires, 70.3 acres
<i>State Forest Fires FY (16)</i>	392 fires, 722.9 acres

*ACS: American Community Survey, Census Bureau

Information found in Table 2.1, unless otherwise noted, was derived from the Economic & Labor Market Information Bureau, NH Employment Security, April 2017, Community Response Received 5/21/15
<https://www.nhes.nh.gov/elmi/products/cp/profiles-pdf/albany.pdf>

Chapter 3: Hazard Identification

A. Description of the Hazards

The first step in hazard mitigation is to identify hazards; the Team determined that thirteen natural hazards have potential to affect the Community. The hazards listed to the right and in Table 3.1 were classified based upon their relative threat score (as calculated in Column F in Table 3.1) and separated into three categories using Jenks' Optimization, which is also known as natural breaks classification. *"The natural breaks classification process is a method of manual data classification that seeks to partition data into classes based upon natural groups within the data distribution."*⁷

By using this grouping process, the Plan demonstrates each hazard's likelihood of occurrence in combination with its potential effect on the Town. This process illustrates a comprehensive hazard statement and assists the Town with understanding which hazards should receive the most attention. Determination of the probability of occurrence is contained within Column D in Table 3.1; hazards are assessed based upon the likelihood of the hazard's manifestation within a 25 year period.

Table 3.1 provides estimates of the level of impact each listed hazard could have on humans, property and business and averages them to establish an index of "severity". The estimate of "probability" for each hazard is multiplied by its severity to establish an overall "relative threat" factor.

Based on this analysis, the most likely natural disaster threat to Albany is Severe Winter Storms & Ice Storms. The second most likely threat is Severe Thunderstorms & Lightning and the third is High Wind (windstorm). Five human-caused hazards were also discussed by the Team including Hazardous Materials – Fixed Location, Extended Power Failure (>3 days), Hazardous Materials – Transport, Epidemic & Pandemic and Terrorism.

In light of recent events (Tropical Storms Irene and Sandy), it should be noted that hurricanes and/or tropical storms have the potential to cause significant damage in Albany as a result of both wind strength and flash flooding creating road closures and damage. Although Tropical Storms Irene and Sandy did not significantly impact Albany (see Chapter 5), there is a good probability that tropical storms will affect Albany in the future. The Team noted that Category 1 or greater hurricanes would not likely affect Albany; however the tropical rains that may result could be significant.

The Natural Hazards

The natural hazards which are **MOST LIKELY** to affect Albany include:

- Severe Winter Weather & Ice Storms
- Severe Thunders Storms & Lightning
- High Winds (windstorms)

The natural hazards which **MAY AFFECT** Albany include:

- Flooding
- Downburst & Tornado
- Hurricane & Tropical Storm
- Extreme Temperatures
- Earthquake

The natural hazards which are **LESS LIKELY TO AFFECT** Albany include:

- Wildfire
- Landslide & Mudslide
- Erosion
- Hailstorm
- Drought

⁷ ESRI, <http://support.esri.com/en/knowledgebase/GISDictionary/term/natural%20breaks%20classification>

TABLE 3.1: HAZARD THREAT ANALYSIS

Table 3.1 - Hazard Threat Analysis						
<i>Hazards which are most likely to affect the Community</i>			<i>A natural hazard is a source of harm or difficulty created by a meteorological, environmental or geological event.</i>			
<i>Hazards which may affect the Community</i>						
<i>Hazards which are less likely to affect the Community</i>						
Scoring for Probability (Columns A, B, C & D)	Column A	Column B	Column C	Column D	Columns A+B+C/3	Columns D x E
1=Very Low (0-20%)	What is the probability of death or injury?	What is the probability of physical losses & damage?	What is the probability of interruption of service?	Probability of this occurring within 25 years	Average of Human, Property & Business Impact	Relative Threat
2=Low (21-40%)						
3=Moderate (41-60%)						
4=High (61-80%)	Human Impact	Property Impact	Business Impact	Probability of Occurrence	Severity	Risk Severity x Occurrence
5=Very High (81-100%)						
Natural Hazards						
1) Severe Winter Storms & Ice Storms	2.0	3.0	3.0	5.0	2.7	13.3
2) Severe Thunderstorms & Lightning	2.0	3.0	3.0	4.0	2.7	10.7
3) High Wind (windstorm)	1.0	3.0	2.0	5.0	2.0	10.0
4) Flooding (riverine, local road, beaver dam)	2.0	2.0	2.0	3.0	2.0	6.0
5) Downburst & Tornado	2.0	3.0	3.0	2.0	2.7	5.3
6) Hurricane & Tropical Storms	2.0	3.0	3.0	1.0	2.7	2.7
7) Extreme Temperatures (hot & cold)	2.0	1.0	1.0	2.0	1.3	2.7
8) Earthquake	2.0	3.0	3.0	1.0	2.7	2.7
9) Wildfire	2.0	3.0	2.0	1.0	2.3	2.3
10) Landslide & Mudslide (Passaconaway Rd.)	2.0	3.0	1.0	1.0	2.0	2.0
11) Erosion (Swift River, camps & homes)	2.0	3.0	1.0	1.0	2.0	2.0
12) Hailstorm	1.0	2.0	2.0	1.0	1.7	1.7
13) Drought	1.0	1.0	1.0	1.0	1.0	1.0
Human-Caused Hazards						
1) Hazardous Materials - Fix Location	3.0	5.0	3.0	2.0	3.7	7.3
2) Extended Power Failure (>3 days)	2.0	1.0	3.0	3.0	2.0	6.0
3) Hazardous Materials - Transport	2.0	3.5	3.0	2.0	2.8	5.7
4) Epidemic & Pandemic	4.0	1.0	3.0	2.0	2.7	5.3
5) Terrorism	5.0	5.0	5.0	1.0	5.0	5.0

B. Risk Assessment

The next step in hazard mitigation planning was to identify the location of past hazard events and if possible, what facilities or areas were impacted. The Team used *Table 3.1, Hazard Threat Analysis*, to identify potential threats and prioritize their threat potential. The Team then used a base map that included the 100-year floodplain, political boundaries, water bodies, the road network and aerial photos to locate past hazard events on the base map. This step in the planning process serves as a stepping stone for predicting where future hazards could potentially occur. The Team identified past events in Albany, Carroll County and the State and listed them in *Table 3.2, Historic Hazard Identification*.

To assess the fire base risk, a formula based on the following criteria was used:

- **Ignitability** – Using the 2001 NH Land Cover Assessment GIS Layer - A value between 0 and 9 was assigned based on ignitability to 23 land cover categories from open water to pitch pine forest.
- **Slope** - A value of 1-10 was assigned to various gradients of slope.
- **Aspect** - A value of 0-8 was assigned to various aspects from flat to southwest facing slopes.

These criteria were combined using GIS analysis and weighted equally to determine risk levels throughout the Town. Once the analysis and mapping were complete in GIS, a matrix was created showing varying risk levels: low, medium and high. Each risk level was assigned a color and was mapped over a base-map of the Town, see *Appendix G: Map Documents, Map 1: Base Risk Analysis*.

C. Albany National Flood Insurance Program (NFIP) Status

Albany has been a member of the National Flood Insurance Program since March 1, 1995. Current Digital Flood Insurance Rate maps (DFIRMS) and the Flood Insurance Rate Study is dated March 19, 2013.

Albany has a very small flood plain with approximately .37 square miles of land in the 100-year floodplain⁸, most of which is inland water. The floodplain areas of Albany are primarily along the Swift River and around the lakes and ponds in the Community; there are other small streams and brooks throughout the Town that may also experience flooding.

According to the NH Office of Strategic Initiatives, two residential NFIP policies are in effect in Albany for a total of \$700,000 of insurance in force. No losses have been paid and there have been no reported repetitive losses.⁹ No Critical Infrastructure and Key Resources (CIKR) were found within the floodplain; the floodplain itself can be seen on *Map 3, Past & Potential Areas of Concern*, located in *Appendix G: Map Documents*, of this Plan.



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

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

Source:
http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.isn

⁸ GIS Analysis of Carroll County DFIRM (Digital Flood Insurance Rate Map)

⁹ NH Strategic Initiatives; Jennifer Gilbert, February 6, 2015

The Town of Albany, NH Floodplain Ordinance is part of the Town’s Zoning Ordinance. The Floodplain Ordinance was first adopted on March 9, 1993 and most recently amended on May 13, 2012. Elements from Albany’s Floodplain Ordinance are detailed below; italicized items are quoted directly from the Ordinance¹⁰.

Severe Repetitive Loss (SRL) Properties--NFIP-insured buildings that, on the basis of paid flood losses since 1978, meet either of the loss criteria described on page SRL 1. SRL properties with policy effective dates of January 1, 2007, and later will be afforded coverage (new business or renewal) only through the NFIP Servicing Agent’s Special Direct Facility so that they can be considered for possible mitigation activities. Source: <http://www.fema.gov/national-flood-insurance-program/definitions#R>

I. Preamble:

A. Authority

“This article was added to the Zoning Ordinance by the legislative body of Albany, New Hampshire on March 9, 1993 pursuant to the authority of RSA 674:16

B. Title

This provision shall be known as the Town of Albany Floodplain Ordinance

C. Purpose

The regulations in this ordinance shall apply to all lands designated as special flood hazard areas by the Federal Emergency Management Agency (FEMA) on its “Flood Insurance Rate Map” (FIRM) dated March 1, 1995, which is declared to be a part of this ordinance and is hereby incorporated by reference. (Amended March 12, 1996)”

Other elements of the Albany Floodplain Management Ordinance include:

- II. Definitions of Terms** Provides definitions for terms used in this Ordinance.
- III. Permit Required** *“All proposed development in any special flood hazard area shall require a permit from the Board of Selectmen.”*
- IV. Construction Requirements (A-B)**
 - A. Buildings**..... *“Specifications for construction and substantial improvement requirements in a special flood hazard zone
“...to determine whether proposed building sites will be reasonably safe from flooding...”*
 - B. Water and Sewer Systems** Specifications for water and sewer systems
- V. Permit Requirements (A-B)**
 - A.** *“For all new or substantially improved structures in Zones A and AE, the following information shall be provided to the Board of Selectmen:*
 - 1. The as-built elevation in relation to NCVD of the lowest floor (including the basement)*
 - 2. Whether or not such structures contain a basement.*
 - 3. If the structure has been flood-proofed and the as-built elevation (in relation to the NGVD) to which the structure was floodproofed.*
 - 4. Certification of floodproofing. The Building Inspector shall maintain the aforementioned information for public inspections, and shall furnish such information up request. (Amended 3/13/12)*

¹⁰ Town of Albany, Floodplain Ordinance (within Zoning Ordinance); all “italic” copy in this section comes from the Ordinance

- B. *The Board of Selectmen shall not grant a building permit until the applicant certifies that all necessary permits have been received from those governmental agencies from which approval is required by federal or state law, including Section 404 of the Federal Water Pollution Control Act amendments of 1972, 33 U.S.C. 1334.*”

VI. Submission Requirements (A-E)

- A. Discusses the notification to the Wetlands Bureau for riverine situations.
- B. Discusses the requirement to submit copies of *“said notification to adjacent communities as determined by the Board of Selectmen...”*
- C. Discusses certification by *“...a registered professional engineer, assuring that the flood carrying capacity of altered or relocated watercourse can and will be maintained.”*
- D. Discusses the use of available floodway data as *“criteria for requiring that all development in Zone A meet the following requirement:*
 - “No encroachments, including fill, new constructions, substantial improvements and other development, are permitted within the floodway that would result in any increase in flood levels within the community during base flood discharge.”*
- E. Discusses that the applicant demonstrates that *“...the cumulative effect of the proposed development, when combined with all existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community. (Added 3/13/12)”*

- VII. Permit Review Requirements (A-E)** Details further specifications for Zones A and AE, the 100-year flood elevation determination, new construction and substantial improvements and lowest floor regulations and regulations for Recreational Vehicles and Manufactured Homes.
- VIII. Appeals (A-D)** Details the necessary requirements for processing requests for appeals from the Zoning Board of Adjustment.
- IX. Variances (A-D)** Details the necessary requirements for processing requests for variances from the Zoning Board of Adjustment.
- X. Rehearing** Details the necessary requirements for a rehearing of any decision or order of the Zoning Board of Adjustment.
- XI. Miscellaneous Legal Provisions (A-C)** Details the validity of sections or provisions of the Ordinance and states that in conflicting situations *“the most restrictive or higher standards shall apply.”*

As a small and close-knit community, the Board of Selectmen, Planning Board and the Hazard Mitigation Planning Team are most always aware of new construction and/or substantial improvements that take place in Town. Although Albany has a very small designated Special Flood Hazard Area, the Team felt that it is worthwhile to provide flood information on the Town’s website and a link to the NFIP to provide public education for current homeowners and potential developers.

The Town of Albany, through its Floodplain Ordinance and other best practices, complies with the National Flood Insurance Program requirements. The Team understands that the benefits of the NFIP also extend to structures that are not in the 100-year floodplain. The Town will continue to work with the Office of Strategic Initiatives and will carefully monitor its continued compliance with the NFIP.

D. Profile of Past, Present & Potential Wildfire Events in Albany

Historic fires can serve to help residents determine where future fires may occur, understand how the landscape and land use may have changed over time and assist with determining priorities for future mitigation action items.

The Albany Planning Team noted that very few significant wildfires have occurred in Albany in the recent past, but “the largest wildfire in the White Mountain National Forest in about a century”¹¹ occurred during the fall of 2016. The “Covered Bridge Fire” burned roughly 325 acres but fortunately, did not damage or destroy any structures. Although no cause was determined, it is likely that the 2016 drought and the abundance of slash and timber on the forest floor contributed to the extent of the fire; much of the slash and timber that fell during the 1998 Ice Storm remains.

It was noted that if the right conditions were in place, a large wildfire could occur and structures could be at risk as many of the Community’s residences are located in the Wildland Urban Interface (WUI). It was also noted that with the large amount of conserved forest land, much of which is in the White Mountain National Forest, and the abundance of campers and hikers, the risk for wildfire is elevated.

Albany’s forested lands include many of the factors associated with potential wildfire including steep terrain, a significant softwood forest and large areas where clear cuts and blow downs have occurred. In addition, there is a limited municipal water supply in Albany so the fire department may have to rely on static water sources to fight fires, except along NH Route 16 where the Conway Fire Department has installed pressurized hydrants.



A group of firefighters gets an update Monday afternoon in Conway about the Covered Bridge Fire in the White Mountain National Forest in nearby Albany. (JOHN KOZIOL/UNION LEADER CORRESPONDENT)

¹¹ <http://www.unionleader.com/safety/Albany-Covered-Bridge-Fire-wildfire-continues-to-burn-more-than-300-acres-consumed-11152016>

E. Probability of Future Potential Disasters

Overall, the Town of Albany is fairly safe from the effects of natural hazards. However, due to Albany's geographic location, forested lands, steep hills, heavy snow pack and topography, there is always a possibility of future disasters in Albany. The Town of Albany has been impacted in the past by natural disasters, including flooding, lightning, severe winter storms and severe wind. In addition, the potential exists for tornado and earthquake damage although there is no record of these events striking the Town.

The hazards that are most likely to occur in Albany, based on analysis done in *Table 3.1, Hazard Threat Analysis*, are described below and in Chapter 5.

SEVERE WINTER STORMS & ICE STORMS

Severe winter weather events, particularly ice storms, are felt to pose the greatest risk to the people of Albany. It is not uncommon for snow storms to unload 2-3 feet of snow in a single storm; fortunately with this common occurrence also comes a vast knowledge of how to deal with the situation. In fact, even large single-storm accumulations can generally be handled by the Town's Road Agent.

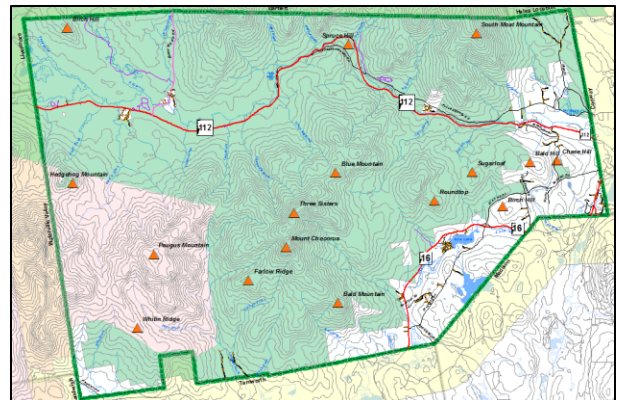
Ice storms on the other hand pose a serious threat as they are unpredictable and can create a mass amount of damage and long-lasting power outages. Elevations in Albany range from approximately 680' to 3,474' (Mount Chocorua)¹² above sea level and therefore the Community is very susceptible to ice storms and the subsequent damage they can cause. The 1998 Ice Storm had a significant impact in Albany with downed trees and power outages for 3-4 days. The majority of the Town, particularly along NH Route 112 (Kancamagus Highway) is over 1,000' and therefore very susceptible to ice storms. Therefore, the probability for future ice storms in Albany is good. See Chapter 5 for more information on severe winter weather.

SEVERE THUNDER & LIGHTNING STORMS

Thunder and lightning storms have impacted Albany in the past and are expected to again in the future. The Team noted that heavy summer rains are generally more damaging than spring snowmelt. It was also noted that the Town seems to be prone to lightning strikes especially in areas where there are high fields where houses use to be. The probability that severe thunder and lightning storms will occur in Albany is good. For more information on the impact of severe thunder and lightning see Chapter 5.

HIGH WIND (WINDSTORMS)

High wind events are not uncommon in Albany. With significant mountainous terrain and storms arriving from the west, it is not unusual for high winds to blow through the many mountain valleys in the Community. The topography of Albany combined with the flow of weather systems have been known to cause trees to fall; it was noted that in the past, random wind events have caused a tree to fall onto a garage and a car. For more information on the impact of High Winds see Chapter 5.



¹² Albany, NH; Wikipedia; https://en.wikipedia.org/wiki/Albany,_New_Hampshire

CLIMATE CHANGE

Although not identified as a natural hazard in this Plan, no plan can be considered complete today without some discussion of the impact that climate change has had on weather patterns. As FEMA stated in its new State Mitigation Plan Review Guide, *"The challenges posed by climate change, such as more intense storms, frequent heavy precipitation, heat waves, drought, extreme flooding, and higher sea levels, could significantly alter the types and magnitudes of hazards impacting states in the future."*¹³. By including climate change in the new hazard mitigation guide for state planners, FEMA is recognizing the reality of climate change. Communities in New Hampshire, such as Albany, should become increasingly aware of the effects of climate change on the natural hazards that are already being experienced.

STATE HAZARD MITIGATION PLAN

The NH State Hazard Mitigation Plan includes many of the same potential hazards that have been identified in Albany. Several of the State's hazards however were excluded from this Plan. These include the following:

<u>State Hazard</u>	<u>Reason for exclusion from Albany's Plan</u>
Coastal Flooding	Distance away from the sea
Radon	Felt to be an individual homeowner's responsibility
Dam Failure	No significant dams where damaging flood waters would occur
Radiological	Distance away from a nuclear power plant
Fire & Hazardous Materials	Addressed with "Wildfire" and "Hazardous Materials Transport & Fixed"
Snow Avalanche	No known areas of avalanche that would impact people or structures

HAZARD PROBABILITY COMBINED WITH POWER FAILURE

Any potential disaster in Albany is particularly impactful if combined with power failure, as would most likely be the case with severe winter storms, blizzards and ice storms, hurricanes, tropical storms and windstorms. The food supply of individual citizens could become quickly depleted should a power failure last for a week or more, particularly as there are no major pharmacies or grocery stores located in the Community. An outage during the winter months could result in frozen pipes and the lack of water and heat, a particular concern for the Town's elderly citizens who comprise approximately 17.8% of the population. In addition, winter in New England commonly brings very low temperatures, while high temperatures can be experienced in the summer.

HAZARD PROBABILITY COMBINED TRANSPORTATION

NH Route 16 serves as a major highway for those travelling to or from Conway and the Mount Washington Valley. NH Route 16, which travels through the southeastern part of Albany for approximately 5.25 miles is one of the busiest highways in the State and is often impacted by weather events that create poor driving conditions. Traffic on NH Route 16 includes not only an abundance of tourists but also a great deal of commercial traffic.

A second major highway in Albany is NH Route 112, also known as the Kancamagus Highway. The "Kanc" runs east-west through the entire town for nearly 14 miles over some of the largest peaks in the White Mountains. As a scenic roadway and a route for trucks delivering goods between Conway and Lincoln, this roadway also sees a significant amount of traffic. Driving conditions on the Kancamagus can be extreme, particularly during the winter months and at the higher elevations.

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

A small amount of other roads serve the Community, many of which are narrow and winding and subject to severe winter weather. The Town’s Road Agent is contracted for the maintenance of approximately 19.5 miles of Class V roads; 13 miles of which are paved and 6.5 miles of which are unpaved.¹⁴

Albany’s roads are beautiful in the spring, fall and summer months, but when affected by flooding, winter snow conditions and ice they become treacherous. In these conditions, vehicular accidents, wildlife collisions and truck accidents involving hazardous materials are always a possibility. A major ice storm or other significant event can make egress and access difficult for individuals and first responders.

TABLE 3.2: HISTORIC HAZARD IDENTIFICATION

2011 HMPT = 2011 Hazard Mitigation Planning Team
 2017 HMPT = 2017 Hazard Mitigation Planning Team

DR Presidential Disaster Declarations (DR) since 1953
 EM Emergency Declarations (EM) since 1953

Type of Event	Date of Event	Location	Impact	Resource
Past Flooding Hazards including Riverine, Heavy Rainfall, Rapid Snowmelt, Ice Jam Flooding & Local Road Flooding: Riverine flooding is the most common disaster event in the State of NH. Significant riverine flooding in some areas of the State occurs in less than ten year intervals and seems to be increasing with climate change. The entire State of NH has a high flood risk. Some areas prone to flooding and road erosion were mapped and can be seen on Map 3, Past & Potential Areas of Concern ; flood events have the potential to impact the Community on a town wide basis.				
Flooding	1953	Conway's West Side Road	Swift River and Saco flooded at confluence; got high enough to go through 20 foot high covered bridge; had residual effect on Albany	2011 HMPT
Flooding	June 1998 & every 5-10 years	Passaconaway Road	Flooding in Conway on West Side Road (Allard's Field) impact access on Passaconaway Road in Albany (Map ID #1)	2011 HMPT
Flooding	Annually	Intersection of Routes 113 & 16	Pequawket Brook floods and every couple of years creates the closure of the bridge (Map ID #2)	2011 HMPT
Flooding	Every 1-2 years	High Street	Road flooding on High Street occurs every 1-2 years; no structure damage is expected (Map ID #3)	2011 HMPT
Severe Storms & Flooding	May 12-23, 2006	Belknap, Carroll, Grafton, Hillsborough, Merrimack, Rockingham & Strafford	Presidential Disaster Declaration DR-1643: Flooding in most of southern NH, May 12-23, 2006. (aka: Mother's Day Storm); no significant impact in Albany.	FEMA & 2017 HMPT
Nor'easter, Severe Storms & Flooding	April 15-23, 2007	All Ten NH Counties	Presidential Disaster Declaration DR-1695: Flood damages; FEMA & SBA obligated more than \$27.9 million in disaster aid following the April nor'easter. (aka: Tax Day Storm); no significant impact in Albany.	FEMA & 2017 HMPT

¹⁴ GIS Analysis of NH DOT Road Layer; local roads Class V

Type of Event	Date of Event	Location	Impact	Resource
Severe Storms, Tornado, & Flooding	24-Jul-08	Belknap, Carroll, Merrimack, Strafford & Rockingham	Presidential Declaration DR-1782: Tornado damage to several NH counties; tornado struck Ossipee about 15-20 miles south of Albany; tornado did not reach Albany.	FEMA & 2017 HMPT
Severe Storms & Flooding	July 24-August 14, 2008	Belknap, Carroll & Grafton & Coos	Presidential Declaration DR-1787: Severe storms, tornado, and flooding on July 24, 2008; no significant impact in Albany.	FEMA & 2017 HMPT
Tropical Storms Irene & Sandy: Please refer to High Wind Events below				
Past Wildfire Hazards: New Hampshire is heavily forested and is therefore vulnerable to wildfire, particularly during periods of drought. The proximity of many populated areas to the State's forested land exposes these areas to the potential impact of wildfire. The six largest wildfires that were reported in the 2011 plan and the 2016 fire were mapped and labelled and can be seen in Map 2, Historic Wildfires & the Wildland Urban Interface ; all other wildfires from the 2011 are shown but not labelled; wildfires have the potential to impact the Community on a town wide basis.				
Wildfires	1946-2009	Various Locations Fires of less than 2 acres	The 2011 Hazard Mitigation Plan listed 39 wildfires that ranged in size from less than .10 of an acre to one acre; an additional five fires were greater than 1 acre (2, 2.5, 3, 6 & 34 acres); 8 of the total 44 wildfires were started by smoking, four by lightning, 21 by campfires, one by fireworks, one by machinery, two by debris burning, one by children with matches, one by "human case" and five whose cause was listed as "unknown". Fires that were reported in the 2011 plan and that were two acres or more are listed below and mapped in Map #2, including the largest fire in the White Mountain National Forest that happened near the Albany Covered Bridge in the Boulder Loop area in 2016.	USFS, DNCR & 2011 HMPT
Wildfire	July 2, 1953	Shaw Mountain	Presidential Disaster Declaration DR-11: Shaw Mountain; not in Albany	FEMA & 2017 HMPT
Wildfire	10/14/1963	Mary Scott	Unknown (Code 9); 2.5; Class B (Map ID #1)	USFS & 2011 HMPT
Wildfire	07/01/1963	Chocorua	Lightning (Code 1); 2.0; Class B (Map ID #2)	USFS & 2011 HMPT
Wildfire	08/07/1964	Big Brook	Machinery (Code 2); 3; Class B (Map ID #3)	USFS & 2011 HMPT
Wildfire	04/28/2009	Oliverian River	Human Caused (Code 9); 6.0; Class B (Map ID #4)	USFS & 2011 HMPT
Wildfire	11/08/1973	Farlow Ridge	Smoking (Code 3); 34; Class C (Map ID #5)	USFS & 2011 HMPT
Wildfire	2015	Albany	Four small wildfires were reported to have occurred by the Conway Fire Department; no wildfires of a significant size (>5 acres) have occurred in Albany since the 2011 plan until the 2016 Boulder Loop fire (see below)	2017 HMPT

Type of Event	Date of Event	Location	Impact	Resource
Wildfire	2016	Albany (Boulder Loop)	A 335 acre fire burned in the White Mountain National Forest in Albany; no structures were burned; Passaconaway Road closed for several days; WMNF crew, Conway Fire and Mutual Aid responded (<i>Map ID #6</i>)	Conway Fire & 2017 HMPT
<p>Past High Wind Events including Hurricanes, Tropical Storms, Tornadoes, Downbursts & Windstorms: Tornadoes are spawned by thunderstorms and occasionally by hurricanes; tornadoes may occur singularly or in multiples. A downburst is a severe localized wind blasting down from a thunderstorm. Downburst activity is prevalent throughout NH and is becoming more common with climate change; most downbursts go unrecognized unless significant damage occurs. Hurricanes develop from tropical depressions which form off the coast of Africa. New Hampshire's exposure to direct and indirect impacts from hurricanes is real, but modest, as compared to other states in New England. A hurricane that is downgraded to a Tropical Storm is more likely to have an impact in New Hampshire. These hazards were not mapped; tornadoes and other wind events have the potential to impact the Community on a town wide basis.</p>				
Hurricane	September 21, 1938	Region Wide	The Great New England Hurricane: Statewide there were 12 (or 13) deaths; damages in NH were about \$12.3 million dollars in 1938 dollars (about \$200 million now); in New England, 20,000 structures were damaged, 26,000 automobiles lost, 6,000 boats, 325, 000 sugar maples were lost and 80% of the people lost power (<i>Source http://nhpr.org/post/75th-anniversary-new-englands-greatest-hurricane</i>)	FEMA & 2017 HMPT
Hurricane	August 31, 1954	Region Wide	Hurricane Carol: Hurricane Carol resulted in an extensive amount of trees blown down and property damage; large crop loss; localized flooding; winds measured at over 100 mph; followed by Hurricane Edna just 12 days later, which caused already weakened trees to fall. (<i>Source: http://www.wmur.com/Timeline-History-Of-NH-Hurricanes/11861310</i>)	FEMA & 2017 HMPT
High Winds (windstorm)	December 1, 1980	Town Wide	Isolated wind storm affect locations in Albany; trees down; some power outages.	2017 HMPT
Hurricane Bob, Severe Storm	August 18-20, 1991	Town Wide	Presidential Disaster Declaration DR-917: No significant impact in Albany.	FEMA & 2017 HMPT
Hurricane Katrina Evacuation	August 29-October 1, 2005	All Ten NH Counties	Presidential Emergency Declaration EM-3258: Assistance to evacuees from the area struck by Hurricane Katrina and to provide emergency assistance to those areas beginning on August 29, 2005, and continuing; The President's action makes Federal funding available to the State and all 10 counties of the State of New Hampshire; no significant impact in Albany.	FEMA & 2017 HMPT
Severe Storms, Tornado, & Flooding	24-Jul-08	Belknap, Carroll, Merrimack, Strafford & Rockingham	Presidential Declaration DR-1782: Tornado damage to several NH counties; no significant impact in Albany; tornado did not reach Albany.	FEMA & 2017 HMPT

Type of Event	Date of Event	Location	Impact	Resource
Tropical Storm Irene	August 26-September 6, 2011	Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan	Presidential Disaster Declaration DR-4026 & Emergency Declaration EM-3333: Tropical Storm Irene Aug 26th- Sept 6, 2011 Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan Counties; Kancamagus Highway was washed out in Lincoln and in Albany beyond Passaconaway Road; Kancamagus Highway closed due to the inability to travel from Lincoln to Albany; culvert at Coleman's washed out limited access from Albany to Madison on NH Route 113.	FEMA & 2017 HMPT
Hurricane Sandy	October 26-November 8, 2012	Belknap, Carroll, Coos, Grafton & Sullivan	Presidential Disaster Declaration DR-4095 & Emergency Declaration EM-3360: The declaration covers damage to property from the storm that spawned heavy rains, high winds, high tides and flooding over the period of October 26-November 8, 2012; no significant impact from Hurricane Sandy in Albany.	FEMA & 2017 HMPT
<p>Past Severe Winter Weather Hazards including Nor'easters, Blizzards & Ice Storms: Severe winter weather in NH may include heavy snow storms, blizzards, Nor'easters and ice storms, particularly at elevations over 1,000 feet above sea level. Generally speaking, NH will experience at least one of these hazards during any winter season; however, most NH communities are well prepared for such hazards. These hazards were not mapped; severe winter weather and ice storms have the potential to impact the Community on a town wide basis.</p>				
Snowstorm	2007	County & Town Wide	Heavy snow throughout town; threat to roof collapsing	2011 HMPT
Snowstorms	Winter of 1968-69	Region Wide	The winter of 1968-69 brought record amounts of snow to all of NH; Pinkham Notch at the base of Mount Washington recorded more than 75" of snowfall in a four day period at the end of February 1969 in addition to snow that had already fallen; all of NH experienced difficulty with snow removal because of the great depths that had fallen from December 1968 to April 1969; skiing was still taking place in Tuckerman's Ravine and the Great Gulf on Mount Washington during the summer of 1969.	2017 HMPT
High Winds, Tidal Surge, Coastal Flooding & Snow	February 16, 1978	Town Wide	Presidential Disaster Declaration DR-549: Blizzard of 1978; Albany received heavy snow but nothing compared to the amount of snow that fell in southern New England; handled effectively by the Road Agent.	FEMA & 2017 HMPT
Ice Storms	January 7-25, 1998	Town Wide	Presidential Disaster Declaration DR-1199: Trees down, power outages for up to one week in part of Albany; significant tree damage throughout Town and in the White Mountain National Forest; slash on ground is still a concern, particularly for fire hazard during droughts.	FEMA & 2017 HMPT
Snow	December 6-7, 2003	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack & Sullivan	Presidential Emergency Declaration EM-3193: The declaration covers jurisdictions with record and near-record snowfall that occurred over the period of December 6-7, 2003; heavy snow but handled by the Road Agent.	FEMA & 2017 HMPT

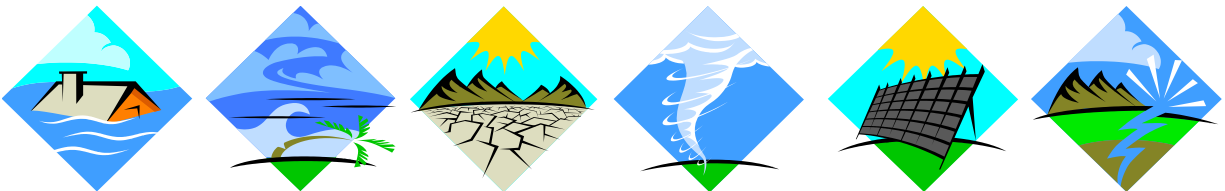
Type of Event	Date of Event	Location	Impact	Resource
Snow	January, 22-23, 2005 February 10-11, 2005 March 11-12, 2005	EM-3207 (Jan): Belknap, Carroll, Cheshire, Grafton, Hillsborough, Rockingham, Merrimack, Strafford & Sullivan EM-3208 & 3208-002 (Feb): Carroll, Cheshire, Coos, Grafton & Sullivan EM-3211 (Mar): Carroll, Cheshire, Hillsborough, Rockingham & Sullivan	Emergency Declaration EM-3207: January Storm Damage: More than \$3.5 million has been approved to help pay for costs of the heavy snow and high winds; Total aid for the January storm is \$52,864.23 in Carroll County; Emergency Declaration EM-3208: February Storm Damage: FEMA had obligated more than \$1 million by March 2005 to help pay for costs of the heavy snow and high winds; total aid for Carroll County for February is \$91,832.72; Emergency Declaration EM-3211: March Storm Damage; more than \$2 million has been approved to help pay for costs of the snow removal; total aid for Carroll County in March is: \$73,964.57. EM 3208-002: The Federal Emergency Management Agency (FEMA) has obligated more than \$6.5 million to reimburse state and local governments in New Hampshire for costs incurred in three snow storms that hit the state earlier this year, according to disaster recovery officials. Total aid for all three storms is \$6,892,023.87 (January: \$3,658,114.66; February: \$1,121,727.20; March: \$2,113,182.01); heavy snow occurred during the winter of 2005, but it was handled by the Albany Road Agent.	FEMA & 2017 HMPT
Severe Winter Storm & Ice Storm	December 11-23, 2008	All Ten NH Counties	Presidential Declaration DR-1812 & Emergency Declaration EM-3297: Damaging ice storms to entire state including all ten NH counties; fallen trees and large scale power outages; five months after December's ice storm pummeled the region, nearly \$15 million in federal aid had been obligated by May 2009; Albany had a little ice at higher elevations, but no significant impact.	FEMA & 2017 HMPT
Severe Snow Storm	October 29-30, 2011	All Ten NH Counties	Presidential Emergency Declaration EM-3344: Severe storm during the period of October 29-30, 2011; all ten counties in the State of New Hampshire. (aka: Snowtober); no significant impact in Albany; accumulation handled by the Road Agent.	FEMA & 2017 HMPT
Severe Winter Storm	February 8, 2013	All Ten NH Counties	Presidential Emergency Declaration DR-4105: Nemo; heavy snow in February 2013; heavy snowstorm but handled by the Albany Road Agent.	FEMA & 2017 HMPT
Severe Winter Storm	March 14-15, 2017	Belknap & Carroll Counties	Presidential Emergency Declaration DR-4316: Severe winter storm and snowstorm in Belknap & Carroll Counties; disaster aid to supplement state and local recovery efforts; heavy snowstorm but handled by the Albany Road Agent.	FEMA & 2017 HMPT

Type of Event	Date of Event	Location	Impact	Resource
Past Earthquake Hazards: According to the NH State Hazard Mitigation Plan, New Hampshire is considered to lie in an area of "Moderate" seismic activity when compared to other areas of the United States. New Hampshire is bordered to the north and southwest by areas of "Major" activity. Generally, earthquakes in NH cause little or no damage and have not exceeded a magnitude of 5.5 since 1940. These hazards were not mapped; earthquakes have the potential to impact the Community on a town wide basis.				
Earthquake	12/20/40	Ossipee, NH	Magnitude 5.5	State Hazard Mitigation Plan 2013
Earthquake	12/24/40	Ossipee, NH	Magnitude 5.5	
Earthquake	12/28/47	Dover NH-Foxcroft, ME	Magnitude 4.5	
Earthquake	06/10/51	Kingston, RI	Magnitude 4.6	
Earthquake	04/26/57	Portland, ME	Magnitude 4.7	
Earthquake	04/10/62	Middlebury, VT	Magnitude 4.2	
Earthquake	06/15/73	Quebec Border / NH	Magnitude 4.8	
Earthquake	1979	Town Wide	Small tremor; Christmas tree ornaments shook (<i>local, 2011 HMPT</i>)	
Earthquake	01/19/82	West of Laconia, NH	Magnitude 4.5	
Earthquake	06/23/10	Ontario-Quebec Border	Magnitude 5.0	
Earthquake	06/26/10	Boscawen, NH	Magnitude 3.1	
Earthquake	08/23/11	Virginia	Magnitude 5.8	
Earthquake	09/18/12	Concord, NH	Magnitude 1.2	
Earthquake	10/16/12	Waterboro, ME	Magnitude 4.0; felt in Albany but no damage.	
Past Drought Hazards: Droughts are generally not as damaging or disruptive as floods and other hazards and they are more difficult to define. A drought is a natural hazard that evolves over months or even years and can last as long as several years to as short as a few months. According to the NH State Hazard Mitigation Plan, New Hampshire has a low probability, severity and overall risk for drought. These hazards were not mapped; however droughts have the potential to impact the Community on a town wide basis.				
Drought	1929-1936	Statewide	Regional	NH Drought Historical Event - NH DES
Drought	1939-1944	Statewide	Severe in southeast and moderate elsewhere	
Drought	1947-1950	Statewide	Moderate	
Drought	1960-1969	Statewide	Regional longest recorded continuous spell of less than normal precipitation	
Drought	2001-2002	Statewide	Third worst drought on record	
Drought	2016	Statewide & Albany	Severe drought conditions throughout the state, moderating from south to north; Albany experienced moderate to severe conditions during this period of drought.	2017 HMPT

Type of Event	Date of Event	Location	Impact	Resource
<p>Other Past or Potential Hazards: Human-caused hazards and other unusual hazardous events have been noted throughout NH. Among others, one concern is the transport of hazardous material. These hazards were not mapped; other natural or human-caused hazards have the potential to impact the Community on a town wide basis.</p>				
<p>No other past or potential hazards were added by the 2017 Albany Hazard Mitigation Planning Team.</p>				
Severe Thunderstorms & Lightning			<p>Although the Team did not identify specific examples or past occurrences of these hazards, it was felt worthwhile to list them as potential hazards to the Town.</p> <p>See Table 3.1, Hazard Threat Matrix and Chapter 5 for more details on these hazards.</p>	
Downburst & Tornado				
Extreme Temperatures (hot & cold)				
Landslide & Mudslide				
Erosion				
Hailstorm				
Hazardous Materials - Fixed Location				
Hazardous Materials - Transport				
Epidemic & Pandemic				
Terrorism				

*Historic hazard events were derived from the following sources unless noted otherwise:

- Website for NH Disasters: <http://www3.gendisasters.com/mainlist/newhampshire/Tornados>
- FEMA Disaster Information: <http://www.fema.gov/disasters>
- The Tornado Project: <http://www.tornadoproject.com/alltorns/nhtorn.htm>
- The Tornado History Project: <http://www.tornadohistoryproject.com/>
- The Disaster Center (NH): <http://www.disastercenter.com/newhamp/tornado.html>
- <http://www.Earthquaketrack.com>



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Chapter 4: Critical Infrastructure & Key Resources (CIKR)

With Team discussion and brainstorming, Critical Infrastructure and Key Resources (CIKR) within Albany were identified and mapped for this Plan. The “ID” number in the following lists is also represented as a CIKR in *Appendix G: Map Documents, Map 4: Critical Infrastructure and Key Resources*. Facilities located in adjacent towns were not mapped (NM). The Hazard Risk rating was based on a scale of 1-3 with 1 indicating little or no risk.

TABLE 4.1 - EMERGENCY RESPONSE FACILITIES (ERF) & EVACUATION

Emergency Response Facilities (ERF)				
ERFs are primary facilities and resources that may be immediately needed during an emergency response.				
Map ID	Facility	Expected use of the Facility	Hazard Risk	
1	Albany Town Hall & Chapel (no generator)	Primary EOC & Primary Shelter	All Hazards & Wildfire	2
2	Aviation Drive	Heli Landing Zone	All Hazards	1
NM	Conway	Fire Department	All Hazards	1
NM	Conway Village Fire District	EMS	All Hazards	1
NM	Carroll County Sheriff's Department (Ossipee)	Sheriff & Dispatch Facility	All Hazards	1
NM	Conway Village Fire Department & PD	Communication	All Hazards	1
NM	Memorial Hospital (Conway)	Medical	All Hazards	1
NM	NH State Police (Troop E, Tamworth)	Police	All Hazards & Wildfire	2
Bridges & Culverts on the Evacuation Routes or of Importance				
3	Drake Hill Road Bridge-North @ Swift Brook	Evac Bridge or Culvert	All Hazards	1
4	Drake Hill Road Bridge-South @ Chocorua Brook	Evac Bridge or Culvert	All Hazards	1
5	NH Route 113 Bridge @ Pequaket River	Evac Bridge or Culvert	All Hazards & Flooding	3
6	NH Route 16 @ Meadow Brook	Evac Bridge or Culvert	All Hazard	1
7	NH Route 16 @ Chocorua River	Evac Bridge or Culvert	All Hazard	1
8	NH Route 112-Kancamagus Highway Four culverts or bridges going east to west	Evac Bridge or Culvert	All Hazard	1
9		Evac Bridge or Culvert	All Hazard	1
10		Evac Bridge or Culvert	All Hazard	1
11		Evac Bridge or Culvert	All Hazard	1
NM	West Side Road Bridge (Conway) @ Swift River	Evac Bridge or Culvert	All Hazards & Flooding	3

Emergency Response Facilities (ERF)			
Evacuation Routes			
NH Route 112 (Kancamagus Highway)	Evacuation Routes	All Hazards & Flooding	2
NH Route 16 (two parts)	Evacuation Routes	All Hazard	1
NH Route 113 (to Madison)	Evacuation Routes	All Hazards & Flooding	3

TABLE 4.2 – NON- EMERGENCY RESPONSE FACILITIES (NERF)

Non-Emergency Response Facilities (NERF)			
NERFs are facilities, that although they are critical, they are not necessary for the immediate emergency response efforts; this includes facilities to protect public health and safety, utilities, and provide backup to emergency facilities.			
Map ID	Facility	Expected use of the Facility	Hazard Risk
NM	Conway Elementary	Potential Shelter	All Hazards & Flooding 2
NM	Conway Village Fire Department	Potential Shelter	All Hazards 1

TABLE 4.3 – FACILITIES & POPULATIONS TO PROTECT (FPP)

Facilities & People to Protect (FPP)			
FPPs are facilities that need to be protected because of their importance to the Town and to residents who may need help during a hazard event.			
Map ID	Facility	Expected use of the Facility	Hazard Risk
12	Albany Covered Bridge @ Swift River	Historic	All Hazards, Wildfire & Flooding 2
13	National Forest Campground-Passaconaway	High Population Area	All Hazards & Wildfires 2
14	National Forest Campground-Jigger Johnson	High Population Area	All Hazards & Wildfires 2
15	National Forest Campground-Covered Bridge	High Population Area	All Hazards & Wildfires 2
16	National Forest Campground-Blackberry Crossing	High Population Area	All Hazards & Wildfires 2
17	National Forest Campground-White Ledge	High Population Area	All Hazards & Wildfires 2
18	World Fellowship	High Population Area	All Hazards & Wildfires 2
19	Waldorf School	School	All Hazards & Wildfires 2
20	Tin Mountain Conservation Center	School	All Hazards & Wildfires 2
21	Piper Meadows Trailer Park	High Population Area	All Hazards & Wildfires 2

Facilities & People to Protect (FPP)				
22	Wildwood Development	High Population Area	All Hazards & Wildfires	2
23	Brookside Development	High Population Area	All Hazards & Wildfires	2
24	Pine Knoll Campground	High Population Area	All Hazards & Wildfires	2
25	Darby Field Inn	High Population Area	All Hazards & Wildfires	2

TABLE 4.4 – POTENTIAL RESOURCES (PR)

Potential Resources (PRs)				
PRs are potential resources that could be helpful for emergency response in the case of a hazard event.				
Map ID	Facility	Expected use of the Facility	Hazard Risk	
26	D2 Gas Station	Gas; Diesel	All Hazards & Hazardous Materials	2
24	Pine Knoll Campground	Propane	All Hazards & Wildfires	3
27	AJ Coleman & Sons	Construction Contractor, Sand, Gravel, Heavy Equipment, Concrete; Propane; Kerosene	All Hazard	2
Additional resources are available in the neighboring town of Conway, NH				
For additional resources, please refer to the Town's Emergency Operations Plan (EOP)				

**Water Resources from the Rural Fire Water Resource Plan
Shown on Map #4 with symbology but no ID's
NH Route 16 hydrants are pressurize hydrants (installed by Conway Fire & Rescue)**

ID	SITE	Hydrant Type	Site Access
AL01	Drake Hill Road-South	Operational Dry Hydrant	Gravel
AL02	Drake Hill Road	Area of Concern	Paved
AL03	Drake Hill Road North	Operational Dry Hydrant	Paved
AL04	Coleman's	Pressurized Hydrant & Operational Dry Hydrant	Gravel
AL05	Wildwood Pond	Draft Site	Gravel
AL06	Bear Notch Road	Draft Site	Paved
AL07	Passaconaway Road	Hydrant	Paved
AL08	Red Eagle Pond	Draft Site	Paved
AL09	High Street	Draft Site	Paved
AL10	Crossover Road	Draft Site	Paved

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Chapter 5: Hazard Effects in Albany

A. Identifying Vulnerable Critical Infrastructure & Key Resources (CIKR)

Because damages from floods and wildfires are more predictable than damages from other disasters, it is important to identify the Critical Facilities and Key Resources (CIKR) and that are most likely to be damaged by these events. Using GIS analysis and aerial imagery, at-risk CIKR were identified throughout the Town.

All CIKR in Albany were identified in GIS; this list was then narrowed by those CIKR that were located in the FEMA floodplain. No CIKR were found in the flood zone; however, the FEMA floodplain is shown in *Map #3, Past & Potential Areas of Concern*. Town officials are aware of the flood risk in Albany and closely monitor flood waters as they occur. Several non-CIKR structures, assumed to be a combination of both residences and business, are also within the FEMA floodplain. Town officials should keep all areas that may flood in mind when a flood hazard is likely.

Using the same methodology that was used for flooding, CIKR falling within the Wildland Urban Interface (WUI) were reviewed. Identifying these structures assists the Team in creating wildfire mitigation action items and prioritizing those action items. It is important to determine which Critical Infrastructure and Key Resources are most

ID	ALL_HA	NAME	Hazmit_Type
2	ERFH	Aviation Drive	Heli Landing Zone
19	FPP	Waldorf School	School
26	PR	AJ Coleman & Sons	Construction Contractor
27	PR	D2 Gas Station	Gas

Structures in the Wildland Urban Interface (WUI)

vulnerable to wildfires. Many structures were found to be in the traditional WUI, including five CIKR (see chart above and *Map #2, Historic Wildfires & the Wildland Urban Interface*).

An analysis of these CIKR reveals that although some have good defensible space while others should be closely monitored during times of severe drought and other conditions that promote wildfires. In addition, the Town should work with private home owners, business owners and other town departments to ensure that tree and brush trimming continues, defensible space be maintained and water resources are available.

The rest of the Town’s Critical Infrastructure & Key Resources were found to be within the 300 foot WUI buffer, therefore accessible by fire apparatus and hoses. However, as stated elsewhere in this Plan, the entire town of Albany, including many structures, is thought to be in the WUI because the Town is so heavily forested; therefore, all structures in Town can be assumed to be in the WUI.

Table 3.1, The Hazard Threat Analysis, is used to evaluate the probability and the potential impact of all hazards.

B. Calculating the Potential Loss

It is difficult to ascertain the amount of damage that could be caused by a natural or human-caused hazard because the damage will depend on the hazard’s extent and severity, making each hazard event somewhat unique. Therefore, we have used the assumption that hazards that impact structures could result in damage to either 0-1% or 1-5% of Albany’s structures, depending on the nature of the hazard and whether or not the hazard is localized.

MS-1 Assessed Value of All Structures			
2015	Value	1% Damage	5% Damage
Residential	\$56,972,200	\$569,722	\$2,848,610
Manufactured Housing	\$1,925,000	\$19,250	\$96,250
Commercial	\$10,080,100	\$100,801	\$504,005
Other Utilities	\$0	\$0	\$0
Tax Exempt	\$1,551,600	\$15,516	\$77,580
Utilities	\$1,261,400	\$12,614	\$63,070
Total	\$71,790,300	\$717,903	\$3,589,515
<i>Albany 2015 Town Report, 3/17/16</i>			

Based on this assumption, the potential loss from any of the identified hazards would range from **\$0 to \$717,903** or **\$717,903 to \$3,589,515** based on the 2015 Albany town valuations which lists the assessed value of all structures in Albany to be **\$71,790,300** (see chart above).

Human loss of life was not included in the potential loss estimates, but could be expected to occur, depending on the severity and type of the hazard.

C. Natural Hazards

Descriptions below represent the “**local impact**” to the Community for the hazards that were identified by the Team. For the “**extent**” of these hazards, please refer to *Appendix C, The Extent of Hazards*, which includes charts such as the Saffir-Simpson Hurricane Wind Scale, the Beaufort Wind Scale, the National Weather Service Heat Index, the Sperry-Piltz Ice Accumulation Index and the Fujita Scale for tornadoes. . The numbers preceding the hazard name correspond to the numbers in *Table 3.1, Hazard Threat Analysis*.

1) Severe Winter Weather & Ice Storms \$717,903 to \$3,589,515

SNOW STORMS



Heavy snowstorms typically occur from December through April. New England usually experiences at least one or two heavy snow storms with varying degrees of severity each year. Power outages, extreme cold and impacts to infrastructure are all effects of winter storms that have been felt in Albany in the past. All of these impacts are a risk to the Community, including isolation, particularly of the elderly and increased traffic accidents. Damage caused by severe winter snowstorms varies according to wind velocity, snow accumulation, duration and moisture content. Seasonal accumulation can also be as significant as an individual snowstorm. Heavy overall winter accumulations can impact the roof-load of some buildings.

Like most of northern New Hampshire, Albany received large accumulations of snow from repeated storms during the winter of 1968-69; total snow accumulation records were broken all across New Hampshire, particularly in the “North Country”. A member of the planning team remembered skiing in the Great Gulf on Mount Washington on July 4th weekend, 1969.

Although the Blizzard of '78 did most of its damage in southern New England, northern New England also received high snow accumulations from this storm. In February 2005, a winter storm caused power losses for up to four days for some parts of Albany.

Although unusual, a very severe winter snow storm or blizzard could shut all of Albany's roads down at least temporarily and thus prevent many of the Town's citizens from going to work and prevent visitors from arriving. Fortunately, in New England, most road crews are able to handle 2-3' snow storms with a little time on their side.

ICE STORMS

Of more concern in Albany than 2-4' snow storms are ice storms, though the probability of the occurrence of a major ice storm is lower than that of a major snowstorm. A significant ice storm can inflict several million dollars' worth of damage to forests and structures. It is a common winter occurrence to have icy roads and ice on trees and power lines in Albany. However, much of the devastation from ice storms happens at the highest elevations, which in Albany range from approximately 680' above sea level at the lowest point to 3,474' above sea level at the top of Mount Chocorua.¹⁵

The 1998 Ice Storm impacted all of Albany, particular the higher elevations in the White Mountain National Forest. This ice storm downed trees, closed roads and caused power and phone outages for some up to four days. No significant structure damage occurred, however it took many days to clean up the storm damage. The storm also limited access for emergency responders. Neither the 1979 or 2008 ice storms impacted Albany.

Due to the widespread nature of ice storms and the excessive damage this type of storm is able to produce, the potential loss value is estimated to be between 1% and 5% of the total assessed value of all structures in town.

2) Severe Thunderstorms & Lightning \$0 to \$717,903

Severe lightning as a result of summer and mountain storms or as a residual effect from hurricanes and tornadoes has occurred in Albany. Some of the Town's structures are older buildings and most structures are surrounded by forest. Dry timber on the forest floor and the age of many buildings and out-buildings combined with lightning strikes can pose a significant disaster threat. Lightning could do damage to specific structures or injure or kill an individual, but the direct damage would not be widespread.

The Team noted that summer storms producing thunder and lightning appeared to be happening less often than in the past, however these storms seem to have a greater intensity. It was also noted that fields at higher elevations have been struck by lightning causing grass fires.

Lightning is a common occurrence and a potential problem, but one who's affects would be localized. Based on the localized nature of lightning strikes, the potential loss value was determined to be 0-1% of the total assessed structure value in Town.

¹⁵ Albany, NH; Wikipedia; https://en.wikipedia.org/wiki/Albany,_New_Hampshire

3) High Winds (windstorm) \$0 to \$717,903

Due to the geographic location of Albany in the high peaks of the White Mountain National Forest, high winds and down drafts are common occurrences within the Town. Wind tends to swoop down the mountain sides creating “wind tunnels” in parts of the Town. High winds have brought down trees and power lines and have caused power failures and road closures. During one high wind event, a tree fell onto a garage while in another event, a tree fell onto a car. Old-growth softwood is affected by these unexpected windstorms, particularly in the spring when the water table is high.

The effect of isolated high winds would most likely be localized in nature; therefore, the potential loss value due to hazards of this type was determined to be between 0% and 1% of the total assessed structure value.

4) Flooding (riverine, local road & beaver dams) \$0 to \$717,903



Flooding is often associated with tropical storms, heavy rains and rapid snowmelt in the spring. Based on the Carroll County Floodplain Map, Albany has a very small 100-year floodplain which follows along the banks of Swift River, Pequawket Brook and around the Town’s lakes and ponds. Today, with changes in land use, aging roads, designs that are no longer effective and undersized culverts, the risk of flooding is a concern.

Riverine Flooding, particularly within the flood zone is of concern, although no structures were found in the FEMA Floodplain. Albany’s Floodplain Ordinance does a good job preventing building in the flood zone, so unless there is a significant 100-year event, the likelihood for riverine flooding is low.

Riverine flooding in the past has occurred at the confluence of the Swift and Saco Rivers and at Pequawket Brook near the intersection of NH Routes 16 and 113. However, due to the localized nature of riverine flooding in Albany, the estimated loss value was determined to be between 0% and 1% of the total assessed value of all structures.

Local Road Flooding has occurred on West Side Road (Conway) thus impacting access to Passaconaway Road and on High Street every few years. Fortunately, NH Routes 16, 112 and 113 are state roads and not the responsibility of the Road Agent. Other smaller and less travelled roadways also exist in Albany. Albany’s contracted Road Agent maintains approximately 19.75 miles of Class V roads, 6.51 miles of which are unpaved.¹⁶

Beaver dams which occur and reoccur throughout the Community also cause concern for flooding. Beaver dams on each end of Lake Iona have caused flooding in the past. Vigilance on the part of the Town and Road Agent to keep these beaver dams away from culverts and low-lying areas is a daunting task.

Due to the localized nature of all flooding events in Albany, the potential loss value is estimated to be between 0% and 1% of the total assessed value of all structures in town.

¹⁶ Using GIS Analysis of 2016 NH DOT Road Layer

5) Downburst & Tornado \$717,903 to \$3,589,515



A tornado generally covers a large area, perhaps even several miles. It has winds that blow in a circular fashion leaving behind downed trees that lie in a swirling pattern. Straight-line winds and winds that burst downward are indicative of a microburst; the fallen trees that are left behind lay in roughly the same direction. A microburst must be 2.5 miles in width or less, whereas a macroburst is a similar wind event that is greater than 2.5 miles wide and generally lasts longer than a microburst. A tornado touched down in Carroll County in July 2008, but it did not reach Albany.

Albany has not experienced a significant tornado or downburst; however, the Team felt that some areas of Town where more susceptible to these high wind events, particularly the deep mountain valleys. While the mountains may prevent the development of tornadoes, they may contribute to the development of downbursts.

Although tornadoes and downbursts are relatively uncommon occurrences, there is a potential for significant damage. Therefore, the potential loss value was determined to be between 1% and 5% for both downbursts and tornadoes

6) Hurricane & Tropical Storms \$717,903 to \$3,589,515

Wind damage due to hurricanes is a consideration because of the forest and valley floors in Albany. Like the 1938 Hurricane, major forest and structure damage could occur. Hurricanes are rare in New Hampshire, but they should not be ruled out as potential hazards. In most cases, hurricanes have been down-graded to tropical storms by the time they reach northern New Hampshire. Although hurricanes could fit into several different categories (wind and flooding), the Team considered hurricanes to be separate events.

Tropical Storm Irene, the remnants of Hurricane Irene, and Tropical Storm Sandy brought heavy rain to Albany, although no significant damage occurred. The Team indicated that there were no washouts or basement flooding as a result of these two storms, as was the case in many other towns in both New Hampshire and Vermont. It was noted that the Kancamagus Highway (NH Route 112) was closed as a result of Tropical Storm Irene, but only because Lincoln, on the western end of the “Kanc”, had significant road damage and a major bridge failure.

Named Category hurricanes are rare in Northern New Hampshire, but if a Category 1 or higher hurricane made it as far north as Albany, the damages caused by associated high wind and heavy rain would affect the entire town, most likely on a much higher scale than tropical storms. For this reason, although the probability is very low, the potential loss value due to hurricanes was determined to be between 1% and 5% of the total assessed structure value.

7) Extreme Temperatures (hot & cold)..... Structure loss value was not estimated

For those who are familiar with Northern New England weather, it is obvious that temperature extremes are very common. Winter temperatures can fall below -30°F and summer temperatures, laden with high humidity can soar to nearly 100°F. In the past, there was more concern about extreme cold temperatures, but with improved heating systems and local communications, most New Hampshire residents are able to cope with extreme cold. One of

the bigger concerns for extreme cold is the impact this can have on the depth of the frost and damage that can occur to water lines. In parts of NH, the winter of 2014-15 brought temperatures below zero for 30 days, temperatures to stay below 32° for nearly three months and frost to reach depths over six feet.

Also of concern today are extreme heat conditions. Few residents, particularly the elderly and vulnerable populations, have air conditioners and are less able to cope with extreme heat; the elderly population in Albany was estimated to be 17.8% according to the American Community Survey, 2011-2015.

Extreme temperatures when combined with power failure are of the most concern; power failure would result in no water, heat and air conditioning for the Town's vulnerable population. Both town officials and the Community as a whole should be concerned and should look after its citizens to ensure that extreme temperatures do not create a life or property threatening disaster. The number of mobile home parks and campgrounds within the Town exasperate the problem of extreme temperatures.

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

8) Earthquake \$717,903 to \$3,589,515

Earthquakes can cause buildings and bridges to collapse, disrupt gas, electric and phone lines and are often associated with landslides and flash floods. Four earthquakes occurred in New Hampshire between 1924-1989 having a magnitude of 4.2 or more. Two of these occurred in Ossipee (not far from Albany), one west of Laconia and one near the Quebec border. It is well documented that there are fault lines running throughout New Hampshire, but high magnitude earthquakes have not been frequent in New Hampshire history.

In October 2012, an earthquake with its epicenter in Hollis, ME and a magnitude of 4.6 on the Richter scale occurred. The tremor was felt through most of New England and in Albany, but no damage was reported.

Although historically earthquakes have been rare in New Hampshire, the potential does exist and depending on the location, the impact could be significant. The potential structure loss value due to earthquakes was determined to be between 1% and 5% of the total assessed structure value.

9) Wildfire \$717,903 to \$3,589,515

Due to the abundance of slash on the forest floor left by logging operations, the 1998 Ice Storm and blow downs, there is potential for fast burning fuels. Burn permits are required in Albany, as they are throughout the State, but often burning takes place without the proper permits. The steep terrain and heavily forested areas of town are difficult to monitor, therefore the occasional unauthorized burn will take place. Currently available documentation on fires in Albany indicates that the majority of fires are human-caused.

No significant fires were reported by the Team since the last plan, until November 2016 when a 335 acre portion of the White Mountain National Forest burned. As stated elsewhere in this Plan, Albany is home to a large portion of the White Mountain National Forest; camping in the National Forest and elsewhere in the Community contributes to the risk for wildfire.

In the mid-2000s, the Wildland Urban Interface (WUI) was determined in collaboration with the NH Division of Forests & Lands and the US Forest Service; the WUI represents the area in which the forest and human habitation intersect. It was defined to be a 1/4 mile buffer located 300 feet off the centerline of Class I-V roads. All structures within the WUI are generally assumed to be at some level of risk and therefore, vulnerable to wildfire. It should be noted that in communities that are heavily forested, like Albany, many Rangers feel that the entire community is in the WUI and therefore the extent of a wildfire could potentially be the entire community.

Large wildfires in New Hampshire are uncommon; however, given the right set of conditions (drought, lightning, human interface), the potential for large wildfires is good. Because the Town of Albany is so heavily forested, the potential loss value was determined to be between 1% and 5% of the total assessed structure value.

10 & 11) Landslide, Mudslide & Erosion..... \$0 to \$717,903

Erosion, landslides and mudslides are often grouped together and are generally associated with heavy rains, steep terrain and the overflow of river banks.

Erosion along the Swift River is always a concern for potential losses; the River rises on the eastern side of Kancamagus Pass and flows east into a broad valley surrounded by mountains, known as Passaconaway, formerly known as the Albany Interval. Leaving the interval, the river enters a narrow gorge, passing over two sets of small waterfalls and continues east through the Town of Albany to the Saco River in Conway. There are several camps and homes along the river.

Geological events, steep slopes and heavy rains are often the cause of landslides. In the past, landslide and mudslide events have not caused significant damage to structures in Albany; however the threat of a landslide event does exist, particularly on Passaconaway Road. A scenic part of Passaconaway Road, Dugway, has steep slopes above and below the road surface. A stream under the road has caused some of the road to wash out in the past and has potential to do so again in the future. Although not predicted, a landslide in this section of Passaconaway could cause considerable road damage.

Damages from landslide, mudslide or erosion are likely to be localized. Therefore, the estimated potential loss was determined to be between 0% and 1% of the assessed structure value in Albany.

12) Hailstorm \$0 to \$717,903

Hailstorm events, although not common in the Town of Albany, can occur at any time. Damage from hail could result in failed domestic crops and structure and vehicular damage, thus creating an economic impact for individual citizens.

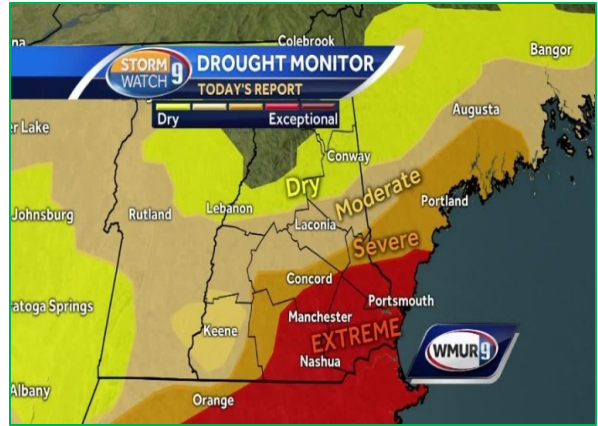
The Team reported very few hailstorm events, and those that did occur, had hail no larger than a “pea” or “small marble”. Overall, the Team concurred hailstorm events are unlikely, although with climate change this consideration might be altered. In any event, hailstorm damage would most likely be minimal and localized; therefore, the potential loss value was determined to be between 0% and 1%.



13) Drought..... \$0 to \$717,903

The cost of drought in Albany is difficult to calculate as any cost would primarily result from an associated fire risk and a diminished water supply which is supplied to most residents by private wells. An extended period without precipitation could elevate the risk for wildfire and blow-downs in the forest and with an extreme drought, the water supply and aquifer levels could be threatened.

Fortunately, significant droughts rarely occur in New Hampshire or Albany. The 2016 drought brought extreme and severe drought conditions to southern New Hampshire, but Albany remained in the “severe” to “moderate” category (see map to the right).

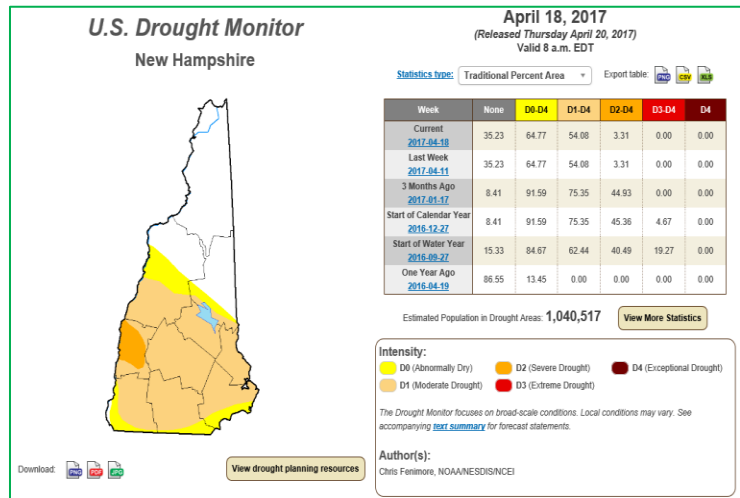


WMUR Archives; September 15, 2016

Extreme droughts in New Hampshire are particularly rare and have no significant effect on structures, unless wildfire events occur. An extended period without precipitation could elevate the risk for wildfire and blow-downs in the forest and with an extreme drought, the water supply and aquifer levels could be threatened. According to the NH Department of Environmental Services, five significant droughts have occurred since 1929¹⁷, not including the 2016 drought

Fortunately, the 2016 drought has abated, although recovery is still taking place in some areas of the State. Current drought monitoring depicts drought conditions in southern and western New Hampshire but shows no drought to be currently present in Albany (see chart to right).¹⁸

If it were to occur, a significant drought in Albany would not only impact the forested lands of the Town but also the water supply and aquifer. The estimated loss value above, based on a 0-1% risk reflects the potential for not only lost woodlands and the potential for wildfire but also the economic impact to the Community.



¹⁷ NH DES; <http://des.nh.gov/organization/divisions/water/dam/drought/documents/historical.pdf>

¹⁸ US Drought Monitor-New Hampshire, April 18, 2017; <https://www.drought.gov/drought/new-hampshire>

D. Human-caused Hazards

The following human-caused hazards were also considered while developing this hazard mitigation plan. Though these hazards are not analyzed in more detail as part of this Plan, they are none-the-less worth mentioning as real and possible hazards that could occur in Albany.

1) Hazardous Material-Fixed Location

Several locations in Albany maintain a supply of hazardous materials that have the potential to create risk; amount these are a large builder contractor and a car dealer. The Town is aware of these facilities and the Conway Fire Department monitors the supply and safety of hazardous materials located on-site. Although the likelihood of a hazardous materials incident in a fixed location is low, the risk still exists.

2) Extended Power Failure (3+ days)

Extended power outages of several days have occurred in Albany, from winds, storms and issues with the power grid. If a major and/or extended power outage occurs and lasts for more than a week, a significant hardship on individual residents could result, particularly those citizens who are elderly or handicapped. The 1998 Ice Storm caused power failure as did the February 2005 snowstorm, both causing power loss for 3-4 days. Extended power failure is a concern, particularly when combined with any of the natural hazards detailed above

The Team felt that many residents were somewhat self-sufficient; many residences are equipped with generators and many others have woodstoves. The biggest impact from on expended power failure would be the inconvenience caused by the inability to pump water for residents who rely on wells. It is also noted that Albany is a somewhat difficult place for senior citizens to live; driving can be difficult due to weather conditions and steep terrain and all services including pharmacies and major grocers are located out of town.

3) Hazardous Material-Transport

One of the main highways through Albany is NH Route 16 and as discussed in other parts of this Plan, this is a major thoroughfare running from Portsmouth in the south to Conway, Berlin, Gorham and other northern NH towns. NH Route 112, a significant east-west highway, also carries a tremendous amount of traffic consisting of not only tourists in great numbers but also trucks and busses, provided they are not “over width” and/or “over length”. NH Route 113 also experiences steady traffic between Albany and Madison. Large trucks carrying a variety of unknown materials travel these roads on a daily basis. Trucks such as UPS and FEDEX are not mandated to disclose their freight.



It should also be noted vehicular accidents can occur such as moose hits, tour bus accidents and winter storm related accidents. A mass casualty accident would quickly overwhelm a town of this size and the current emergency systems. Depending on the exact location of a potential accident involving hazardous material, structural damage, wildfire, diminished services and loss of life can occur. Potential damage could be significant.

4) Epidemic/Pandemic

The threat of either an epidemic or a pandemic is a concern for the Town of Albany. Albany's influx of summer visitors and its substantial elderly population increase this concern. Illnesses may be brought to this small community from other places, and in doing so would place a severe burden on Albany's already limited resources. In addition, Albany's school children attend school in Conway with students from nearby communities; students from other areas attend the Tin Mountain Conservation Center; and visitors from around the world visit the World Fellowship Center, thus increasing the risk of exposure.

Albany's unique geography provides hikers and summer and winter recreation enthusiasts opportunities to visit the Town; both summer and winter visitors pass through Albany to enjoy the beauty of this quiet community. Because of these factors, the Team decided that an epidemic or pandemic could present a possible threat to Albany. With the occurrence of world-wide pandemics such as SARS, the Zika Virus, H1N1 and Avian Flu, Albany could be susceptible to an epidemic and subsequent quarantine.

5) Terrorism

The Terrorism is a fear throughout our country but the Town of Albany is a somewhat unlikely target. However, NH Route 16 serves as a major north-south thoroughfare and because of its links to other highways with access to Canada, this road could offer a potential route for terrorists coming to the United States. In addition, home-grown terrorists, for a myriad of reasons, could cause substantial damage to Town buildings, tourist attractions and other critical infrastructure. Terrorism is identified as a possible hazard for the Town, but more likely as a result of regional terrorism.



*Trail on Kancamagus Highway
Photo Credit: Brian Taylor*

Chapter 6: Current Policies, Plans & Mutual Aid

After researching historic hazards, identifying CIKR and determining potential hazards, the Team determined what is already being done in Town to protect its citizens and structures.



Once identified, the Team addressed each current policy or plan to determine its effectiveness and to determine whether or not improvements were needed. This analysis became one of the tools the Team used to identify mitigation action items for this Plan.

With the knowledge of what regulations Albany currently had in place, creating new action items was less difficult. This process was helpful in identifying current plans and policies that were working well and those that should be addressed as a new “action item” as well as the responsible departments. The table that follows, *Table 6.1, Policies, Plans & Mutual Aid*, shows the analysis that resulted from discussion with the Team.

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

TABLE 6.1: CURRENT POLICIES, PLANS & MUTUAL AID

KEY TO EFFECTIVENESS:

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

Current Program or Activity	Description	Area of Town	Responsible Department	Effectiveness	Improvements Needed or Not Needed
Capital Improvement Plan (CIP-2015)	A Capital Improvement Plan is a short-range plan, usually four to ten years, which identifies capital projects and equipment purchases; provides a planning schedule and identifies options for financing the plan; a CIP provides a link between a Town and its departments through a comprehensive and strategic plan.	Town Wide	Planning Board	Excellent	<p>Improvements Needed: Albany is working on a new Capital Improvement Plan (CIP); while developing the CIP, the Planning Board will look at this Hazard Mitigation Plan and incorporate Action Items from this Plan into that planning mechanism. Action Item #6 & 14 (Also in Table 7.1)</p>

Current Program or Activity	Description	Area of Town	Responsible Department	Effectiveness	Improvements Needed or Not Needed
Subdivision Regulations (Adopted 1981; Amended March 2012)	Includes fire and emergency access, drainage, and floodplain regulations.	Town Wide	Planning Board	Good	Improvements Needed: Albany's Subdivision Regulations should be reviewed to discuss water resources, steep slopes and driveway slopes; deferred to this Plan to consider changes in the Subdivision Regulations to better protect residents from the risk and impact of natural hazards. Action Item #15 (also in Table 7.1)
Tree Maintenance Program	Eversource has a tree maintenance program to remove trees and tree limbs from around the power lines. In addition, the Albany Road Agent and the State DOT have a tree maintenance program to clear trees and hanging limbs from roadways.	Town Wide	Albany Road Agent, Eversource & State DOT	Good	Improvements Needed: Although the current Tree Maintenance Program is good, this is deferred to this Plan to continue these efforts into the future. Action Item #9
Emergency Operation Plan (2012)	This plan offers all members of the emergency management team a better understanding of procedures in case of a disasters	Town Wide	Board of Selectmen	Excellent	Improvements Needed: The Albany Emergency Operations Plan was updated in 2012 and will not be scheduled for another update until 2017; deferred to this Plan for that update. Action Item #13 (also in Table 7.1)
Rural Fire Resource Plan (2009) a.k.a. Water Resource Plan	Addresses strategies to be implemented that reflect changes in population or land use, which may affect fire department strategy, particularly in regards to the Wildland Urban Interface (WUI)	Town Wide	Planning Board & Board of Selectmen	Average	Improvements Needed: The Albany Planning Board should review the Rural Water Fire Resource Plan and use recommendations from that plan when approving new subdivisions; consider changing the Town's Subdivision ordinances to require water resources in new subdivisions. Action Item #15 & #16 (also in Table 7.1)
National Incident Management System (NIMS) & Incident Command System (ICS) Training	NIMS & ICS training will help ensure effective command, control, and communications during emergencies.	Town Wide	Board of Selectmen	Average	Improvements Needed: NIMS & ICS training has been done by most first responders; although this is preparedness, this is deferred to this Plan to continue to provide NIMS 700 & ICS 100 & 200 training to new first responders, volunteers and to new Town officials as they become elected and/or appointed. Action Item #10

Current Program or Activity	Description	Area of Town	Responsible Department	Effectiveness	Improvements Needed or Not Needed
Local Road Design Standards	Local standards are based on state standards and on Average Daily Traffic (ADT); new roads are built to State specs; Town will not assume ownership of substandard roads.	Town Wide	Board of Selectmen & Elected Road Agent	Good	Improvements Needed: Road design standards are detailed within the Town's planning mechanism (Subdivision/Road Standards) and adhere to State standards; road design standards help control the amount of and retention of storm water runoff; new town roads must be accepted at Town Meeting; road and driveway standards in Albany have not been updated in a long time and should be reviewed and updated to bring up to current standards. Action Item #12
Zoning Regulations (Adopted 1982; Amended March 2012)	Regulations dealing with land use including rural, residential, agriculture and timber management.	Town Wide	Planning Board & Board of Selectmen	Good	Improvements Needed: The Zoning Regulations include drainage and infrastructure provisions but the Team reported that there are some contradictions; Albany's Zoning Ordinances are deferred to be reviewed and updated. Action Item #17
Police Mutual Aid	Offers law enforcement resources appropriate to the scope of the emergency - Carroll County Sheriff's Office is contracted by the Town of Albany; NH State Police will also respond.	Town Wide	Carroll County Sheriff's Office	Excellent	No Improvements Needed: Albany has an agreement with the Carroll County Sheriff's Office to cover Law Enforcement throughout the Community; the NH State Police is also available to assist as needed.
Floodplain Ordinance Part of Zoning (Adopted 1993; Amended March 2012)	The minimum National Flood Insurance Program (NFIP) requirements have been adopted as part of the Town's Zoning Ordinance; this regulates all new and substantially improved structures located in the 100-year floodplain, as identified on the FEMA Flood Insurance Rate Maps dated March 19, 2013; Albany has been enrolled in the National Flood Insurance Program (NFIP) since March 1, 1995.	Floodplain	Board of Selectmen	Excellent	No Improvements Needed: The Albany floodplain ordinance was initially adopted on March 9, 1993 and amended on March 13, 2012; Albany's floodplain ordinance does what it is meant to do to prevent building or substantial improvements in the flood zone.

Current Program or Activity	Description	Area of Town	Responsible Department	Effectiveness	Improvements Needed or Not Needed
Master Plan (2014)	Includes goals, objectives and expectations for future development of the Town	Town Wide	Planning Board	Excellent	No Improvements Needed: The Albany Master Plan was updated in 2014 and will need a recommended 10-year update in 2024; the Master Plan will not be due for an update during the life of this Plan; however it is recommended that any future updates to the Master Plan include a Natural Hazards section.
Site Plan Regulations (Amended March 2016)	Includes fire and emergency access, drainage, floodplain and bonding provisions	Town Wide	Planning Board	Excellent	No Improvements Needed: The Albany Site Plan Regulations were recently reviewed and updated and perform as they are meant to.
Life safety and fire codes	Life safety and fire codes provide precautions for new construction or improvements that address life and fire safety.	Town Wide	Conway Fire Department	Good	No Improvements Needed: The Conway Fire Department adheres to the National Fire Protection Association (NFPA) regulations when inspecting properties in Albany; the system that is in place works well.
Hazardous Materials Plan(s)/Team	The Town relies on the Conway Village Fire Department and secondarily on the Carroll County Hazardous Materials Team in Ossipee.	Town Wide	Conway Fire Department	Excellent	No Improvements Needed: The Conway Fire Department has trained members for hazmat response and also relies on the Carroll County Hazardous Materials Team in Ossipee.
Burning Index	New Hampshire Forests & Lands (DNCR) has a burning index, which measures the risk for wildfires; how likely they are to start on a given day. It also evaluates the potential damages wildfires can create, the number of people that will be needed to fight it and the type of equipment that might be needed as well.	Town Wide	Conway Fire Department	Excellent	No Improvements Needed: The Conway Fire Department receives regular notification of the burning index via fax and email from NH Forests & Lands; this notification is made daily during the fire danger season; the local fire warden also received this notification.

Current Program or Activity	Description	Area of Town	Responsible Department	Effectiveness	Improvements Needed or Not Needed
Fire and Mutual Aid Agreements	Offers access to resources appropriate to the scope of the emergency - Conway Fire & Rescue	Town Wide	Conway Fire Department	Excellent	No Improvements Needed: The Conway Fire Department's mutual aid agreements work well; the NH State Fire Marshall is also available to assist as needed; the Town of Albany contracts with the Conway Village Fire Department for all rescue and fire suppression.
State Health Department Public Health Plan	State plan, "Influenza, Pandemic, Public Health Preparedness and Response Plan" written by state health department to be prepared for any public health emergency; the Town is part of the Carroll County Coalition for Public Health.	Town Wide	Carroll County Coalition for Public Health.	Good	No Improvements Needed: The Public Health Plan does what it is meant to do; the Town participates in regional public health meetings whenever possible.
Capital Reserve Funds	A phased projection of major equipment and supply purchase/replacement by each department in Town.	Town Wide	Board of Selectmen	Good	No Improvements Needed: The Town of Albany has limited capital reserve funds and will establish them as needed; it is noted that all services are provided by outside contractors; the Capital Reserve Funds work as intended.
State Division of Forest and Lands/Fire Permits	State regulations for open burning and permits	Town Wide	NH Forests & Lands permit but local fire wardens issue	Excellent	No Improvements Needed: System that is in place with NHFL and the local fire warden works well; public is aware of fire permitting requirements.
Building Codes	Building codes provide guidance for the construction or improvements to all buildings; building permit says that they have met compliance to national codes.	Town Wide	Board of Selectmen	Good	No Improvements Needed: The Town of Albany does have a Code Enforcement Officer; the permitting process requires a Building Permit and that builders abide by the International Building Codes (IBC) and the International Residential Codes (IRC) which have been adopted by the State of New Hampshire; the system that is in place works as it is intended; acceptance of the Building Permit indicates compliance to code.

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Chapter 7: Prior Mitigation Plan

A. Date of Prior Plan

Albany has participated in the development of at least one prior Hazard Mitigation Plan, based on the Disaster Mitigation Act (DMA) of 2000; the last completed plan was approved on June 10, 2011. This Plan, the “Albany Hazard Mitigation Plan Update 2017” is an update to the 2011 plan.

Below are the action items that were identified in the 2011 plan. The Team identified the current status of each strategy based on these questions:

Completed

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

Deleted

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

Deferred

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

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

TABLE 7.1: ACCOMPLISHMENTS SINCE THE PRIOR PLAN APPROVAL

NOTE: Items in **red** were extracted word-for-word from the 2011 Hazard Mitigation Plan and do not represent a time frame for this Plan.

Rank	New Mitigation Project	Responsible Department	Funding and/or Support	Time Frame	Completed, Deleted or Deferred
0 - 1	(18) Maintain highway trust fund for unexpected costs	Select Board & Road Agent	Local	Ongoing	Completed & Deferred: The Town of Albany maintains a variety of capital reserve funds; one of these funds is maintained to address unexpected costs for the maintenance and repair of the Town's roads; deferred to continue to fund the highway fund in the future (done every year at Town Meeting). Action Item #1
1 - 1	(19) Contact Conway Rescue and encourage the creation of a list of special needs or handicap individuals who may need special help during an emergency	EMD	Local	07/31/10	Deferred: The Town has not established a functional needs list due to time and oversight; deferred to this Plan to consider ways to develop and maintain this list while protecting HIPAA regulations; possible means would be the Town Report, Town Meeting and the Town's website. Action Item #2

Rank	New Mitigation Project	Responsible Department	Funding and/or Support	Time Frame	Completed, Deleted or Deferred
1 - 2	(1) Obtain current NFIP brochures and have them available at the Town Offices for new developers and current homeowners (brochures from FEMA)	Administrative Assistant	No Charge	10/31/10	Complete & Deferred: Some brochures were obtained and kept in the Town Offices regarding the National Flood Insurance Program (NFIP), but the supply has dwindled; deferred to this Plan to obtain more brochures to provide to both citizens and builders/developers who wish to build in Albany so that the public is aware of not only the risks of building or doing substantial improvements in the floodplain but also to notify all citizens that flood insurance through the NFIP is available to everyone, whether or not their property is in the FEMA floodplain. Action Item #3
1 - 3	(14) Add a page to the Town's website that covers emergency procedures and general information on flooding (NFIP), fuel reduction and other safety measures that citizens can take to lessen the affect of hazards	Administrative Assistant & EMD	Local	11/30/10	Deferred: An emergency web page has not been established due to staff time, funding and oversight; deferred to this Plan to establish a comprehensive emergency webpage that will not only answer questions about emergency preparedness but also serve as a source of public outreach for mitigation techniques that the citizens of the Community can use to eliminate or diminish natural hazard threats, including flooding. Action Item #4
1 - 4	(13) Obtain Firewise materials to have available at the Town Offices to promote fuel reduction around properties of homeowners and businesses (brochures from Bob Boyd or John Neely)	Administrative Assistant & EMD	Local	09/30/10	Complete & Deferred: Some Firewise brochures were obtained and kept in the Town Office, but the supply has dwindled; deferred to this Plan to obtain more brochures to provide to citizens of the Community so that the public is aware of not only the risks of wildfire but also specific mitigation actions that can be taken to better protect homes and businesses from the effects of wildfire. Action Item #20
1 - 5	(16) Look into possibility of outfitting the Town Offices to accept the use of a portable generator	Select Board	Local & Grants	10/31/10	Deferred: A generator for the Town Hall & Chapel was not obtained due to budget constraints; deferred to this Plan to work to obtain a generator for this facility in order to best utilize this Critical Facility as both the EOC and the shelter. Action Item #5
1 - 6	(9) Capital Improvement Plan; amend or include money in the Capital Improvement Plan for water drafting site development, fire equipment, and training (WR7)	Select Board	Local	12/31/10	Completed & Deferred: A Capital Improvement Plan (CIP) is being established and will be considered a working document for the Town of Albany; the CIP may include funds for future drafting site development and other equipment and the Planning Board will review this Hazard Mitigation Plan and the Action Items for inclusion in the CIP. Action Items #6 & #14 (also in Table 6.1)

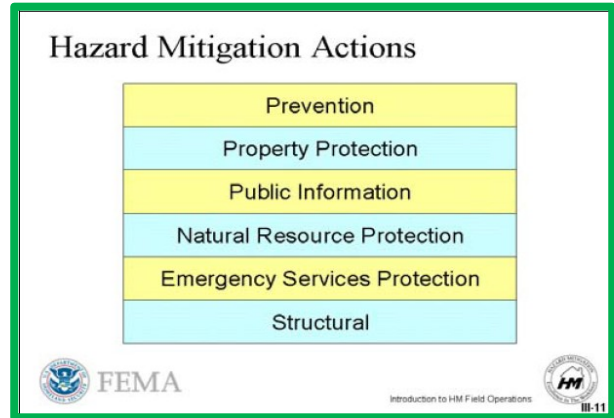
Rank	New Mitigation Project	Responsible Department	Funding and/or Support	Time Frame	Completed, Deleted or Deferred
1 - 7	(10) Consider establishment of a Steep Slopes Ordinance to restrict and/or prohibit development in difficult to reach areas (WR8)	Planning Board	Local	12/31/10	Deferred: A steep slopes ordinance has not been developed to restrict and/or prohibit development in difficult to reach areas as suggested by the Rural Fire Water Resource Plan; deferred to once again discuss and consider adding a steep slopes ordinance to the Town's Subdivision Regulations. Action Item #15 (also in Table 6.1)
1 - 8	(8) Establish a dry hydrant & fire pond maintenance program that will include records kept of semi-annual or annual flow tests on each hydrant and cleaning or maintenance dredging of fire ponds (WR6)	Fire Chief (EMD)	Local	02/28/11	Completed & Deferred: NCRC&D prepared a Rural Fire Water Resource Plan with recommendations for the installation of water resources (i.e., dry hydrants, fire ponds, cisterns); deferred to this Plan for the continued maintenance of all hydrants, current or newly added and other water resources in Albany. Action Item #7
1 - 9	(17) Update LEOP to current standards	EMD	Grants	12/31/10	Deferred: The Albany Emergency Operations Plan was updated in 2012 and will not be scheduled for another update until 2017; deferred to this Plan for that update. Action Item #13 (also in Table 6.1)
1 - 10	(12) Incorporate the Rural Fire Resource Plan into the Master Plan and encourage referral to Rural Fire Resource Plan and maps by Planning Board when reviewing subdivision proposals (WR10)	Planning Board	Local	03/31/11	Deferred: The Albany Rural Fire Water Resource Plan was developed in 2010; deferred to use this document in coordination with other planning documents, such as the Master Plan and Capital Improvements Plan to ensure that new construction is safe from wildfire risk. Action Item #8
1 - 11	(11) Subdivision Regulations for Fire Protection: Amendment of subdivision regulations to require onsite water storage, minimum fire flow, fire breaks in wildland/urban interface areas (WR9)	Planning Board	Local	12/31/10	Deferred: Albany's Subdivision Regulations should be reviewed to discuss water resources, steep slopes and driveway slopes; deferred to this Plan to consider changes in the Subdivision Regulations to better protect residents from the risk and impact of natural hazards. Action Item #15 (also in Table 6.1)
2 - 1	(4) Evaluate, repair or replace existing hydrant system; probable removal of hydrant at site A07 on Passaconaway Road as there is no current water source for this hydrant (WR2)	Fire Chief (EMD)	Local	03/31/12	Deleted: This strategy from the prior plan and the Rural Fire Water Resource Plan is no longer needed as there are no dry hydrants to replace or maintain at this site.

Rank	New Mitigation Project	Responsible Department	Funding and/or Support	Time Frame	Completed, Deleted or Deferred
2 - 2	(3) Flow test and evaluate function of all existing dry hydrants; establish base-line data for existing fire flow (WR1)	Conway Fire Chief & EMD	Local	03/31/12	Deleted: This strategy from the prior plan and the Rural Fire Water Resource Plan is no longer needed; hydrant maintenance is discussed within another strategy above, therefore this strategy is deleted.
2 - 3	(2) Educate the community regarding the Northeastern Fire Compact and the agreements that are in place for mutual assistance; arrange for work within the communities to inform folks about reducing fuels; good practices, materials & signs	Fire Warden & Fire Chief (EMD)	No Charge	03/31/12	Deleted: The Team felt that providing Firewise links and brochures would be more effective than information on the Northeastern Fire Compact; see strategy above that discusses Firewise materials; no Action Item required as the strategy above covers the components of this strategy from the prior plan.
3 - 1	(7) Identify areas that can best be served by installation of 2,000 gallon cisterns; areas of concern: AL02: Drake Hill Rd.; Bald Hill Rd.; Chase Hill; Cook Farm; Ridge View Drive (WR5)	Fire Chief (EMD)	Local	04/30/12	Deleted: The Team felt that additional water resources (cisterns) as proposed in the Rural Fire Water Resource Plan are not needed in the locations indicated; however, referral to and review of the Water Resource Plan and the current need for dry hydrants is suggested in another strategy above.
3 - 2	(6) Gather information relevant for hydrant construction; i.e. seasonal water level, area available for apparatus, static lift etc. at sites: AL05: Wildwood Pond Draft Site, Rt16; & AL08: Red Eagle Pond Draft Site, Passaconaway Rd. (WR4)	Fire Chief (EMD)	Local	06/30/12	Deleted: The Team felt that additional information for hydrant construction as proposed in the Rural Fire Water Resource Plan is not needed at the sites recommended in the RFWRP, therefore this strategy from the prior plan is deleted; however, it is noted that the Town is looking at potential new sites for water resources.
3 - 3	(5) Construct new dry hydrant system(s) at AL06: Bear Notch Rd. Draft site; AL09; High St. Draft Site; AL10: Crossover Rd. Draft Site (WR3)	Fire Chief (EMD)	Local & Grants	05/31/13	Deleted: The Team felt that additional information for hydrant construction as proposed in the Rural Fire Water Resource Plan is not needed at the sites recommended in the RFWRP, therefore this strategy from the prior plan is deleted; however, it is noted that the Town is looking at potential new sites for water resources.
3 - 4	(15) Assess slash on forest floors and determine need to reduce fire fuel load; seek help from the USDA-FS; particular to newly purchased Town property to be utilized as the Town Forest	Land Governance Board & EMD	Local & Grants	06/30/13	Deferred: The Albany Town Forest is approximately 303 acres, 77 acres of which are "open fields"; fire hydrants are located nearby; deferred to this Plan to seek assistance from the USDA-Forest Service to help reduce slash on the forest floor within the Town Forest. Action Item #18

Chapter 8: New Mitigation Strategies & STAPLEE

A. Mitigation Strategies by Type

The following list of mitigation categories and the comprehensive list of possible strategy ideas in Section B were compiled from a number of sources including the USFS, FEMA, other Planners and past hazard mitigation plans. This list was used during a brainstorming session to discuss what issues there may be in Town. Team involvement and the brainstorming sessions proved helpful in bringing new ideas, better relationships and a more in depth knowledge of the Community.



Prevention

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

Public Education & Awareness

- Hazard information centers
- Public education and outreach programs
- Emergency website creation
- “Firewise” training
- NFIP awareness
- Public hazard notification
- Defensible space brochures

Emergency Service Protection

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

Property Protection

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

Natural Resource Protection

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

Structural Projects

- Structure acquisition and demolition
- Structure acquisition and relocation
- Bridge replacement
- Dam removal
- Culvert up-size and/or realignment

B. Potential Mitigation Strategies by Hazard

In order to further promote the concept of mitigation, the Town was provided with a handout that was developed by Mapping and Planning Solutions and used to determine what additional mitigation action items might be appropriate for the Town. The mitigation action items from that handout are listed on the following two pages; each item from this comprehensive list of possible mitigation action items was considered by the Planning Team to determine if any of these action items could be put in place for Albany with special emphasis on new and existing buildings and infrastructure.

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

Natural Hazard Mitigation Ideas

Type of Project

Landslide

- Slide-Prone Area Ordinance Prevention
- Drainage Control Regulations Prevention
- Grading Ordinances Prevention
- Hillside Development Ordinances Prevention
- Open Space Initiatives Prevention
- Acquisition, Demolition & Relocation Structural Project
- Vegetation Placement and Management Natural Resource Protection
- Soil Stabilization Natural Resource Protection

Thunderstorms & Lightning

- Building Construction Property Protection

Tornado & Severe Wind

- Construction Standards and Techniques Property Protection
- Safe Rooms Prevention
- Manufactured Home Tie Downs Property Protection
- Building Codes Property Protection

Wildfire

- Building Codes Property Protection
- Defensible Space Prevention
- Forest Fire Fuel Reduction Prevention
- Burning Restriction Property Protection
- Water Resource Plan Prevention
- Firewise Training & Brochures Public Awareness
- Woods Roads Mapping Prevention

Extreme Temperatures

- Warming & Cooling Stations Prevention

Winter Weather Snowstorms

- Snow Load Design Standards Property Protection

Subsidence

- Open Space Natural Resource Protection
- Acquisition, Demolition & Relocation Structural Project

Earthquake

- Construction Standards and Techniques Property Protection
- Building Codes Property Protection
- Bridge Strengthening Structural Project
- Infrastructure Hardening Structural Project

Drought

- Water Use Ordinances Prevention

C. STAPLEE Methodology

Table 8.1, *Potential Mitigation Items & the STAPLEE*, reflects the newly identified potential hazard and wildfire mitigation action items as well as the results of the STAPLEE evaluation as explained below. It should also be noted that although some areas are identified as “All Hazards”, many of these would apply indirectly to wildfire response and capabilities. Many of these potential mitigation action items overlap.

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

The STAPLEE method analyzes the **S**ocial, **T**echnical, **A**dministrative, **P**olitical, **L**egal, **E**conomic and **E**nvironmental aspects of a project and is commonly used by public administration officials and planners for making planning decisions. The following questions were asked about the proposed mitigation action items discussed in Table 8.1.

Social: Is the proposed action item socially acceptable to the Community? Is there an equity issue involved that would result in one segment of the Community being treated unfairly?

Technical: Will the proposed action item work? Will it create more problems than it solves?

Administrative: Can the Community implement the action item? Is there someone to coordinate and lead the effort?

Political: Is the action item politically acceptable? Is there public support both to implement and to maintain the project?

Legal: Is the Community authorized to implement the proposed action item? Is there a clear legal basis or precedent for this activity?

Economic: What are the costs and benefits of this action item? Does the cost seem reasonable for the size of the problem and the likely benefits?

Environmental: How will the action item impact the environment? Will it need environmental regulatory approvals?

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

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

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

The “Type” of Action Item was also considered. See Section A of this chapter for more information.

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

D. Team’s Understanding of Hazard Mitigation Action Items

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

Also, it should be noted that the Town understands that the “Mitigation Action Items” for a town of 200 are not the same as the “Mitigation Action Items” for a town of 30,000. In addition, the “Mitigation Action Items” for a town in the middle of predominantly hardwood forests, are not the same as the “Mitigation Action Items” for a town on the Jersey Shore. Therefore the Town of Albany has accepted the “Mitigation Action Items” in Tables 8.1 and 9.1 as the complete list of “Mitigation Action Items” for this Town and only this Town and hereby indicates that having carefully considered a comprehensive list of other possible mitigation action items (see sections A & B of this chapter) for this Plan, there are no additional “Mitigation Action Items” to add at this time.

TABLE 8.1: POTENTIAL MITIGATION ACTION ITEMS & THE STAPLEE

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

Action Items are listed in numerical order.

Potential Mitigation Action Item	Affected Location	Type of Activity	Total	S	T	A	P	L	E	E
Action Item #1: Continue to fund the highway capital reserve funds to ensure the continued maintenance and improvements of Albany's road infrastructure and culvert replacement program to mitigate flooding. (F1 & MU13) Table 7.1	Town Wide	Prevention	20	3	3	3	2	3	3	3
				<i>Political: People may not see the need to save money for future road repairs</i>						
Action Item #2: Establish and maintain a list of the functional needs population by promoting voluntary participation to coincide with HIPAA laws; create a database to track those individuals at high risk of death, such as the elderly, homeless, etc. in order to assist vulnerable populations during a natural hazard event. (WW6 & ET3) (Table 7.1)	Town Wide	Prevention	21	3	3	3	3	3	3	3
				<i>No apparent difficulties with this action item</i>						
Action Item #3: Advise the public about the local flood hazard, flood insurance and flood protection measures (F10) by obtaining and keeping on hand a supply of NFIP brochures to have available in the Town Offices; give NFIP materials to homeowners and builders when proposing new development or substantial improvements; encourage property owners to purchase flood insurance (F22), whether or not they are in the flood zone and provide appropriate links to the NFIP and Ready.gov on the Town's website. (Table 7.1)	Town Wide	Prevention Public Education & Awareness Property Protection	21	3	3	3	3	3	3	3
				<i>No apparent difficulties with this action item</i>						
Action Item #4: Establish an interactive webpage for educating the public on hazard mitigation and preparedness measures (MU14) by adding a page to the Town's website, that will include such information as emergency contacts, shelter locations, evacuation routes (SW7, WF11 & T3), methods of emergency alerting, 911 compliance, water saving techniques (D9), earthquake risk and mitigation activities that can be taken in residents' homes (EQ7), steps homeowners can take to protect themselves and their properties when extreme temperatures occur (ET1 & ET4), safety measures that can be taken during hail (HA3) and lightning storms (L2), mitigation techniques for property protection and links to available sources; educate homeowners regarding the risks of building in hazard zones and encourage homeowners to observe best practices when "grilling" and to install carbon monoxide monitors and alarms. (WW5). (Table 7.1)	Town Wide	Prevention Public Education & Awareness	21	3	3	3	3	3	3	3
				<i>No apparent difficulties with this action item</i>						

Potential Mitigation Action Item	Affected Location	Type of Activity	Total	S	T	A	P	L	E	E
Action Item #5: Obtain funding and install a permanent generator at the Town Hall & Chapel to ensure the continued use and capabilities of this Critical Facility at the time of an emergency or disaster; integrate this project to the Capital Improvement Plan and other planning mechanisms as needed. (MU6 & MU13) Table 7.1	Town Hall & Chapel	Prevention Emergency Service Protection	19	3	3	3	2	3	2	3
				<i>Political: Some people may not see the need to spend money on this Economic: Budget constraints</i>						
Action Item #6: Review this Hazard Mitigation Plan and the Action Items for integration into the Capital Improvement Plan to ensure the availability of capital for long term and major mitigation projects. (MU6) Table 7.1	Town Wide	Prevention	21	3	3	3	3	3	3	3
				<i>No apparent difficulties with this action item</i>						
Action Item #7: Continue maintenance of all hydrants, current or newly added, and other water resources in Albany. (WF8) Table 7.1	Town Wide	Prevention Emergency Service Protection Property Protection Natural Resource Protection	21	3	3	3	3	3	3	3
				<i>No apparent difficulties with this action item</i>						
Action Item #8: Utilize the Rural Fire Water Resource Plan (2010) in coordination with other planning documents, such as the Zoning Ordinance, Subdivision Regulations, the Master Plan and the Capital Improvement Plan to ensure that new construction is safe from wildfire risk. (WF2 & MU6) Table 7.1	Town Wide	Prevention Property Protection Natural Resource Protection	21	3	3	3	3	3	3	3
				<i>No apparent difficulties with this action item</i>						
Action Item #9: Continue efforts to trim tree limbs around power lines and remove brush as part of the Tree Maintenance Program, in addition to what utility companies do, to mitigate the loss of power and road closures during high wind events and to reduce the fuel load for wildfires. (SW4 & WF7) (Table 6.1)	Town Wide	Prevention Emergency Service Protection Property Protection	20	3	3	3	3	3	2	3
				<i>Economic: Budget constraints</i>						
Action Item #10: Encourage NIMS & ICS Training for Town Officials in order to have better trained individuals handling disaster events so that the effects of the event can be mitigated. (ICS 100 & 200; NIMS 700). Table 6.1	Town Wide	Prevention Emergency Service Protection	21	3	3	3	3	3	3	3
				<i>No apparent difficulties with this action item</i>						

Potential Mitigation Action Item	Affected Location	Type of Activity	Total	S	T	A	P	L	E	E
Action Item #11: Designate two people from the Town as the representatives to the ENS system so that the system can receive instructions from the Town to use reverse calling for notification of pending and actual hazards; provide public outreach to increase hazard education and risk awareness and so that residents are aware of the ability to add cell numbers, emails and unlisted number to the ENS system. (MU14)	Town Wide	Prevention Public Education & Awareness Emergency Service Protection	21	3	3	3	3	3	3	3
				No apparent difficulties with this action item						
Action Item #12: Review and update the Town's road and driveway standards to bring them up to current standards and to reduce the risk from natural hazards to this important infrastructure. (MU 6 & MU13) Table 6.1	Town Wide	Prevention Emergency Service Protection	19	2	3	3	2	3	3	3
				Social: Property owners may not want to conform to new standards Political: Some residents may not see or understand the reasons for changing the standards						
Action Item #13: Update the Albany Emergency Operations Plan (EOP) to include the 15-Emergency Support Function (ESF) format and other elements from the new state Emergency Operations Plan. (Tables 6.1 & 7.1)	Town Wide	Prevention Emergency Service Protection	21	3	3	3	3	3	3	3
				No apparent difficulties with this action item						
Action Item #14: Complete the Albany Capital Improvement Plan and incorporate mitigation Action Items from this Plan into this local planning document. (MU6) (Table 6.1)	Town Wide	Prevention	21	3	3	3	3	3	3	3
				No apparent difficulties with this action item						
Action Item #15: Consider changes in the Subdivision Regulations to better protect residents from the risk and impact of natural hazards, particularly with regards to building on steep slopes and constructing driveways on steep slopes; in addition, advise builders and property owners of the fire risk associated with building on steep slopes to increase awareness. (ER6, WF2, WF3, WF11 & MU14) (Tables 6.1 & 7.1)	Town Wide	Prevention Emergency Service Protection Property Protection Natural Resource Protection	19	2	3	3	2	3	3	3
				Social: People may not want to be told what they can do Political: People may not want to be told what they can do						
Action Item #16: Review the Rural Water Fire Resource Plan and use recommendations from that plan when approving new subdivisions; consider changing the Town's Subdivision ordinances to require water resources in new subdivisions (fire ponds, cistern, water tank, etc.); continue to explore possible locations for the addition of water resources. (WF2 & WF3) Table 6.1	Town Wide	Prevention Property Protection Natural Resource Protection	19	3	3	3	1	3	3	3
				Political: Builders and landowners may not like being told what to do						

Potential Mitigation Action Item	Affected Location	Type of Activity	Total	S	T	A	P	L	E	E
Action Item #17: Review and update the Town's Zoning Ordinance to align with state standards and to help mitigate the impact of natural hazards. (MU6) Table 6.1	Town Wide	Prevention	21	3	3	3	3	3	3	3
				<i>No apparent difficulties with this action item</i>						
Action Item #18: Seek assistance from the USDA-Forest Service to help reduce slash on the 303 acres of the Albany Town Forest in order to mitigate the risk of wildfire. (WF9) Table 7.1	Town Wide	Prevention Natural Resource Protection	21	3	3	3	3	3	3	3
				<i>No apparent difficulties with this action item</i>						
Action Item #19: Take measures to increase 911 signage compliance; consider a town wide ordinance, purchasing and installing the signs at the Town's expense or purchasing signs and having homeowners install the signs in order to provide swift response for the citizens of Albany including vulnerable populations. (ET3 & WW6)	Town Wide	Public Education & Awareness Emergency Service Protection Property Protection	18	2	3	3	2	3	2	3
				<i>Social:</i> Some people may not want signs or the government to know their location <i>Political:</i> Some people may not want signs or the government to know their location <i>Economic:</i> Budget constraints						
Action Item #20: Obtain and have available "Firewise" brochures to educate homeowners on methods to reduce fire risk around their homes (WF10); provide "Firewise" brochures to those residents seeking burn permits; advise residents of the importance of maintaining defensible space, the safe disposal of yard and household waste and the removal of dead or dry leaves, needles, twigs, and combustible materials from roofs, decks, eaves, porches and yards. (WF11 & WF12) (Table 7.1)	Town Wide	Prevention Public Education & Awareness Property Protection	21	3	3	3	3	3	3	3
				<i>No apparent difficulties with this action item</i>						

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Chapter 9: Implementation Schedule for Prioritized Action Items

A. Priority Methodology

After reviewing the finalized STAPLEE numerical ratings, the Team prepared to develop *Table 9.1, The Mitigation Action Plan*. To do this, team members created four categories into which they would place the potential mitigation action items.

- **Category 0** was to include those items which are being done and will continue to be done in the future.
- **Category 1** was to include those items under the direct control of town officials, within the financial capability of the Town using only town funding, those already being done or planned and those that could generally be completed within one year.
- **Category 2** was to include those items that the Town did not have sole authority to act upon, those for which funding might be beyond the Town's capability and those that would generally take between 13-36 months to complete.
- **Category 3** was to include those items that would take a major funding effort, those that the Town had little control over the final decision and those that would take in excess of 37 months to complete.

Each potential mitigation action item was placed in one of these four categories and then those action items were prioritized within each category according to cost-benefit, time frame and capability. Actual cost estimates were unavailable during the planning process, although using the STAPLEE process along with the methodology detailed above and a Low-High estimate (see following page) the Team was able to come up with a general consensus on cost-benefit for each proposed action item.

The Team also considered the following criteria while ranking and prioritizing each action item:

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

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

B. Who, When, How?

Once this was completed, the Team developed an action plan that outlined who is responsible for implementing each action item, as well as when and how the actions will be implemented. The following questions were asked in order to develop a schedule for the identified mitigation action items.

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

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

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

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

Once the Plan is approved, the Community will begin working on the action items listed in *Table 9.1, The Mitigation Action Plan* (see below). An estimation of completion for each action item is noted in the “Time Frame” column of Table 9.1.

Some projects, including most training and education of residents on emergency and evacuation procedures, could be tied into the emergency operation plan and implemented through that planning effort.

TABLE 9.1: THE MITIGATION ACTION PLAN

Table 9.1, The Mitigation Action Plan, located on the next page, includes Problem Statements that were expressed by the Team. These action items are listed in order of priority and indicate if they were derived from prior tables in this Plan.



The estimated cost was determined using the following criteria:

- **Low Cost**..... \$0 - \$1,000 or staff time only
- **Medium Cost** \$1,000-\$10,000
- **High Cost** \$10,000 or more

The time frame was determined using the following criteria:

- **Short Term** Ongoing for the life of the Plan
- **Short Term** Less than 1 year (0-12 months)
- **Medium Term**..... 2-3 years (13-36 months)
- **Long Term:** 4-5 years (37-60 months)

Items in green such as (MU14) represent mitigation action items taken from *Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards*, FEMA, January 2013; see *Appendix E: Potential Mitigation Ideas*, for more information.

Mitigation Action Items are listed in order of priority.

Final Priority	Problem Statement Mitigation Action Item	Hazard Addressed	Responsible Department	Funding or Support	Time Frame	Est. Cost	STAP LEE
0-1	<p><i>Problem Statement: The Town of Albany maintains a capital reserve fund for the maintenance and repair of the Town's roads.</i></p> <p>Action Item #1: Continue to fund the highway capital reserve funds to ensure the continued maintenance and improvements of Albany's road infrastructure and culvert replacement program to mitigate flooding. (F1 & MU13) Table 7.1</p>	Flooding	Board of Selectmen & Budget Committee	Local	Short Term Ongoing For the Life of the Plan	Low Cost <\$1,000 or staff time only	20
0-2	<p><i>Problem Statement: The Capital Improvement Plan (CIP) is currently being established and will be a working document to guide capital expenditures in the future; currently, there are no mitigation action items from this Plan included in the CIP.</i></p> <p>Action Item #6: Review this Hazard Mitigation Plan and the Action Items for integration into the Capital Improvement Plan to ensure the availability of capital for long term and major mitigation projects. (MU6) Table 7.1</p>	All Hazards	CIP Committee	Local	Short Term Ongoing For the Life of the Plan	Low Cost <\$1,000 or staff time only	21
0-3	<p><i>Problem Statement: Dry hydrants and other water resources to combat wildfires, as recommended in the Rural Fire Water Resource Plan (2010) have not been considered due to time, staffing and oversight.</i></p> <p>Action Item #7: Continue maintenance of all hydrants, current or newly added, and other water resources in Albany. (WF8) Table 7.1</p>	Wildfire	Conway Fire Department	Local	Short Term Ongoing For the Life of the Plan	Low Cost <\$1,000 or staff time only	21

Final Priority	Problem Statement Mitigation Action Item	Hazard Addressed	Responsible Department	Funding or Support	Time Frame	Est. Cost	STAP LEE
0-4	<p>Problem Statement: <i>Not all Town Officials (those who would respond at the time of an emergency) have been trained in Incident Command System (ICS) 100 & 200 and National Incident Management System (NIMS) 700.</i></p> <p>Action Item #10: Encourage NIMS & ICS Training for Town Officials in order to have better trained individuals handling disaster events so that the effects of the event can be mitigated. (ICS 100 & 200; NIMS 700). Table 6.1</p>	All Hazards	Board of Selectmen (acting as Emergency Management Director)	Local	Short Term Ongoing For the Life of the Plan	Low Cost <\$1,000 or staff time only	21
0-5	<p>Problem Statement: <i>The Albany Rural Fire Water Resource Plan (2010) is in need of a review and consideration when addressing new construction in areas of wildfire risk.</i></p> <p>Action Item #8: Utilize the Rural Fire Water Resource Plan (2010) in coordination with other planning documents, such as the Zoning Ordinance, Subdivision Regulations, the Master Plan and the Capital Improvement Plan to ensure that new construction is safe from wildfire risk. (WF2 & MU6) Table 7.1</p>	Wildfire	Board of Selectmen & Planning Board	Local	Short Term Ongoing For the Life of the Plan	Low Cost <\$1,000 or staff time only	21
0-6	<p>Problem Statement: <i>Although the current Tree Maintenance Program is good, tree maintenance to lessen the impact from high wind events and wildfires needs to continue.</i></p> <p>Action Item #9: Continue efforts to trim tree limbs around power lines and remove brush as part of the Tree Maintenance Program, in addition to what utility companies do, to mitigate the loss of power and road closures during high wind events and to reduce the fuel load for wildfires. (SW4 & WF7) (Table 6.1)</p>	Severe Wind Events & Wildfire	Road Agent	Local	Short Term Ongoing For the Life of the Plan	High Cost >\$10,000	20

Final Priority	Problem Statement Mitigation Action Item	Hazard Addressed	Responsible Department	Funding or Support	Time Frame	Est. Cost	STAP LEE
0-7	<p>Problem Statement: <i>Although some public outreach has been done through the Town's website, more robust mitigation and emergency information should be provided.</i></p> <p>Action Item #4: Establish an interactive webpage for educating the public on hazard mitigation and preparedness measures (MU14) by adding a page to the Town's website, that will include such information as emergency contacts, shelter locations, evacuation routes (SW7, WF11 & T3), methods of emergency alerting, 911 compliance, water saving techniques (D9), earthquake risk and mitigation activities that can be taken in residents' homes (EQ7), steps homeowners can take to protect themselves and their properties when extreme temperatures occur (ET1 & ET4), safety measures that can be taken during hail (HA3) and lightning storms (L2), mitigation techniques for property protection and links to available sources; educate homeowners regarding the risks of building in hazard zones and encourage homeowners to observe best practices when "grilling" and to install carbon monoxide monitors and alarms (WW5). (Table 7.1)</p>	<p>All Hazards including: Severe Wind, Drought, Earthquake, Extreme Temperatures, Hail, Lightning, Severe Winter Weather, Tornado & Wildfire</p>	<p>Board of Selectmen (acting as Emergency Management Director)</p>	<p>Local</p>	<p>Short Term Ongoing For the Life of the Plan</p>	<p>Low Cost <\$1,000 or staff time only</p>	<p>21</p>
0-8	<p>Problem Statement: <i>The Town has not established a functional needs list due to time and oversight</i></p> <p>Action Item #2: Establish and maintain a list of the functional needs population by promoting voluntary participation to coincide with HIPAA laws; create a database to track those individuals at high risk of death, such as the elderly, homeless, etc. in order to assist vulnerable populations during a natural hazard event. (WW6 & ET3) (Table 7.1)</p>	<p>Severe Winter Weather, Extreme Temperatures & All Hazards</p>	<p>Board of Selectmen (acting as Emergency Management Director)</p>	<p>Local</p>	<p>Short Term Ongoing For the Life of the Plan</p>	<p>Low Cost <\$1,000 or staff time only</p>	<p>21</p>

Final Priority	Problem Statement Mitigation Action Item	Hazard Addressed	Responsible Department	Funding or Support	Time Frame	Est. Cost	STAP LEE
0-9	<p>Problem Statement: <i>The Town should maintain a supply of Firewise brochures and provide website links for residents and builders to inform residents of best practice mitigation strategies to protect their properties from wildfire.</i></p> <p>Action Item #20: Obtain and have available "Firewise" brochures to educate homeowners on methods to reduce fire risk around their homes (WF10); provide "Firewise" brochures to those residents seeking burn permits; advise residents of the importance of maintaining defensible space, the safe disposal of yard and household waste and the removal of dead or dry leaves, needles, twigs, and combustible materials from roofs, decks, eaves, porches and yards. (WF11 & WF12) (Table 7.1)</p>	Wildfire	Board of Selectmen (acting as Emergency Management Director)	Local	Short Term Ongoing For the Life of the Plan	Low Cost <\$1,000 or staff time only	21
0-10	<p>Problem Statement: <i>Residents and builders may not be aware of flood regulations & the availability of flood insurance through the National Flood Insurance Program (NFIP).</i></p> <p>Action Item #3: Advise the public about the local flood hazard, flood insurance and flood protection measures (F10) by obtaining and keeping on hand a supply of NFIP brochures to have available in the Town Offices; give NFIP materials to homeowners and builders when proposing new development or substantial improvements; encourage property owners to purchase flood insurance (F22), whether or not they are in the flood zone and provide appropriate links to the NFIP and Ready.gov on the Town's website. (Table 7.1)</p>	Flooding	Board of Selectmen (acting as Emergency Management Director)	Local	Short Term Ongoing For the Life of the Plan	Low Cost <\$1,000 or staff time only	21

Final Priority	Problem Statement Mitigation Action Item	Hazard Addressed	Responsible Department	Funding or Support	Time Frame	Est. Cost	STAP LEE
1-1	<p>Problem Statement: <i>The Town of Albany currently has not signed up with the State's Emergency Notification System (ENS).</i></p> <p>Action Item #11: Designate two people from the Town as the representatives to the ENS system so that the system can receive instructions from the Town to use reverse calling for notification of pending and actual hazards; provide public outreach to increase hazard education and risk awareness and so that residents are aware of the ability to add cell numbers, emails and unlisted number to the ENS system. (MU14)</p>	All Hazards	Board of Selectmen (acting as Emergency Management Director)	Local	<p>Short Term Ongoing For the Life of the Plan (for the public outreach)</p> <p>Short Term 1 year of less (0-12 months) (to register Town Officials with the ENS)</p>	Low Cost <\$1,000 or staff time only	21
1-2	<p>Problem Statement: <i>Albany's road design and driveway standards have not been updated in a long time.</i></p> <p>Action Item #12: Review and update the Town's road and driveway standards to bring to bring them up to current standards and to reduce the risk from natural hazards to this important infrastructure. (MU 6 & MU13) Table 6.1</p>	All Hazards	Board of Selectmen & Road Agent	Local	<p>Short Term 1 year of less (0-12 months)</p>	Low Cost <\$1,000 or staff time only	19
1-3	<p>Problem Statement: <i>The Town of Albany Emergency Operations Plan (EOP) was completed in 2012 and will be ready for an update in 2017; it also is currently in the old state template format.</i></p> <p>Action Item #13: Update the Albany Emergency Operations Plan (EOP) to include the 15-Emergency Support Function (ESF) format and other elements from the new state Emergency Operations Plan. (Tables 6.1 & 7.1)</p>	All Hazards	Board of Selectmen (acting as Emergency Management Director)	Local & Grants	<p>Short Term 1 year of less (0-12 months)</p>	Low Cost <\$1,000 or staff time only	21

Final Priority	Problem Statement Mitigation Action Item	Hazard Addressed	Responsible Department	Funding or Support	Time Frame	Est. Cost	STAP LEE
2-1	<p>Problem Statement: <i>The Town of Albany is approximately 50% compliant with 911 signage.</i></p> <p>Action Item #19: Take measures to increase 911 signage compliance; consider a town wide ordinance, purchasing and installing the signs at the Town's expense or purchasing signs and having homeowners install the signs in order to provide swift emergency response for the citizens of Albany including vulnerable populations. (ET3 & WW6)</p>	All Hazards	Board of Selectmen	Local	Medium Term 2-3 years (13-36 months)	Medium Cost \$1,000-\$10,000	18
2-2	<p>Problem Statement: <i>Albany's Subdivision Regulations do not address issues such as building on steep slopes and driveways on steep slopes.</i></p> <p>Action Item #15: Consider changes in the Subdivision Regulations to better protect residents from the risk and impact of natural hazards, particularly with regards to building on steep slopes and constructing driveways on steep slopes; in addition, advise builders and property owners of the fire risk associated with building on steep slopes to increase awareness. (ER6, WF2, WF3, WF11 & MU14) (Tables 6.1 & 7.1)</p>	Erosion & Wildfire (and Emergency Response)	Planning Board	Local	Medium Term 2-3 years (13-36 months)	Low Cost <\$1,000 or staff time only	19
2-3	<p>Problem Statement: <i>The Rural Fire Water Resource Plan, which was completed in 2010, should be referred to by the Planning Board when make decisions on new construction or substantial development in areas known to be a fire risk.</i></p> <p>Action Item #16: Review the Rural Water Fire Resource Plan and use recommendations from that plan when approving new subdivisions; consider changing the Town's Subdivision ordinances to require water resources in new subdivisions (fire ponds, cistern, water tank, etc.); continue to explore possible locations for the addition of water resources. (WF2 & WF3) Table 6.1</p>	Wildfire	Planning Board	Local	Medium Term 2-3 years (13-36 months)	Low Cost <\$1,000 or staff time only	19

Final Priority	Problem Statement Mitigation Action Item	Hazard Addressed	Responsible Department	Funding or Support	Time Frame	Est. Cost	STAP LEE
2-4	<p><i>Problem Statement: Contradictions remain in the Albany Zoning Ordinances.</i></p> <p>Action Item #17: Review and update the Town's Zoning Ordinance to align with state standards and to help mitigate the impact of natural hazards. (MU6) Table 6.1</p>	Flooding & All Hazards	Planning Board	Local	Medium Term 2-3 years (13-36 months)	Low Cost <\$1,000 or staff time only	21
2-5	<p><i>Problem Statement: Slash from previous storms remains on the forest floor within the Albany Town Forest.</i></p> <p>Action Item #18: Seek assistance from the USDA-Forest Service to help reduce slash on the 303 acres of the Albany Town Forest in order to mitigate the risk of wildfire. (WF9) Table 7.1</p>	Wildfire	Conservation Commission	Local & Grants	Medium Term 2-3 years (13-36 months)	Low Cost <\$1,000 or staff time only	21
2-6	<p><i>Problem Statement: The Albany Planning Board is currently working on a new Capital Improvement Plan (CIP) but so far it does not include action items from this Hazard Mitigation Plan.</i></p> <p>Action Item #14: Complete the Albany Capital Improvement Plan and incorporate mitigation Action Items from this Plan into this local planning document. (MU6) (Table 6.1)</p>	All Hazards	Planning Board	Local	Medium Term 2-3 years (13-36 months)	Low Cost <\$1,000 or staff time only	21
2-7	<p><i>Problem Statement: The Town Hall and Chapel (Primary EOC & Shelter) does not have a generator.</i></p> <p>Action Item #5: Obtain funding and install a permanent generator at the Town Hall & Chapel to ensure the continued use and capabilities of this Critical Facility at the time of an emergency or disaster; integrate this project to the Capital Improvement Plan and other planning mechanisms as needed. (MU6 & MU13) Table 7.1</p>	All Hazards	Board of Selectmen	Local & Grants	Medium Term 2-3 years (13-36 months)	High Cost >\$10,000	19

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

A. Hazard Mitigation Plan Monitoring, Evaluation and Updates

A good mitigation plan must allow for updates where and when necessary, particularly since communities may suffer budget cuts or experience personnel turnover during both the planning and implementation stages. A good plan will incorporate periodic monitoring and evaluation mechanisms to allow for review of successes and failures or even just simple updates. The Board of Selectmen is responsible for initiating Plan reviews and will consult with members of the hazard mitigation planning team identified in this Plan.

The Albany Hazard Mitigation Plan Update 2017 is considered a work in progress. There are three situations which will prompt revisiting this Plan:

- First, as a minimum, it will be reviewed annually or after any emergency event to assess whether the existing and suggested mitigation action items were successful. This review will focus on the assessment of the Plan's effectiveness, accuracy and completeness in monitoring of the implementation action items. The review will also address recommended improvements to the Plan as contained in the FEMA plan review checklist and address any weaknesses the Town identified that the Plan did not adequately address.
- Second, the Plan will be thoroughly updated every five years.
- Third, if the Town adopts any major modifications to its land use planning documents, the jurisdiction will conduct a Plan review and make changes as applicable.

In keeping with the process of adopting this hazard mitigation plan, the public and stakeholders will have the opportunity for future involvement as they will be invited to participate in any and all future reviews or updates of this Plan. Public notice before any review or update will be given by such means as: press releases in local papers, posting meeting information on the Town website and at the Town Offices, sending letters to federal, state and local organizations impacted by the Plan and posting notices in public places in the Town. This will ensure that all comments and revisions from the public and stakeholders will be considered. The Board of Selectmen ensures that these actions will be done.

Concurrence forms to be used for post-hazard or annual reviews are available in Chapter 11 of this Plan. The Town is encouraged to use these forms to document any changes and accomplishments since the development of this Plan. Forms are available for years 1-4, with expectation that the five-year annual update will be in process during the fifth year.

B. Integration with Other Plans

This Plan will only enhance mitigation if balanced with all other town plans. Albany completed its last hazard mitigation plan in 2011 and has completed some of projects from that Plan, although admittedly, several action items from the 2011 plan were more preparedness than mitigation. Examples of these can be found in Table 7.1 and include items such as the development of a Capital Improvement Plan (although not completed) and the Albany Emergency Operations Plan in 2012. The Town was able to integrate these actions into other town activities, budgets, plans and mechanisms.

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

ALBANY MASTER PLAN

Traditionally, Master Plans are updated every 5 to 10 years and detail the use of capital reserves funds and capital improvements within the Town. Albany has a current Master Plan, which was completed in 2014; this plan will not be ready for a complete update until 2024. Although this update does not fall within the time frame of this hazard mitigation plan, the Planning Board will integrate concepts and ideas from this Plan when working on any reviews and/or updates of the Master Plan.

ALBANY EMERGENCY OPERATIONS PLAN 2012 (EOP)

The EOP is designed to allow the Town to respond more effectively to disasters as well as mitigate the risk to people and property; EOPs are generally reviewed after each hazard event and updated on a five-year basis. The last Albany EOP was finished in 2012 and will be ready for its five year update in 2017. **Action Item #13** calls for an update of the EOP which will include elements from this hazard mitigation plan.

TOWN BUDGET, CAPITAL RESERVE FUND, CAPITAL IMPROVEMENT PLAN

Although the Town of Albany does not currently have a completed Capital Improvement Plan (CIP), **Action Item #14** calls for the completion of a CIP which would include elements from this Plan. Albany operates Capital Reserve Fund accounts as part of the budget process. The Capital Reserve Funds sets aside money for major expenditures; this fund is adjusted annually in coordination with the Board of Selectmen and the Town's department heads at budget time. The budget is then voted on at the annual Town Meeting. During the annual budget planning process, specific mitigation actions identified in this Plan that require Town fiscal support will be reviewed for incorporation into the budget.

Action items in this Plan that will require funding or appropriation in the Town Warrant will be integrated into the budget and Capital Reserve Funds processes. This will include the local funding that is required for action items such as **Action Item #19**, to improve 911 signage compliance, **Action Item #14**, to complete the CIP, **Action Item #5**, to obtain a generator for the Town Hall and **Action Item #18**, to reduce slash on the forest floor

ORDINANCES & SUBDIVISION REGULATIONS

The Planning and Zoning Boards do their best to maintain regulations that will enhance the future of the Community and keep future development and construction out of hazardous areas; site plan and subdivision regulations do their best to insure safe future development. As time goes by and the needs of the Town change, these ordinances will be reviewed and updated. In coordination with these actions, the Planning Board will review this Hazard Mitigation Plan and incorporate any changes that help mitigate the susceptibility of the Community and its citizens to the dangers of natural or human-caused disasters. **Action Items #8, #12, #15, #16 and #17** call for improvements to current regulations and/or consideration of other documents when reviewing regulations.

The local government will modify other plans and actions as necessary to incorporate hazard and/or wildfire issues; the Board of Selectmen ensures this process will be followed in the future. In addition, the Town will review and make note of instances when this has been done and include it as part of their annual review of the Plan.

C. Plan Approval & Adoption

This Plan was completed in a series of open meetings beginning on November 18, 2015. The Plan was presented to the Town for review, submitted to HSEM for Conditional Approval (*APA, Approved Pending Adoption*), formally adopted by the Board of Selectmen and resubmitted to HSEM for Final Approval. Once Final Approval from HSEM was met, copies of the Plan were distributed to the Town, HESM, FEMA, DNCR and the USDA-FS; the Plan was then distributed as these entities saw fit. Copies of the Plan remain on file at Mapping and Planning Solutions (MAPS) in both digital and paper format.

Adoption by the local governing body demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in the Plan. Adoption legitimizes the Plan and authorizes responsible agencies to execute their responsibilities. The Plan shall include documentation of the resolution adopting the Plan as per requirement §201.6(c)(5).

Note: for the purposes of clarity, the above paragraph was written in future tense, noting that these actions have not yet transpired – this box will be deleted when the final hard copy is printed and distributed.



Traffic on NH Route 16
Photo Credit: Brian Taylor

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Chapter 11: Signed Community Documents and Approval Letters

A. Planning Scope of Work & Agreement



PLANNING SCOPE OF WORK & AGREEMENT

HAZARD MITIGATION PLAN

PARTIES TO THE AGREEMENT

Mapping and Planning Solutions
Town of Albany, NH

Current Plan Expiration: June 8, 2015
PDM14 Grant Expiration: September 30, 2016

This Agreement between the Town of Albany (the Town) or its official designee and Mapping and Planning Solutions (MAPS) outlines the Town's desire to engage the services of MAPS to assist in planning and technical services in order to produce the 2016 Hazard Mitigation Plan Update (the Plan).

Agreement

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

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

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

Scope of Work

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

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

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

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

- The Town shall insure that the Planning Team includes members who are able to support the planning process by identifying available Town resources including people who will have access to and can provide pertinent data. The planning team should include, but not be limited to, such Town members as the local Emergency Management Director, the Fire, Ambulance and Police Chiefs, members of the Board of Selectmen and the Planning Board, the Public Works Director or Road Agent, representatives from relevant federal and state organizations, other local officials, property owners, and relevant businesses or organizations.
- The Town shall determine a lead contact to work with MAPS. This contact shall assist with recruiting participants for planning meetings, including the development of mailing lists when and if necessary, distribution of flyers, and placement of meeting announcements. In addition, this contact shall assist MAPS with organizing public meetings to develop the Plan and offer assistance to MAPS in developing the work program which will produce the Plan.
- The Town shall gain the support of stakeholders for the recommendations found within the Plan.
- The Town shall provide public access for all meetings and provide public notice at the start of the planning process and at the time of adoption, as required by FEMA.
- The proposed Plan shall be submitted to the Board of Selectmen and/or Planning Board for consideration and adoption.
- After adoption and final approval from FEMA is received, the Town will:
 - *Distribute copies of the Plan as it sees fit throughout the local community.*
 - *Develop a team to monitor and work toward plan implementation.*
 - *Publicize the Plan to the Community and insure citizen awareness.*
 - *Urge the Planning Board to incorporate priority projects into the Town's Capital Improvement Plan (if available).*
 - *Integrate mitigation strategies and priorities from the Plan into other Town planning documents.*

Terms

- **Fees & Payment Schedule:** The contract price is limited to \$6,000; an invoice will be sent to the Town for each payment as outlined below.
 - 1. Initial payment upon signing of this contract and receipt of first invoice \$3,000
 - 2. Second payment upon Plan submittal to FEMA for Conditional Approval \$2,800
 - 3. Final payment upon project completion and receipt of final Plan copy \$200
 - Total Fees..... \$6,000

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

All payments to MAPS are fully reimbursable to the Town by Homeland Security & Emergency Management.

- **Required Matching Funds:** The Town of Albany will be responsible to provide and document any and all resources to be used to meet the FEMA required matching funds in the amount of \$2,000. Matching funds are the responsibility of the Town of Albany, not MAPS. Mapping and Planning Solutions will however assist the Town with attendance tracking by asking meeting attendees to “sign in” at all meetings and to “log” any time spent outside of the meetings working on this project. MAPS will provide the Town with final attendance records in spreadsheet form at project’s end for the Town to use in its match fulfillment.
- **Project Period:** This project shall begin upon signing this Agreement by both parties and continue through September 30, 2016 or whenever the planning process is complete. The project period may be extended by mutual written Agreement between the Town, MAPS and Homeland Security if required. The actual project end date is dependent upon timely adoptions and approvals which may be outside of the control of MAPS and the Town. It is anticipated that five or six two-hour meetings will be required to gather the necessary information to create the updated the Plan.
- **Ownership of Material:** All maps, reports, documents and other materials produced during the project period shall be owned by the Town; each party may keep file copies of any generated work. MAPS shall have the right to use work products collected during the planning process; however, MAPS shall not use any data in such a way as to reveal personal or public information about individuals or groups which could reasonably be considered confidential.
- **Termination:** This Agreement may be terminated if both parties agree in writing. In the event of termination, MAPS shall forward all information prepared to date to the Town. MAPS shall be entitled to recover its costs for any work that was completed.
- **Limit of Liability:** MAPS agrees to perform all work in a diligent and efficient manner according to the terms of this Agreement. MAPS' responsibilities under this Agreement depend upon the cooperation of the Town of Albany. MAPS and its employees, if any, shall not be liable for opinions rendered, advice, or errors resulting from the quality of data that is supplied. Adoption of the Plan by the Town and final approval of the Plan by FEMA, relieve MAPS of content liability. Mapping and Planning Solutions carries annual general liability insurance.
- **Amendments:** Changes, alterations or additions to this Agreement may be made if agreed to in writing between both the Town of Albany and Mapping and Planning Solutions.

➤ **About Mapping and Planning Solutions:** Mapping and Planning Solutions provides hazard mitigation and emergency operations planning throughout New Hampshire. Mapping and Planning Solutions has developed more than 50 Hazard Mitigation Plans, more than 35 Emergency Operations Plans and has completed the following FEMA courses in Emergency Planning and Operations:

- Introduction to Incident Command System, IS-100.a
- ICS Single Resources and Initial Action Incidents, IS-200.a
- National Incident Management System (NIMS) An Introduction, IS-700.a
- National Response Framework, An Introduction, IS 800.b
- Emergency Planning, IS-235
- Homeland Security Exercise & Evaluation Program (HSEEP)
- IS-547.a – Introduction to Continuity Operations
- IS-546.a – Continuity of Operations (COOP) Awareness Course
- G-318; Preparing & Review Hazard Mitigation Plans

➤ **Contacts:**

For Mapping & Planning Solutions

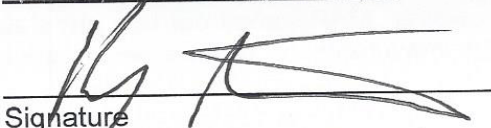
June Garneau
105 Union Street, Suite 1
Whitefield, NH 03598
jgarneau@mappingandplanning.com
(603) 837-7122; (603) 991-9664 (cell)

For the Town

Albany Board of Selectmen
Albany Town Hall
1972 Route 16, Unit A
Albany, NH 03818
Westyr2@yahoo.com
(603) 447-6728

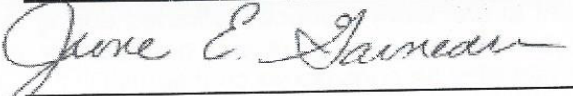
Signature below indicates acceptance of and Agreement to details outlined in this Agreement

FOR THE TOWN OF ALBANY, NH


Signature
Kelly Robitaille, Selectmen Chair
Printed Name/Title

6/10/15
Date

FOR MAPPING AND PLANNING SOLUTIONS


Signature
June Garneau, Owner
May 31, 2015

Signature is a scanned facsimile; original signatures are on file.

B. Conditional Approval Letter from FEMA

Albany, NH - Approvable Pending Adoption

Hazard Mitigation Planning <HazardMitigationPlanning@dos.nh.gov>

Sent: Wed 8/16/2017 12:56 PM

To: 'June Garneau'

Cc: 'r.hiland@myfairpoint.net'; 'westyr2@yahoo.com'; Lawton, Heidi

Good afternoon!

The Department of Safety, Division of Homeland Security & Emergency Management (HSEM) has completed its review of the Albany, NH Hazard Mitigation Plan and found it approvable pending adoption. Congratulations on a job well done!

With this approval, the jurisdiction meets the local mitigation planning requirements under 44 CFR 201 **pending HSEM's receipt of electronic copies of the adoption documentation and the final plan.**

Acceptable electronic formats include Word or PDF files and must be submitted to us via email at HazardMitigationPlanning@dos.nh.gov. Upon HSEM's receipt of these documents, notification of formal approval will be issued, along with the final Checklist and Assessment.

The approved plan will be submitted to FEMA on the same day the community receives the formal approval notification from HSEM. FEMA will then issue a Letter of Formal Approval to HSEM for dissemination that will confirm the jurisdiction's eligibility to apply for mitigation grants administered by FEMA and identify related issues affecting eligibility, if any. If the plan is not adopted within one calendar year of HSEM's Approval Pending Adoption, the jurisdiction must update the entire plan and resubmit it for HSEM review. If you have questions or wish to discuss this determination further, please contact me at Whitney.Welch@dos.nh.gov or 603-223-3667.

Thank you for submitting the Albany, NH Hazard Mitigation Plan and again, congratulations on your successful community planning efforts.

Sincerely,

Whitney

Signature is a scanned facsimile; original signatures are on file.

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C. Signed Certificate of Adoption

CERTIFICATE OF ADOPTION

ALBANY, NH

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE TOWN OF ALBANY, HAZARD MITIGATION PLAN UPDATE 2017

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

WHEREAS, the Town of Albany has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its Hazard Mitigation Plan Update 2017 under the requirements of 44 CFR 201.6; and

WHEREAS, public and committee meetings were held between November 18, 2015 and June 15, 2016 regarding the development and review of the Hazard Mitigation Plan Update 2017 and

WHEREAS, the Plan specifically addresses hazard mitigation strategies and Plan maintenance procedure for the Town of Albany; and

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

RESOLVED by the Board of Selectmen:

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

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

- 3. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution;
- 4. An annual report on the progress of the implementation elements of the Plan shall be presented by the Board of Selectmen or by the Emergency Management Director if one has been appointed.

Adopted this day, the _____ of _____, 2017

Chairman of the Board of Selectmen

Member of the Board of Selectmen

Signature

Signature

Print Name

Print Name

Member of the Board of Selectmen

Emergency Management Director

Signature

Board of Selectmen

Print Name

IN WITNESS WHEREOF, the undersigned has affixed his/her signature and the corporate seal of the Town of Albany on this day, _____, 2017

Notary

Expiration

Date

Signatures are scanned facsimile; original signatures are on file.

D. Final Approval Letter from FEMA

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INSERTION OF FINAL APPROVAL LETTER FROM
FEMA WHEN RECEIVED.

PAGE LEFT INTENTIONALLY BLANK FOR
INSERTION OF FINAL APPROVAL LETTER
(PAGE 2) FROM FEMA WHEN RECEIVED.

Signatures are scanned facsimile; original signatures are on file.

E. CWPP Approval Letter from DNCR

**Albany, NH
A Resolution Approving the
Albany Hazard Mitigation Plan Update 2017
As a Community Wildfire Protection Plan**

Several public meetings and committee meetings were held between November 18, 2015 and June 15, 2016 regarding the development and review of the Albany Hazard Mitigation Plan Update 2017. The Albany Hazard Mitigation Plan Update 2017 contains potential future projects to mitigate hazard and wildfire damage in the Town of Albany.

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

The Conway Fire Chief and the Board of Selectmen (serving as the EMD) approve the Albany Hazard Mitigation Plan Update 2017 and understand that with approval by DNCR, this Plan will also serve as a Community Wildfire Protection Plan.

For the Town of Albany

APPROVED and SIGNED this day, _____, 2017.

Chairman of the Board of Selectmen
(Serving as the EMD)

Printed Name

Conway Fire Chief

Printed Name

For the Department of Natural & Cultural Resources

APPROVED and SIGNED this day, _____, 2017.

Forest Ranger – NH Division of Forest and Lands, DNCR

APPROVED and SIGNED this day, _____, 2017.

Director – NH Division of Forest and Lands, DNCR

Signature is a scanned facsimile; original signatures are on file.

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F. Annual Review or Post Hazard Concurrence Forms

YEAR ONE

Check all that apply

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

The Town of Albany, NH shall execute this page annually by the members of the Town’s governing body and the Town’s designated Emergency Management Director, or Board of Selectmen if there is no Emergency Management Director, after inviting the public to attend any and all hearings that pertain to this annual and/or post hazard review and/or update by means such as press releases in local papers, posting meeting information on the Town website and at the Town Offices, sending letters to federal, state local organizations impacted by the Plan posting notices in public places in the Town.

Albany, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director
(if available)

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Chairman of the Select Board

Changes and notes regarding the 2017 Hazard Mitigation Plan Update

Please use reverse side for additional notes 

YEAR TWO

Check all that apply

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

The Town of Albany, NH shall execute this page annually by the members of the Town’s governing body and the Town’s designated Emergency Management Director, or Board of Selectmen if there is no Emergency Management Director, after inviting the public to attend any and all hearings that pertain to this annual and/or post hazard review and/or update by means such as press releases in local papers, posting meeting information on the Town website and at the Town Offices, sending letters to federal, state local organizations impacted by the Plan posting notices in public places in the Town.

Albany, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director
(if available)

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Chairman of the Select Board

Changes and notes regarding the 2017 Hazard Mitigation Plan Update

Please use reverse side for additional notes 

YEAR THREE

Check all that apply

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

The Town of Albany, NH shall execute this page annually by the members of the Town’s governing body and the Town’s designated Emergency Management Director, or Board of Selectmen if there is no Emergency Management Director, after inviting the public to attend any and all hearings that pertain to this annual and/or post hazard review and/or update by means such as press releases in local papers, posting meeting information on the Town website and at the Town Offices, sending letters to federal, state local organizations impacted by the Plan posting notices in public places in the Town.

Albany, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director
(if available)

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Chairman of the Select Board

Changes and notes regarding the 2017 Hazard Mitigation Plan Update

Please use reverse side for additional notes 

YEAR FOUR

Check all that apply

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

The Town of Albany, NH shall execute this page annually by the members of the Town’s governing body and the Town’s designated Emergency Management Director, or Board of Selectmen if there is no Emergency Management Director, after inviting the public to attend any and all hearings that pertain to this annual and/or post hazard review and/or update by means such as press releases in local papers, posting meeting information on the Town website and at the Town Offices, sending letters to federal, state local organizations impacted by the Plan posting notices in public places in the Town.

Albany, NH
Hazard Mitigation Plan Update

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director
(if available)

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Chairman of the Select Board

Changes and notes regarding the 2017 Hazard Mitigation Plan Update

Please use reverse side for additional notes 

Chapter 12: Appendices

- APPENDIX A: BIBLIOGRAPHY
- APPENDIX B: TECHNICAL AND FINANCIAL ASSISTANCE FOR HAZARD MITIGATION
 - *Hazard Mitigation Grant Program (HMGP)*
 - *Pre-Disaster Mitigation (PDM)*
 - *Flood Mitigation Assistance (FMA)*
- APPENDIX C: THE EXTENT OF HAZARDS
- APPENDIX D: PRESIDENTIAL DISASTER & EMERGENCY DECLARATIONS
- APPENDIX E: POTENTIAL MITIGATION IDEAS
- APPENDIX F: ACRONYMS
- APPENDIX G: MAP DOCUMENTS
 - *Map 1 – Base Risk Analysis*
 - *Map 2 – Historic Fires & the Wildland Urban Interface (WUI)*
 - *Map 3 – Past & Potential Areas of Concern*
 - *Map 4 – Critical Infrastructure & Key Resources*

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Appendix A: Bibliography

Documents

- **Local Hazard Mitigation Planning Review Guide**, FEMA, October 2011
- **Local Hazard Mitigation Planning Handbook**, FEMA, March 2013
- **Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards**, FEMA, January 2013
- **Hazard Mitigation Unified Guidance**, FEMA, July 12, 2013
- **Hazard Mitigation Assistance Guidance**, FEMA, February 27, 2015
- **Hazards Mitigation Plans**
 - Albany Hazard Mitigation Plan, 2011
 - Conway Hazard Mitigation Plan, 2014
 - Berlin Hazard Mitigation Plan, 2016
 - Columbia Hazard Mitigation Plan, 2016
- **NH State Multi-Hazard Mitigation Plan**, 2013
 - <http://www.nh.gov/safety/divisions/hsem/HazardMitigation/documents/hazard-mitigation-plan.pdf>
- **NH Division of Forests and Lands Quarterly Update**
 - <http://www.nhdfi.org/fire-control-and-law-enforcement/fire-statistics.aspx>
- **Disaster Mitigation Act (DMA) of 2000**, Section 101, b1 & b2 and Section 322a
 - <http://www.fema.gov/library/viewRecord.do?id=1935>
- **Economic & Labor Market Information Bureau**, NH Employment Security, April 2017; Community Response for Albany, Received, 5/21/2015, Census 2000 and Revenue Information derived from this site; <https://www.nhes.nh.gov/elmi/products/cp/profiles-pdf/albany.pdf>

Photos: Photos taken by MAPS unless otherwise noted.

Additional Websites

- **Wildfire Links**
 - US Forest Service; <http://www.fs.fed.us>
 - US Fire Administration; <http://www.usfa.dhs.gov/>
 - US Department of Agriculture Wildfire Programs; <http://www.wildfireprograms.usda.gov/>
 - Firewise; <http://www.firewise.org/>
 - Fire Adapted Communities; www.fireadapted.org
 - Wildfire Preparedness Guide to Forest Wardens; www.quickseries.com
 - Ready Set Go; www.wildlandfires.org
 - Fire education for children; www.smokeybear.com
- NH Homeland Security & Emergency Management; <http://www.nh.gov/safety/divisions/hsem/>
- US Geological Society; <http://water.usgs.gov/ogw/subsidence.html>
- Department Environmental Services; <http://des.nh.gov/organization/divisions/water/dam/drought/documents/historical.pdf>
- The Disaster Center (NH); <http://www.disastercenter.com/newhamp/tornado.html>
- Floodsmart, about the NFIP; http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp
- NOAA, National Weather Service; <http://www.nws.noaa.gov/glossary/index.php?letter=w>

- NOAA, Storm Prediction Center; <http://www.spc.noaa.gov/faq/tornado/beaufort.html>
- National Weather Service; http://www.nws.noaa.gov/om/cold/wind_chill.shtml
- Center for Disease Control; <https://www.cdc.gov/disasters/winter/index.html>
- Slate; <http://www.slate.com/id/2092969/>
- NH Office of Energy and Planning; <http://www.nh.gov/oep/planning/programs/fmp/join-nfip.htm>
- Code of Federal Regulations; Title 14, Aeronautics and Space; Part 1, Definitions and Abbreviations; https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title14/14tab_02.tpl
- Federal Aviation Administration; <http://faa.custhelp.com>
- US Legal, Inc.; <http://definitions.uslegal.com/v/violent-crimes/>

Appendix B: Technical & Financial Assistance for Hazard Mitigation

FEMA's Hazard Mitigation Assistance (HMA) grant programs provide funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages. Currently, FEMA administers the following HMA grant programs¹⁹:

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)
- Repetitive Flood Claims (RFC)
- Severe Repetitive Loss (SRL)

Did You Know?

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

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

FEMA's HMA grants are provided to eligible Applicants (States/Tribes/Territories) that, in turn, provide sub-grants to local governments and communities. The Applicant selects and prioritizes subapplications developed and submitted to them by subapplicants. These subapplications are submitted to FEMA for consideration of funding.

Prospective subapplicants should consult the office designated as their Applicant for further information regarding specific program and application requirements. Contact information for the FEMA Regional Offices and State Hazard Mitigation Officers is available on the FEMA website, www.fema.gov.

HMA Grant Programs

The HMA grant programs provide funding opportunities for pre- and post-disaster mitigation. While the statutory origins of the programs differ, all share the common goal of reducing the risk of loss of life and property due to Natural Hazards. Brief descriptions of the HMA grant programs can be found below.

A. Hazard Mitigation Grant Program (HMGP)

HMGP assists in implementing long-term hazard mitigation measures following Presidential disaster declarations. Funding is available to implement projects in accordance with State, Tribal and local priorities.

Table 3: Eligible Activities by Program

Eligible Activities	HMGP	PDM	FMA
1. Mitigation Projects	✓	✓	✓
Property Acquisition and Structure Demolition	✓	✓	✓
Property Acquisition and Structure Relocation	✓	✓	✓
Structure Elevation	✓	✓	✓
Mitigation Reconstruction	✓	✓	✓
Dry Floodproofing of Historic Residential Structures	✓	✓	✓
Dry Floodproofing of Non-residential Structures	✓	✓	✓
Generators	✓	✓	
Localized Flood Risk Reduction Projects	✓	✓	✓
Non-localized Flood Risk Reduction Projects	✓	✓	
Structural Retrofitting of Existing Buildings	✓	✓	✓
Non-structural Retrofitting of Existing Buildings and Facilities	✓	✓	✓
Safe Room Construction	✓	✓	
Wind Retrofit for One- and Two-Family Residences	✓	✓	
Infrastructure Retrofit	✓	✓	✓
Soil Stabilization	✓	✓	✓
Wildfire Mitigation	✓	✓	
Post-Disaster Code Enforcement	✓		
Advance Assistance	✓		
5 Percent Initiative Projects	✓		
Miscellaneous/Other ⁽¹⁾	✓	✓	✓
2. Hazard Mitigation Planning			✓
Planning Related Activities	✓		
3. Technical Assistance			✓
4. Management Cost	✓	✓	✓

⁽¹⁾ Miscellaneous/Other indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available.

Eligibility Chart taken from Hazard Mitigation Assistance Guidance, February 27, 2015

¹⁹ Information in Appendix B is taken from the following website and links to specific programs unless otherwise noted http://www.fema.gov/media-library-data/1424983165449-38f5dfc69c0bd4ea8a161e8bb7b79553/HMA_Guidance_022715_508.pdf

What is the Hazard Mitigation Grant Program?

The Hazard Mitigation Grant Program (HMGP) provides grants to States and local governments to implement long-term hazard mitigation measures after a major disaster declaration. Authorized under Section 404 of the Stafford Act and administered by FEMA, HMGP was created to reduce the loss of life and property due to natural disasters. The program enables mitigation measures to be implemented during the immediate recovery from a disaster.

Who is eligible to apply?

Hazard Mitigation Grant Program funding is only available to applicants that reside within a presidentially declared disaster area. Eligible applicants are

- State and local governments
- Indian tribes or other tribal organizations
- Certain non-profit organizations

Individual homeowners and businesses may not apply directly to the program; however a community may apply on their behalf.

How are potential projects selected and identified?

The State's administrative plan governs how projects are selected for funding. However, proposed projects must meet certain minimum criteria. These criteria are designed to ensure that the most cost-effective and appropriate projects are selected for funding. Both the law and the regulations require that the projects are part of an overall mitigation strategy for the disaster area.

The State prioritizes and selects project applications developed and submitted by local jurisdictions. The State forwards applications consistent with State mitigation planning objectives to FEMA for eligibility review. Funding for this grant program is limited and States and local communities must make difficult decisions as to the most effective use of grant funds.

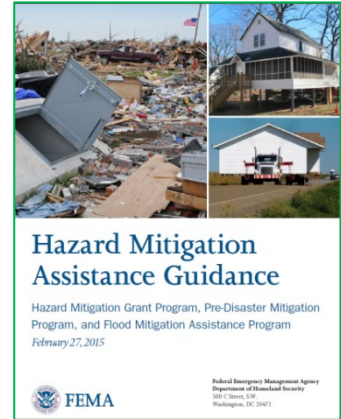
B. Pre-Disaster Mitigation (PDM)

PDM provides funds on an annual basis for hazard mitigation planning and the implementation of mitigation projects prior to a disaster. The goal of the PDM program is to reduce overall risk to the population and structures, while at the same time, also reducing reliance on Federal funding from actual disaster declarations.

Program Overview

The Pre-Disaster Mitigation (PDM) program provides funds to states, territories, Indian tribal governments, communities and universities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event.

Funding these plans and projects reduces overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations. PDM grants are to be awarded on a competitive basis and without reference to state allocations, quotas, or other formula-based allocation of funds.



C. Flood Mitigation Assistance (FMA)

FMA provides funds on an annual basis so that measures can be taken to reduce or eliminate risk of flood damage to buildings insured under the National Flood Insurance Program.

Program Overview

The FMA program was created as part of the National Flood Insurance Reform Act (NFIRA) of 1994 (42 U.S.C. 4101) with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP).

FEMA provides FMA funds to assist States and communities implement measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes and other structures insurable under the National Flood Insurance Program.

Types of FMA Grants

Three types of FMA grants are available to States and communities:

Planning Grants to prepare Flood Mitigation Plans. Only NFIP-participating communities with approved Flood Mitigation Plans can apply for FMA Project grants.

Project Grants to implement measures to reduce flood losses, such as elevation, acquisition, or relocation of NFIP-insured structures. States are encouraged to prioritize FMA funds for applications that include repetitive loss properties; these include structures with 2 or more losses each with a claim of at least \$1,000 within any ten-year period since 1978.

Technical Assistance Grants for the State to help administer the FMA program and activities. Up to ten percent (10%) of Project grants may be awarded to States for Technical Assistance Grants

Repetitive Flood Claims (RFC)

RFC provides funds on an annual basis to reduce the risk of flood damage to individual properties insured under the NFIP that have had one or more claim payments for flood damages. RFC provides up to 100% federal funding for projects in communities that meet the reduced capacity requirements.

Program Overview

The Repetitive Flood Claims (RFC) grant program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004 (P.L. 108–264), which amended the National Flood Insurance Act (NFIA) of 1968 (42 U.S.C. 4001, et al).

Up to \$10 million is available annually for FEMA to provide RFC funds to assist States and communities reduce flood damages to insured properties that have had one or more claims to the National Flood Insurance Program (NFIP).

Federal / Non-Federal Cost Share

FEMA may contribute up to 100 percent of the total amount approved under the RFC grant award to implement approved activities, if the Applicant has demonstrated that the proposed activities cannot be funded under the Flood Mitigation Assistance (FMA) program.

Severe Repetitive Loss (SRL)

SRL provides funds on an annual basis to reduce the risk of flood damage to residential structures insured under the NFIP that are qualified as severe repetitive loss structures. SRL provides up to 90% federal funding for eligible projects.

Program Overview

The Severe Repetitive Loss (SRL) grant program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004, which amended the National Flood Insurance Act of 1968 to provide funding to reduce or eliminate the long-term risk of flood damage to severe repetitive loss (SRL) structures insured under the National Flood Insurance Program (NFIP).

Definition

The definition of severe repetitive loss as applied to this program was established in section 1361A of the National Flood Insurance Act, as amended (NFIA), 42 U.S.C. 4102a. An SRL property is defined as a **residential property** that is covered under an NFIP flood insurance policy and:

(a) That has at least four NFIP claim payments (including building and contents) over \$5,000 each and the cumulative amount of such claims payments exceeds \$20,000; or

(b) For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

For both (a) and (b) above, at least two of the referenced claims must have occurred within any ten-year period and must be greater than 10 days apart.

Purpose

To reduce or eliminate claims under the NFIP through project activities that will result in the greatest savings to the National Flood Insurance Fund (NFIF).

Federal / Non-Federal cost share

75/25%; up to 90% Federal cost-share funding for projects approved in States, Territories and Federally-recognized Indian tribes with FEMA-approved Standard or Enhanced Mitigation Plans or Indian tribal plans that include a strategy for mitigating existing and future SRL properties.

**For further information all of these programs, please refer to
the new FEMA Hazard Mitigation Assistance Guidance:**

http://www.fema.gov/media-library-data/1424983165449-38f5dfc69c0bd4ea8a161e8bb7b79553/HMA_Guidance_022715_508.pdf

Appendix C: The Extent of Hazards

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

DAM FAILURE

A “Dam” means any artificial barrier, including appurtenant works, which impounds or diverts water, and which has a height of 4 feet or more, or a storage capacity of 2 acre-feet or more, or is located at the outlet of a great pond^[1]. A dam failure occurs when water overtops the dam, or there is structural failure of the dam which causes there to be a breach and an unintentional release of water. Dams are classified in the following manner²⁰:

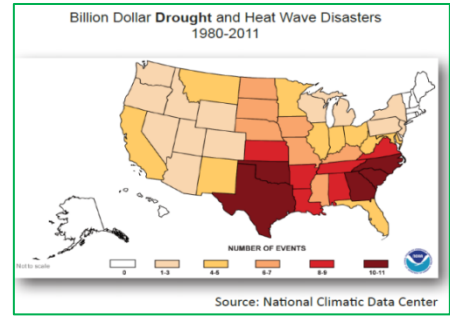
Classification	Description	Inspection Intervals
Non-Menace	A dam that is not a menace because it is in a location and of a size that failure or misoperation of the dam would not result in probable loss of life or loss to property. The dam must be less than six feet in height if the storage capacity is greater than 50 acre-feet or less than 25 feet in height if it has a storage capacity of 15-50 acre-feet.	Every 6 years
Low Hazard	A dam that has a low hazard potential because it is in a location and of a size that failure or misoperation of the dam would result in no possible loss of life, low economic loss to structures or property, structural damage to a town or city road or private road accessing property other than the dam owner's that could render the road impassable or otherwise interrupt public safety services, the release of liquid industrial, agricultural, or commercial wastes, septage, or contained sediment if the storage capacity is less two-acre-feet and is located more than 250 feet from a water body or water course, and/or reversible environmental losses to environmentally-sensitive sites.	Every 6 years
Significant Hazard	A dam that has a significant hazard potential because it is in a location and of a size that failure or misoperation of the dam would result in no probable loss of lives; however, there would be major economic loss to structures or property, Structural damage to a Class I or Class II road that could render the road impassable or otherwise interrupt public safety services, major environmental or public health losses including one or more of the following: Damages to a public water system (RSA 485:1-a, XV) which will take longer than 48 hours to repair, the release of liquid industrial, agricultural, or commercial wastes, septage, sewage, or contaminated sediments if the storage capacity is 2 acre-feet or more; or damage to an environmentally-sensitive site that does not meet the definition of reversible environmental losses.	Every 4 years
High Hazard	A dam that has a high hazard potential because it is in a location and of a size that failure or misoperation of the dam would result in probable loss of human life as well as a result of; water levels and velocities causing the structural failure of a foundation of a habitable residential structure or commercial or industrial structure which is occupied under normal conditions; water levels rising above the first floor elevation of a habitable residential structure or a commercial or industrial structure, which is occupied under normal conditions when the rise due to a dam failure is greater than one foot; structural damage to an interstate highway, which could render the roadway impassable or otherwise interrupt public safety services; the release of a quantity and concentration of material, which qualify as “hazardous waste” as defined by RSA 147-A:2 VII; or any other circumstance that would more likely than not cause one or more deaths.	Every 2 years

^[1] NH DES http://des.nh.gov/organization/divisions/water/dwgb/wrpp/documents/primer_chapter11.pdf

²⁰ <http://des.nh.gov/organization/commissioner/pip/factsheets/db/documents/db-15.pdf>

***DROUGHT**

A drought is defined as a long period of abnormally low precipitation, especially one that adversely affects the growing season or living conditions of plants and animals. Droughts are rare in New Hampshire. They generally are not as damaging and disruptive as floods and are more difficult to define. The effect of drought is indicated through measurements of soil moisture, groundwater levels and stream flow.



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

Dates	Area Affected	Recurrence Interval Yrs	Remarks
1929-1936	Statewide	10 to > 25	Regional
1939-1944	Statewide	10 to > 25	Severe in southeast and moderate elsewhere
1947-1950	Statewide	10 to 25	Moderate
1960-1969	Statewide	> 25	Regional longest recorded continuous spell of less than normal precipitation
2001-2002	Statewide	Not yet determined	Third worst drought on record, exceeded only by the drought of 1956-1966 and 1941-1942

NH DES; <http://des.nh.gov/organization/divisions/water/dam/drought/documents/historical.pdf>

***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 widely determined by the use of two scales, the more commonly used Richter scale (measures strength or magnitude) and the Mercalli Scale (measures intensity or severity). The chart to the right shows the two scales relative to one another. The Richter Scale measures earthquakes starting at 1 as the lowest with each successive unit being about 10 times stronger and more severe than the previous one.²¹

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

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

²¹ Modified Mercalli Scale/Richter Scale Chart; MO DNR, http://www.dnr.mo.gov/geology/geosrv/geores/richt_mercalli_relation.htm

***EROSION, MUDSLIDE & LANDSLIDE**

Erosion is the wearing away of land, such as loss of riverbank, beach, shoreline or dune material. It is measured as the rate of change in the position or displacement of a riverbank or shoreline over a period of time. Short-term erosion typically results from periodic natural events, such as flooding, hurricanes, storm surge and windstorms but may be intensified by human activities. Long-term erosion is a result of multi-year impacts such as repetitive flooding, wave action, sea level rise, sediment loss, subsidence and climate change. Death and injury are not typically associated with erosion; however, it can destroy buildings and infrastructure.²²

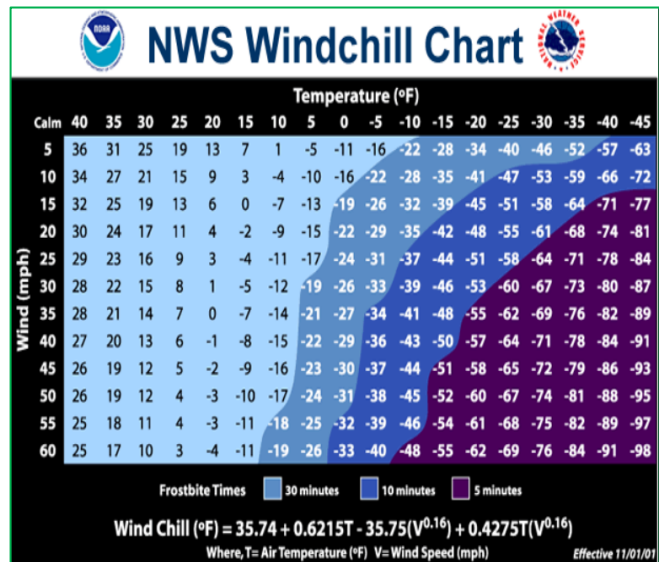
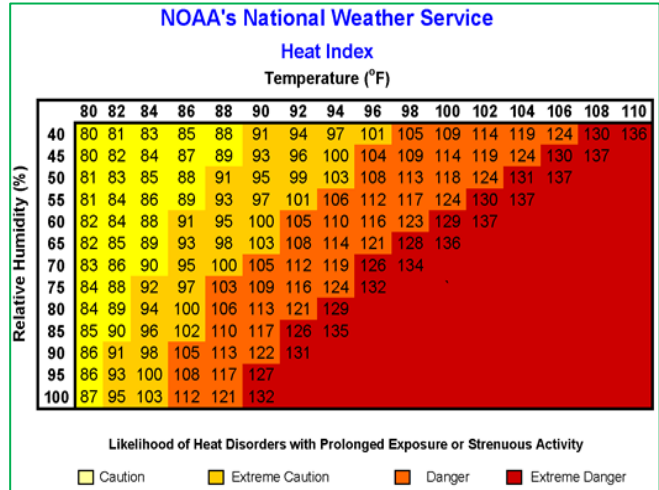
***EXTREME TEMPERATURES**

EXTREME HEAT

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

Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or her age and physical condition. Older adults, young children and those who are sick or overweight are more likely to succumb to extreme heat.

Conditions that can induce heat-related illnesses include stagnant atmospheric conditions and poor air quality. Consequently, people living in urban areas may be at greater risk from the effects of a prolonged heat wave than those living in rural areas. Also, asphalt and concrete store heat longer and gradually release heat at night, which can produce higher nighttime temperatures known as the "urban heat island effect."²³ The chart above explains the likelihood of heat disorders that may result from high heat.²⁴



²²Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards, FEMA, January 2013

²³ NOAA, Index/Heat Disorders; <http://www.srh.noaa.gov/ssd/html/heatwv.htm>

²⁴ NOAA; <http://www.nws.noaa.gov/os/heat/index.shtml>

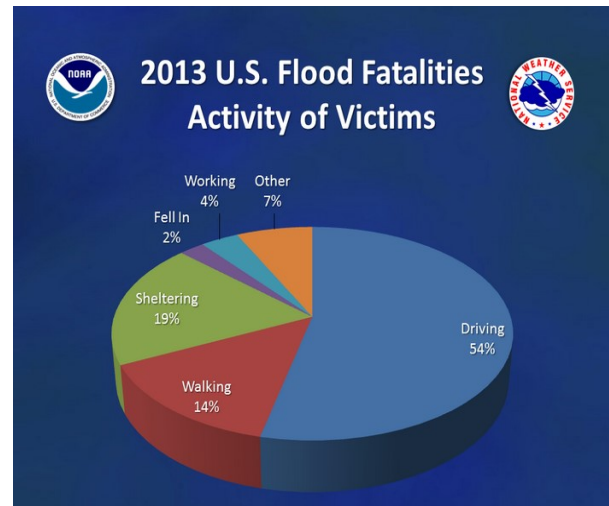
EXTREME COLD

What constitutes extreme cold and its effects can vary across different areas of the country. In regions relatively unaccustomed to winter weather, near freezing temperatures are considered “extreme cold.” Whenever temperatures drop decidedly below normal and as wind speed increases, heat can leave your body more rapidly; these weather related conditions may lead to serious health problems. Extreme cold is a dangerous situation that can bring on health emergencies in susceptible people without shelter or who are stranded, or who live in a home that is poorly insulated or without heat.²⁵ The National Weather Service Chart (previous page) shows windchill as a result of wind and temperature.²⁶

***FLOODING**GENERAL FLOODING CONDITIONS

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.

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 the year. A sudden thaw in the winter or a major downpour in the summer can cause flooding because there is suddenly a lot of water in one place with nowhere to go; warm temperatures and heavy rains cause rapid snowmelt producing prime conditions for flooding. In addition, rising waters in early spring often breaks ice into chunks that float downstream and pile up, causing flooding behind them. Small rivers and streams pose special flooding risks because they are easily blocked by jams. Ice in riverbeds and against structures presents a significant flooding threat to bridges, roads and the surrounding lands.

FLOODING (LOCAL, ROAD EROSION)

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

FLOODING (RIVERINE)

Floodplains are usually located in lowlands near rivers and flood on a regular basis. The term 100-year flood does not mean that 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”. What this means is that there is a 1% chance of a flood of that size happening in any year. Flooding is often associated with hurricanes, heavy rains, ice jams and rapid snowmelt in the spring.

²⁵ CDC; <http://www.bt.cdc.gov/disasters/winter/guide.asp> f

²⁶ National Weather Service; <http://www.nws.noaa.gov/om/windchill/>

FLOODING (DAM FAILURE)

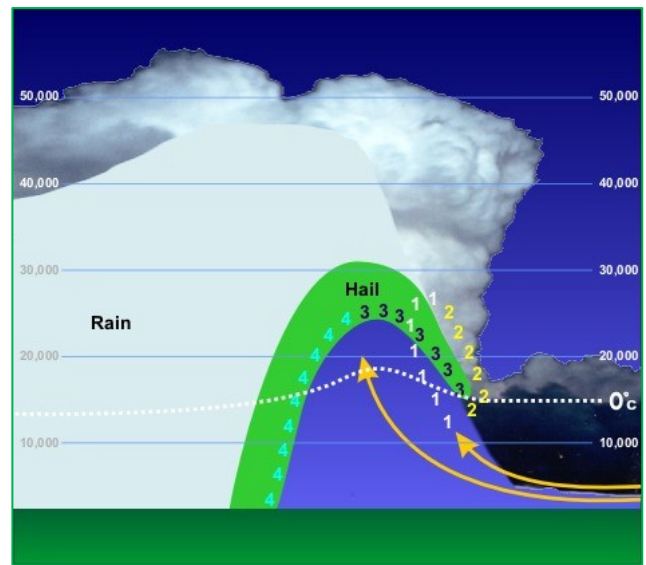
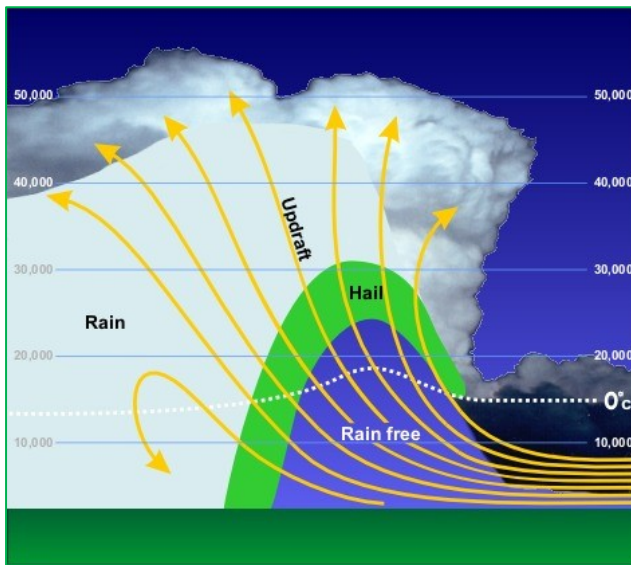
Flooding as a result of dam failure can be small enough to only affect the immediate area of the dam, or large enough to cause catastrophic results to cities, towns and human life that is below the dam. The extent of flooding depends largely on the size of the dam, the amount of water that is being held by the dam, the size of the breach, the amount of water flow from the dam and the amount of human habitation that is downstream.

***HAILSTORM**

Hailstones are balls of ice that grow as they're held up by winds, known as updrafts that blow upwards in thunderstorms. The updrafts carry droplets of supercooled water, water at a below-freezing temperature that is not yet ice. The supercooled water droplets freeze into balls of ice and grow to become hailstones. The faster the updraft, the bigger the stones can grow. Most hailstones are smaller in diameter than a dime, but stones weighing more than a pound have been recorded. "The largest hailstone recovered in the US fell in Vivian, SD on June 23, 2010 with a diameter of 8 inches and a circumference of 18.62 inches. It weighed 1 lb. 15 oz."²⁷

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

Details of how hailstones grow are complicated, but the results are irregular balls of ice that can be as large as baseballs. The chart above shows the relative size differences and a common way to "measure" the size of hail based on diameter.²⁸ The charts below show how hail is formed.²⁹



²⁷ NOAA National Severe Storms Laboratory; <https://www.nssl.noaa.gov/education/svrwx101/hail/>

²⁸ <http://www.pinterest.com/pin/126171227030590678/>

²⁹ <http://oceanservice.noaa.gov/education/yos/resource/JetStream/tstorms/hail.htm#hail>

***HIGH WIND (WINDSTORM)**

As stated by NOAA (National Oceanic & Atmospheric Administration), wind is defined as “The horizontal motion of the air past a given point. Winds begin with differences in air pressures. Those pressures which are higher at one place than another place set up a force pushing from the high pressure toward the low pressure; the greater the difference in pressures, the stronger the force. The distance between the area of high pressure and the area of low pressure also determines how fast the moving air is accelerated. Meteorologists refer to the force that starts the wind flowing as the "pressure gradient force." High and low pressures are relative. There's no set number that divides high and low pressure. Wind is used to describe the prevailing direction from which the wind is blowing with the speed given usually in miles per hour or knots.” In addition, NOAA’s issuance of a Wind Advisory takes place when sustained winds reach 25 to 39 mph and/or gusts to 57 mph.³⁰

Below is the Beaufort Wind Scale, showing expected damage based on wind (knots), developed in 1805 by Sir Francis Beaufort of England and posted on NOAA’s Storm Prediction Center website.³¹

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

³⁰ NOAA; <http://www.nws.noaa.gov/glossary/index.php?letter=w>

³¹ NOAA, Storm Prediction Center, <http://www.spc.noaa.gov/faq/tornado/beaufort.html>

***HURRICANE & TROPICAL STORM**

HURRICANES

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. The eye of the storm is usually 20-30 miles wide and the storm may extend over 400 miles. High winds are a primary cause of hurricane-inflicted loss of life and property damage.

“The Saffir-Simpson Hurricane Wind Scale” (to the right³²) is a 1 to 5 rating based on a hurricane's sustained wind speed. This scale estimates potential property damage. Hurricanes reaching Category 3 and higher are considered major hurricanes because of their potential for significant loss of life and damage. Category 1 and 2 storms are still dangerous, however and require preventative measures. In the western North Pacific, the term "super typhoon" is used for tropical cyclones with sustained winds exceeding 150 mph.³³

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

Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	74-95 mph 64-82 kt 119-153 km/h	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph 83-95 kt 154-177 km/h	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain 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 96-112 kt 178-208 km/h	Devastating damage will occur: Well-built frame 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 113-136 kt 209-251 km/h	Catastrophic damage will occur: Well-built frame 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)	96-110 mph 83-95 kt 154-177 km/h	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.

TROPICAL STORMS

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

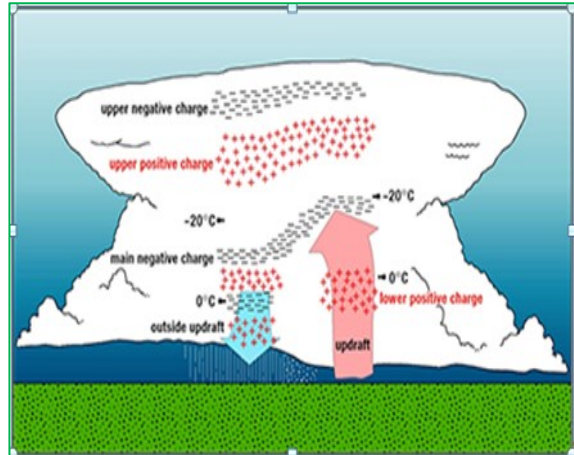
Rainfall from tropical storms has been reported at rates of up to 6 inches per hour; 43 inches of rain in a 24 hour period was reported in Alvin, TX as a result of Tropical Storm Claudette.³⁴

³² National Hurricane Center; <http://www.nhc.noaa.gov/aboutsshws.php>
³³ National Hurricane Center, NOAA; <http://www.nhc.noaa.gov/aboutsshws.php>
³⁴ http://www.wpc.ncep.noaa.gov/research/mcs_web_test_test_files/Page1637.htm

*SEVERE THUNDER & LIGHTNING STORM

As stated by the NOAA National Severe Storms Laboratory (NSSL) "Lightning is a giant spark of electricity in the atmosphere between clouds, the air, or the ground. In the early stages of development, air acts as an insulator between the positive and negative charges in the cloud and between the cloud and the ground. When the opposite charges build up enough, this insulating capacity of the air breaks down and there is a rapid discharge of electricity that we know as lightning. The flash of lightning temporarily equalizes the charged regions in the atmosphere until the opposite charges build up again."³⁵

Thunder, a result of lightning, is created when the "lightning channel heats the air to around 18,000 degrees Fahrenheit..."³⁶ thus causing the rapid expansion of the air and the sounds we hear as thunder. Although thunder that is heard during a storm cannot hurt you, the lightning that is associated with the thunder can not only strike people but also strike homes, out-buildings, grass and trees sparking disaster. Wildfires and structure loss are at a high risk during severe lightning events.



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

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

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

In general, lightning decreases across the U.S. mainland toward the northwest. Over the entire year, the highest frequency of cloud-to-ground lightning is in Florida between Tampa and Orlando. This is due to the presence, on many days during the year, of a large moisture content in the atmosphere at low levels (below 5,000 feet), as well as high surface temperatures that produce strong sea breezes along the Florida coasts. The western mountains of the U.S. also produce strong upward motions and contribute to frequent cloud-to-ground lightning. There are also high frequencies along the Gulf of Mexico coast, the Atlantic coast and in the southeast United States. US Regions along the Pacific west coast have the least cloud-to-ground lightning."³⁷

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

³⁶ Ibid

³⁷ Ibid

***SEVERE WINTER SNOW & ICE STORM**

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

SNOW STORMS

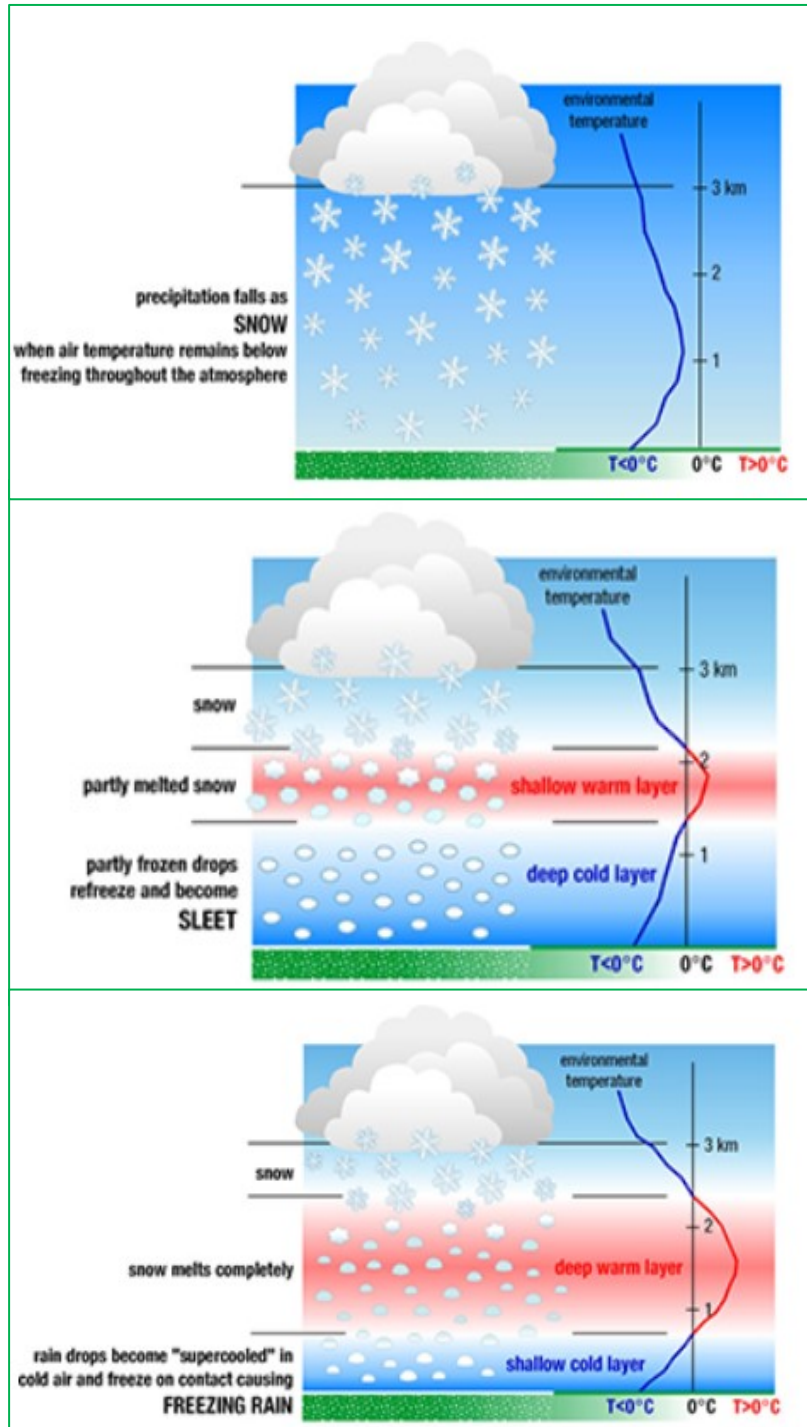
A winter storm can range from moderate snow to blizzard conditions. Blizzard conditions are considered blinding wind-driven snow over 35 mph that lasts several days. A severe winter storm deposits four or more inches of snow during a 12-hour period or six inches of snow during a 24-hour period.

SLEET

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

FREEZING RAIN & ICE STORMS

Snowflakes melt completely as they fall through a warm band of air then fall through a shallow band of cold air close to the ground to become “supercooled”. These supercooled raindrops instantly freeze upon contact with the ground and anything else that is below 32 degrees Fahrenheit. This freezing creates accumulations of ice on roads, trees, utility lines and other objects resulting in what we think of as an “Ice Storm”. “Ice coating at least one-fourth inch in thickness is heavy enough to damage trees, overhead wires and similar objects.”³⁸



*Types of Severe Winter Weather
NOAA – National Severe Storms Laboratory*

³⁸ NOAA, National Severe Storms Laboratory, <https://www.nssl.noaa.gov/education/svrwx101/winter/types/>

The Sperry-Piltz Ice Accumulation Index (SPIA) (below) is designed to help utility companies better prepare for predicated ice storms.³⁹

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

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

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

SNOW AVALANCHE

According to the National Snow & Ice Data Center “An avalanche is a rapid flow of snow down a hill or mountainside. Although avalanches can occur on any slope given the right conditions, certain times of the year and certain locations are naturally more dangerous than others. Wintertime, particularly from December to April, is when most avalanches tend to happen. However, avalanche fatalities have been recorded for every month of the year.”⁴⁰



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

There are three main parts to an avalanche (see image above). The first and most unstable is the “starting zone”, where the snow can “fracture” and slide. “Typical starting zones are higher up on slopes. However, given the right conditions, snow can fracture at any point on the slope.”⁴¹

³⁹ The Weather Channel, <http://www.weather.com/news/weather-winter/rating-ice-storms-damage-sperry-piltz-20131202>

⁴⁰ Copyright Richard Armstrong, NSIDC, <http://nsidc.org/cryosphere/snow/science/avalanches.html>






⁴¹ NSIDC, <http://nsidc.org/cryosphere/snow/science/avalanches.html>; image credit: Betsy Armstrong

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

The third part of an avalanche is the “runout zone”. The runout zone is where the avalanche has come to a stop and left the largest and highest pile of snow and debris.

“Several factors may affect the likelihood of an avalanche, including weather, temperature, slope steepness, slope orientation (whether the slope is facing north or south), wind direction, terrain, vegetation and general snowpack conditions. Different combinations of these factors can create low, moderate, or extreme avalanche conditions. Some of these conditions, such as temperature and snowpack, can change on a daily or hourly basis.”⁴²

When the possibility of an avalanche is evident, an “avalanche advisory” is issued. This preliminary notification warns hikers, skiers, snowmobilers and responders that conditions may be favorable for the development of avalanches. The chart below shows avalanche danger as determined by likelihood, size & distribution.⁴³

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

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

⁴² Copyright Richard Armstrong, NSIDC, <http://nsidc.org/cryosphere/snow/science/avalanches.html>

⁴³ <http://www.avalanche.ca/cac/bulletins/danger-scale>

***TORNADO & DOWNBURST**

TORNADO

A tornado is a violent windstorm characterized by a twisting, funnel shaped cloud. Tornadoes 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.

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

“Dr. T. Theodore Fujita developed the Fujita Tornado Damage Scale (F-Scale) to provide estimates of tornado strength based on damage surveys. Since it's practically impossible to make direct measurements of tornado winds, an estimate of the winds based on damage is the best way to classify a tornado. The new Enhanced Fujita Scale (EF-Scale) addresses some of the limitations identified by meteorologists and engineers since the introduction of the Fujita Scale in 1971. The new scale identifies 28 different free standing structures most affected by tornadoes taking into account construction quality and maintenance. The range of

tornado intensities remains as before, zero to five, with 'EF-0' being the weakest, associated with very little damage and 'EF-5' representing complete destruction, which was the case in Greensburg, Kansas on May 4th, 2007, the first tornado classified as 'EF-5'. The EF scale was adopted on February 1, 2007.”⁴⁴ The chart (above), adapted from wunderground.com, shows a comparison of the Fujita Scale to the Enhanced Fujita Scale.

Tornadoes are relatively uncommon natural hazards in New Hampshire; on average, about six tornadoes touch down each year. Damage largely depends on where the tornado strikes. If it were to strike an inhabited area, the impact could be severe.

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

⁴⁴ Enhance Fujita Scale, http://www.wunderground.com/resources/severe/fujita_scale.asp

DOWNBURST

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

A microburst is a downburst with winds extending 2 ½ miles or less, lasting 5 to 15 minutes and causing damaging winds as high as 168 MPH. A macroburst is a downburst with winds extending more than 2 ½ miles lasting 5 to 30 minutes. Damaging winds, causing widespread, tornado-like damage, could be as high as 134 MPH.⁴⁵

***WILDFIRE**

As stated by the National Wildfire Coordinating Group (NWCG), wildfires are designated in seven categories as seen in the top chart to the right.⁴⁶ For the purpose of statistical analysis, the US Forest Service recognizes the cause of fires according to the bottom chart to the right.⁴⁷

The definition according to the International Wildland-Urban Interface Code of wildfire is “an uncontrolled fire spreading through vegetative fuels exposing and possibly consuming structures”. In addition, the IWUIC goes on to define the wildland urban interface area as “that geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels.”⁴⁸

There are two main potential losses with a wildfire: the forest itself and the threat to the built-up human environment (the structures within the WUI). In many cases, the only time it is feasible for a community to control a wildfire is when it threatens the built-up human environment. Therefore, the loss to the forest itself will not be a factor in our loss calculation analysis.

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

⁴⁵ NOAA - <http://www.erh.noaa.gov/cae/svrwx/downburst.htm>

⁴⁶ <http://www.nwcg.gov/pms/pubs/glossary/s.htm>

⁴⁷ <http://www.fs.fed.us/im/directives/fsh/5109.14/5109.14.20.txt>

⁴⁸ International Wildland-Urban Interface Code, 2012, International Code Council, Inc.

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Appendix D: NH Presidential Disaster & Emergency Declarations

NH Presidential Disaster Declarations (DR) since 1953				
Number	Description	Date of Event	Counties	Description
DR-4316	Severe Winter Storm & Snowstorm	March 14-15, 2017	Belknap & Carroll	Presidential Emergency Declaration DR-4316: Severe winter storm and snowstorm in Belknap & Carroll Counties; disaster aid to supplement state and local recovery efforts.
DR-4029	Severe Winter Storm & Snowstorm	January 26-28, 2015	Hillsborough, Rockingham & Stafford	Presidential Emergency Declaration DR-4206: Severe winter storm and snowstorm in Hillsborough, Rockingham and Stafford Counties; disaster aid to supplement state and local recovery efforts.
DR-4139	Severe Storms, Flooding	July 9-10, 2013	Cheshire, Sullivan & Grafton	Presidential Emergency Declaration DR-4139: Severe storms, flooding and landslides during the period of June 26 to July 3, 2013 in Cheshire, Sullivan and southern Grafton Counties.
DR-4105	Severe Winter Storm	February 8, 2013	All Ten NH Counties	Presidential Emergency Declaration DR-4105: Nemo; heavy snow in February 2013.
DR-4095	Hurricane Sandy	October 26- November 8, 2012	Belknap, Carroll, Coos, Grafton & Sullivan	Presidential Disaster Declaration DR-4095: The declaration covers damage to property from the storm that spawned heavy rains, high winds, high tides and flooding over the period of October 26-November 8, 2012.
DR-4065	Severe Storm & Flooding	May 29-31, 2012	Cheshire	Presidential Disaster Declaration DR-4065: Severe Storm and Flood Event May 29-31, 2012 Cheshire County.
DR-4049	Severe Storm & Snowstorm	October 29-30, 2011	Hillsborough & Rockingham	Presidential Disaster Declaration DR-4049: Severe Storm and Snowstorm Event October 29-30, 2011 Hillsborough and Rockingham Counties.
DR-4026	Tropical Storm Irene	August 26- September 6, 2011	Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan	Presidential Disaster Declaration DR-4026: Tropical Storm Irene Aug 26th- Sept 6, 2011 Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan Counties.
DR-4006	Severe Storms & Flooding	May 26-30, 2011	Coos & Grafton County	Presidential Disaster Declaration DR-4006: May Flooding Event, May 26th-30th 2011 Coos & Grafton County. (aka: Memorial Day Weekend Storm)
DR-1913	Severe Storms & Flooding	March 14-31, 2010	Hillsborough & Rockingham	Presidential Disaster Declaration DR-1913: Flooding to two NH counties including Hillsborough and Rockingham counties.
DR-1892	Severe Winter Storm, Rain & Flooding	February 23 - March 3, 2010	Grafton, Hillsborough, Merrimack, Rockingham, Strafford & Sullivan	Presidential Disaster Declaration: DR-1892: Flood and wind damage to most of southern NH including six counties; 330,000 homes without power; more than \$2 million obligated by June 2010.
DR-1812	Severe Winter Storm & Ice Storm	December 11-23, 2008	All Ten NH Counties	Presidential Declaration DR-1812: Damaging ice storms to entire state including all ten NH counties; fallen trees and large scale power outages; five months after December's ice storm pummeled the region, nearly \$15 million in federal aid had been obligated by May 2009.
DR-1799	Severe Storms & Flooding	September 6-7, 2008	Hillsborough	Presidential Declaration: DR-1799: Severe storms and flooding beginning on September 6-7, 2008.

NH Presidential Disaster Declarations (DR) since 1953				
DR-1787	Severe Storms & Flooding	July 24-August 14, 2008	Belknap, Carroll & Grafton & Coos	Presidential Declaration DR-1787: Severe storms, tornado and flooding on July 24, 2008.
DR-1782	Severe Storms, Tornado, & Flooding	July 24, 2008	Belknap, Carroll, Merrimack, Strafford & Rockingham	Presidential Declaration DR-1782: Tornado damage to several NH counties.
DR-1695	Nor'easter, Severe Storms & Flooding	April 15-23, 2007	All Ten NH Counties	Presidential Disaster Declaration DR-1695: Flood damages; FEMA & SBA obligated more than \$27.9 million in disaster aid following the April nor'easter. (aka: Tax Day Storm)
DR-1643	Severe Storms & Flooding	May 12-23, 2006	Belknap, Carroll, Grafton, Hillsborough, Merrimack, Rockingham & Strafford	Presidential Disaster Declaration DR-1643: Flooding in most of southern NH, May 12-23, 2006. (aka: Mother's Day Storm)
DR-1610	Severe Storms & Flooding	October 7-18, 2005	Belknap, Cheshire, Grafton, Hillsborough, Merrimack & Sullivan	Presidential Disaster Declaration DR-1610: To date, state and federal disaster assistance has reached more than \$3 million to help residents and business owners in New Hampshire recover from losses resulting from the severe storms and flooding in October.
DR-1489	Severe Storms & Flooding	July 21-August 18, 2003	Cheshire & Sullivan	Presidential Disaster Declaration DR-1489: Floods stemming from persistent rainfall and severe storms that caused damage to public property occurring over the period of July 21 through August 18, 2003.
DR-1305	Tropical Storm Floyd	September 16-18, 1999	Belknap, Cheshire & Grafton	Presidential Disaster Declaration DR-1305: The declaration covers damage to public property from the storm that spawned heavy rains, high winds and flooding over the period of September 16-18.
DR-1231	Severe Storms & Flooding	June 12-July 2, 1998	NA	Presidential Disaster Declaration DR-1231:
DR-1199	Ice Storms	January 7-25, 1998	NA	Presidential Disaster Declaration DR-1199:
DR-1144	Severe Storms/Flooding	October 20-23, 1996	NA	Presidential Disaster Declaration DR-1144:
DR-1077	Storms/Floods	October 20-November 15, 1995	NA	Presidential Disaster Declaration DR-1077:
DR-923	Severe Coastal Storm	October 30-31, 1991	NA	Presidential Disaster Declaration DR-923:
DR-917	Hurricane Bob, Severe Storm	August 18-20, 1991	NA	Presidential Disaster Declaration DR-917:
DR-876	Flooding, Severe Storm	August 7-11, 1990	NA	Presidential Disaster Declaration DR-876:
DR-789	Severe Storms & Flooding	March 30-April 11, 1987	NA	Presidential Disaster Declaration DR-789
DR-771	Severe Storms & Flooding	July 29-August 10, 1986	NA	Presidential Disaster Declaration DR-771:
DR-549	High Winds, Tidal Surge, Coastal Flooding & Snow	February 16, 1978	NA	Presidential Disaster Declaration DR-549: Blizzard of 1978

NH Presidential Disaster Declarations (DR) since 1953				
DR-411	Heavy Rains, Flooding	January 21, 1974	NA	Presidential Disaster Declaration DR-411:
DR-399	Severe Storms & Flooding	July 11, 1973	NA	Presidential Disaster Declaration DR-399:
DR-327	Coastal Storms	March 18, 1972	NA	Presidential Disaster Declaration DR-327:
DR-11	Wildfire	July 2, 1953	NA	Presidential Disaster Declaration DR-11:
Emergency Declarations (EM) since 1953				
Number	Description	Date of Event	Counties	Description
EM-3360	Hurricane Sandy	October 26-31, 2012	All Ten	Presidential Emergency Declaration EM-3360: Hurricane Sandy came ashore in NJ and brought high winds, power outages and heavy rain to NH; all ten counties in the State of New Hampshire.
EM-3344	Severe Snow Storm	October 29-30, 2011	All Ten	Presidential Emergency Declaration EM-3344: Severe storm during the period of October 29-30, 2011; all ten counties in the State of New Hampshire. (aka: Snowtober)
EM-3333	Hurricane Irene	August 26-September 6, 2011	All Ten	Presidential Emergency Declaration EM-3333: Emergency Declaration for Tropical Storm Irene for in all ten counties.
EM-3297	Severe Winter Storm	December 11, 2008	All Ten	Presidential Emergency Declaration EM-3297: Severe winter storm beginning on December 11, 2008.
EM-3258	Hurricane Katrina Evacuation	August 29-October 1, 2005	All Ten	Presidential Emergency Declaration EM-3258: Assistance to evacuees from the area struck by Hurricane Katrina and to provide emergency assistance to those areas beginning on August 29, 2005 and continuing; The President's action makes Federal funding available to the State and all 10 counties of the State of New Hampshire.
EM-3211	Snow	March 11-12, 2005	Carroll, Cheshire, Hillsborough, Rockingham & Sullivan	Presidential Emergency Declaration EM-3211: March snowstorm; more than \$2 million has been approved to help pay for costs of the snow removal; Total aid for the March storm is \$2,112,182.01 (Carroll: \$73,964.57; Cheshire: \$118,902.51; Hillsborough: \$710,836; Rockingham: \$445,888.99; Sullivan: \$65,088.53; State of NH: \$697,501.41)

NH Presidential Disaster Declarations (DR) since 1953				
EM-3208	Snow	February 10-11, 2005	Carroll, Cheshire, Coos, Grafton & Sullivan	Presidential Emergency Declaration EM-3208: FEMA had obligated more than \$1 million by March 2005 to help pay for costs of the heavy snow and high winds; Total aid for the February storm was \$1,121,727.20 (Carroll: \$91,832.72; Cheshire: \$11,0021.18; Coos: \$11,6508.10; Grafton: \$213,539.52; Sullivan: \$68,288.90; State of NH: \$521,536.78) EM 3208-002: The Federal Emergency Management Agency (FEMA) had obligated more than \$6.5 million to reimburse state and local governments in New Hampshire for costs incurred in three snow storms that hit the State earlier this year, according to disaster recovery officials. Total aid for all three storms was \$6,892,023.87 (January: \$3,658,114.66; February: \$1,121,727.20; March: \$2,113,182.01)
EM-3207	Snow	January, 22-23, 2005	Belknap, Carroll, Cheshire, Grafton, Hillsborough, Rockingham, Merrimack, Strafford & Sullivan	Presidential Emergency Declaration EM-3207: JANUARY STORM DAMAGE: More than \$3.5 million had been approved to help pay for costs of the heavy snow and high winds; Total aid for the January storm was \$3,658,114.66 (Belknap: \$125,668.09; Carroll: \$52,864.23; Cheshire: \$134,830.95; Grafton: \$137,118.71; Hillsborough: \$848,606.68; Merrimack: \$315,936.55; Rockingham: \$679,628.10; Strafford: \$207,198.96; Sullivan: \$48,835.80; State of NH: \$1,107,426.59)
EM-3193	Snow	December 6-7, 2003	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack & Sullivan	Presidential Emergency Declaration EM-3193: The declaration covers jurisdictions with record and near-record snowfall that occurred over the period of December 6-7, 2003
EM-3177	Snowstorm	February 17-18, 2003	Cheshire, Hillsborough, Merrimack, Rockingham & Strafford	Presidential Emergency Declaration EM-3177: Declaration covers jurisdictions with record and near-record snowfall from the snowstorm that occurred February 17-18, 2003
EM-3166	Snowstorm	March 5-7, 2001	Cheshire, Coos, Grafton, Hillsborough, Merrimack, & Strafford	Presidential Emergency Declaration EM-3166: Declaration covers jurisdictions with record and near-record snowfall from the late winter storm that occurred March 2001
EM-3101	High Winds & Record Snowfall	March 13-17, 1994	NA	Presidential Emergency Declaration EM-3101:
EM-3073	Flooding	March 15, 1979	NA	Presidential Emergency Declaration EM-3073:

Source:

Disaster Declarations for New Hampshire

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

Appendix E: Potential Mitigation Ideas⁴⁹

Drought

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

Earthquake

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

Erosion

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

Extreme Temperatures

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

Hailstorm

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

Landslide

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

Lightning

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

Flood

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

Severe Wind

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

Severe Winter Weather

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

Tornado

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

⁴⁹ Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards, FEMA, January 2013

Wildfire

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

Multi-Hazards

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

Appendix F: Acronyms

**Hazard Mitigation Planning
List of Acronyms**

ACS.....	American Community Survey (Census)
BFE.....	Base Flood Elevation
BOCA.....	Building Officials and Code Administrators International
CIKR.....	Critical Infrastructure & Key Resources
CIP.....	Capital Improvements Program
CWPP.....	Community Wildfire Protection Plan
DNCR.....	Department of Natural & Cultural Resources (formerly DRED)
EMD.....	Emergency Management Director
EMS.....	Emergency Medical Services
EOC.....	Emergency Operations Center
ERF.....	Emergency Response Facility
FEMA.....	Federal Emergency Management Agency
FIRM.....	Flood Insurance Rate Map
FPP.....	Facilities & Populations to Protect
GIS.....	Geographic Information System
HFRA.....	Healthy Forest Restoration Act
HMGP.....	Hazard Mitigation Grant Program
HSEM.....	Homeland Security & Emergency Management (NH)
ICS.....	Incident Command System
LEOP.....	Local Emergency Operations Plan
MOU.....	Memorandum of Understanding
NCRC&D.....	North Country Resource Conservation & Development Council
NOAA.....	National Oceanic and Atmospheric Association
NSSL.....	National Severe Storms Laboratory (NOAA)
MAPS.....	Mapping and Planning Solutions
NERF.....	Non-Emergency Response Facility
NFIP.....	National Flood Insurance Program
NGVD.....	National Geodetic Vertical Datum of 1929
NH DOT.....	NH Department of Transportation
NH OSI.....	NH Office of Strategic Initiatives (formerly OEP)
NIMS.....	National Incident Management System
PR.....	Potential Resources
SPNHF.....	Society for the Protection of New Hampshire Forests
USDA.....	US Department of Agriculture
USDA-FS.....	USDA-Forest Service
USGS.....	United States Geological Society
WMNF.....	White Mountain National Forest
WUI.....	Wildland Urban Interface

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Appendix G: Map Documents

The following 11" x 17" maps are included in hard copy plans:

Map 1 – Base Risk Analysis

Map 2 – Historic Wildfires & Wildland Urban Interface

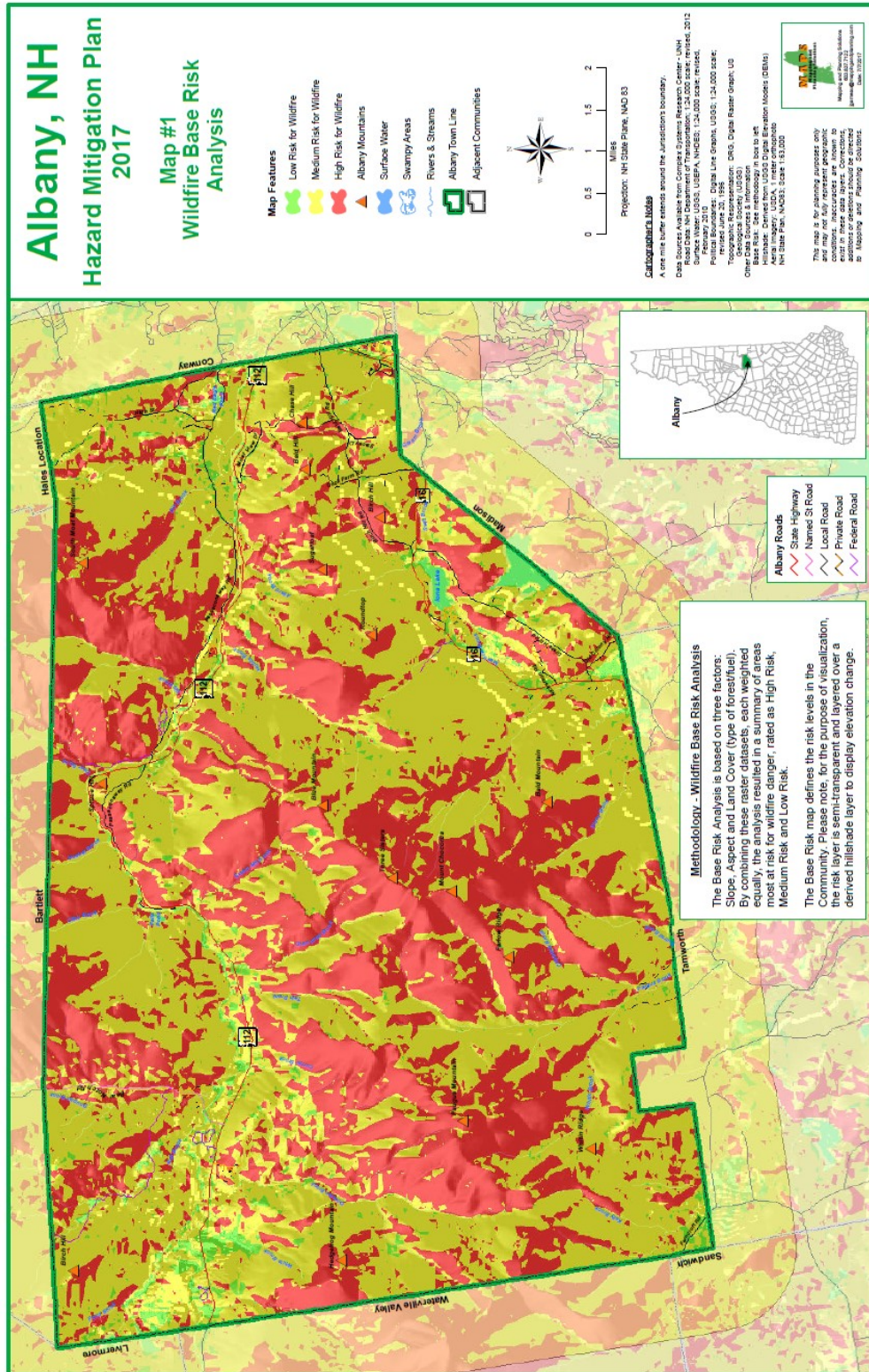
Map 3 – Past & Potential Areas of Concern

Map 4 – Critical Infrastructure & Key Resources

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MAP 1 – BASE RISK ANALYSIS

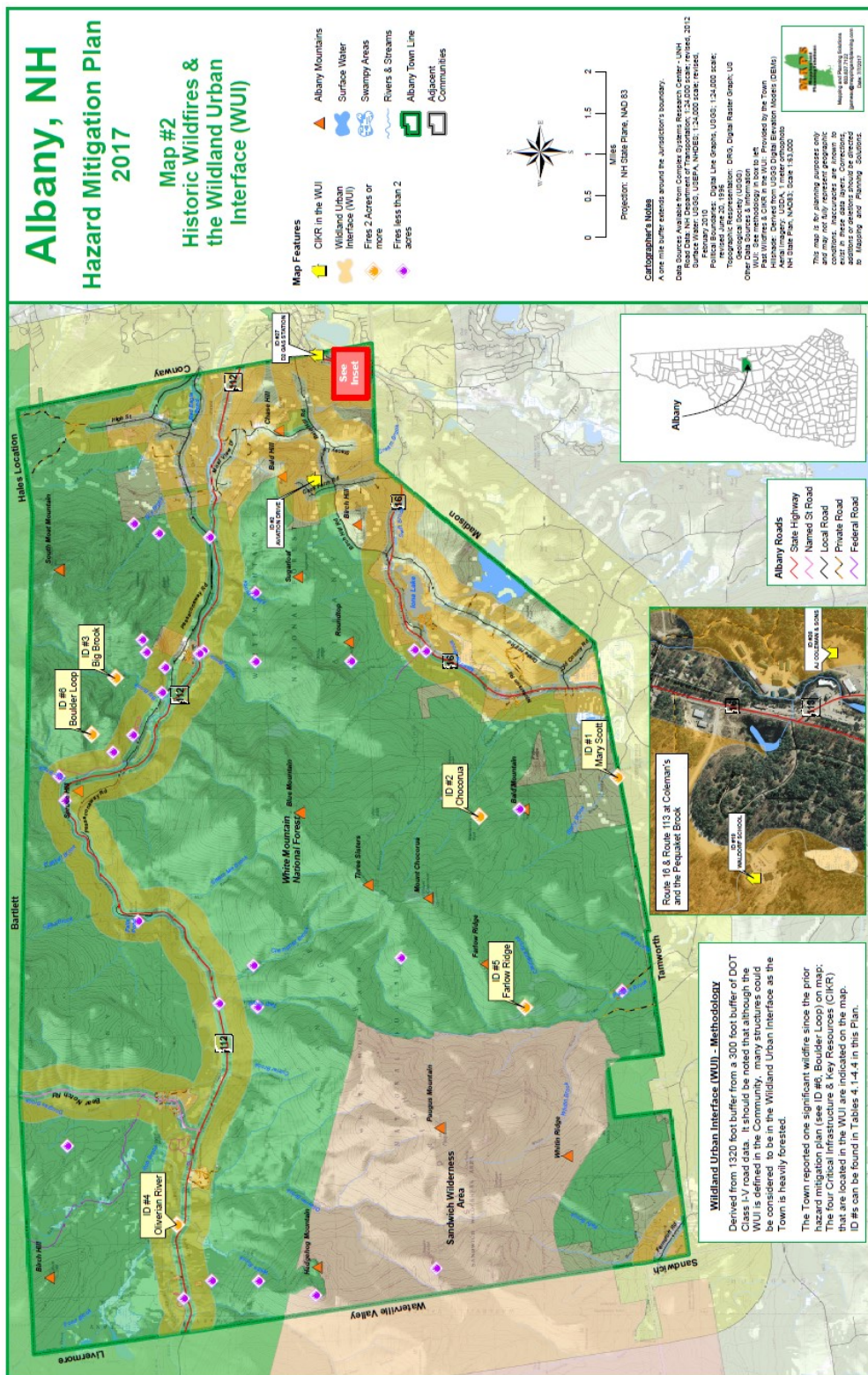
To be replaced with 11" x 17" map in final hard copy.



PLACE HOLDER FOR MAP 1

MAP 2 – HISTORIC WILDFIRES & THE WILDLAND URBAN INTERFACE

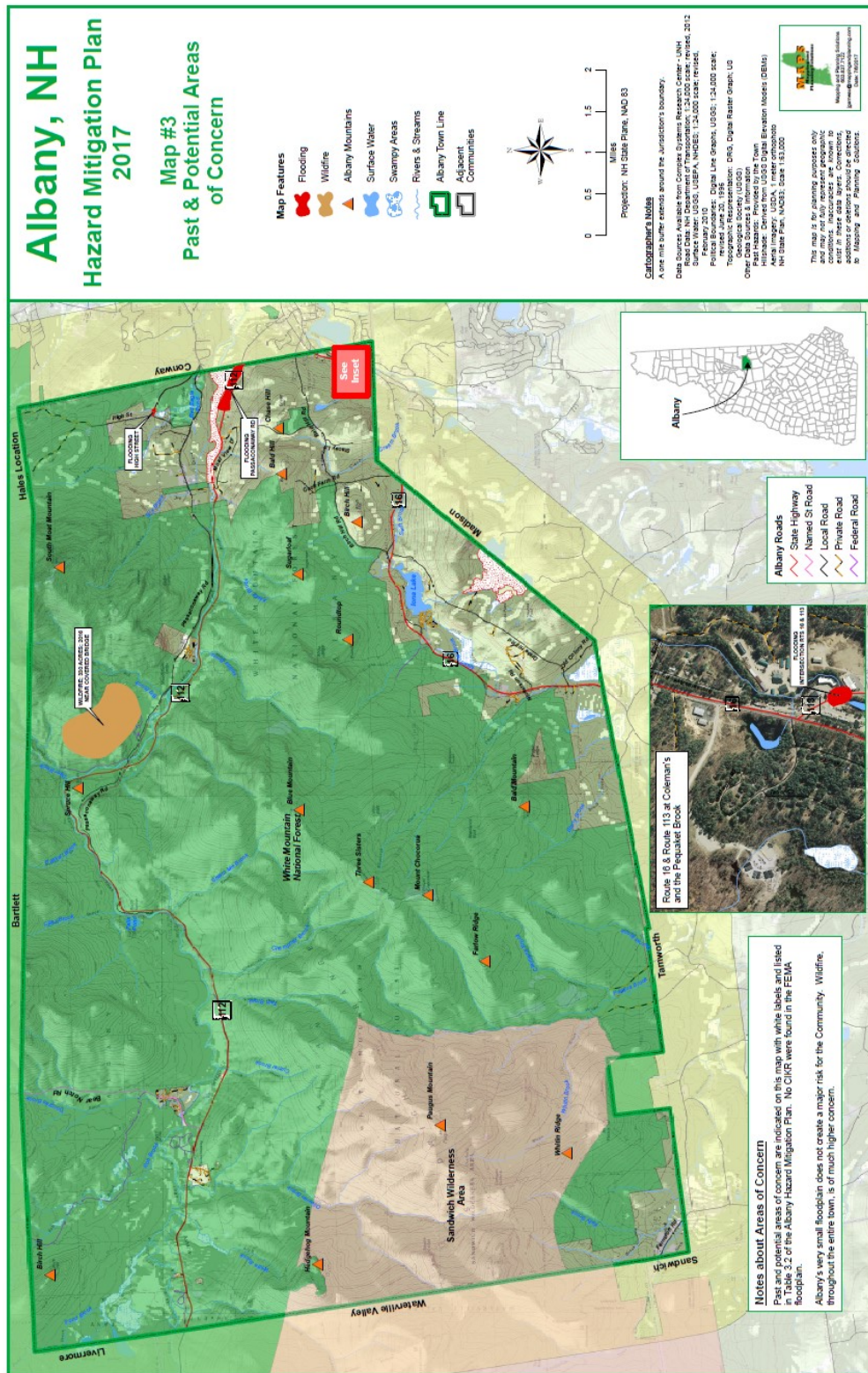
To be replaced with 11" x 17" map in final hard copy.



PLACE HOLDER FOR MAP 2

MAP 3 – PAST & POTENTIAL AREAS OF CONCERN

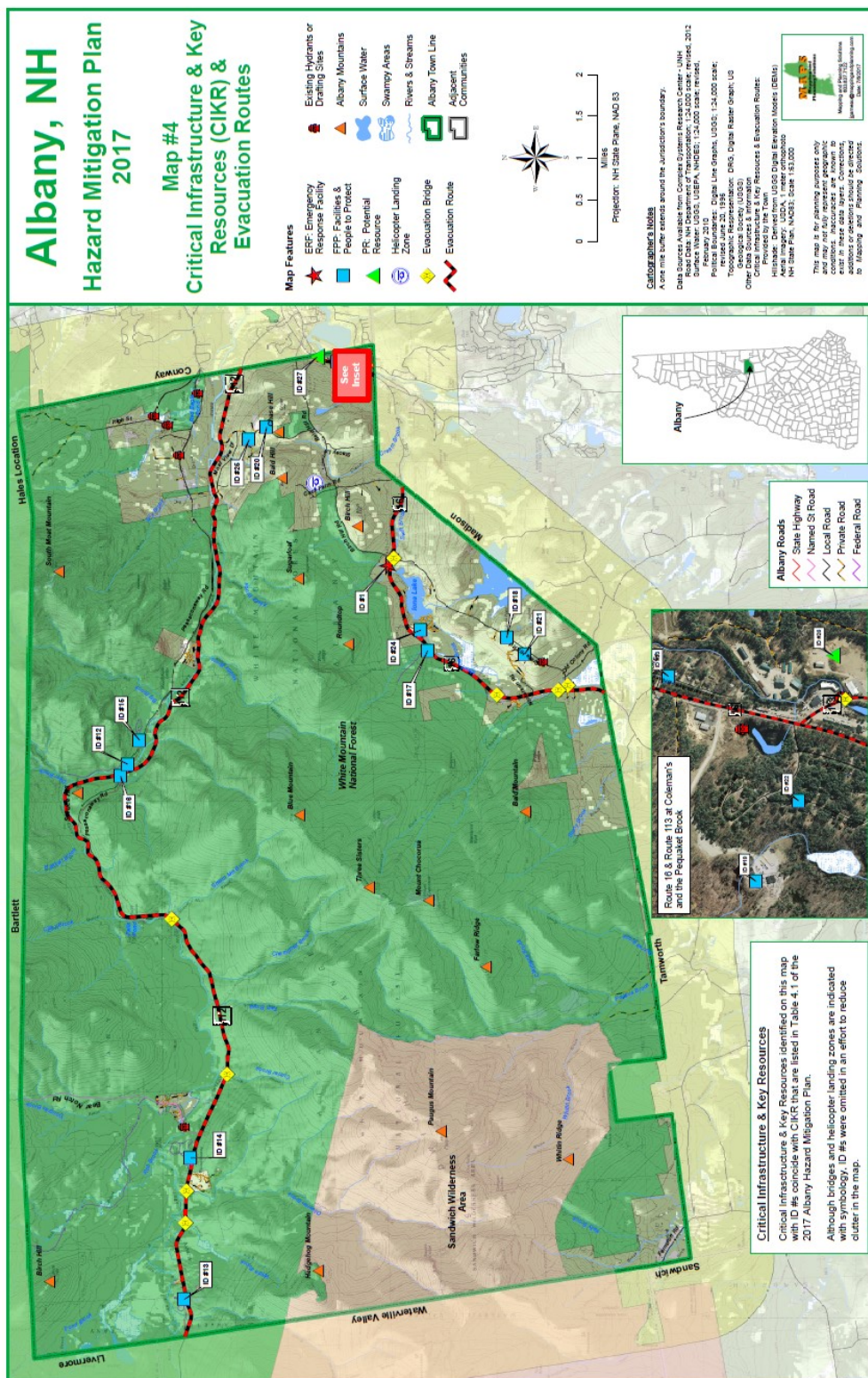
To be replaced with 11" x 17" map in final hard copy.



PLACE HOLDER FOR MAP 3

MAP 4 – CRITICAL INFRASTRUCTURE & KEY RESOURCES

To be replaced with 11" x 17" map in final hard copy.



PLACE HOLDER FOR MAP 4

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Albany Chapel & Town Hall

Photo Credit: https://en.wikipedia.org/wiki/Albany,_New_Hampshire

The Town of Albany

Cathy Ryan
Board of Selectmen
Town of Albany
1972 Route 16, Unit A
Albany, NH 03818
Westyr2@yahoo.com
(603) 447-6728

Mapping and Planning Solutions

June Garneau
Owner/Planner
105 Union Street, Suite 1
Whitefield, NH 03598
jgarneau@mappingandplanning.com
(603) 837-7122