

HAZARD MITIGATION PLAN 2012

Town of Pittsfield
New Hampshire



*Pittsfield Dam Sandbagging, May 2006 Mother's Day Flood
Photo courtesy of WMUR uLocal Photo Library*

ADOPTED BY THE PITTSFIELD BOARD OF SELECTMEN
FEBRUARY 7, 2012

FEMA APPROVED APRIL 9, 2012

HAZARD MITIGATION PLAN 2012

Town of Pittsfield, New Hampshire

Adopted February 7, 2012

FEMA APPROVED APRIL 9, 2012

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CERTIFICATE OF ADOPTION

TOWN OF PITTSFIELD, NEW HAMPSHIRE
BOARD OF SELECTMEN
A RESOLUTION ADOPTING THE PITTSFIELD HAZARD MITIGATION PLAN 2011
February 7, 2012

WHEREAS, the Town of Pittsfield received assistance from the Central New Hampshire Regional Planning Commission, through funding provided by the NH Homeland Security and Emergency Management, to prepare the Pittsfield Hazard Mitigation Plan 2011; and

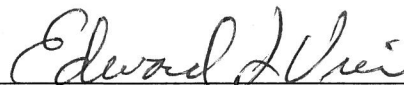
WHEREAS, several public planning meetings were held between January and August 2011 regarding the development and review of the Hazard Mitigation Plan 2011; and

WHEREAS, the Hazard Mitigation Plan 2011 contains several potential future projects to mitigate hazard damage in the Town of Pittsfield; and

WHEREAS, a duly noticed public hearing was held by the Pittsfield Board of Selectmen on February 7, 2012 to formally approve and adopt Pittsfield's Hazard Mitigation Plan 2011.

NOW, THEREFORE BE IT RESOLVED that the Pittsfield Board of Selectmen adopts the Pittsfield Hazard Mitigation Plan 2011.

ADOPTED AND SIGNED this 7th day of February 2012.

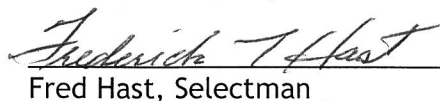
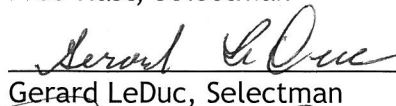
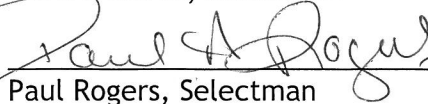


Edward Vien, Chair
Pittsfield Board of Selectmen

ATTEST


Elizabeth Hast, Town Clerk

Denise Morin, Selectman


Fred Hast, Selectman
Gerard LeDuc, Selectman
Paul Rogers, Selectman

ACKNOWLEDGEMENTS

The Pittsfield Hazard Mitigation Committee was comprised of the following individuals who met from January and August 2011 to develop this Plan:

- Robert Wharem, Police Chief, Emergency Management Director
- Gary Johnson, Fire Chief, Deputy Emergency Management Director
- Ronald Vien, Wastewater Treatment Superintendent
- Merrill Vaughn, Shelter Director
- Paul Skowron, Town Administrator
- Denise Morin, Selectperson

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

- Stephanie Alexander, Senior Planner
- Vanessa Goold, Principal Planner (GIS)

Committee members and participants of the 2007 Plan included:

- Robert Wharem, Police Chief
- Jeremy Lamson, Town Administrator
- George Bachelder, Public Works
- Ronald A. Vien, Wastewater Treatment
- Wayne Case
- Merrill Vaughn
- Alan MacLellan
- Steve Fife
- Stephanie Alexander, CNHRPC Principal Planner

CHAPTER 1. INTRODUCTION

2012 PLAN UPDATE

The Town's Hazard Mitigation Committee reformed in 2011 to develop an updated Hazard Mitigation Plan. This update incorporates the changes required by FEMA in addition to Town modifications over the last five years. A brief **COMMUNITY DEMOGRAPHICS** section and a **RECENT HAZARD EVENTS** section were added. Compared to the 2007 plan **METHODOLOGY**, expanded public participation steps were taken, and a similar plan development procedure was used as documented in the revised methodology section.

BACKGROUND

The Hazard Mitigation Plan for Pittsfield is intended to provide information in the event of a natural disaster, to raise awareness of the vulnerability of facilities and structures of Pittsfield to such disasters, and to provide measures to help offset the damages of a future disaster.

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

As a result of the DMA, funding was provided to state offices of emergency management to produce local hazard mitigation plans. In **APRIL 2007**, Pittsfield received Hazard Mitigation Plan approval from FEMA. To remain in compliance with the DMA, the Town is required to submit for FEMA approval a revised Hazard Mitigation Plan every five years.

In accordance with the Disaster Mitigation Act 2000 and the *Local Multi-Hazard Mitigation Planning Guidance* released by FEMA effective July 1, 2008, this plan has been revised to reflect the most recent information obtained through the State. The planning effort of the Town is an ongoing process and this Plan is considered to be a "living document." This document is available through the Pittsfield Town Office.

The 2011 Pittsfield Hazard Mitigation Committee was established and guided the development of the Plan. Invitations to join the Committee were provided to the Board of Selectmen, Town Administrator, Public Works Director, Waste Water Treatment Supervisor, Building Inspector, Welfare Director, Fire Chief, and the Police Chief. The Central NH Regional Planning Commission, of which Pittsfield is a member, also contributed to the development of this Plan.

By advertising the public process for this plan via news press releases to the Suncook Valley Sun and colorful flyer meeting announcements posted around the community at the Post Office, Town Hall, Dani's Laundromat, Bell Brother's Laundromat, Globe Manufacturing, and the Police Department, all interests had an opportunity to be present and to participate in the meetings. In addition to local community participation, letters were sent to the Emergency Management Directors of the neighboring communities of Epsom, Chichester, Loudon, Gilmanton, Barnstead, Strafford, and Northwood, requesting their participation.

COMMUNITY DEMOGRAPHICS

The Town of Pittsfield is located in the eastern corner of Merrimack County, bordering on Belknap and Strafford Counties in central New Hampshire. It is bordered by the Towns of Gilmanton and Barnstead to the north, Stafford and Northwood to the east, Epsom to the south, and Chichester and Loudon to the west. The total land area contained within Pittsfield is approximately 24.1 square miles. Roughly **59%** of Pittsfield is undeveloped land and **23%** is residential. Commercial land comprises only **2%** of Pittsfield's land area.

Pittsfield is primarily a residential community with some large commercial and industrial activities. The 2010 Census population is **4,106** residents with **1,769** housing units. Between the 2000 Census and the 2010, population increased **5%** and housing by **13%**. This is the smallest population increase since 1970. Population density is now at **170** people per square mile, up from **163** people in 2000. Building permits for new residences have decreased to **4** in 2010 from a high of **42** in 2004 over the last eight years. Further information on the demographics of the community is found in **CHAPTER 5. DEMOGRAPHICS**.

RECENT HAZARD EVENTS IN PITTSFIELD

Since the Town's initial writing of this Plan in 2006, the Town has been affected by several significant natural disasters. Flooding in October 2005, the 2006 Mother's Day Flood, the 2008 Tornado and Ice Storm, and the Flooding and High Wind Events of 2010 had high impacts on the community.

The **Columbus Day Flood in 2005** washed out Tan Road, and people were evacuated by boat on Barnstead Road. Sandbagging at the Pittsfield Mill Pond Dam was necessary to reduce flood threats.

During the **Mother's Day Flood in 2006**, widespread damage occurred and numerous roads were blocked including Tilton Hill Road, Barnstead Road. Flooding occurred on River Road, because water was spilling over out the side of the Pittsfield Mill Pond Dam. Major damage occurred in the spill zone. Riprap was brought in and the Town created a diversion wall to divert the water back into the Suncook River. The Town lost complete sections of Mountain Road and Berry Pond Road, with material gone down to the bedrock. The Town could not gain access to residents, so the National Guard was called in for assistance and they hiked to residents. A bridge washout on Shaw Road caused extended road closures and detours.

The Tornado in July 2008 grazed the Town but created building structural issues, and some buildings were crushed. The tornado blocked roads with trees and made the roads inaccessible to fire apparatus, and took down telephone poles and power lines, with live wires exposed on the ground. The Town engaged neighbors for mutual assistance. The access to Wild Goose Pond was blocked, and rescuers had to hike in to reach residents. Trees that were blocked by fallen trees included Catamount Hill, Clough Road, Shingle Mill Brook Road, Greer Lane, Rocky Point Road, and Hill Road. One resident reported seeing the tornado. Private property damage concerns were conveyed to the Town. Much of the damage occurred on the rural outskirts of Town.

During the **Ice Storm in December 2008**, the Town experienced massive power outages for up to 7 days. Damage to utilities occurred, including wires down and numerous electrical hazards. There were concerns with residents' generators improperly feeding/carbon monoxide issues. The Town shelter at the Elementary School was opened.

In the **Flooding and Wind Storm in February 2010**, Tan Road washed out and major flooding occurred, but no dam issues occurred and emergency call volume was normal. River debris is always an issue on the top of the Pittsfield Mill Pond Dam.

Hazard events are occurring with greater frequency and severity. Having this approved Hazard Mitigation Plan permitted the Town to receive disaster funding for these and other events. The Town of Pittsfield acknowledges the necessity for maintaining an updated plan, and has produced this revision in 2011, developing an all-hazard plan in the process. The importance of having a relevant, useful plan filled with institutional knowledge of past events and lists of assets along with a solid action plan is realized. As new hazards impact the community, they will be documented within the Hazard Mitigation Plan.

STRUCTURE OF THE HAZARD MITIGATION PLAN

The overall purpose of this Plan is to reduce future life and property losses caused by hazard events before they occur by the identification of appropriate Actions that are implemented during the five-year duration of this Plan. In order to achieve this purpose, the Hazard Mitigation Plan contains chapters for methodology, hazard and risk inventory, potential losses for natural disasters, demographics, floodplain management, objectives, existing mitigation support strategies and new Action strategies, Action implementation, Plan evaluation, and an appendix.

The Plan includes tables of data, narrative descriptions, photographs, and maps to both discuss and graphically display Pittsfield's inventory components, including hazard event impact and potential, sites, existing strategies, and Actions. All of this information is reviewed and updated where necessary during the Plan update process. Further information about the individual chapters follows.

A brief overview of the Hazard Mitigation Plan history and demographics in the Town, a summary of the most recent hazard events, and the precise methodology used to develop the Plan are detailed in **CHAPTER 1. INTRODUCTION**.

Review of 39 different past and potential natural, technological, and human hazards which could occur in Town is documented in **CHAPTER 2. HAZARD IDENTIFICATION**. Included are the hazards' severity, likelihood for impacting the community in the future, and overall risk in numerical and qualitative format, with the accompanying matrices in the Appendix. Areas and sites where each hazard might impact the Town in the future are discussed.

A tabular inventory of the critical and vulnerable facilities of the community along with the hazards the sites are most susceptible to are discussed in **CHAPTER 3. ASSET IDENTIFICATION**. Included is the potential for future development in hazard areas.

Potential dollar losses for structures only are provided for buildings in the Special Flood Hazard Areas. Losses are provided for other natural hazards by using a percentage range of the net valuation of structures in Town. Technological and human hazards are addressed, although there is no standard for obtaining potential losses. These are all found in **CHAPTER 4. POTENTIAL LOSSES**.

The past and current population and housing trends in the community are detailed in **CHAPTER 5. DEVELOPMENT TRENDS**. Residential housing start trends are provided in addition to the currently available land use data, which is compared, if possible, to previous land use data. Areas of population and housing vulnerable to specific hazards are addressed in this Chapter.

Floodplain vulnerabilities, including repetitive road washout areas, are described in **CHAPTER 6. FLOODPLAIN MANAGEMENT**. The number of buildings in the floodplain are identified, as are the number of National Flood Insurance Policies and claims. Repetitive losses, if any, are summarized. An overview of the Town's Floodplain Ordinance and latest Community Assistance Visit are discussed as is how the Town might better manage their regulations.

Objectives of the Plan are provided in **CHAPTER 7. LOCAL HAZARD MITIGATION OBJECTIVES**. Both General and Hazard-Specific Objectives are developed. These guide the Committee to develop Actions to meet the mitigation needs of the community.

Existing plans, policies, procedures, programs, training, and strategies are listed by Town Department in **CHAPTER 8. EXISTING MITIGATION SUPPORT STRATEGIES**. These support strategies support the overall hazard mitigation programs and specific Actions of the community.

Actions are identified by primary hazard type under Life and Property Protection, Emergency Services, Public Information and Involvement, Training and Preparation, and Planning and Implementation categories in **CHAPTER 9. NEWLY IDENTIFIED ACTIONS** which have the potential to meet the Town's Objectives.

Actions that have been completed, deleted, or deferred from the previous Plan are identified in **CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS** along with the new Actions prioritized and identified from the previous chapter in an Action Plan. A brief cost to benefits analysis is developed.

How the Plan will be regularly evaluated and maintained by the Town on both an annual basis for the Action Plan and the five-year update cycle are described in **CHAPTER 11. PLAN MONITORING, EVALUATING, AND UPDATING**. The agendas for quarterly meetings and the tasks for the both types of update are identified. The Town's mechanisms for incorporating the Plan and its Actions and how the Committee will accomplish this are discussed. The commitment to future public involvement is included.

CHAPTER 12. APPENDIX contains various information on disaster declaration, grant programs, and includes the supporting hazard vulnerability and Action prioritization tables, photographs of disasters, and the supporting paperwork of the Plan update process.

This Hazard Mitigation Plan follows the *FEMA Local Mitigation Plan Review Guide* of October 1, 2011 and incorporates all requirements to develop a comprehensive and compliant Hazard Mitigation Plan for the community.

METHODOLOGY

The Hazard Mitigation Plan was developed over several months with a bevy of volunteers and Town staff members. The methodology for Plan development is summarized in this section.

Meetings and Duties

The Hazard Mitigation Committee met on February 2, April 6, May 11, and June 8, 2011 at regular meetings and on March 23, April 20, May 25, and June 22 at Work Sessions. The Town often held other meetings to accomplish some of the tasks on the Agendas. The Agendas and preparatory meeting materials were prepared by Central New Hampshire Regional Planning Commission (CNHRPC). The Agendas, attendance sheets, and meeting summaries are included in **CHAPTER 12. APPENDIX** of the Plan.

For each meeting, Town staff prepared attendance sheets and meeting summaries for the Hazard Mitigation Committee, and during Work Sessions developed information to provide to CNHRPC for incorporation into the Plan. Town staff and volunteers documented their time on match tracking forms. CNHRPC staff facilitated the regular Committee meetings and Town staff facilitated the Work Sessions.

Opportunity for Public Participation

Invitations to the introductory meeting were mailed to abutting communities' emergency management directors, local business leaders, the School District, and non-profits. Press releases about the Hazard Mitigation Plan and its process were provided to the Suncook Valley Sun. Poster flyers, agendas, and the meeting schedule were posted at the Post Office, Town Hall, Dani's Laundromat, Bell Brother's Laundromat, Globe Manufacturing, and the Police Department, and the announcements were posted on the Town's website. The purpose was to solicit public input into the Plan development. Copies of publicity for the Plan are included in **CHAPTER 12. APPENDIX**. Refer to the Attendance Sheets of meetings for names of the participants in addition to the listing of participants in the **ACKNOWLEDGEMENTS** section. Any information provided by the public was considered by the Committee and incorporated into the Plan as necessary.

Overall Tasks

At meetings, information on the Chapters was collected by CNHRPC during discussions among Committee members. The new and updated information was described in each Chapter under the **2012 PLAN UPDATE** section. Revisions were provided by the Town after the Work Sessions. In between meetings, Town staff and volunteers and CNHRPC staff researched and collected information for the Chapters, and CNHRPC incorporated changes and rewrote sections as appropriate. The Chapters were also updated by revising the document to 2008 FEMA Mitigation Planning guidelines. Maps were reviewed by the Committee and updated as needed by CNHRPC.

Completion of the Plan

On July 8, 2011, the Committee made a final draft of this Plan available to Town Departments for review and comment. Included with the draft was a support letter which was signed by Department heads to acknowledge that they have read and support the document. The support letters are included in **CHAPTER 12. APPENDIX**.

On August 10, 2011, the Committee held a Public Information Meeting. The purpose of the meeting was to obtain review and comment from the public for the Plan. The meeting announcement was sent to the Suncook Valley Sun and the public access channel. Poster flyers were posted at the Post Office, Town Hall, Dani's Laundromat, Bell Brother's Laundromat, Globe Manufacturing, and the Police Department, and the announcements were posted on the Town's website. Copies of this Plan were made available for review at the Town Hall, Police Department, and were posted on the Town website. A second Public Information Meeting was held on August 31. Copies of publicity for the Plan and flyers are included in **CHAPTER 12. APPENDIX**.

On September 16, 2011, copies of this Plan were submitted to the NH Homeland Security and Emergency Management and FEMA for FEMA's conditional approval of the Pittsfield Hazard Mitigation Plan.

On December 20, 2011 Pittsfield received an **Approvable Pending Adoption (APA)** notification from FEMA, stating the Plan will be approved by FEMA after proof of adoption by the local governing body, which is the Board of Selectmen, is submitted.

On February 7, 2012, the Board of Selectmen **adopted the Hazard Mitigation Plan** for the Town at a duly noticed public meeting. Copies had been made available at the Town Hall for public review on January 20. Copies of the press release and flyers are included in **CHAPTER 12. APPENDIX**. The signed Certificate of Adoption was sent to NHHSEM/FEMA.

On April 11, 2012, Pittsfield received a **Letter of Approval** from FEMA, with the Plan approval granted on **APRIL 9, 2012**. The next Hazard Mitigation Plan update is due five (5) years from this date of approval, on April 9, 2017.

Final Plan Dates

The following is a summary of the required dates which guide the adoption and update of the Pittsfield Hazard Mitigation Plan. Included is the history of the original Plan approval and expiration dates.

Original 2007 Hazard Mitigation Plan

Original FEMA Approval: April 28, 2007

Plan Expiration Date: April 28, 2012

Updated 2012 Hazard Mitigation Plan

Date of Adoption by Pittsfield Board of Selectmen: February 7, 2012

Date of FEMA Final Approval: **APRIL 9, 2012**

Plan Expiration Date: April 9, 2017

CHAPTER 2. HAZARD IDENTIFICATION

2012 PLAN UPDATE

The **39** identified natural, technological, and human hazards that had the potential to impact the Town were reviewed, and new *Area Events* were added as applicable. *Events in Pittsfield* were added to reflect recent or recalled hazard events. The *Potential Future Hazards* sections were reviewed and updated to identify locations where the risks may be greater. The probability, severity, and overall risk criteria for each hazard were developed and evaluated on a point-system basis.

INTRODUCTION

The State of New Hampshire's 2007 Natural Hazard Mitigation Plan recommends that municipalities examine the following natural hazards. Two hazards, coastal flooding and snow avalanche, are not discussed in Pittsfield's Plan. Other natural hazards, including rapid pack snow melt, river ice jams, stream bank erosion and scouring, debris-impacted infrastructure, and biological hazards have been incorporated into this Plan.

Technological hazards including hazardous materials spills, transportation accidents, and power utility failure have the ability to impact Pittsfield. Other technological hazards considered include explosion, building collapse, communication systems interruption, and more. Human hazard events in Pittsfield could be sabotage, terrorism, hostage situations, civil disturbance, etc, and have also been addressed.

This Chapter seeks to identify hazard events of all three types (natural, technological, and human) that have occurred within the Town and the surrounding area. Narrative descriptions are provided, and additional research has uncovered historical data and data which may indirectly refer to Pittsfield from a county- or state-wide context; all of the findings are then summarized in tabular form. The potential for such hazards to recur in Pittsfield is offered as well as their likely severity.

Many of these **39** hazards discussed will pose little to no threat to the Town. The Town wanted to acknowledge their possibility as opposed to focusing on simply three or four top hazards which will certainly impact the community. Using this broad vision allows Pittsfield to contemplate the impact of a variety of hazards and design emergency planning programs as appropriate. Only the most predominant hazards, or even multiple hazards, will have mitigation actions designed to try to reduce the hazards' impact. These are discussed in **CHAPTER 9. NEWLY IDENTIFIED MITIGATION ACTIONS** and prioritized in **CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS**.

RATINGS OF PROBABILITY, SEVERITY, AND RISK

Descriptions of how the hazards are rated follow within this section. Probability of occurrence and severity of the event are estimated using a number system answering questions which answer High (3), Moderate (2), and Low (1). A zero (0) score meant that the hazard would not impact the Town in the next 25 years. The ranges established for the average to determine severity were: High = >2.5, Moderate = 1.6 - 2.5, and Low = <1.6. The overall risk is a numeric indication developed by multiplying the total numbers of the probability and the severity.

Probability of Occurrence

An adjective description (High, Moderate, or Low) of the probability of a hazard impacting the Town of Pittsfield within the next 25 years. Probability is based on a limited objective appraisal of a hazard's probability using information provided by relevant sources, observations and trends.

- **High:** There is great likelihood that a hazardous event will occur within the next 25 years. Score = 3
- **Moderate:** There is moderate likelihood that a hazardous event will occur within the next 25 years. Score = 2
- **Low:** There is little likelihood that a hazardous event will occur within the next 25 years. Score = 1

Severity

An adjective description (High, Moderate, or Low) of the potential impact a hazard could have on Pittsfield. It is the ratio of population, property, commerce, infrastructure and services at risk relative to the entire Town. Severity is an estimate generally based on a hazard's characteristics. Averages were calculated for the population, property, and commerce components and were used to calculate overall risk.

- **High:** The total population, property, commerce, infrastructure and services of the Town are uniformly exposed to the effects of a hazard of potentially great magnitude. In a worst case scenario there could be a disaster of major to catastrophic proportions. Score = 3
- **Moderate:** The total population, property, commerce, infrastructure and services of the Town are exposed to the effects of a hazard of moderate influence; or
 - The total population, property, commerce, infrastructure and services of the Town are exposed to the effects of a hazard, but not all to the same degree; or
 - An important segment of population, property, commerce, infrastructure or service is exposed to the effects of a hazard. In a worst case scenario there could be a disaster of moderate to major, though not catastrophic, proportions. Score = 2
- **Low:** A limited area or segment of population, property, commerce, infrastructure or service is exposed to the effects of a hazard. In a worst case scenario there could be a disaster of minor to moderate proportions. Score = 1

Overall Risk

The risk number is one, which can help the community weigh the hazards against one another to determine which hazard is most detrimental to the community. This is calculated by multiplying the Probability of Occurrence score by the average (of human, property, and business impacts) of the Severity score. The highest numeric score is 9.0, which indicates that the overall risk is the greatest.

NATURAL HAZARD EVENTS IN PITTSFIELD

Hazard events were researched using a wide variety of sources for the original **PITTSFIELD HAZARD MITIGATION PLAN 2007**. Sources and techniques included interviewing local townspeople, researching Town Histories and related documents, and collecting information from the State of New Hampshire Hazard Mitigation Plan and from governmental or non-profit websites.

A compilation of hazards that have impacted Pittsfield in the past appears in the following section. Within Pittsfield, the risk of each hazard has been identified as a High, Moderate, or Low Probability of occurrence based on past and potential events as indicated in the following Chapters and as mapped on *Map 1: Potential Hazards* and *Map 2: Past Hazards*. Potential severity of each hazard based upon the same assumptions through the research and indicated by the High, Moderate, and Low scale is also provided.

Flooding

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

PITTSFIELD FLOODING EVENTS	
Probability -	High
Severity -	High
Overall Risk -	9.0

Floodplains are usually located in lowlands near rivers, and flood on a regular basis. The term 100-year flood does not mean that a flood will occur once every 100 years. It is a statement of probability that scientists and engineers use to describe how one flood compares to others that are likely to occur. It is more accurate to use the phrase "1% annual chance flood". What it means is that there is a 1% chance of a flood of that size happening in any year.

Inland floods are most likely to occur in the spring due to the increase in rainfall and melting of snow; however, floods can occur at any time of year. A sudden thaw 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.

Second only to winter storms, riverine flooding is the most common natural disaster to impact New Hampshire. Floods are a common and costly hazard. They are most likely to occur in the spring due to the increase in rainfall and the melting of snow. However, they can occur anytime of the year as a result of heavy rains, hurricane, or a Nor'easter.

Homes in the floodplain would be at risk during these types of events. Currently, there are **66** homes and **15** non-residential buildings located within floodplains in Pittsfield.

Area Events

Numerous flooding events in recent history have occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town.

- March 11-21, 1936

In March 1936, heavy snowfall totals, heavy rains, and warm weather all at the same time combined to impact Pittsfield and all of New England. These floods killed 24 people, caused \$133,000,000 in damage, and made 77,000 people homeless throughout New England. *NH Homeland Security-Emergency Management*

The New Hampshire State Board of Health requested health officers throughout New Hampshire to issue warnings that all water should be boiled before it was used (The Union Leader, March 16, 1936). Many private wells throughout the state were flooded; possibly, some residents of Pittsfield had to boil their water before use. *NH Homeland Security-Emergency Management*

- September 21, 1938
New Hampshire and Southern New England were affected by the hurricane, including experiencing flooding events. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*
- Spring, 1976
The entire region experienced spring flooding. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*
- July 1986 - August 10, 1986
During severe summer storms with heavy rains, tornadoes, flash floods, and severe winds, the road network was impacted statewide. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*
- April 16, 1987
Flooding caused by snowmelt and intense rain was felt in seven counties, including Merrimack County. Declared FEMA Disaster #789, nearly \$5 million in damage occurred. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*
- August 7-11, 1990 (see also [Hurricanes and Severe Storms](#))
Flooding caused by a series of storm events with moderate to heavy rains impacted eight counties, including Merrimack County. Declared FEMA Disaster #876, over \$2 million in damage occurred. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*
- October 1996 (see also [Hurricanes and Severe Storms](#))
Six counties experienced flooding due to heavy rains in FEMA Disaster Declaration #1144, causing \$2.3 million dollars in damage. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*
- July 1998 (see also [Hurricanes and Severe Storms](#))
Flooding from severe storms in six counties, including Merrimack County resulted in \$3.4 million in damages in FEMA Disaster #1231. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*
- October 7-18, 2005
Extensive flooding caused by severe storms impacted five counties in FEMA Disaster Declaration #1610 *NH Homeland Security-Emergency Management and FEMA*
- May 13-17, 2006
Extensive flooding caused by severe storms impacted seven counties in FEMA Disaster Declaration #1643. The USGS recorded the highest flows on record for several rivers including the Contoocook River in Davisville village, Soucook in Concord, and Piscataquog in Goffstown. *NH Homeland Security-Emergency Management*
- April 13-27, 2007
Extensive flooding caused by severe storms impacted seven counties in FEMA Disaster Declaration #1695. *NH Homeland Security-Emergency Management*

- Severe Storms and Flooding, September 6-7, 2008
FEMA-1799-DR. In Merrimack County, damage to road systems by flooding totaled the equivalent of \$1.48 per capita (146,455 people in 2010) for town reimbursement. Hillsborough County's damage was much higher at \$6.90 per capita (400,721 people in 2010). *fema.gov*
- Severe Winter Storm, February 23-March 3, 2010
FEMA-1892-DR. This severe weather event included high winds, rain, and snow over a week-long period. The primary impact was debris removal and repair reimbursement for fallen trees and powerlines. In Merrimack County, the reimbursement to communities was the equivalent of \$10.39 per capita (146,455 people in 2010), with Hillsborough County at \$3.68 per capita (400,721 people in 2010). In the Concord area, 21,000 Unitil customers were out of power at the peak outage period. *fema.gov, Unitil Energy Systems, 2010*
- Severe Storms and Flooding, March 14-31, 2010
FEMA-1913-DR. Severe storms and flooding occurred over a two-week period which caused damage to roads and bridges. In Merrimack County, the reimbursement to towns for repair was \$0.28 per capita (146,455 people in 2010), and in Hillsborough County damages reimbursed were \$1.80 per capita (400,721 people in 2010). *fema.gov*

Events in Pittsfield

Currently, there are **81** buildings located within floodplains in Pittsfield. The following events were found to have had a direct impact on Pittsfield.

- October 2005 (Columbus Day Flood)
In October 2005, heavy rains caused flooding throughout New Hampshire, including Pittsfield. Sandbagging at the Pittsfield Mill Pond Dam was necessary to reduce flood threats. The flood washed out Tan Road, and people were evacuated by boat on Barnstead Road. Pittsfield Hazard Mitigation Committee 200, 2011
- May 13-17, 2006 (Mother's Day Flood)
During the **Mother's Day Flood in 2006**, widespread damage occurred and numerous roads were blocked including Tilton Hill Road, Barnstead Road. Flooding occurred on River Road, because water was spilling over out the side of the Pittsfield Mill Pond Dam. Major damage occurred in the spill zone. Riprap was brought in and the Town created a diversion wall to divert the water back into the Suncook River. The Town lost complete sections of Mountain Road and Berry Pond Road, with material gone down to the bedrock. The Town could not gain access to residents, so the National Guard was called in for assistance and they hiked to residents. A bridge washout on Shaw Road caused extended road closures and detours. *Pittsfield Hazard Mitigation Committee 2006, 2011*
- February /March Flooding 2010
Waters were high, and Tan Road was washed out. Incidental erosion occurred to roads. The Town was not affected very hard by this storm. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

The likelihood of flooding in Pittsfield is high, particularly in flood hazard areas.

The Town has an issue with runoff, with dirt/gravel entering into the Town water supply as a result of flooding. Tan Road has much silt/dirt placed as a result of flooding. Smith Street is still vulnerable, as the electrical lines were under water, heating systems were flooded and residents were evacuated during one of the major flooding events.

A home on River Road always needs sandbagging since it sits at or below with the river. An apartment building on River Road has the potential for building collapse due to foundation erosion.

If the Pittsfield dam should let go, the whole section on the other side of Water Street would be affected. In the past, 6,000 sandbags have been placed.

The sewage treatment pump station and Eastern Propane on Joy Street have needed sandbagging.

Hurricanes and Severe Storms

A hurricane is a tropical cyclone in which winds reach speeds of 74 miles per hour or more and blow in a large spiral around a relatively calm center. Flooding is often caused from the coastal storm surge of the ocean and torrential rains, both of which accompany the storm. These floods can result in loss of lives and property.

PITTSFIELD HURRICANE/STORM EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	3.33

Area Events

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

- August, 1635
A hurricane struck portions of New Hampshire in 1635. It is unknown if Pittsfield was one of those areas. *NH Homeland Security-Emergency Management*
- October 18-19, 1778
Portions of New Hampshire experienced 40-75 mph winds. It is unknown if Pittsfield was one of those areas. *NH Homeland Security-Emergency Management*
- October 9, 1804
A hurricane struck portions of New Hampshire in 1804. It is unknown if Pittsfield was one of those areas. *NH Homeland Security-Emergency Management*
- September 23-25, 1815
Contemporary New England accounts compared it to the hurricane of 1635 for destructive forces, probably on the scale of the hurricane of 1938. *Deering Town Historian*
- September 8, 1869
Portions of New Hampshire experienced winds over 50 mph. It is unknown if Pittsfield was one of those areas. *NH Homeland Security-Emergency Management*
- September 21, 1938
High winds and heavy flooding made this hurricane particularly severe. As reported in the Concord Monitor in September, 1938, the hurricane was "the sharpest setback the state has ever experienced." Thirteen deaths and 1,363 families received assistance as a result of the hurricane. Other losses included smashed homes, crippled communications lines, blocked roads, and a total direct losses of \$12,337,643 (1938 dollars). The timber industry was hit hard with the loss of trees. Damage to trees in New Hampshire was between \$2,000,000 and \$3,000,000. This was also the worst hurricane to ever strike New England, resulting in 564 deaths and over 1700 injuries. Concord Monitor, FEMA

- 1954 - 1991 Hurricanes Carol, Donna, Gloria, and Bob
Hurricanes on August 31, 1954 (Carol - tree and crop damage), April 12, 1960 (Donna - heavy flooding), September 27, 1985 (Gloria), and 1991 (Bob) impacted New Hampshire and southern New England. It is unknown how the events affected Pittsfield. *NH Homeland Security-Emergency Management*
- July/August 1986
Severe summer storms with heavy rains, tornadoes, flash floods, and severe winds occurred in July/August 1986. These storms were a detriment to the road network Statewide. The impact in Pittsfield is unknown. *NH Homeland Security-Emergency Management*
- August 27, 1986
Severe storms caused heavy flooding in Cheshire and Hillsborough counties, and resulted in a disaster declaration, totaling \$1,005,000 for both counties. *NH Homeland Security-Emergency Management*
- August 7-11, 1990 (see also [Flooding](#))
A series of storm events with moderate to heavy rains occurred on August 7-11, caused flooding in eight counties, including Merrimack County, and resulted in a disaster declaration. The damage totaled \$2,297,777 for all counties. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*
- October 1996 (see also [Flooding](#))
In October 1996, heavy rains caused flooding in six counties, including Merrimack County. A disaster was declared and damage totaled \$2,341,273 for all counties. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*
- July 1998 (see also [Flooding](#))
Severe storms in July 1998 caused heavy flooding in six counties, including Merrimack County. Damages of \$3.4 million were incurred for all counties. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*
- Severe Winter Storm, February 23-March 3, 2010
FEMA-1892-DR. This severe weather event included high winds, rain, and snow over a week-long period. The primary impact was debris removal and repair reimbursement for fallen trees and powerlines. In Merrimack County, the reimbursement to communities was the equivalent of \$10.39 per capita (146,455 people in 2010), with Hillsborough County at \$3.68 per capita (400,721 people in 2010). In the Concord area, 21,000 Unittel customers were out of power at the peak outage period. *fema.gov, Unittel Energy Systems, 2010*
- Tropical Storm Irene, August 26-September 6, 2011
FEMA-4026-DR. Tropical Storm Irene impacted New Hampshire and damaged four counties, including Merrimack County at the equivalent of \$4.29 per capita (146,455 people in 2010). Damages to roads and bridges from flooding were the primary impact, but power outages from downed trees and lines also occurred during high winds throughout this week-long event. *fema.gov*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- February 25-March 1, 2010 (Ice and Wind Storm of 2010)
Waters were high, and Tan Road was washed out. Incidental erosion occurred to roads. The Town was not affected very hard by this storm. Although there was major flooding, there were no dam issues and the emergency call volume was normal.
Pittsfield Hazard Mitigation Committee 2011

Potential Future Hazards

The potential for hurricanes and severe storms exists and continues to pose a threat to the Town of Pittsfield. Public Service of NH is the largest provider, with Unitil also servicing customers in Pittsfield as smaller providers. Large trees falling down on the supply lines or across the roads are considered more of an inconvenience than a hazard. Particularly vulnerable areas include Suncook River and downtown area, as well as the vulnerable dams in Town.

For major storms, the Town is concerned about accessibility issues for emergency management personnel. Tasks undertaken in preparation for storms include collecting emergency supplies for sheltering, and preparing for power outages.

Rapid Snow Pack Melt

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

PITTSFIELD RAPID PACK SNOW MELT EVENTS	
Probability -	Moderate
Severity -	Low
Overall Risk -	2.67

Area Events

Numerous rapid snow pack melt events in recent history have likely occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town.

- March 11-21, 1936

In March, 1936, heavy snowfall totals, heavy rains, and warm weather all at the same time combined to impact Pittsfield and all of New England. These floods killed 24 people, caused \$133,000,000 in damage, and made 77,000 people homeless throughout New England. *NH Homeland Security-Emergency Management*

The New Hampshire State Board of Health requested health officers throughout New Hampshire to issue warnings that all water should be boiled before it was used (The Union Leader, March 16, 1936). Many private wells throughout the state were flooded; possibly, some residents of Pittsfield had to boil their water before use.

- Spring, 1976

The entire region experienced spring flooding. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*

- March 14, 1977

With the peak record of the Soucook River, many areas experienced flooding in local communities. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*

- April 16, 1987 (see also [Flooding](#))

Caused by rapid snowmelt and intense rain, statewide the damage totaled nearly \$5 million. It is unknown how Pittsfield was affected. *NH Homeland Security-Emergency Management*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

The threat to Pittsfield exists if winters with heavy snow pack are followed by warmer than usual spring seasons. The Town Highway Department is prepared to close and repair roads should any rapid snow pack melt damage them.

There is a possibility of damage through rapid snow pack melt because of the flooding potential of the Suncook River.

River Ice Jam Events

Rising waters in early spring often break ice into chunks, which float downstream and often pile up, causing flooding. Small rivers and streams pose special flooding risks because they are easily blocked by jams. Ice in riverbeds and against structures presents significant flooding threats to bridges, roads, and the surrounding lands.

PITTSFIELD RIVER ICE JAM EVENTS	
Probability -	Moderate
Severity -	Low
Overall Risk -	2.0

Area Events

Numerous ice jam events in recent history have likely occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town.

- **March 14, 1977**

In the State, an ice jam caused major disruption to the road network as a result of road washouts. The specific location is unknown. It is unknown how Pittsfield was affected.

Events in Pittsfield

Because there are no records of ice jams in Pittsfield, no known events have occurred although the Suncook River has flooded in the past.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

The potential for ice jams poses a threat to Pittsfield. The Suncook River is always a concern to Pittsfield because of the dams and what would happen if they are blocked and the water cannot go over. Many dams are along the Suncook and it could affect the entire downstream.

Dam Breach and Failure

Dam failure results in rapid loss of water that is normally held by the dam. These kinds of floods are extremely dangerous and pose a significant threat to both life and property.

Area Events

Numerous dam breaches in recent history have likely occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town.

PITTSFIELD DAM BREACH EVENTS	
Probability -	Low
Severity -	High
Overall Risk -	2.33

- May 15, 2006

The Pillsbury Lake Dam in Webster, holding back an artificial lake of about 70 acres, was breached by flooding due to heavy rains. The earth and concrete dam, which blocks the Dear Meadow Brook, was built in the 1960s, creating the Pillsbury Lake District with about 180 households. Floodwaters punched out a 20-foot breach in the dam. The Lake's level fell several feet. *Concord Monitor*, 5/18/06

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

There are currently eighteen (18) active dams in Pittsfield in the 2009 New Hampshire Dam database maintained by the Department of Environmental Services Dam Bureau. According to RSA 482:2 II, a dam is any artificial barrier which impounds or diverts water, has a height of four feet or more or has a storage capacity of two acre-feet or more, or is located at the outlet of a great pond. Inactive dams are defined as dams that do not meet the legal definition of a dam. There are eleven (11) inactive/unclassified dams listed in Pittsfield that do not meet the above definition and may be in ruins, breached, removed, or never built.

Every dam is categorized into one of four classifications, which are differentiated by the degree of potential damages that a failure of the dam is expected to cause. The classifications are designated as High Hazard (H), Significant Hazard (S), Low Hazard (L), and Non-Menace (NM).

Pittsfield has eleven (11) Non-Menace (NM) and eleven (11) unclassified dams. There is 1 High Hazard Dam, Pittsfield Mill Pond Dam. Four (4) Significant (S) dams are located in Town, and two (2) Low (L) Hazard dams.

- **High (H) Hazard Dams (1)** - Pittsfield Mill Pond Dam (Suncook River)
- **Significant (S) Hazard Dams (4)** - Berry Brook Reservoir Dam (Berry Pond Brook), Berry Pond Dam (Berry Pond Brook), Pittsfield Sewage Lagoon, Whites Pond Dam (tributary of Suncook River)
- **Low (L) Hazard Dams (2)** - Adam's Pond Dam (Adam's Pond Outlet), Clark's Pond Dam (Berry Pond Brook)

- May 13-17, 2006 (Mother's Day Flood)

The Pittsfield Mill Pond Dam had too much water behind it, and the water overflowed. Flooding occurred on River Road, because water was spilling over out the side of the Pittsfield Mill Pond Dam. Major damage occurred in the spill zone. Riprap was brought in and the Town created a diversion wall to divert the water back into the Suncook River. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

The dams at White's Pond and Pittsfield Mill Pond can be expected to experience breaching in the future. White's Pond Dam poses a significant threat to area residents for multiple reasons. Spring runoff sends water over the road at Route 107, and there is the possibility that heavy rainfall will send water over the top of the dam, threatening Route 107.

Pittsfield Mill Pond Dam (state-owned) is the only High (H) Hazard dam in Town. Breach of this dam would cause significant damage to life and property. Though flooding has been managed in the past, this site is susceptible to major flood events, including heavy rain events.

All major licensed dams within Pittsfield have operations plans on file with the Emergency Management Director and should be referenced during one of the hazard events at the dams. They are also held at the Fire Department.

Stream Bank Erosion and Scouring

Watercourses which are particularly prone to flash-flooding conditions are most vulnerable to erosion and scouring. These types of rivers are primarily found at higher elevations.

Area Events

Bank erosion events in recent history have likely occurred in the State, region, and the local area surrounding Pittsfield.

PITTSFIELD BANK EROSION EVENTS	
Probability -	Low
Severity -	Low
Overall Risk -	1.0

- **May 14 - 17, 2006**

The Suncook River through Epsom changed its course during this heavy rain event and its resultant flooding. The River shifted hundreds of meters, flowing around two dams, creating about a mile of new river through a sand pit a half-mile from its original course, and leaving a similar length of dry riverbed. The water carved through peat bogs and tore away a corner of a sand excavation pit. Pittsfield experienced bank erosion as their floodgates failed, and Epsom, Allenstown, and Pembroke later dealt with siltation issues from the new river course. *Concord Monitor*, 5/18 - 5/23/06.

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- **May 13-17, 2006 (Mother's Day Flood)**

The water was coming over the Pittsfield Mill Pond Dam at such a rapid rate, it deteriorated the catch basin at the bottom of the dam, removed about 25' of the bank's grassy area, and moved rocks. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

Bank erosion and scouring, while any appearance should be monitored, is not considered a particular hazard of concern in Pittsfield. However, erosion effects have been felt at the Pittsfield Mill Pond Dam which has been breached.

Debris Impacted Infrastructure

Debris carried by floodwaters can compromise the effectiveness of bridges, dams, culverts, diverting structures, etc. This debris may compound a flooding hazard by becoming obstructions to normal floodwater flow.

PITTSFIELD DEBRIS IMPACTION EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	3.33

Area Events

Debris impaction events in recent history have likely occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town.

- 2005-2011, Recurring Debris Impacted Infrastructure Events

In Concord, Bow Brook originates at Thayer Pond has the potential to overflow and could be impacted by debris. School Street, Warren Street, Pleasant, State Hospital, Clinton Street, South Street, Rockingham Street washed out during prior flooding events. The City received federal money to repair Pleasant and Warren. *Concord Hazard Mitigation Task Force 2011*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Debris in the form of trees is a constant concern, although they are not considered a particular hazard of concern in Pittsfield. The Town calls DES for removal. Bridges vulnerable to such a hazard would be on Main Street at the Suncook River, and on Route 107 at the White's Pond outlet.

The Town has built a diversion wall at the Pittsfield Mill Pond Dam, which also helps contend with tree debris.

Tornadoes

Significantly high winds occur especially during hurricanes, tornadoes, winter storms, and thunderstorms. Falling objects and downed power lines are dangerous risks associated with high winds. In addition, property damage and downed trees are common during high wind occurrences.

PITTSFIELD TORNADO EVENTS	
Probability -	Moderate
Severity -	High
Overall Risk -	5.33

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

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

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.

Between 1791 and 1821, six tornadoes rated F2 or higher on the Fujita Tornado Damage Scale (winds between 113-157 mph causing considerable damage) have occurred in Hillsborough County (Office of Emergency Management). The worst tornado ever to strike New England was the Worcester Tornado of July 9, 1953. Within one minute 90 people were killed and over 1,300 injured. Damage was estimated to exceed \$52 million.

Area Events

Numerous tornadoes in recent history have occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town.

Tornadoes can occur at anytime of the year, although they are rare outside of the warm season. The peak months of tornado occurrence in the Northeast are June through August, with August being the most frequent month. Thunderstorms have been responsible for spawning tornadoes in many parts of New England. On average, six tornadoes per year touch down somewhere in New England. Damage from tornadoes is caused as a result of high wind velocity and wind blown debris.

- Early Tornadoes, 1791-1821

Four tornadoes rated F2 or higher on the Fujita Tornado Damage Scale (winds between 113-157 mph causing considerable damage) occurred in Merrimack County on July 14, 1791, September 5, 1792, July 1793, and on September 9, 1821. *NH Homeland Security-Emergency Management*

- July 9, 1953
The worst tornado ever to strike New England was the Worcester Tornado of July 9, 1953. Within one minute, 90 people were killed and over 1,300 injured. Damage was estimated to exceed \$52 million. The impact to Pittsfield is unknown. *Source undetermined*
- Tornadoes, 1962 - 1976
Three separate tornadoes, all of an F1 intensity, touched down in Merrimack County. The March 31, 1962 tornado had caused no injuries, but in the July 12, 1967 and August 15, 1976 tornadoes, five people were injured during each event. The impact to Pittsfield from these events is unknown. *The Tornado Project*
- July 27, 1979
The Concord Monitor reported that during a severe thunder and lightning storm, a small twister was sighted at Beaver Meadow, where 13 trees were toppled, including a 100-foot tall pine. The duration was about 15-20 seconds. *Concord Daily Monitor*
- Severe Storms, Tornado, and Flooding, July 24, 2008
FEMA-1782-DR. An F2-F1 tornado touched down in Rockingham County then proceeded into another county. In Merrimack County, the tornado was rated up to an F-3. The tornado killed a woman in Deerfield trapped in a collapsed house. In the county, there was substantial damage from the tornado and the storm which totaled the equivalent of \$1.12 per capita (146,455 people in 2010) for the towns' debris removal reimbursement costs. A total of 123 residences statewide were affected, with 17 destroyed and another 37 suffering major damage. Damage was estimated to exceed \$10 million. *fema.gov*
- July 2008
An F2-F1 tornado touched down in Rockingham County then proceeded into Hillsborough and Merrimack Counties. The tornado killed a woman in Deerfield trapped in a collapsed house. Damage was estimated to exceed \$10 million. *NH Homeland Security-Emergency Management*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- July 27, 2008
The Tornado in July 2008 grazed the Town but created building structural issues, and some buildings were crushed. The tornado blocked roads with trees and made the roads inaccessible to fire apparatus, and took down telephone poles and power lines, with live wires exposed on the ground. The Town engaged neighbors for mutual assistance. The access to Wild Goose Pond was blocked, and rescuers had to hike in to reach residents. Trees that were blocked by fallen trees included Catamount Hill, Clough Road, Shingle Mill Brook Road, Greer Lane, Rocky Point Road, and Hill Road. One resident reported seeing the tornado. Private property damage concerns were conveyed to the Town. Much of the damage was on the rural outskirts of Town. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

Anywhere, the Town could be impacted by a tornado. No particular areas or buildings are thought to be more vulnerable than another. However, those buildings with a significant number of people, including the Pittsfield Elementary School, would be most at risk. Other Particularly vulnerable sites would be the bridges in Town, the high population area of downtown Pittsfield, and dams along the Suncook River.

Downbursts

A downburst is a severe localized wind blasting down from a thunderstorm. These "straight line" winds are distinguishable from tornadic activity by the pattern of destruction and debris. Downbursts fall into two categories:

- microburst, which covers an area less than 2.5 miles in diameter and
- macroburst, which covers an area at least 2.5 miles in diameter.

PITTSFIELD DOWNBURST EVENTS	
Probability -	Low
Severity -	High
Overall Risk -	2.67

Area Events

Numerous downbursts in recent history have occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town.

- July 6, 1999
A downburst impacted three counties in New Hampshire, including Hillsborough County. It resulted in 2 deaths. Also, two roofs were blown off and widespread power outages occurred. The downburst was designated a macroburst (at least 2.5 miles in diameter). *NH Bureau of Emergency Management*
- May or June of 2005
A microburst hit the Concord Country Club, which caused downed trees and loss of power. No injuries were reported. *Concord Hazard Mitigation Task Force 2011*
- September 9, 2009
Northwood Lake was impacted by a possible downburst. Trees fell on homes and on roads. Storm debris forced 16 road closures and damaged six structures. During a thunderstorm, rain and 15 minutes of hail reported to be the size of golfballs impacted the Town. *wmur.com*
- September 5, 2011
In Bow, a 60mph microburst damaged or destroyed a dozen campers in the area of Route 3A between Grandview and Down Road. No injuries were reported. Telephone service at the Town's Police dispatch center was also disrupted. *Unionleader.com 09/06/11*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Anywhere, the Town could be impacted by a downburst. Particularly vulnerable sites would include the bridges in Town, the high population area of downtown Pittsfield, and dams along the Suncook River.

Lightning

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

PITTSFIELD LIGHTNING EVENTS	
Probability -	High
Severity -	Moderate
Overall Risk -	5.0

Area Events

Localized lightning strikes in recent history have likely occurred in the State, region, and the local area surrounding Pittsfield.

- July 1995
Lightning and resulting fire destroyed a 200 year-old farmhouse causing \$200,000 damage. *National Climatic Data Center*
- July 1997
Lightning ignited a massive 21-alarm fire. More than 200 firefighters and 50 trucks battled the blaze that eventually gutted a lumberyard. *National Climatic Data Center*
- June 12, 2005
During a thunderstorm, lightning struck and severely damaged the historic Loudon Town Hall on Clough Hill Road. *Loudon Hazard Mitigation Committee, 2005*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- July 2010
The Union Block was struck by lightning, which caused minor damage. The building is three stories high. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

Lightning can strike at any time at any given location. Areas of concern are remote areas, which could not be easily accessed by emergency vehicles. Many buildings in Town have lightning rods. The tall Congregational Church on Main Street, next to the Union Block, could be vulnerable.

Wildfire

Wildfire is defined as an uncontrolled and rapidly spreading fire. A forest fire is an uncontrolled fire in a woody area. They often occur during drought and when woody debris on the forest floor is readily available to fuel the fire. Grass fires are uncontrolled fires in grassy areas.

PITTSFIELD WILDFIRE EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	3.33

Area Events

Wildfire events in recent history have likely occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town.

- April 2006
A Wildfire in Webster burned over five acres throughout the night. Fire crews had to dig embers out of the soil that were 4 to 5 inches deep. The Forest Ranger commented that embers embedded that deep in the soil at that time of year was very unusual. *WMUR 4/20/06*
- April 29, 2006
A freight train sparked brush fires along tracks in Bow, Hooksett and Manchester. In Bow, a 50' by 350' fire was spreading toward the woods when officials arrived on the scene. Concord Fire Chief said that fires sparked by trains are not unusual and they are typically caused by exhaust coming out of the stack. *WMUR News*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- May 9, 1956
A fire of unknown origin burned 90 acres near Hardy's Place on North Village Road, which was then Route 106. *Pittsfield Hazard Mitigation Committee 2005*
- May 12, 1965
In May of 1965 a wildfire occurred along Clough Hill Road resulting in the loss of a large section of forest, about 100 acres. *Pittsfield Town Historian 2005*
- 2000-2011
A few brush fires have occurred over the years, but nothing significant has occurred. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

All areas of Pittsfield could be impacted by wildfire. However, a particular potential for wildfire was identified in the heavily wooded areas of Town, especially areas located off of True Road. The top of Catamount Road, Clough Road, Shingle Mill Brook Road, Range Road, Rocky Point Road, are vulnerable primarily due to slash left behind from the ice storms. This can cause a significant hazard that increases over time due to the drying out of materials of the ignitable base in the woods.

Severe Winter Weather

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

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.

PITTSFIELD SEVERE WINTER WEATHER EVENTS	
Probability -	High
Severity -	High
Overall Risk -	7.0

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

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

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

All winter storms make walking and driving extremely dangerous. The elderly and very young are at high risk during winter storms and may be affected by hypothermia and isolation. During winter storms, there is an increased risk of fire because people may lose electricity and use candles, portable gas stoves, and other flammable sources of heat and light (Northeast States Emergency Consortium).

Winter snow events are as common in Pittsfield as they are in the entire western half of New Hampshire. Pittsfield's steep slopes and hills, numerous Class VI and gravel roads, Route 106 and Route 129, suggest a high potential for icing, damage, power outages, and impassibility when ice and storm events hit. The likelihood of future severe winter weather events in Pittsfield is high.

Area Events

Numerous severe winter events in recent history have occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town. Unlike the relatively infrequent hurricane, New Hampshire generally experiences at least one or two Nor'easters each year with varying degrees of severity. These storms have the potential to inflict more damage than many hurricanes because the high storm surge and high winds can last from 12 hours to 3 days, while the duration of hurricanes ranges from 6 to 12 hours. Severe winter storms, including Nor'easters, typically occur during January and February. However, winter storms can occur from late September through late May.

There are numerous heavy snowstorms that have impacted the central NH region in the past. Many of these do not include detailed information on the impacts, however usually infrastructures, including critical facilities, are impacted by heavy snow. The added impact of the masses of snow and/or ice upon infrastructure often affects transportation and the delivery of goods and services for extended periods. Power outages are also a common impact during snowstorms. The following descriptions are of heavy snowstorms that have additional detail.

- January 11, 1810
Portions of New Hampshire were affected by a severe cold snap. It is unknown what impacts this event had on Pittsfield. *Pembroke Town History*
- Poverty Year, 1816
This was a remarkably cold year and late frosts in spring and early frosts in the fall made the corn crop a total failure. In some parts of NH, snow fell several inches in June and in September corn froze to the center of the cob. The next year, 1817, is referred to as the Mackerel year, because no farm animals for meat could be raised during the previous year, and people depended on mackerel for animal food for themselves. This was considered the year without a summer. *Remarkable Natural Events, History of Sutton*
- March 11-14, 1888
All of New England experienced a major snowstorm with snow accumulations of 30-50 inches, one of the most severe winter storms to ever hit New England. It is unknown how Pittsfield was affected. *Northeast States Emergency Consortium*
- December 17-20, 1929
On December 17-20, 1929, an ice storm caused unprecedented disruption and damage to telephone, telegraph and power systems throughout the State. It is unknown how severe the storm was in Pittsfield. *US Army Corps of Engineers NH Storms database*
- December 29-30, 1942
On December 29-30, 1942, a severe glaze ice storm impacted the entire State. It is unknown what impacts this storm had on Pittsfield. *US Army Corps of Engineers NH Storms database*

- *Snowstorms, 1940-1978*

Ten severe snowstorms are documented in south-central New Hampshire during this time span, February 14-15, 1940 (depths over 30" and high winds), February 14-17, 1958 (20-33"), March 18-21, 1958 (22-24"), March 2-5, 1960 (up to 25"), January 18-20, 1961 (up to 25", blizzard conditions), January 11-14, 1964 (up to 12"), January 29-31, 1966 (up to 10"), February 22-28, 1969 (24-98", slow-moving storm), December 25-28, 1969 (12-18"), January 19-21, 1978 (up to 16"). Accumulations ranged from 10-33 inches in the area and even to 98 inches in the western portion of the State. It is unknown how Pittsfield was affected. *American Meteorological Society*

- *December 22, 1969-January 17, 1970*

Many communities experienced power disruption during long ice storm period; it is unknown if Pittsfield was among them. *US Army Corps of Engineers NH Storms database*

- *February 5-7, 1978*

This snowstorm is described as "a natural disaster of major proportions" and stunned all of New England. The storm was caused by an intense coastal Nor'easter that produced winds in excess of hurricane force and very high snow totals. Most of southern New England received more than three feet of snow, 25-33" in NH and higher throughout New England. Abandoned cars along roadways immobilized infrastructure and blocked major interstates. For over a week, New England remained paralyzed by the storm. All of New Hampshire was impacted by the storm. Governor Meldrim Thomson Jr. declared a state of emergency. *American Meteorological Society, Northeast States Emergency Consortium*

- *January 8-25, 1979*

Impacts from this ice storm were felt throughout the State of New Hampshire. There were major disruptions to power and transportation in many communities. It is unknown what effects were felt in Pittsfield. *US Army Corps of Engineers NH Storms database*

- *Snowstorms, 1982-2001*

Four major snowstorms impacted New England, on April 5-7, 1982 (18-22"), in March 1993, in February 1996 (snow, ice and bitter temperatures), and in March 2001. It is unknown how Pittsfield was affected. *American Meteorological Society, Northeast States Emergency Consortium, Suncook-Hooksett Banner March 7, 1996*

- *March 3-6, 1991*

This ice storm impacted the entire State of New Hampshire. Numerous outages from ice-laden power lines in southern New Hampshire occurred. It is unknown what impacts this storm had on Pittsfield. *US Army Corps of Engineers NH Storms database, NH Homeland Security-Emergency Management*

- *December 1996*

Heavy snowfall hit the State of New Hampshire December 1996. It is unknown how Pittsfield was affected.

- January 7, 1998
This ice storm had severe impacts throughout most of the State, with 52 communities impacted. FEMA Disaster Declaration #1199, six injuries and one death resulted. Damage totaled \$12,446,202. In addition, there were 20 major road closures, 67,586 people left without electricity, and 2,310 people without phone service. *US Army Corps of Engineers NH Storms database, NH Homeland Security-Emergency Management*
- March 23, 1999
This storm hit New Hampshire with snow and wind. Two feet of snow fell overnight on Mt. Washington and at approximately 18,000 New Hampshire residents lost electricity. It is unknown how Pittsfield was affected.
- January 16, 2004
Bitter cold and blustery winds made temperatures feel as cold as -40 degrees. Outdoor exposure in the State was deadly and lead to six deaths. It is unknown what impacts this event had on Pittsfield. *Associated Press*
- Severe Winter Storm, December 11, 2008
FEMA-1812-DR. Accumulating ice, snow, rain, and strong winds caused downed trees and power lines, with power outages and traffic accidents resulting. In Merrimack County, debris removal and repair cost reimbursement FEMA the equivalent of \$10.07 per capita (146,455 people in 2010). In Hillsborough County, debris removal costs were \$6.35 per capita (400,721 people in 2010). The major disaster was declared in all 10 counties. *fema.gov*
- Severe Winter Storm, February 23-March 3, 2010
FEMA-1892-DR. This severe weather event included high winds, rain, and snow over a week-long period. The primary impact was debris removal and repair reimbursement for fallen trees and powerlines. In Merrimack County, the reimbursement to communities was the equivalent of \$10.39 per capita (146,455 people in 2010), with Hillsborough County at \$3.68 per capita (400,721 people in 2010). In the Concord area, 21,000 Unitil customers were out of power at the peak outage period. *fema.gov, Unitil Energy Systems, 2010*
- April Fool's Day Snowstorm, April 1, 2011
A Nor'easter snowstorm impacted the State, causing over 30,000 power outages, most by PSNH. Snow fell in depths of up to 8", but stopped by noon. Although dozens of accidents were reported, no serious injuries were reported. *wmur.com*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- December 12, 2008
During the Ice Storm in December 2008, the Town experienced massive power outages for up to 7 days. Damage to utilities occurred, including wires down and numerous electrical hazards. There were concerns with residents' generators improperly feeding/carbon monoxide issues. The Town shelter at the Elementary School was opened. *Pittsfield Hazard Mitigation Committee 2011*

- Winter, 2010

Above average snowfall from December 2010 from March 2011 caused isolated power outages and building collapse potentials. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

It is highly likely that Pittsfield will be impacted by severe winter weather in the future. Damage and serious conditions can result in any location of the community. Areas that are particularly vulnerable would be the northern elevations and remote locations, where alternate access may not be possible.

Power outages may occur as a result of downed trees due to heavy snow loads on branches. Many residents use generators. The Elementary School, Union Block, and manufactured housing are vulnerable to snow loads. Most of the roads in Town are open during snow storms and people are not isolated.

Earthquake

An earthquake is a rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. Earthquakes can cause buildings and bridges to collapse, disrupt gas, electric and phone lines, and often cause landslides, flash floods, fires, and avalanches.

Larger earthquakes usually begin with slight tremors but rapidly take the form of one or more violent shocks, and end in vibrations of gradually diminishing force called

aftershocks. The underground point of origin of an earthquake is called its focus; the point on the surface directly above the focus is the epicenter. The magnitude and intensity of an earthquake is determined by the use of scales such as the Richter scale and Mercalli scale. Geologic events are often associated with California, but New England is considered a moderate risk earthquake zone.

PITTSFIELD EARTHQUAKE EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	3.33

Area Events

Numerous earthquake events in recent history have occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town. No earthquakes have been documented in Pittsfield. Between 1728 and 1989, there have been 270 earthquakes in New Hampshire (*Northeast Emergency Consortium*). Four of these earthquakes were of a Richter Magnitude scale of 4.2 or more (*Northeast Emergency Consortium*). Two of these occurred in Ossipee, one west of Laconia, and one near the Quebec border. The likelihood of a future earthquake affecting Pittsfield is perhaps a moderate possibility.

Historically, New England has experienced some earthquakes. New England experiences an average of 30-40 earthquakes per year, but most are not felt.

- Early Earthquakes, 1727 and 1755

Both earthquakes, October 29, 1727 and November 18, 1755, caused damage to the New England coastline and throughout New England. The impact to Pittsfield from these events is unknown. *Northeast States Emergency Consortium*

- March 28, 1890

In New Hampshire, an earthquake produced 30 seconds of rumbling. *History of Concord, NH (J Lyford)*

- November 18, 1929

An earthquake originating at the Grand Banks in Newfoundland at a scale of 7.2 was felt by all of New Hampshire. It is unknown what impacts this event had on Pittsfield. *National Earthquake Information Center*

- December 20 and 24, 1940

In late December, New Hampshire felt the shock of two earthquakes, both at 5.5 on the Richter scale. The earthquakes originated near Tamworth in Ossipee. It is unknown what impacts this event had on Pittsfield. *National Earthquake Information Center, Northeast States Emergency Consortium*

- June 15, 1973
An earthquake originating near the Quebec border at a scale of 4.8 was felt in various locations throughout the State. It is unknown what impacts this event had on Pittsfield. *Northeast States Emergency Consortium*
- January 19, 1982
An earthquake with magnitude 4.5 originated west of Laconia on January 19, 1982. It is unknown what impacts this event had on Pittsfield. *Northeast States Emergency Consortium*
- April 20, 2002
An earthquake originating 15 miles southwest of Plattsburgh, NY with a magnitude of 5.1 shook many New England residents awake at 6:50 am. Many felt a slight ground shaking for 15-30 seconds and there were no deaths or injuries reported. It is unknown what impacts this event had on Pittsfield. *Website: www.cnn.com and USGS*
- January 20, 2004
An earthquake measuring 2.2 on the Richter Scale was centered in the Hillsborough-Hopkinton area. Shaking and noise were reported, but no damage occurred. *Concord Monitor, January 2004*
- September 25, 2010
"A magnitude 3.2 earthquake rattled buildings and nerves across much of New Hampshire Saturday night. The quake occurred at 11:28 p.m. and was centered about 10 miles north of Concord, according to the U.S. Geological Survey. State police said they received reports from residents across the state who reported what they thought was an explosion. The quake was felt in places like Fremont, Derry, Durham, Henniker, Penacook and Raymond. There were no reports of damage." *Union Leader*
- August 23, 2011
"An earthquake with a magnitude of 5.8 struck the State of Virginia, with aftershocks ranging up to 4.5 Mw in magnitude occurring after the main tremor as far north as Canada. The earthquake is the largest to have occurred in the U.S. east of the Rocky Mountains since an 1897 quake centered in Giles County in western Virginia, whose magnitude has been estimated as 5.8 or 5.9." *Epsom Hazard Mitigation Committee 2012*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- June 23, 2010
People were reporting that their household china was rattling, but there was no damage. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

It is likely that Pittsfield residents will feel earthquakes in the future, but it is less likely that major damage will result.

The Town does not have any buildings in the Town designed to withstand an earthquake. Any two-three buildings would be highly susceptible because of age and foundation type. The older industrial buildings that are stick-built could be vulnerable.

Landslide

A landslide is the downward or outward movement of slope-forming materials reacting under the force of gravity including: mudflows, mudslides, debris flows, rockslides, debris avalanches, debris slides, and earth flows. Landslides have damaged or destroyed roads, railroads, pipelines, electrical and telephone lines, mines, oil wells buildings, canals, sewers, bridges, dams, seaports, airports, forests, parks, and farms.

PITTSFIELD LANDSLIDE EVENTS	
Probability -	Low
Severity -	Low
Overall Risk -	1.0

Area Events

Localized landslides in recent history have likely occurred in the State, region, and the local area surrounding Pittsfield.

- May 10, 2006
In Bow, backyard material slid toward a home on Mother's Day catching a family, with one young child and an expecting mother, by surprise. No one was injured by the mudslide but thousands of dollars of property damage were caused. The debris and mud that slid and caused the damage came from land that didn't belong to the family. They had to move out for 10 days until a contractor deemed the property safe. *WMUR News*
- Circa 2008 or 2009
On Granite Street in Hooksett, a house slid towards the river. Research is not conclusive. *Epsom Hazard Mitigation Committee 2012*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Development in close proximity to several areas could be at risk for these events because of their steep slopes greater than 15% as shown *Map 1: Potential Hazards*. Mountain Road could be vulnerable. Vegetation in Pittsfield is good at preventing landslides. Road washouts and flash-flooding could cause landslides, but otherwise the Town is not particularly susceptible.

Drought

A drought is defined as a long period of abnormally low precipitation, especially one that adversely affects growing or living conditions. 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 droughts 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 ground-water levels or increasing stream flow. Low stream flow also correlates with low ground-water levels because ground water discharge to streams and rivers maintains stream flow during extended dry periods. Low stream flow and low ground-water levels commonly cause diminished water supply.

PITTSFIELD DROUGHT EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	3.33

Area Events

Numerous drought events in recent history have occurred in the State, region, and the local area surrounding Pittsfield that may have also had an impact on the Town. Periods of drought have occurred historically in New Hampshire. The longest recorded continuous spell of less than normal precipitation occurred between 1960-69. In 1999, a drought warning was issued by the Governor's Office. In March 2002, all counties with the exception of Coos County were declared in Drought Emergency. This was the first time that low-water conditions had progressed beyond the Level Two, Drought Warning stage. The likelihood of another drought affecting Pittsfield in the future is a moderate possibility.

- Various Droughts in the State of New Hampshire

In the years 1929-1936 (regional), 1939-1944 (severe in southwest, moderate elsewhere), and 1947-1950 (moderate), the State was hit by numerous and long-lasting droughts. Between 1960 -1969 was the longest recorded continuous spell of less than normal precipitation with crops affected. For two consecutive years in the mid 1960s, wells went dry. The impact of these droughts in Pittsfield is unknown. *NH Homeland Security-Emergency Management*

- April, 1999

In April 1999, due to lack of precipitation in the State, a drought warning was issued by the Governor's Office. *NH Homeland Security-Emergency Management*

- March, 2002

A Drought Emergency was declared by the State, marking the first time low-water conditions have progressed beyond the Level Two stage. Wells in Goffstown are known to have gone dry. *NH Department of Environmental Services*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- Summer 2010

Several people in Town reported that their wells went dry. Some people had difficulties with providing water to their livestock. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

Drought effects are felt throughout the region, so Pittsfield can experience these conditions as well as any other community. Water saving measures can be utilized to reduce the effect of a drought. Drought education is suggested about fire safety, no watering lawns or washing cars. Pittsfield has a lot of livestock, and the Town has had to find ways of watering them during certain weather events, including drought.

Radon

Radon is a naturally occurring radioactive gas with carcinogenic properties. The gas is a common problem in many states, including New Hampshire. Data collected by the NH Office of Community and Public Health's Bureau of Radiological Health indicates that one third of the houses in New Hampshire have indoor radon levels that exceed the US Environmental Protection Agency's "action level" of four picocuries per liter for at least some portion of the year.

PITTSFIELD RADON EVENTS	
Probability -	Low
Severity -	Moderate
Overall Risk -	1.67

Radon may also enter homes dissolved in drinking water from drilled wells. A high level of radon in water from individual drilled wells is a common occurrence in New Hampshire.

Area Events

In New Hampshire, radon gas is a common problem, most often affecting the north, east and southeast portions of the State. The gas is colorless, tasteless, and has no odor. Radon is a radioactive gas that comes from the natural decay of uranium that is found in nearly all soils. It typically moves up through the ground to the air above and into homes through cracks and other holes in the foundation. Homes trap radon inside, regardless of age or how they are built. Radon from soil gas is the main cause of radon problems, although sometimes radon enters the home through well water. The gas is the second highest cause of lung cancer, behind smoking (*Environmental Protection Agency*).

- 1986-1987

In Dunbarton, a citizen initiative of well water testing, primarily around the Town Center, found that the radon levels in the community exceeded all levels in the country. The Elementary School well tested fine, but the church had a very high concentration, as well as the rest of the area at the top of the hill around the Town Offices. Residents placed filtration systems in their homes and public buildings.

The information garnered interviews with WMUR Channel 9 and a series of public meetings to raise the awareness of Town residents. Although there is no specific Town program in place, residents can test their wells using kits available at the NH Department of Environmental Services. *Dunbarton Hazard Mitigation Committee 2005*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

The potential for the presence of radon in the Town is at high to moderate levels according to bedrock geology data depicted on **Map 1: Potential Hazards**. As radon is addressed on an individual basis, long-term conditions and consequences are unknown. In 2010, the need for homes to test and install air and water radon mitigation measures still exists and should be encouraged.

Biological

Biological hazards are natural hazards that can be potentially catastrophic to ecosystem functioning and human and wildlife well being. They can include medical wastes, microorganisms, viruses or toxins. Examples of biological hazards include invasive species and/or wildlife diseases such as West Nile Virus, Chronic Wasting Disease, Lyme Disease, Avian Influenza (Bird Flu), Dengue Fever, rabies, viral meningitis, red tides and algal blooms. Biological hazards are spread through animals, reptiles, fowl, bacteria, insects and spiders, plants, molds and fungus. In recent years, Avian Influenza has become a highly discussed biological hazard because of its potential to annihilate large numbers of fowl, and particularly, domesticated birds such as chickens, ducks and turkeys. Humans are susceptible to Avian Flu through contact with infected birds. Human-induced biological hazards are possible but not consensually considered natural; they are often referred to as biological terror, where a biological hazard is manipulated in such a way to cause harm to others.

PITTSFIELD BIOLOGICAL EVENTS	
Probability -	Low
Severity -	Low
Overall Risk -	1.0

Area Events

In New Hampshire, the biological events most likely to affect a large population include health outbreaks such as flu, meningitis and conjunctivitis. Diseases such as West Nile Virus and EEE have found its way to the State, and although deaths have resulted from EEE, no humans have tested positive for West Nile.

- 1736-1737
From July 1736 to September 1737 in New Hampshire's coastal towns and inland to Kingston and Chester, about 1000 deaths were caused by "throat distemper." In 1754, 55 people in Hampton alone died of the same disease. [Merrills' *Gazetteer of the State of New Hampshire*, 1817.] *Pittsfield Town Historian*
- 1812-1816
A regional epidemic that was occurring in NH & VT known as "Spotted Fever," claimed many residents. The disease, uncertain to the cause even now, would cause victims to go from healthy to their deathbed in as little as six hours. The Town of Warren has records of a mass burial of about two dozen victims. *Local CNHRPC Town Hazard Mitigation Committee*
- Year of 1918
Two thousand people in New Hampshire died of flu (Spanish flu) in nineteen eighteen compared to just one hundred forty five people the year before. *Department of Commerce*
- 1996
Milfoil was discovered on the north end of Lake Massasecum in Bradford. A 10 to 11 acre portion of the lake was closed. Several chemical treatments were tried but failed to eradicate the milfoil. Eventually, the weed was harvested. *Blaisdell Lake Property Owners Association, Inc. August 3, 2002*

- February 1 - 14, 2002
In a two week period at a New Hampshire College, nearly 500 of the school's 5,060 students were affected by an outbreak of bacterial conjunctivitis. *Morbidity and Mortality Weekly Report*; 3/15/2002
- December 27, 2003
Three teenagers from southwestern New Hampshire were hospitalized for bacterial meningitis and a fourth from Concord was suspected of having the potentially fatal illness. An 18 year old girl from Bennington died from the illness. Two of the victims were from Monadnock Regional High School. NY Times, December 27, 2003
- September 30, 2004
An Andover horse dies of EEE; a mosquito-borne virus that is a threat to humans as well. It was the second horse death in NH in September but only the second in NH since 1984. Concord Monitor
- 2005
Seven people were tested in New Hampshire for EEE, Eastern Equine Encephalitis and two died. Forty-six (46) birds and a mosquito pool were tested for West Nile Virus. NH Center for Disease Control

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- Circa 2007-2008
A flock of emus were lost on Shingle Mill Brook Road due to EEE.
Pittsfield Hazard Mitigation Committee 2011

Potential Future Hazards

It is difficult to predict where a biological hazard would occur due to human and wildlife mobility. Any of these biological hazards could affect Pittsfield. Pandemic flu preparation has occurred with the Town participating as a member of the Capital Area Public Health Network in Point of Dispensing Sites (PODS) in Northwood. The Towns of Barnstead, Pittsfield, Northwood, Chichester, and Epsom participated in dispensing H1N1 inoculations as well as training.

TECHNOLOGICAL HAZARD EVENTS IN PITTSFIELD

Events of this nature include hazardous material release, explosion/fire, transportation accident, building/structure collapse, power/utility failure, extreme air pollution, radiological event, fuel/resource shortage, strike, business interruption, financial collapse, and communication collapse. Dam failure is being treated as a natural hazard due to its flooding consequence and is located in the **NATURAL HAZARDS** section.

Hazardous Materials

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

PITTSFIELD HAZARDOUS MATERIALS EVENTS	
Probability -	Moderate
Severity -	High
Overall Risk -	5.33

Area Events

The risk from hazardous materials spills or releases into groundwater is always present as long as consumers and homeowners make irresponsible decisions regarding the disposal of household chemicals. American families improperly dispose of, on average, 15 pounds of hazardous household chemicals in a year. These household chemicals can contaminate drinking water in wells and cause damage to various ecosystems. Most people contaminate without being aware that they are doing so. Further education is needed in order to reduce hazardous waste contamination.

- Circa 1960-1970
A junkyard was in operation by a former public employee near the Village of Pittsfield Mills some decades ago at the old farm later owned by Henry Carnevale. Battery acid, gas, and oil from junk cars were dumped onto the ground, and the pollution problems were left for future generations to deal with. *Pittsfield Town Historian*
- May 27, 2004
Fifty-three businesses were forced to close at the Concord Center on Ferry Street in Concord when state officials discovered more than 70 buckets of formaldehyde, motor oil, roofing tar and cleaning solvents in the flooded basement. There were no reported injuries but some workers complained of headaches and dizziness. *Concord Monitor*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- 1995
The Suncook Valley Leather Tannery at 5 Main Street experienced a fire that took two weeks to extinguish. The environment was exposed to multiple chemicals due to fire suppression activities and the chemicals used in the facility. The original part of the building was built in the 1800s and was used in a chemically-dependent industry. Chemicals were also present in the building materials. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

Transportation of hazardous materials on Route 28 can occur at any time of day. Several businesses in towns have chemical storage on site. Businesses and sites in Town that have hazardous materials onsite are located in **Table 10**.

The Barnstead Chichester Epsom Pittsfield Recycling (BCEP) hosts a Household Hazardous Waste Collection Day once a year. Large volumes are collected from residents.

Transportation of products on Route 28 and Route 107 are susceptible to hazardous material incidents. Globe Manufacturing, the Power Station, 5 Main Street (old processing plants), and Northeastern Mechanical are the most susceptible site locations which may experience this type of hazard.

Explosion/Fire

Explosions are violent releases of energy due to a sudden increase in volume within a given space. Explosions produce extremely high temperatures and release gases. Urban fires in large, unoccupied buildings have occurred around the world. They are sometimes deliberate and sometimes accidental. They have the potential to cause widespread property damage and place both occupants and neighbors in danger.

PITTSFIELD EXPLOSION/FIRE EVENTS	
Probability -	High
Severity -	High
Overall Risk -	8.0

Area Events

There is a risk of explosion in households that use gas or oil burners or who store such gases or chemicals in an unsafe manner. Business and industrial sites would also be at potential risk of explosion if there were flammable materials and especially gases and/or other chemicals.

- January 23, 2005

A near-fatal explosion occurred at the Gold Star sod farm in Canterbury. Gasoline fumes ignited a propane heater, triggering a fiery explosion and fire that consumed a large workshop and part of the main storage building. Fire crews from several departments battled the fire and laid sand down as a buffer between a nearby river in order to prevent contamination as pesticides and other chemicals burned. *Concord Monitor*

- January 21, 2010

Pleasant View Gardens suffered a fire which destroyed about 30,000 square feet of greenhouses, plus a building. The cause is undetermined. *Loudon Hazard Mitigation Committee 2010*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- 1995

The Suncook Valley Leather Tannery at 5 Main Street experienced a fire that took two weeks to extinguish. The environment was exposed to multiple chemicals due to fire suppression activities and the chemicals used in the facility. The original part of the building was built in the 1800s and was used in a chemically-dependent industry. Chemicals were also present in the building materials. *Pittsfield Hazard Mitigation Committee 2011*

- May 2011

A residential propane LP gas tank that was improperly installed resulted in an explosion and flash fire on Leavitt Road. The explosion resulted in structural damage and personal injury. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

A listing of facilities, which store or use hazardous materials, is found in **Table 10**. These locations may be most susceptible to explosions and the resulting fire. Additionally, above ground propane storage tanks can also pose a potential hazard.

Pressurized vessels under transport on Route 28 and Route 107 could be susceptible to explosion/fire.

Transportation Accident

Given the number of passengers, probability of travel, distances traveled and complexity of modern transport, relatively few major accidents involving large numbers of people have occurred. Nevertheless, transportation infrastructure has the potential to fail and cause major hazards; airplanes crash, trains derail, buses and other vehicles collide and boats sink.

PITTSFIELD TRANSPORTATION EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	4.0

Area Events

Automobile accidents could occur on any roadway in the region. A major accident would have the greatest impact for travelers on I-89, I-93 and I-393, as these roads experience high traffic volume and vehicles travel at high speeds. In addition, several rail lines create the potential for a transportation accident. Many motor vehicle accidents occur at train crossings. Trains could potentially derail, causing injuries or fatalities and hazardous materials spills. The Concord-Lincoln Line runs 73 miles between Concord and Lincoln. It is owned by the State of New Hampshire and operated by Plymouth & Lincoln Railroad/ New England Southern. The New Hampshire Main Line runs between Concord, Nashua and Lowell, MA. This line is owned by the Boston & Maine Corporation and the New Hampshire section is operated by the Springfield Terminal Railway. The commodities most frequently transported on New Hampshire's rail lines are pulp, paper & allied products, stone, sand, gravel and metals and clay and glass products. In 1999, 876,882 expanded tons of coal and petroleum products, 791,200 tons of chemicals and 171,700 tons of waste and scrap metals were transported on NH rail lines.

- June 24, 1973
A railroad car of grains spontaneously combusted at the railroad yard. It was determined the grain was improperly processed and stored while it was too hot.
Concord Daily Monitor
- Plane Crash, June 1981
At Hawthorne College DC-3 1936 plane over laden with supplies attempted to take off at the Deering Airport but crash landed before it flew too far from the ground. The pilot and copilot were not injured, but the plane was destroyed by the impact and by fire. It was the most severe plane crash in Deering's history. A picture board in the Fire Department depicts the take off and subsequent crash chronology. *Deering Hazard Mitigation Committee*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- 2006
A transportation accident resulting in mass casualty occurred in front of Globe Manufacturing on Route 28 in 2006. *Pittsfield Hazard Mitigation Committee 2011*
- July 2010
In summer 2010, on Route 28 at the intersection of Route 107 a mass casualty occurred where multiple ambulances from different communities were called in. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

Traffic accidents are a major concern in Pittsfield along the Route 28 corridor. Frequent transportation accidents occur at each intersection with Route 28, in particular the intersections of Loudon Road and Route 28, and Barnstead Road and Route 28.

Mass casualties have occurred on Route 28 that overwhelmed the available local resources. A new set of traffic lights have been installed at both intersection locations through a cooperative effort between the Town and the State to help combat these serious traffic accident problems.

Building/Structure Collapse

Building or structure collapse may occur as a result of fire due to the age of a building or structure as well as from a significant natural disaster such as an earthquake or deterioration of a foundation due to water damage. Any natural disaster that could weaken a building or structure's integrity, coupled with inadequate building conditions, could result in collapse.

PITTSFIELD BUILDING/STRUCTURE COLLAPSE EVENTS	
Probability -	Moderate
Severity -	High
Overall Risk -	5.33

Area Events

Building and structure collapse, although not common, can result from flooding, heavy snow buildup on rooftops, and weakened structural integrity due to fire. Building and structure collapse are more likely to occur in older, less stable structures that are located in sensitive locations.

- January - February 2008
In Concord, heavy snowloads caused multiple building collapses, including Oak Bridge Condominium Pool Building, Beede Electric, Hall Street Capitol Distributors loading dock. *Concord Hazard Mitigation Task Force 2011*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- Winter, 2010
Above average snowfall from December 2010 from March 2011 caused isolated power outages and building collapse potentials. *Pittsfield Hazard Mitigation Committee 2011*

Potential Future Hazards

Snow loads on roofs present the most significant threat. Buildings such as Tops Garage, 1 Concord Hill, and 265 Berry Pond Road, which has an attached shed, could be more susceptible to building collapse. Flat roofed buildings in general, of which there are several on Pittsfield, are the most susceptible to collapse.

Power/Utility Failure

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

PITTSFIELD POWER/UTILITY FAILURE EVENTS	
Probability -	High
Severity -	High
Overall Risk -	8.0

Area Events

New Hampshire is host to both nuclear and coal power plants. There are two coal power plants in New Hampshire: Merrimack Plant in Bow and Schiller in Rockingham County. The Merrimack Station Power Plant is the largest coal-fired electrical generating station owned by PSNH. It supplies power to 189,000 residents. The greatest health concern over the Merrimack Plant in Bow is the release of mercury into air and area water bodies, such as the Merrimack River.

Customers in Pittsfield receive electricity service from Public Service Company of New Hampshire (PSNH) in the majority of Town, NH Co-Op in the Clough Road area, and Unitil on Catamount and North Road.

In the harsh environment that New Hampshire residents are subjected to, power and utility failures on an isolated level are not uncommon. During nearly every snowstorm, ice storm, or other severe weather event, power and/or other utility services are lost somewhere.

- November 9, 1965**
Northeast Blackout of 1965. The New York- New England grid was not prepared to handle an overload caused by a blown relay and the entire region, from Pennsylvania to New Hampshire and Vermont, was in the dark for a short period of time. The huge effort of re-establishing energy began immediately following the event. The blackout affected the western portion of the state, while the eastern portion and Maine experienced no power failure. *Central Maine Power*
- February 18, 2006**
55 mph wind gusts, resulting from a cold front in the region, felled trees which blocked roads and downed power lines. 80,000 homes and businesses in the state reportedly lost power. Unitil had outages in every town it serves. A reported 25,000 customers in the Concord area lost power. *Concord Monitor*
- December 12, 2008**
Hundreds of thousands of home and business owners in the State were without heat or electricity after an ice storm moved through the State causing the largest power outage in New Hampshire's history. Unitil had 5,000 customers out in Concord. A large amount of FEMA funds were received for snow and ice removal from streets and

sidewalks as well as removing trees and limbs off streets when they came down with ice on them. *Concord Monitor, Concord Hazard Mitigation Task Force 2011*

- High Wind Event, February 25-March 1, 2010
In Concord, 2,000 Unitil customers were out of power at the peak outage period. Unitil opened their emergency operations center, and the City opened their EOC for a few hours. Problems included Interference with electrical lines, trees down, and road blockages. Crews were out clearing the entire period. Wind Storm caused power/utility failures, road closures from downed power lines and trees, home and property damage. Some resident's homes were without power for several days. *Unitil Energy Systems and Concord Hazard Mitigation Task Force 2011*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- July 27, 2008
The Tornado in July 2008 blocked roads with trees and made the roads inaccessible to fire apparatus, and took down telephone poles and power lines, with live wires exposed on the ground. The Town engaged neighbors for mutual assistance. Much of the damage was on the rural outskirts of Town.
Pittsfield Hazard Mitigation Committee 2011
- December 12, 2008
During the Ice Storm in December 2008, the Town experienced massive power outages for up to 7 days. Damage to utilities occurred, including wires down and numerous electrical hazards. There were concerns with residents' generators improperly feeding/carbon monoxide issues. The Town shelter at the Elementary School was opened. *Pittsfield Hazard Mitigation Committee 2011*
- February 2010
There was a spike in the Fire Department call volume due to power outages, alarm system malfunctions, tree branches on power lines, etc.
Pittsfield Hazard Mitigation Committee 2011

Potential Future Hazards

Power is disrupted on a regular basis during all seasons. Pittsfield primarily depends on PSNH for its power needs, with some areas served by NH Co-op and Unitil. Power outages may last for several days before service is restored in a large event. The outskirts of Town are particularly vulnerable because the trees are overgrown.

The first location that the power companies get up and running after the electricity is disrupted is the downtown area due to its density and location of Town services.

Extreme Air Pollution

Air pollution is the release of gases, finely divided solids or finely dispersed liquid aerosols into the Earth's atmosphere that exceed the capacity of the atmosphere to dissipate them or dispose of them into the biosphere. Volcanic activity is the greatest source of air pollution; however, dust storms, wildfires and vehicle exhaust also greatly contribute to air pollution. Humans are at risk of respiratory illnesses due to increased air pollution.

PITTSFIELD EXTREME AIR POLLUTION EVENTS	
Probability -	Low
Severity -	Low
Overall Risk -	1.0

Area Events

The New Hampshire Department of Environmental Services conducts daily air quality forecasts for the entire state. Forecasts are based on Ozone and Particle Pollution. Levels of air quality range from "Good" - no health impacts expected- to "Hazardous" - everyone should avoid all outdoor exertion. Email alerts from the NHDES are available on days when the air quality is predicted to reach unhealthy levels.

Extreme air pollution affects New Hampshire citizens 10 days during an average year. Although New Hampshire does not cause most of the pollution that affects its citizens, large urban areas to the south and large power plants in the Midwest produce the emissions that are brought to the state by atmospheric winds. New Hampshire has little control over the extreme air pollution in the state. It can be assumed that in the future air pollution in the state will worsen.

- September 14, 2005
The Department of Environmental Services declared air-quality action days in the state for 9/14 and 9/15 because of an increase in air particles due to slow moving, stagnant air masses from the Ohio Valley. High temperatures can contribute to decreased air quality. The DES advised people to limit all outdoor activities. Concord Monitor
- May 31, 2010
On Memorial Day weekend, brush fires from Canada impacted the air quality of New Hampshire Residents from more than 50 wildfires that are burning out of control in Quebec. Over 150,000 acres in central Quebec, north of Montreal and Quebec City, about 500 miles north of Manchester, reduced visibility to 1.75 miles in Concord. No air quality alert was issued, although people with respiratory issues were urged to remain indoors. Union Leader 2010

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Pittsfield can do little to reduce extreme air pollution. No one location is more susceptible than another. Monitoring the air quality action days and staying indoors on these days with high level of pollution is the best way to protect residents.

Radiological Accident

Radiological accidents occur primarily at nuclear power plants when radioactive gases are released. They can cause widespread contamination to people and ecosystems as were the cases in Chernobyl and 3-Mile Island. Their cleanup may take centuries because of the extreme saturation of contaminants in the soil, in buildings and in water supplies.

PITTSFIELD RADIOLOGICAL ACCIDENT EVENTS	
Probability -	Low
Severity -	Low
Overall Risk -	1.0

Area Events

The Central New Hampshire region is geographically located between Vermont Yankee Nuclear Power Plant in Vernon, VT and the Seabrook Nuclear Station in Seabrook, NH. These facilities present the greatest risk of radiation contamination to the region in the case of a meltdown or other catastrophic event. As more nuclear facilities are decommissioned, the mobilization of nuclear wastes will increase, augmenting the risk of exposure. Small underground shelters or concrete basements may provide a level of protection. Personal household supplies of iodide, purchased in advance, can help limit the uptake of radiation in the thyroid.

- No details on specific events were found during research on the region.

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Vehicles can transport radioactive material on Route 28 and Route 107 which run through the Town. Medical and x-ray isotopes are the main known materials transported. Areas along this route could be more vulnerable than the remainder of Pittsfield in the event of an incident. Even a minor accident would cause a significant disruption in traffic patterns. Industrial use of radiological equipment for steelwork, using radioactive isotopes similar to x-ray, is sporadic.

Fuel/Resource Shortage

Current popularly-used sources of energy, such as petroleum, are limited and their production levels are variable, therefore they are prone to shortages and will continue to be so in the future. Fuel and resource shortages are also due to rises in demand. As different regions of the world develop they will need more fuel. Fuel and resource shortages are evident in the rising costs of energy.

PITTSFIELD FUEL/RESOURCE SHORTAGE EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	3.33

Area Events

Fuel and resource supplies are often dictated by international geopolitical events, as was the case in 1973, and weather events such as hurricanes in the Gulf of Mexico; therefore it is difficult to predict future hazards that may affect the central New Hampshire region. Nevertheless, any major weather event occurring in the south during hurricane season or a particularly cold winter in the northeast, can and will impact the fuel and resource supply in Pittsfield and the entire region. In addition, as made evident in recent months, political instability in oil producing countries and foreign policy do affect fuel supply in the United States.

- 1973
The OPEC nations halted exports of oil to the Western nations that supported Israel during a conflict known as the Yom Kippur War, which uncovered the actual power OPEC had on the world's energy business. In the United States, a massive shortage led to high fuel prices and near chaos. The incident caused the U.S. to seriously consider its energy situation and energy independence. *Canadian Economy Online*
- August 31, 2005
Gasoline prices rose between 40 and 50 cents in Hurricane Katrina's wake and there was concern that in many regions gasoline wouldn't even be available to consumers. President Bush stated that the natural disaster "disrupted the capacity to make gasoline and distribute gasoline". *The White House Office of the Press Secretary, August 31, 2005*
- April, 2006
MSNBC released the article: "Gasoline Supply Problems Hit U.S. East Coast". The article began by stating: "Scattered gas stations from New Hampshire to Virginia are facing temporary shortages as the industry grapples with a transition to more ethanol-blended fuel." The cause of the fuel shortage was due in large part to logistical and transitional difficulties as terminal owners were required to switch to the higher ethanol-content gas. *MSNBC website, April 21, 2006*
- April 2007
Rumford Energy oil went out of business, filing bankruptcy, with pre-paying customers losing their money. The company owed at least \$1million dollars to more than 1,000 customers in the Concord area. *Concord Monitor 05/18/07*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Pittsfield can do little to prepare for wide-ranging fuel shortages; they would affect the entire community. Small gas station/convenience store operations would become particularly important to retain in Town.

Strike

A strike is the collective refusal to work under unfavorable conditions set by employers. Employees who wish to express their disdain for low wages, long hours or poor working conditions will often strike as a group in order to make a greater impression on an employer, the public or the media.

PITTSFIELD STRIKE EVENTS	
Probability -	Low
Severity -	Low
Overall Risk -	1.0

Area Events

Strikes are most common of employees of public institutions and private businesses. Strikes have the potential to disrupt business, schools and/or government.

- 1922
A nine month strike occurred in Manchester at the Amoskeag Manufacturing Company over wages and hours. *Source undetermined*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Few businesses in Town would be affected if a strike occurred. Globe Manufacturing does not have a union. Only the municipal union was identified in Pittsfield, and they cannot strike.

Business Interruption

Business interruption may occur following a natural disaster or catastrophe, such as a hurricane, fire or flood. Occasionally, businesses are forced to temporarily close their operations in order to make necessary repairs caused by damage or to relocate. During a period when a business is interrupted, it may lose money to competitors, causing further economic hardship.

PITTSFIELD BUSINESS INTERRUPTION EVENTS	
Probability -	Low
Severity -	Low
Overall Risk -	1.0

Area Events

Significant employers in the region, many of which provide crucial services or goods, have the potential to be incapable of opening for business if a disaster were to occur. In other cases, hazards have the potential to seriously affect a families' financial stability when small, family-owned businesses are interrupted. Most recently, during the May 2006 floods in the central New Hampshire region, numerous area businesses experienced interruptions. Several businesses are highlighted below.

- May 10, 2005
A February fire at Bowie's Market in Bradford caused a two and a half month business interruption as Bruce Bowie and family relocated their market to the town of Andover. The Bowie family was out of work during the interruption. They eventually relocated to an East Andover location where they had previously done business. *Concord Monitor*
- May 30, 2006
An article in the *Concord Monitor*, published May 30, 2006, described the business interruption experienced by some local area businesses. Pitco Frialator, Blue Seal Feeds and Grappone Auto Dealerships were affected by the high water levels. At Pitco Frialator, within a week everything was back to normal and a large contract with a restaurant chain was nearly complete. At the Concord Business Center, 45 businesses that rent space were not able to work for 2 days. Over 140 businesses reported damage to the state. Farms, orchards and greenhouses were hardest hit. *Concord Monitor*
- December 2008
Businesses throughout New Hampshire were affected by the ice storm.

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

The potential for interruptions exists for all Pittsfield businesses because of other hazards that have the potential to cause such interruptions. Any of the other risks mentioned has the potential to cause business interruptions. Important locations include Dani's Market which is the only location where people can obtain food. Globe Manufacturing, Rustic Crust, and Barry Podmore, Inc. have a significant impact on the local economy.

Financial Issues, Economic Depression, Inflation, Financial System Collapse

Financial concerns such as depression, recession, inflation and financial system collapse have previously affected the United States and most industrialized nations of the world. Both developing and industrialized nations have experienced economic depression and financial system collapse due to unpredictable changes in the stock market, inflation, geopolitics, energy prices, etc. The most memorable economic depression that has occurred in the United States was the Great Depression that began in 1929 and may not have ended until the U.S. entered WW II in 1941. Economic depression can also occur on a local level with the closing of a major company or manufacturer resulting in widespread layoffs.

PITTSFIELD FINANCIAL COLLAPSE EVENTS	
Probability -	High
Severity -	Moderate
Overall Risk -	7.0

Area Events

Financial concerns mentioned above are somewhat difficult to predict, especially when considered on a localized level. Economic concerns such as layoffs are fickle and can occur on a whim. Some major employers in the region with great influence are: Shop & Save Grocers-Concord, Graphic Packaging-Concord, Precision Technology Inc.-Pembroke, CAIMS Protective Clothing-Pittsfield, Concord Hospital, Grappone Auto Dealerships-Concord and Pitco Frialator in Concord.

- April 27, 2006
In Franklin, 172 workers were laid off from Polyclad Laminates. *Concord Monitor*
- April 30, 2006
It was reported that China Mill in Suncook plans to lay off 58 of its 150 workers in June of 2006. *Concord Monitor*
- Summer 2009
Precision Technology in Pembroke closed suddenly without the required 60 days notice under the federal Worker Adjustment and Retraining Notification Act and owed their 131 employees money. The business printed and bundled fliers and inserts for mass mailings. The State assisted the workers in obtaining what was owed. *Concord Monitor 10/5/10*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Few residents work in Town, so the local economy might not be affected. Others working outside the community would also be subject to the effects of local economic issues. The recession is dramatically affecting Pittsfield, with 20 houses being tax-deeded in 2011. There is a high rate of employment and a drop in family income. There is a lack of human services for basic needs.

Communications Systems Interruptions

Communications systems, like utilities, are found everywhere and are subject to damage by construction work, severe weather and traffic accidents. Because communications systems depend on electricity, any power outage may cause an interruption in a communications system. In addition, many communications systems have buried cables which are particularly vulnerable to being cut. Communications systems interruptions can negatively impact a region, town, neighborhood or household in the case of a natural disaster, catastrophe or other emergency.

PITTSFIELD COMMUNICATIONS SYSTEM INTERRUPTION EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	4.0

Area Events

Communications systems are as prone to failure as power. Power lines often share cables and poles with communications systems. When power fails, cable and telephone services frequently fail as well. Fairpoint and Metrocast provide the Town of Pittsfield with landline telephone service. Wireless service is also available from several carriers in most areas.

- Circa 2003
A Verizon failure in Manchester affected the State's 911 dispatch. *Concord Fire Department*
- September 30, 2005
High winds and heavy rains left thousands without power. In Bow, the radio station WTPL 107.7 FM lost power for 2 hours. *Concord Monitor*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

The potential for interruptions exists for all Pittsfield communications because of other hazards that have the potential to cause such interruptions. Any of the other risks mentioned has the potential to cause communications systems interruptions.

Most Town radios are interoperable, and they are used in more than one location. The Police Department has a repeater in a secondary location and is kept up to date. The Fire Department has mobile and land radios, with repeaters in locations in other towns.

The Town is serviced by the Capital Area Mutual Aid Compact, which does all the emergency medical service and Fire dispatching. They have redundant capabilities and are currently upgrading their systems.

During every windstorm which causes a loss of power or phone landline, the Police repeater which is situated on a tower is disrupted, which reduces the services available to residents. Not enough wattage is produced, so the Police Department cannot transmit or receive during events that reduce or eliminate electricity.

HUMAN HAZARD EVENTS IN PITTSFIELD

Events of this nature include economic collapse, general strike, terrorism (ecological, cyber and chemical), sabotage, hostage situations, civil unrest, enemy attack, arson, mass hysteria, and special events. While relatively uncommon, they are all caused by direct human action.

Economic Threats

Identity theft and crimes against financial institutions pose an economic threat to all citizens. These threats include bank fraud, debit and credit card fraud, telecommunications and computer crimes, fraudulent identification, fraudulent government securities, counterfeiting, and electronic fund transfer fraud. These crimes can have drastic economic impacts upon an individual, family, business or organization.

PITTSFIELD ECONOMIC THREAT EVENTS	
Probability -	High
Severity -	High
Overall Risk -	8.0

Area Events

Economic threats such as those mentioned above can indeed threaten an individual, family, business or organization. Recently, identity theft and fraud have become matters of great concern for people wishing to protect their identity and investments.

- November 2009*
The Meredith Financial Resources Mortgage Service, which suddenly declared bankruptcy, was declared a front for a massive Ponzi scheme that may have cost investors as much as \$100 million. The money was supposedly placed in trusts and used to finance construction projects. Investors' money may have instead been used to pay interest to earlier investors, rather than financing the construction projects they claimed to back. Officials with the New Hampshire Department of Justice, the U.S. attorney's office, the FBI, and state banking and securities regulators continue to investigate the case. *Concord Monitor, December 2009*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Pittsfield residents are potential victims to economic treats, but no more than citizens of other towns and cities of New Hampshire and beyond. Credit card fraud, identify theft, cyber-bullying, international fraud, and internet fraud regularly occur in Pittsfield and are reported to the Police Department. Civil unrest occurs with cyber-bullying.

General Strike

A general strike is the stoppage of work by a significant proportion of workers over a broad range of industries in an organized effort to achieve economic or political objectives. A general strike is a form of social revolution.

Area Events

Strikes which would affect the area could occur at public and private institutions and at those businesses which supply goods and services to consumers.

PITTSFIELD GENERAL STRIKE EVENTS	
Probability -	Low
Severity -	Moderate
Overall Risk -	2.0

- **May 1, 2006**

The most recent general strike that occurred in the United States and New Hampshire was the 'Day Without Immigrants' strike during which both legal and illegal immigrants, in a show of solidarity, boycotted businesses and did not work or go to school in order to demonstrate the economic impact immigrants have on the United States. Events in New Hampshire were held at Dartmouth College and City Hall Plaza, Manchester. *News Reports*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

A general strike is very unlikely to specifically affect Pittsfield but could affect the region at one of the numerous major employees in the area.

Terrorism

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

PITTSFIELD TERRORISM EVENTS	
Probability -	Low
Severity -	Low
Overall Risk -	1.0

Area Events

The following acts of terrorism are considered so because of their intent to create fear and also for their political motivation.

- November 1, 1993
A shooting at the Newbury Town Hall was ignited by tax and land disputes. Two town workers were killed, another was wounded, and the gunman shot and killed himself. *Concord Monitor*
- August 1997
Five people were left dead after a series of shootings which began in Bow by a man who was angered over long simmering land disputes. The individual was eventually apprehended in Colebrook, NH. *NH DOS- Bureau of Emergency Management*
- October 27, 1998
The lit fuse of a bomb left in the Concord Library stacks set off smoke alarms that may have saved the lives of many people. The individual allegedly responsible for the bomb scare left notes complaining about state government. *NH DOS- Bureau of Emergency Management*
- October 1998
About a dozen buildings were evacuated after the New Hampshire Technical Institute in Concord received an anonymous call warning that three bombs had been placed on campus. This event followed the bomb scares at the Concord Library. *AP Online, 11/01/98*
- October 2001 to February 2002
The community responded to many suspicious packages and substances as a result of the introduction of anthrax spores into US Postal facilities elsewhere in the country. *Concord Fire Department*
- October 2010
A bomb threat was called in to Concord Hospital as a result of a child custody issue and the group known as the "Oathkeepers." The FBI was contacted, but nothing was found in the Hospital during a bombsweep. Phonelines were flooded with calls by the

Oathkeepers to inhibit using the landlines. The incident was determined to be harassment instead of an actual event. *Concord Hazard Mitigation Task Force 2011*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

It is unlikely that the Town will be the target of any act of terrorism, but because there are many forms of terrorism and terrorists, the possibility always exists. Possible targets could be the Town Office, cellular towers, Globe Manufacturing, the High School, etc. There could be a massive impact felt in the community even on a small-scale event.

Sabotage

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

PITTSFIELD SABOTAGE EVENTS	
Probability -	Low
Severity -	Low
Overall Risk -	1.0

Area Events

Sabotage is an isolated event and is nearly impossible to predict. Sabotage can infiltrate a business, organization or individual from any part of the world because of modern technology.

- Summer 2001
A former help desk worker at a Portsmouth, NH company was found guilty by federal prosecutors of network sabotage for hacking into the company's system after being fired and deleting important documents. *PC World, October 19, 2001*
- November 5, 2002
A group of Republicans plotted to commit political sabotage by jamming a series of Democratic phone banks on Election Day. Two former Republican officials have been sentenced to federal prison for the crime. *Concord Monitor, June 16, 2006*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Any incident of sabotage could come from Pittsfield or one of the nearby towns. Other potential threats are the hacking of computers and the damaging of property at prominent service provider sites. Storage facilities and communications (see **Tables** for complete listings) are particularly vulnerable. Internet and cyber attacks are the most prevalent.

Hostage Situation

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

PITTSFIELD HOSTAGE SITUATION EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	3.33

Area Events

Hostage situations can occur anywhere, including banks, schools, governmental facilities, institutions, prisons, and in other locations.

- October 15, 1971

In Nashua, a man held another man hostage at gunpoint and demanded to see the Chief of Police. The acting Chief arrived at the scene and was immediately shot by the man holding the other man hostage. The acting Chief died 12 days later. *City of Nashua, NH website*

- October 2007

In Rochester, a man held three people working for Hillary Clinton's presidential campaign hostage with a bomb and demanded to speak with Senator Clinton. Local police, State Police, and the FBI address the situation and took the man into custody without incident. *News Reports*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Hostage situations are not normal events and therefore are nearly impossible to predict. Domestic violence events generally occur in resident homes, perhaps one per year.

Conventional hostage situations would most likely target such locations as the Town Offices or Elementary School, High School, major corporations, the Suncook Valley Sun, and the Post Office in Town.

Civil Disturbance / Public Unrest

This hazard refers to types of disturbances that are caused by a group of people, often in protest against major socio-political problems including sit-ins or protests against wars and any general and public expression of outrage against a political establishment or policy. Examples of civil disturbance include protests of the WTO and G8 meetings and large-scale sit-ins to protest against the Iraq War. Many instances of civil disturbance and public unrest are quelled by a use of force from police. Participants may be victims of personal injury in severe cases.

PITTSFIELD CIVIL DISTURBANCE/PUBLIC UNREST EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	3.33

Area Events

The most probable locations of larger civil disturbance and/or protest in the State are at the State House in Concord and at the universities and colleges. They have also occurred at controversial locations, such as feminist health centers. The Concord Feminist Health Center was the victim of arson in 2000.

- January 1998
Between 500 to 600 University of New Hampshire students took over an intersection in Durham. The use of force by police and fire crews was required in order to dissipate the potential risk of further unrest and potential injury due to violence. Several students were treated after being sprayed with pepper spray. *"Civil Unrest in Durham: Lessons Learned", Fire Service News, NH Fire Academy, Volume XVII, Number 1*
- October 2003
Anti-abortion group protests school's sex education program in Goffstown. The anti-abortion protestors were affiliated with Hillsborough County Right to Life. The intent of the group was to express their view that the sexual education curriculum in the district was inappropriate. *Siecus Public Policy Profile, State Profile of New Hampshire*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Large-scale incidents of civil disturbance and public unrest are unlikely in Pittsfield. Potential public unrest may take place at the Town Offices or the public school system. The Balloon Rally could be a public unrest concern because of the visitors parking on private property and not respecting the local property owners. High School-level sporting events can have irate parents who need to be calmed down or removed from the site. Security has been provided at public meetings, weddings, and funerals in Pittsfield.

Enemy Attack

Enemy attack, although unlikely, has previously occurred on American soil and may occur in the future. The most memorable enemy attack of recent years was the 9/11/2001 attack against the World Trade Center in New York and against the Pentagon. Much effort is being made by the Government to prevent an enemy attack before it occurs by collecting intelligence on potential enemies of the United States.

PITTSFIELD ENEMY ATTACK EVENTS	
Probability -	Low
Severity -	Low
Overall Risk -	1.0

Enemies can include a group of people establishing with the intent to disturb the peace. Underground operations such as anti-social groups, anti-governments, elicit criminal activities groups, and organized crime groups.

Area Events

The area does have a number of potential targets which may be attractive to enemy attack, including Vermont Yankee and Seabrook Nuclear Power Plants, the Franklin Falls, Hopkinton-Everett and Blackwater Dams, and the State Office complexes in Concord.

- No details on specific events were found during research on the region.

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

The likelihood of an enemy attack in Pittsfield is low.

Arson

The unlawful and intentional damage, or attempt to damage, any real or personal property by fire or incendiary device. Arson is a crime that can have grave economic repercussions, cause great property damage and cause personal injury or death.

PITTSFIELD ARSON EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	5.33

Area Events

Many fires are difficult to prove as cases of arson because building/structure collapse permanently conceals evidence and arson can be as simple as throwing a cigarette butt in brush from a moving car. Fire Investigators regularly determine the cause of fires, some of which are determined as arson events.

- May 29, 2000
The Feminist Health Center in Concord was the site of a fire determined to be arson because an accelerant was used. The center did not experience an interruption of operations. *An open letter from the Concord Feminist Health Center*
- August 8, 2005
Three Claremont teens were indicted on charges that they threw a bomb at an unoccupied house which caused major damage. *Concord Monitor*
- December 18, 2005
An elderly Concord man's death was ruled a homicide after the man was pulled from a house fire. The cause of the fire was arson. *Concord Monitor*
- January 15, 2007
According to investigators, a fire that destroyed a senior center under construction appeared to be caused by arson. The two-story building was being framed and was set to open in the spring. *Concord Monitor*

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

Arson is a real and potential threat in Pittsfield and could occur anywhere in the Town which is heavily forested. Wildfires in remote areas are also of particular concern because of accessibility and the potential to damage large areas.

Buildings that contain numerous people, such as churches, the Town Office, Elementary School, apartment buildings would be of the highest severity risk. Vacant buildings and buildings under foreclosure, commercial enterprises that are experiencing financial difficulty, and arson for revenge increase as the economic conditions degenerate.

Mass Hysteria

The collective hysteria (shared hysterical or sociopsychological symptoms) experienced by more than one person. Mass hysteria may occur when a group witness a particular traumatic event and experience the same nauseating symptoms or react similarly. Examples of mass hysteria include such cases as rioting and frenzy, particularly following large-scale accidents or terrorist attacks.

PITTSFIELD MASS HYSTERIA EVENTS	
Probability -	Low
Severity -	Moderate
Overall Risk -	2.0

Area Events

Mass hysteria events are more likely to occur in large population centers, which in the area include sections of Concord, the New Hampshire International Speedway in Pittsfield during race events, and in gatherings of people in other locations. Significant annual events are listed in **Table 1**.

- Mid 2000s
At a local hockey game at New England College, parents and teams reacted to an incident during the event. Multiple people were removed by the Police Department.
Henniker Hazard Mitigation Committee 2007

Events in Pittsfield

The following events were found to have had a direct impact on Pittsfield.

- No details on specific events were found during research on Pittsfield nor were any identified by the Hazard Mitigation Committee.

Potential Future Hazards

While no mass hysteria events are anticipated, areas of concentrated population would be the most likely locations affected or at risk. The Balloon Rally or where mass gathering occur could be susceptible to mass hysteria.

Special Events

Events draw large numbers of people to area hotels, stores, restaurants and streets, generating increased revenue for local businesses. Large gatherings of people can influence behaviors of groups, which may result in mass hysteria, or may become a target for a form of terrorism.

PITTSFIELD SPECIAL EVENTS	
Probability -	Moderate
Severity -	Moderate
Overall Risk -	4.0

Area Events

Many special events in and around Concord have a significant impact on area communities, including potential traffic and evacuation issues. **Table 1** summarizes the major annual events that directly or indirectly impact the entire region, including Pittsfield.

Table 1
Significant Area Annual Events

Event	Date	Number of People	Location
Annual Law Enforcement Event	Second Week in May	2,000	Concord - State House / LOB
Breast Cancer Walk	October	5,000	Throughout Concord
Concord High School Graduation	Middle of June	4,000	Concord - Memorial Field
Day after Thanksgiving Shopping	Day after Thanksgiving	Unknown	Concord - Mall Area, Loudon Road, Downtown
Downtown Market Days / Summer Music Festival	Third week in July (Wed, Thurs, Fri)	5,000 daily	Concord - Downtown
First Fridays Events	First Fridays in May, June, and July	Unknown	Concord - Main Street
UNH Law School Graduation	Middle of May	Unknown	Concord - Washington Street
Halloween Howl	Friday before Halloween	1,000	Concord - Main Street
Highland Fling	September (3 days)	1,000 daily	Concord - Downtown
Holiday Magic Parade	November	1,000	Concord - Heights
Hopkinton State Fair	September (Labor Day wknd)	40,000 - 50,000 total	Hopkinton - State Fairgrounds
Jenness Pond Ice Racing	Every Weekend in Winter	1,500	Pittsfield/Northwood Townline
July 4 Fireworks	July 4	5,000	Concord - Memorial Field
Kiwanis Parade & Fair	Second Weekend in May (Thurs, Fri, Sat & Sun)	1,000	Concord - Main Street, Everett Arena
Laconia Motorcycle Rally Week	June (week before Father's Day)	100,000 - 400,000	Laconia, Weir's Beach, Lakes Region area
Leaf Peeping Tourism	September/October	500-800	Concord
Memorial Day Parade	Memorial Day (observed)	Unknown	Concord - Main Street
Midnight Merriment	First Friday in December	Unknown	Concord - Main Street
NH Motor Speedway: Motorcycle Weekend	June (Father's Day week)	15,000 - 20,000	Loudon
NH Motor Speedway: NASCAR Cup Race	July and September weekends	110,000	Loudon
NHMS Indy Race : IZOD	August	unknown	Loudon
NH Technical Institute Graduation	Mother's Day Weekend	1,500	Concord - NHTI

Table 1, continued
Significant Area Annual Events

Event	Date	Number of People	Location
Payson Center Rock'n Road Race 5K	May	10,000+	Throughout Concord
Presidential Primary Election (media attention)	Sept - Nov 2012	Unknown	Concord - State House, Polling Places
St. Paul's School Alumni Weekend	Weekend after Memorial Day (Fri, Sat, & Sun)	2,000	Concord - St. Paul's School
Warner Fall Foliage Festival	October (Columbus weekend)	5,000-20,000	Warner - Main Street/Village Area

Source: Greater Concord Chamber of Commerce; Concord Hazard Mitigation Task Force; Other Local Haz Mit Committees; Pittsfield Hazard Mitigation Committee, 2011

Events in Pittsfield

Local special events have an immediate impact on the community as the infrastructure bends to accommodate a significant number of additional people traveling to one location, and being situated in one location, on event days. Events which take place in Pittsfield are displayed in **Table 1A**.

Table 1A
Significant Local Annual Events

Event	Date	Number of People	Location
Town Meeting	March	150	Elementary School
Old Home Day Celebration/Parade	Mid-July	2,000+	Town-wide
Balloon Rally	First weekend in August	10,000	Drake's Field
WinterFest	February vacation	500	Town-wide
Homecoming/Parade	End of September	2,000	High School, Town-wide

Source: Pittsfield Hazard Mitigation Committee, 2011

Potential Future Hazards

Effects of these local events could include traffic congestion, vehicle accidents, and lack of goods and services. Also, if a hazard event occurred in Town at the same time as one of these local gathering events was happening, civil disturbance or mass hysteria could result.

EVACUATION ROUTES

Evacuation routes out of a community generally follow along main travel ways in a north-south and/or east-west pattern to lead to other communities and state or interstate routes. In Pittsfield, they take into consideration the primary north-south route of Route 28 as well as numerous secondary routes leading out of the community.

Primary Evacuation Routes

- North/South: Route 28 (Pittsfield Road) from Chichester to Barnstead
- East/West: Route 107 (Loudon Road) from Loudon to Route 107 (Catamount Road) to Northwood
- Downtown: Barnstead Road to Route 28 or Route 107

Secondary Evacuation Routes

Most of the other Class V roads within in Town lead to Class VI roads or other Class V roads that lead to one of the identified evacuation routes. Alternatively, other Class V roads such as those that travel along the floodplains, and may not be reliable for evacuation. Therefore, other secondary routes could not be identified. If either Route 28 or Route 107 were blocked, it could be difficult to reroute all traffic to the opposite route.

These evacuation routes out of Pittsfield are depicted on *Map 1: Potential Hazards*. In the event of an emergency, there should be a plan to coordinate evacuation traffic in the appropriate directions.

MAP 1: POTENTIAL HAZARDS

The first map in this four-part series, *Map 1: Potential Hazards*, depicts where hazards are likely to occur in Pittsfield. The intent of this map is to portray a picture of which areas of Town may be more vulnerable to certain types of hazards and how best to exit Pittsfield in the event of an emergency.

The predominant threat is wildfire, particularly in the isolated woodlands on the western border of the Town. Potential flood hazard areas are depicted around the Town's primary wetlands and waterbodies. Areas where flooding regularly occurs along roadways are shown with wetlands and the town's water features. Areas identified as particularly susceptible to ice and snow damage and mud damage are noted in addition to Pittsfield's steep slopes (>15%). The PSNH power lines as well as evacuation routes are also shown. Primary areas of wind damage are depicted. Potential contamination sources, bridges, and dams are also shown as potential hazards. The intent of this map is to portray a picture of which areas of Town may be more vulnerable to certain types of hazards and how best to exit Pittsfield in the event of an emergency.

MAP 2: PAST HAZARDS

Map 2: Past Hazards identifies the locations where known natural disasters have occurred in town. In Pittsfield, areas of flood damage, ice and snow damage, fire damage, and frequent accident locations were noted on the map. The past hazard locations were identified by the Hazard Mitigation Committee or through research into the hazards listed within this Chapter.

CHAPTER 3. ASSET IDENTIFICATION

2012 PLAN UPDATE

The Hazard Mitigation Committee reviewed and updated as needed each of the assets and risks tables within this Chapter. Sites were added or removed, and contact information was revised. Modifications were made to the *Hazard the Site is Most Susceptible to* to reflect the addition of technological and human hazards into the document. Revisions were made to the future development section, which now includes a clear table. The *Map 3: Assets and Risks* and *Map 4: Potential Hazards and Losses* maps were also updated as needed.

INTRODUCTION

The identification of assets within a community is integral to determining what may be at risk from a natural disaster. This Chapter examines the assets in five categories: Critical Facilities, Vulnerable Populations, Economic Assets, Special Considerations, and Historic/Other Considerations.

Not only are the address and phone number, where applicable, supplied for each identified asset, the hazards to which the asset is most susceptible are listed. Hazards are primarily natural disasters, but can also include secondary disasters (such as sewer or water line rupture) or human-made disasters or emergencies (such as a vehicular accident).

In Pittsfield, each asset can be damaged by any or all of the dozens of hazards listed in **CHAPTER 2. HAZARD IDENTIFICATION**. The majority of the assets appear on *Map 3: Assets and Risks* at the end of this section. Because of the numerous hazards each site may be susceptible to, the main hazard categories of Natural, Human, and Technological were often used in the following tables to signify the primary type of hazard susceptibility. When these general designations are not sufficient, specific hazards are alternatively listed if they are appropriate for a given site.

CRITICAL FACILITIES

Critical facilities are categorized as those town or state buildings or services that are first-responders in a disaster. Fire Departments, Police Departments, and Highway Departments as well as the Town Office are crucial in providing and coordinating the emergency services. Other critical facilities would include hospitals and shelters. Utilities or utility features are also included because of communication and power/water service.

Table 2
Essential Facilities

Facility Type	Address	Phone	Hazard the Site is Most Susceptible to
Town Hall	85 Main Street	435-6773	Fire, Civil Unrest
Police Department	59 Main Street	435-7535	Fire, Civil Unrest, Terrorism
Fire Department	33 Catamount Street	435-6807	Fire
Highway Department	36 Clark Street	435-6151	Fire
Solid Waste Facility	115 Laconia Road	435-6237	Fire, Biological

Source: Pittsfield Hazard Mitigation Committee, 2011

Table 3
Utilities

Facility Type	Address	Phone	Hazard the Site is Most Susceptible to
Pennechuck Water Works Company	Route 107, Catamount Road, Berry Pond Road	882-5191	Flooding, Terrorism
Wastewater Treatment Plant	127 South Main Street	435-8857	Flooding, Biological
Communications Tower	Governor's Road	225-5451 (Merrimack Co. Sheriff Dispatch)	Fire, Terrorism
Communications Tower	New Orchard Road	225-5451 (Merrimack Co. Sheriff Dispatch)	Fire, Terrorism
Communications Tower (Police Dept)	Berry Pond Road	225-5451 (Merrimack Co. Sheriff Dispatch)	Fire, Terrorism
Verizon	10 Bridge Street	866-984-2001	All
PSNH	Catamount Road	1-800-542-0042	All
PSNH	Route 28	1-800-542-0042	All

Source: Pittsfield Hazard Mitigation Committee, 2011

Table 4
Dams

Facility Type	Status	Class	Location	Hazard the Site is Most Susceptible to
195.01 Berry Pond Dam	Active	S	Berry Pond Brook	Flooding, Debris
195.02 Berry Pond Brook I Dam	Breached	N/A	Berry Pond Brook	Flooding
195.03 Berry Pond Brook II Dam	Ruins	N/A	Berry Pond Brook	Flooding
195.04 Berry Brook Reservoir Dam	Active	S	Berry Pond Brook	Flooding
195.05 Nelson Pond Dam	Ruins	N/A	Berry Brook	Flooding
195.06 Berry Pond Brook IV Dam	Ruins	N/A	Berry Brook	Flooding
195.07 Whites Pond Dam	Active	S	TR Suncook River	Flooding
195.08 Whites Pond Dike	Active	NM	TR Suncook River	Flooding
195.09 Clarks Pond Dam	Active	L	Berry Pond Brook	Flooding
195.10 Suncook River I Dam	Ruins	N/A	Suncook River	Flooding
195.11 Pittsfield Mill Pond Dam	Active	H	Suncook River	Flooding, Debris
195.12 Suncook River III Dam	Ruins	N/A	Suncook River	Flooding
195.13 Underwood Brook Dam	Not Built	N/A	Underwood Brook	Flooding
195.14 Farm Pond Dam	Active	NM	Natural Swale	Flooding
195.15 Fish Pond Dam	Active	NM	Natural Swale	Flooding
195.16 Barto Farm Pond Dam	Active	NM	Natural Swale	Flooding
195.17 Droplet Farm Pond Dam	Active	NM	Natural Swale	Flooding
195.18 Blake Pond Dam	Breached	N/A	Outlet Blake Pond	Flooding
195.19 Lilly Pond Dam	Breached	N/A	Natural Swale	Flooding
195.20 Adams Pond Dam	Active	L	Outlet Adams Pond	Flooding
195.21 Fish Pond Dam	Active	NM	Natural Swale	Flooding
195.22 Farm Pond Dam	Active	NM	Natural Swale	Flooding
195.23 Globe Fish Pond Dam	Active	NM	Natural Swale	Flooding
195.24 Farm Pond Dam	Active	NM	Natural Swale	Flooding
195.25 Farm Pond Dam	Not Built	N/A	Natural Swale	Flooding
195.26 Charles River Labtreatment Lagoon	Removed	N/A	N/A	Flooding
195.27 Pittsfield Wtr Treatment Dam	Active	NM	NA	Flooding
195.28 Pittsfield Sewage Lagoon	Active	S	N/A	Flooding
195.29 Ryan Dam	Active	NM	Unnamed Brook	Flooding

Source: NH Department of Environmental Services GIS dams database, 2009; Pittsfield Hazard Mitigation Committee 2010

Every dam is categorized into one of four classifications, which are differentiated by the degree of potential damage that a failure of the dam is expected to cause. The classifications are designated as High Hazard (H), Significant Hazard (S), Low Hazard (L), and

Non-Menace (NM). Those without a classification are typically in ruins or are exempt from categorization.

Table 5
Bridges

Facility Type	Location	Phone	Hazard the Site is Most Susceptible to
089/135 (Town)	Shaw Road over Kelly Brook	435-6151	All
090/104 (State)	Main Street over Suncook River	271-3667	All
090/105 (State)	Main Street over Suncook River Penstock	271-3667	All
090/107 (Town)	Bridge Street over Suncook River	435-6151	All
097/108 (State)	NH 107 over Suncook River	271-3667	All
101/137 (State)	NH 107 over Kelley Brook	271-3667	All
103/101 (State)	NH 107 over White Pond Outlet	271-3667	Flooding

Source: NH Department of Transportation State Bridge List, 2009

Table 6
Shelters and Medical Facilities

Facility Type	Address	Phone	Hazard the Site is Most Susceptible to
Pittsfield Animal Hospital	Dowboro Road	435-8630	All
Pittsfield Middle/High School	Oneida Street	435-6701	All
Pittsfield Elementary School	34 Bow Street	435-8432	All
Carpenter Library	41 Main Street	435-8406	All

Source: Pittsfield Hazard Mitigation Committee, 2011

VULNERABLE POPULATIONS

Areas or neighborhoods that are densely populated, buildings that house people who may not be self-sufficient in a disaster or areas that include homes which are not very resistant to natural disasters are considered vulnerable. Vulnerable populations include manufactured housing parks, schools, elderly housing developments or care facilities, and day care centers.

Table 7
Vulnerable Populations

Facility Type	Address	Phone	Hazard the Site is Most Susceptible to
Rolling Greens	Main Street	N/A	All
Vintage Hill	Berry Avenue	435-5133	All
Brock's Home	33 Fairview Road	435-8032	All
Blueberry Express/Pittsfield Head Start	8 Catamount Road	435-6149	All
Pittsfield Middle/High School	23 Oneida Street	435-6701	All
Pittsfield Elementary School	34 Bow Street	435-8432	All
Bedell's Trailer Park	62 Leavitt Road	435-8719	All
Bedell's Trailer Park #2	65 Leavitt Road	435-8719	All
Grigg Trailer Park	175 Leavitt Road	736-8582	All

Source: Pittsfield Hazard Mitigation Committee, 2011

ECONOMIC ASSETS

Although a town normally contains dozens of small businesses, typically several businesses stand out prominently in town. These businesses employ the most people in a town (both from Pittsfield and from outside) and are places where large numbers of people are located and may need to evacuate from in the event of a disaster. In other cases, some large businesses can provide critical services or products to residents in need or may be able to sustain their employees for a short duration of time.

Table 8
Economic Assets

Facility Type	Address	Phone	Hazard the Site is Most Susceptible to
Globe Firefighter Suits	37 Loudon Road	435-8323	Fire
Kentek Corporation	1 Elm Street	435-5580	Fire
Suncook Valley Sun	21 Broadway	435-6291	Fire
Pittsfield Id Technology	55 Barnstead Road	435-8301	Fire, Flooding
Rustic Crust	31 Barnstead Road	435-5119	All
Pittsfield School District	23 Onieda Street	435-5526	All
Pondmore Barry Inc.	110 Loudon Road	435-6747	All

Source: Pittsfield Hazard Mitigation Committee, 2011

SPECIAL CONSIDERATIONS

Churches and cemeteries are special considerations for their unique contributions to society. Churches are often natural gathering places for people in disasters and can temporarily provide shelter and accommodation. Cemeteries, both public and small privately owned lots, are recognized for their historical and logistical importance. In addition, businesses that potentially store or use hazardous materials are listed as special considerations due to the potential for leaking or combustion in the event of a disaster.

Table 9
Cemeteries and Churches

Facility Type	Address	Phone	Hazard the Site is Most Susceptible to
Park Street Baptist Church	11 Park Street	435-8036	All
Pittsfield Congregational Church	24 Main Street	435-7471	Flooding
St. Stephen's	50 Main Street	435-7908	Flooding
Advent Christian Church	68 Main Street	435-8050	Flooding
Our Lady of Lourdes	20 River Road	435-6242	Flooding
Pittsfield Church of God	43 Watson Street	269-3929	All
Berry Family Cemetery	Catamount Road	N/A	Vandalism
Blake Cemetery	Daroska Road	N/A	Vandalism
Brock-Snell Cemetery	Blackey Road	N/A	Vandalism
Brock Cemetery	On Suncook River off Tilton Road	N/A	Vandalism
Brown-James Cemetery	Dowboro Road	N/A	Vandalism
Brown Cemetery	Shaw Road	N/A	Vandalism
Davis-Greenleaf Cemetery	Jenness Pond Road	N/A	Flooding, Vandalism
Drake-Eaton Cemetery	Norris Road at Eaton Road	N/A	Vandalism
Drake Cemetery	Governor's Road	N/A	Vandalism
Edgerly Cemetery	Thompson Road	N/A	Vandalism
Farmer Cemetery	Clough Road at the powerlines	N/A	Vandalism
Floral Park Cemetery	High Street	N/A	Vandalism
Fogg-Joy Cemetery	Route 107 near Jenness Road	N/A	Vandalism
Goss Cemetery	Tilton Hill Road near Will Smith Road	N/A	Vandalism
Green Cemetery	Upper City Road	N/A	Vandalism
Harvey Cemetery	Mountain Road	N/A	Vandalism
Hoague-Wesson Cemetery	Governor's Road	N/A	Vandalism
James Cemetery	Ingalls Road	N/A	Flooding, Vandalism
Joshua Berry Cemetery	Sanderson Drive at Mullen Drive	N/A	Vandalism
Knowlton Cemetery	Dowboro Road at Lane Road	N/A	Vandalism
Lane Cemetery	Mountain Road	N/A	Vandalism
Locke-Watson Cemetery	Route 107 east of Old Hill Road	N/A	Vandalism

Table 9, continued
Cemeteries and Churches

Facility Type	Address	Phone	Hazard the Site is Most Susceptible to
Mansfield-Potter Cemetery	Upper City Road	N/A	Vandalism
Marston Cemetery	Webster Mills Road	N/A	Vandalism
McInnis Cemetery	Dowboro Road	N/A	Vandalism
Merrill Cemetery	Catamount Road	N/A	Vandalism
Moody Cemetery	Webster Mills Road	N/A	Vandalism
Mount Calvary Cemetery	Eaton Road	N/A	Vandalism
Old Meeting House Cemetery	Broadway Street	N/A	Vandalism
Osborn Cemetery	Siel Road at Range Road	N/A	Vandalism
Pillsbury Cemetery	Thompson Road	N/A	Vandalism
Quaker Cemetery	Lane Road	N/A	Vandalism
Ring Cemetery	Ring Road	N/A	Vandalism
Sargent Cemetery	Quail Ridge Road	N/A	Vandalism
Shaw Cemetery	Shaw Road at Range Road	N/A	Flooding, Vandalism
Tilton-Watson Cemetery	True Road at Tilton Road	N/A	Vandalism
Towle Cemetery	Trail off Clough Road at powerlines	N/A	Vandalism
True Cemetery I	Tilton Hill Road	N/A	Vandalism
True Cemetery II	Tilton Hill Road	N/A	Vandalism
Tucker Cemetery	Route 107 east of Old Hill Road	N/A	Vandalism
Watson Cemetery	Route 107 west of Jenness Pond	N/A	Vandalism
Yeaton Cemetery	Webster Mills Road at Locke Road	N/A	Vandalism

Source: Pittsfield Hazard Mitigation Committee, 2011

Table 10
Hazardous Materials Facilities

Facility Type	Address	Phone	Hazard the Site is Most Susceptible to
BCEP Transfer Station	115 Laconia Road	435-6237	All
Northeast Earth Mechanics	155 Laconia Road	435-7989	All
Barry Podmore, Inc.	110 Loudon Road	435-6747	All
St. George Auto Body	High Street	435-6737	All
J&R Autobody	Barnstead Road	435-5511	All
Pittsfield Citgo	Carrol Street	435-6400	All
Bell Brothers Convenience Store	Carrol Street	435-6777	All
TCs Service Station	Concord Hill Road	435-6803	All
NH Motors	Route 28	435-8629	All
Green Leaf Autobody	Route 28	435-8066	All
Eastern Propane	Joy Street	736-9583	All
J Parker & Daughters	Kaime Road	435-6750	All
Amenico	5 Main Street	228-3611	All
Any Make Auto	27 Barnstead Road	435-6394	All

Source: Pittsfield Hazard Mitigation Committee, 2011

HISTORIC/OTHER CONSIDERATIONS

Historic resources and structures provide that link to the cultural history of a town. They may also be more vulnerable to certain hazards since they often have fewer safety devices installed or have limited access. Recreational facilities are places where large groups of people can and do gather. Campgrounds in particular may be more vulnerable to natural disasters because the shelters are light and temporary.

Table 11
Historic Sites and Buildings

Facility Type	Address	Phone	Hazard the Site is Most Susceptible to
Friendship Meeting House	Dowboro Road	435-6773	Fire
Pittsfield Center Historic District	Main Street / Downtown Pittsfield	435-6773	Fire
Historical Society	13 Elm Street	435-8022	Fire
Town Hall	85 Main Street	435-6773	Fire

Source: Pittsfield Hazard Mitigation Committee, 2011

Table 12
Recreational and Gathering Sites

Facility Type	Address	Phone	Hazard the Site is Most Susceptible to
Pittsfield Youth Baseball Field	177 Tilton Hill		Flooding
Drake Field	17 Fayette Street	435-6701	Flooding
Pittsfield Elementary School Playground	34 Bow Road	435-8432	Flooding
Pittsfield Middle High School Grounds	23 Oneida Street	435-6701	Flooding
Veterans Memorial Park	46 Main Street	435-6773	Flooding
Forrest B. Argue Pool	35 Clark Street	435-6773	Flooding
Glen & Glade Campground	91 Jenness Pond Road	942-5969	Flooding
Pittsfield Community Center	74 Main Street	435-6729	Fire, Flooding

Source: Pittsfield Hazard Mitigation Committee

FUTURE DEVELOPMENT

Not only do existing sites have susceptibility to different types of hazards, consideration must be granted to new development projects in a community. Pittsfield has multiple future development projects on the horizon, shown in **Table 13**, which have been presented to, or will soon be presented to, the Planning Board.

Table 13
Future Development

Facility Name	Location	Type of Facility	Hazard the Site is Most Susceptible to
Amenico	5 South Main Street	Bio-Fuel Manufacturing	Fire, Hazardous Materials, Biological, Chemical
Family Dollar Store	8 Catamount Road	Retail	Flood, fire, Lightning
Mud Run	80 Thompson Street	Recreational Off-Road Racing	Fire, Traffic Accident
Meadow View	Catamount Road	12-16 unit Housing	Fire, Severe Winter Weather, Lightning
WWTF Upgrade	131 South Main Street	Wastewater Treatment Facility	Biological, Chemical, Fire, Flood
Park and Ride	158 Barnstead Road	Park and Ride	Flood, Hazardous Materials
ABC Garage	Route 107	Mechanic Repair Shop	Fire, Hazardous Materials, Landslide
Pyrotech	Webster Mills Road	Pyrotechnical	Biological, Fire

Source: Pittsfield Hazard Mitigation Committee, 2011

Most of this information does not appear on the maps because the developments are not presently built.

HOMES WITHIN THE POTENTIAL FLOOD HAZARD AREAS

As noted in **CHAPTER 4. POTENTIAL LOSSES**, **66** homes appear to be located in or immediately adjacent to the floodplain as are **15** non-residential buildings. With appropriate ordinances in place today, site-specific examinations would be conducted by the Building Inspector, and no new homes would be constructed without the necessary safeguards or permits.

The majority of homes within the floodplain are located in the middle of Town.

MAP 3: ASSETS AND RISKS

The Assets and Risks Map illustrates the sites inventoried within this section. They are categorized into Emergency Response and Town Facilities, Schools, Water Supplies, Bridges, Dams, Cemeteries, Churches, Communications Towers, Daycare Facilities, Elderly Housing, Entertainment and Recreation, Hazardous Material Facilities, Large Employers, Manufactured Housing Parks, and Unique/Historic Resources. Each facility is referenced by a keyed and numbered legend. A concentration of facilities exists in the Town Center, along the Suncook River, in the Main Street and Barnstead Road area.

CHAPTER 4. POTENTIAL LOSSES

2012 PLAN UPDATE

As five years have elapsed since the first writing of this Plan, assessing data has changed and therefore building values have changed. Not only are the average and total home and non-residential building values in the Potential Flood Hazard Areas modified within this Chapter, damages ranges for other natural hazards have been revised. Potential dollar damages resulting from natural hazards as identified in **CHAPTER 2. HAZARD IDENTIFICATION** were calculated. Most importantly, the addition of new human and technological loss considerations provides complementary information to help local decision makers calculate potential losses for these difficult and mostly incalculable categories.

INTRODUCTION

The Town of Pittsfield has been impacted by natural disasters, including wind events, severe winter storms and ice storms, and to a lesser degree, human and technological hazards as documented in **CHAPTER 2. HAZARD IDENTIFICATION**. This Chapter identifies areas in Town that are most vulnerable to these events and estimates their potential loss. It is difficult to ascertain the amount of damage caused by a hazard because the damage will depend on the hazard's extent and severity, making each hazard event somewhat unique. Human and technological hazards are typically even more incalculable. Human loss of life was not included in the potential loss estimates for natural hazards, but could be expected to occur, depending on the severity of the hazard.

LOSS ESTIMATION

Estimating losses from a natural disaster is difficult and often inaccurate. What type of hazard will impact which portions of Pittsfield and how hard the hazard will impact structures, people, infrastructure, and property and what the damages will be of human, structural, property, economic, infrastructural natures is beyond most scientific measures. While this Plan is focusing on being pro-active in those geographic areas of Pittsfield most prone to recurring hazards (like flooding), some initial estimates of measurable property damage and building damage have been discussed utilizing simple techniques such as the numbers of structures and assessed valuation. This two-dimensional approach of calculating dollar losses from tangible structures offers a basic yet insightful tool to begin further loss estimation analyses.

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

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

Federal, state and local government agencies and the private sector can order HAZUS-MH free-of-charge from the FEMA Distribution Center. If a GIS infrastructure is placed into service in the future, Pittsfield should order the software to assist in estimating losses for the community on a disaster-specific basis.

For the purposes of this Plan, losses for all natural hazards will be estimated using assessed valuation of buildings only and respective dollar damage estimates on a hazard-by-hazard basis. The assessed value of all residential and non-residential structures in Pittsfield is **\$201,639,100**. The number of all parcels in Town is **1,888**. Points for consideration for technological and human hazard losses are raised, as each non-natural hazard would need to be uniquely measured by site, scope, and severity.

LOSSES BY FLOODING

Flooding is often associated with hurricanes, ice-jams, rapid snow melting in the spring, and heavy rains. In Pittsfield, the roadways in Town are most vulnerable to such events. Examining damages to homes along roadways would not only be impractical because most roadways have been or could be vulnerable to flooding at some time, and therefore every parcel with a building could be affected. Homes and non-residential businesses are generally farther back from the roadway and would therefore not suffer the effects of flooding directly. The focus on potential losses for flooding in Town will be on the buildings within the Potential Flood Hazard Areas.

Parcels within the floodplain were identified using Pittsfield's tax maps overlaid with a map of the Town's Potential Flood Hazard Areas. Next, parcels containing buildings were identified using the tax assessor's June 2011 database for the Town. Building type was characterized into one of four categories: single-family homes, multi-family homes, manufactured homes, and non-residential buildings. Building number and value were taken from the tax assessor's database and did not include outbuildings. *Infrastructure damage, land value, and building content value were not considered in these calculations.*

Table 14
Building Value in the Potential Flood Hazard Areas

Building Type	Number of Buildings	Total Value of Buildings	Average Replacement Value
Single Family Homes	47	\$5,139,900	\$109,360
Multi-family Homes	15	\$3,125,600	\$208,373
Manufactured Homes	4	\$98,600	\$24,650
Non-Residential Buildings (Commercial, Governmental, Non-profit, Church, etc)	15	\$5,053,900	\$336,927
Total	81	\$13,418,000	-----

Sources: FEMA flood hazard maps (4/10), Town of Pittsfield Avitar Assessing Software, 06/07/11

In **Table 14**, **47** single family homes, **4** manufactured homes, **15** multi-family homes, and **15** non-residential buildings were approximated to be situated within or immediately adjacent to the Potential Flood Hazard Areas, totaling **81** primary buildings. The average replacement value is **\$109,360** for a single-family home. All together, the replacement value of the primary buildings in the floodplain totals **\$13,418,000**.

The number of all parcels Town is **1,888**, rendering a low proportion of the Town's buildings and parcels (**81**, or **4.3%**) in the Potential Flood Hazard Areas assuming that only one primary building is located on one parcel.

Potential Building Losses Calculations for Flooding

In the following calculations, the average replacement value was calculated by adding up the assessed values of all structures in the Potential Flood Hazard Areas and then dividing by the number of structures. The Federal Emergency Management Agency (FEMA) has developed a process to calculate potential loss for structures during flooding. The potential loss was calculated by multiplying the average replacement value by the percent of damage expected from the hazard event, and then by multiplying that figure by the number of structures.

The costs for repairing or replacing infrastructure such bridges, railroads, power lines, telephone lines, natural gas pipelines, and land value, outbuilding value, and the contents of structures have not been included in these estimates in the following figures.

Table 15
Dollar Damage Ranges for Total Buildings in Potential Flood Hazard Areas

		Total Buildings Damaged in Potential Floodplain by Respective Building Type		
	Total Value of Buildings	Eight-Foot Flood 49% damage	Four-Foot Flood 28% Damage	Two-Foot Flood 20% Damage
Single Family Homes	\$5,139,900	\$2,518,551	\$1,439,172	\$1,027,980
Multi-Family Homes	\$3,125,600	\$1,531,544	\$875,168	\$625,120
Manufactured Homes	\$98,600	\$48,314	\$27,608	\$19,720
Non-Residential Buildings	\$5,053,900	\$2,476,411	\$1,415,092	\$1,010,780

Sources: FEMA flood hazard maps (4/10), Town of Pittsfield Avitar Assessing Software, 06/07/11 from
Table 14

Table 15 represents the worst case scenario of *all* single family homes, multi-family homes, manufactured houses, and non-residential buildings within the Potential Flood Hazard Area that are damaged by a flood hazard event. All **47** single family homes experiencing an eight-foot flood could sustain damage of **\$2.5 million**, while a two-foot flood could yield **\$1 million** in damage. Dollar damage estimations vary according to the standard percentages of damage levels associated with flooding levels set by FEMA.

Table 15A
Dollar Damage Ranges for Individual Buildings in Potential Flood Hazard Areas

		Individual Buildings Damaged in Potential Floodplain by Respective Building Type		
	Individual Value of Buildings	Eight-Foot Flood 49% damage	Four-Foot Flood 28% Damage	Two-Foot Flood 20% Damage
Single Family Homes	\$109,360	\$53,586	\$30,621	\$21,872
Multi-Family Homes	\$208,373	\$102,103	\$58,345	\$41,675
Manufactured Homes	\$24,650	\$12,079	\$6,902	\$4,930
Non-Residential Buildings	\$336,927	\$165,094	\$94,339	\$67,385

*Sources: FEMA flood hazard maps (4/10), Town of Pittsfield Avitar Assessing Software, 06/07/11 from
 Table 14*

Table 15A also represents the worst case scenario, but of *individual* single-family homes, multi-family homes, manufactured houses, and non-residential buildings within the Potential Flood Hazard Area that are damaged by a flood hazard event. One single family home experiencing an eight-foot flood could sustain an average of **\$53,586** of damage, while one manufactured home could sustain **\$12,079**. Dollar damage estimations vary according to the standard percentages of damage levels associated with flooding levels set by FEMA.

LOSSES BY OTHER NATURAL HAZARDS

Building damage by natural disasters in New Hampshire is not limited to flooding alone, which is easier to quantify and predict. Simple calculations can be made based upon generalizations of a disaster impacting a certain percentage of the number of buildings in the Town. The assessed value of all residential, commercial, and industrial structures in Pittsfield is **\$201,639,100**. Disaster damages are often illustrated in the following section utilizing a percentage range of town-wide building damage. If there were now 1,769 housing units in Pittsfield (1,569 were counted during the 2000 Census), disaster impact to 10% of them would yield 177 damaged units.

Hurricane and Severe Storms

Damage caused by hurricanes or wind events can be both severe and expensive. In the past, Pittsfield has been impacted by wind and flooding damage as a result of hurricanes or heavy downpours or high wind events. The assessed value of all residential and non-residential structures in Pittsfield is **\$201,639,100**.

Assuming 1% to 5% Town-wide building damage, a hurricane or severe storm could result in **\$2,016,391** to **\$10,081,955** in building replacement costs.

Rapid Snow Pack Melt

Flooding caused by rapid snow pack melt is often found along roadways and from waterbodies such as rivers and streams and ponds. Those areas which are particularly susceptible in Pittsfield would be the along roadways, but anywhere where the water cannot yet percolate into the frozen ground could be vulnerable.

Assuming 1% to 5% Town-wide building damage, rapid snow pack melt could result in **\$2,016,391** to **\$10,081,955** in building replacement costs.

River Ice Jams

The Suncook River is the most significant waterway in Pittsfield. Brooks include Berry Pond Brook, Eaton Pond Brook, Shinglemill Brook, Lockes Brook, Gulf Brook, Flat Meadow Brook, and Sanborn Brook, some of which flow under bridges identified in [Table 5](#). The Suncook River has the greatest likelihood for river ice jams, although NHDES has determined that the River should not incur jams. The 2009-2012 Statewide Transportation Improvement Program (STIP) provides many examples of basic cost estimates bridge replacement and rehabilitation. Ranges can run from about \$750,000 (Epsom) for a small local bridge replacement to over \$5,000,000 (Dover) or more for a large bridge over a railroad. The average of this range is \$2,875,000.

If two (2) bridges needed to be replaced in Pittsfield as a result of the physical damage caused by river ice jams, the cost could be **\$5,750,000**.

In addition, if 10 single family homes in the Potential Flood Hazard Area were damaged as a result of two-foot flooding resulting from river ice jams, there could be up to **\$1,093,596** in damage.

Dam Breach and Failure

There are currently eighteen (18) active dams in Pittsfield in the 2009 New Hampshire Dam database maintained by the Department of Environmental Services Dam Bureau. According to RSA 482:2 II, a dam is any artificial barrier which impounds or diverts water, has a height of four feet or more or has a storage capacity of two acre-feet or more, or is located at the outlet of a great pond. Inactive dams are defined as dams that do not meet the legal definition of a dam. There are eleven (11) inactive/unclassified dams listed in Pittsfield that do not meet the above definition and may be in ruins, breached, removed, or never built.

Every dam is categorized into one of four classifications, which are differentiated by the degree of potential damages that a failure of the dam is expected to cause. The classifications are designated as High Hazard (H), Significant Hazard (S), Low Hazard (L), and Non-Menace (NM).

Pittsfield has eleven (11) Non-Menace (NM) and eleven (11) unclassified dams. There is 1 High Hazard Dam, Pittsfield Mill Pond Dam. Four (4) Significant (S) dams are located in Town, and two (2) Low (L) Hazard dams.

- **High (H) Hazard Dams (1)** - Pittsfield Mill Pond Dam (Suncook River)
- **Significant (S) Hazard Dams (4)** - Berry Brook Reservoir Dam (Berry Pond Brook), Berry Pond Dam (Berry Pond Brook), Pittsfield Sewage Lagoon, Whites Pond Dam (tributary of Suncook River)
- **Low (L) Hazard Dams (2)** - Adam's Pond Dam (Adam's Pond Outlet), Clark's Pond Dam (Berry Pond Brook)

The amount of dollar damage in the event of a dam breach will vary according to the extent and severity of the breach as well as the classification of the dam. The Town's assessing

records should be consulted to ascertain the range of possible damage to buildings in the vicinity of these facilities.

Stream Bank Erosion and Scouring

Brooks include Berry Pond Brook, Eaton Pond Brook, Shinglemill Brook, Lockes Brook, Gulf Brook, Flat Meadow Brook, and Sanborn Brook, and the Suncook River flowing through Town. Many brooks are unnamed and flow from Ponds.

The amount of damage to buildings would be difficult to measure, but if 10 single family homes in the Potential Flood Hazard Area were damaged as a result of bank erosion, there could be up to **\$1,093,596** in damage.

Debris Impacted Infrastructure

Brooks include Berry Pond Brook, Eaton Pond Brook, Shinglemill Brook, Lockes Brook, Gulf Brook, Flat Meadow Brook, and Sanborn Brook, and the Suncook River flowing through Town. Some brooks or the River flow under the bridges identified in **Table 5**. The 2009-2012 Statewide Transportation Improvement Program (STIP) provides many examples of basic cost estimates bridge replacement and rehabilitation. Ranges can run from about \$750,000 (Epsom) for a small local bridge replacement to over \$5,000,000 (Dover) or more for a large bridge over a railroad. The average of this range is \$2,875,000.

If two (2) bridges needed to be replaced in Pittsfield as a result of the physical damage caused by debris impacted infrastructure, the cost could be **\$5,750,000**.

Tornadoes

Tornadoes are relatively uncommon natural hazards in the State. On average, about six touch down each year. However, damage largely depends on where a tornado strikes. If it strikes an inhabited area, the impacts could be severe. In the State of New Hampshire, the total cost of tornadoes between 1950 and 1995 was \$9,071,389 (*The Disaster Center*). The cost of a tornado in Pittsfield would not be town-wide because tornadoes strike in smaller areas. Dollar amounts would depend on whether the tornado hit an area with a high density of buildings.

If a tornado impacted 1% of the Town's buildings, it could result in up to **\$2,016,391** in building damage.

Downbursts and High Winds

Damage caused by downbursts and high winds would not be Town-wide because they typically strike in smaller areas. Few places in Pittsfield are at specific risk (see **CHAPTER 2. HAZARD IDENTIFICATION** and **CHAPTER 3. ASSET AND RISK IDENTIFICATION**). Dollar amounts would depend on if the hazard hit an area with a high density of buildings.

If high winds impacted 1% of the Town's buildings, it could result in up to **\$2,016,391** in building damage.

Lightning

Damage caused by lightning would not be Town-wide because it typically strikes specific sites. **HAZARD IDENTIFICATION.** Few places in Pittsfield are at specific risk (see and **CHAPTER 3. ASSET AND RISK IDENTIFICATION**). Damages to homes will vary according to the value of the home and the contents inside, and dollar amounts would depend on if the hazard hit an area with a high density of buildings.

If a wide-spread lightning storm impacted 1% of the Town's buildings, it could result in up to **\$2,016,391** in building replacement costs.

Wildfire

The risk of fire is difficult to predict based on location. Forest fires are more likely to occur during years of drought. In addition, areas and structures that are surrounded by dry vegetation that has not been suitably cleared are at high risk. Fires in Pittsfield have occurred based on lightning strikes and unattended campfires. There are several remote areas in Town off of Class VI (unmaintained) roads. However, fire danger is generally universal and can occur practically at any time and does not need to be started by natural causes. Dollar damage would depend on the extent of the fire, the number and type of buildings burned, and the amount of contents destroyed within the buildings.

If a wildfire impacted 1% of the Town's buildings, it could result in up to **\$2,016,391** in building replacement costs.

Severe Winter Weather

Heavy snowstorms typically occur during January and February. New England usually experiences at least one or two Nor'easters with varying degrees of severity each year. Power outages, extreme cold, icy roadways, ice-encrusted powerlines, and other impacts to infrastructure are all effects of winter storms that have been felt in Pittsfield in the past. All of these impacts are a risk to the community, including isolation, especially of the elderly, and increased traffic accidents. Damage caused as a result of this type of hazard varies according to wind velocity, snow accumulation, and duration.

The assessed value of all residential and non-residential structures in Pittsfield is **\$201,639,100**. Assuming 1% to 5% Town-wide building damage, a severe winter storm could result in **\$2,016,391** to **\$10,081,955** in building replacement costs.

Earthquake

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 in New Hampshire between 1924-1989 had a magnitude of 4.2 or more. Two of these occurred in Ossipee, one west of Laconia, and one near the Quebec border.

Seismic lines are indicated on **Map 1: Potential Hazards**. Buildings that are not built to a high seismic design level would be susceptible to structural damage.

Assuming 1% to 5% Town-wide building damage, an earthquake could result in **\$2,016,391** to **\$10,081,955** in building replacement costs.

Landslide

Damage caused by landslides would be concentrated in those areas along embankments, either along the highways or hillsides. Few places in Pittsfield are at specific risk (see **CHAPTER 2. HAZARD IDENTIFICATION** and **CHAPTER 3. ASSET AND RISK IDENTIFICATION**.) Dollar amounts would depend on if the hazard hit an area with a high density of buildings.

If a landslide impacted 1% of the Town's buildings, it could result in up to **\$2,016,391** in building replacement costs.

Drought

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

As physical damage is usually isolated to specific locations, the effects of potential disasters at certain facilities, such as agricultural farms, could be researched utilizing the Town's tax assessor's database for valuation on targeted land.

Radon

As radon may not be noticed by the general public without education and testing, it is difficult to estimate any potential damages. Airborne radon seeping out of basements and through water vapor can be mitigated by individual property owners at an average of \$1,200 for a radon reduction system (per Environmental Protection Agency) to treat the air inside a home.

If 10% of Pittsfield's homes (177) installed radon reduction systems, **\$212,400** would be spent.

Biological

Biological hazards affect the ecosystem, humans, and wildlife and each event is unique to the site, scale, and scope of the hazard. A dollar value cannot be placed upon the resources or impacts to those resources. The population of the Town, estimated at 4,106 as of the 2010 census, is either spread out over the geography of the community in subdivisions, in housing parks, in the downtown, or is located along Route 28, Route 107, or Town roads.

The Capital Area Public Health Network's Public Health Improvement Plan should be consulted for further information on the vulnerability of the Town. The Center for Disease Control, CDC, is a very good source of information on biological hazards and their detrimental effects.

LOSSES BY TECHNOLOGICAL HAZARDS

Pittsfield increasingly relies on technology to perform everyday tasks more efficiently. A breakdown of this system has immeasurable damaging effects. Loss of business, productivity, routine and an impact to public health has negative consequences to individuals, families, and businesses alike. Human hazards are similar to technological hazards because they are both somewhat human-induced. Technology is designed by humans and humans are frequently partly responsible for technological disasters (transportation accidents, air pollution, strikes, financial collapse, etc.). Much of what follows in the sections on technological and human hazards is applicable to both categories. **CHAPTER 3. ASSET AND RISK IDENTIFICATION** identifies sites that are vulnerable to the technological disasters highlighted below, and **Table 1A** lists the annual events that occur within the Town.

Physical minor technological disasters such as traffic accidents are common in Pittsfield and will continue to occur. The potential physical and human loss depends on the severity of the accident, the value of the vehicles involved and other factors such as the safety of the vehicles involved and the number of occupants in the vehicle. Because of the complex factors that determine the severity of traffic accidents, it is difficult to estimate the losses associated with them. Losses associated with larger events such as explosions and building collapses also cannot be easily measured because the loss depends on numerous unpredictable factors, such as: emergency response time, structural integrity, weather, geographic location, chemicals present at the accident site, occupants in the building or area, etc.

FEMA uses a methodology for integrating technological hazards into disaster mitigation planning. This methodology reinforces the importance of analyzing the vulnerability of assets and the hazards that threaten them. The methodology promotes the following steps prior to estimating losses: Identify Hazards, Profile Hazard Events, Inventory the Assets. These steps will heretofore be frequently referred to as Steps 1, 2 and 3. This plan does not attempt to carry out the loss estimation for every asset in Pittsfield based on the vulnerability of all assets and the severity of the hazards. What ensues, however, is an explanation of the steps used to arrive at an estimation of losses so that those responsible for mitigating hazards at specific locations within the Town may best do so. Numerous hazards have been identified below and where possible, resources containing further practical information for completing the three steps mentioned above have been included. For Step 1, the hazards have already been identified in **CHAPTER 2. HAZARD IDENTIFICATION**. The criteria for consideration for Step 2, the Hazard Profile, is as follows:

- *Application mode*: Describes the action(s) necessary to cause the hazard to occur.
- *Duration*: Length of time the hazard is present on the target. For example, length of time a hazardous material spill may affect an area.
- *Dynamic / static characteristic of a hazard*: Describes the tendency of the hazard to expand, contract, or remain confined in time, magnitude and space.
- *Mitigating conditions*: Characteristics of the target or its physical environment that can reduce the effects of the hazard. For instance, preventive measures are mitigating conditions when dealing with hazardous material spills.
- *Exacerbating conditions*: Characteristics that can enhance or magnify the effects of a hazard. For example, the wood in a structure may be an exacerbating condition in the case of a fire rather than a mitigating condition.

The third step used in estimating potential losses is the Inventory of Assets or the assessment of the vulnerability of the assets. By assessing the vulnerability it becomes easier to estimate the losses. Vulnerabilities can either be inherent or tactical. Inherent vulnerabilities exist independent of any protective or preventive measures applied to the asset. Inherent vulnerabilities to consider for Step 3 include:

- *Visibility*: Is the public aware of the target, facility, site, system or location?
- *Utility*: What is the value of the target, facility, site, system or location?
- *Accessibility*: Is the target, facility, site, system or location accessible to the public?
- *Asset mobility*: Is the target or asset mobile or is it fixed?
- *Presence of hazardous materials*: Are hazardous materials present at the target or asset?
- *Potential for collateral damage*: What are potential consequences for neighbors and surrounding area?
- *Occupancy*: What is the potential for loss of human life based on number of people present at the target or affected area?

Tactical vulnerability refers to the security, design and other mitigation tools used to protect a place. These measures can include site planning and landscape design, parking security, structural, electrical and fire protection engineering, architectural and interior space planning and electronic and organized security. These factors are included because when estimating potential asset losses it is necessary to first assess the vulnerability of the asset to particular threats. For example, the potential loss a structure could sustain as a result of a technological hazard will be higher if there are no preventive measures implemented in the building's design and construction.

Because there is no formula or system for estimating potential losses by technological and human-induced hazards, a thorough inventory of assets, profile of hazards and inventory vulnerability assessment are imperative. With that established, it should be noted that the damage of technological hazards can be great to physical structures, ecosystems, computer systems, utilities and communications. Humans rely on the proper functioning of technology for their well-being and any loss or interruption to this technology could be economically debilitating. However, the most valuable asset that could be at risk of a technological hazard is human life. Hazardous materials spills, explosions, fires, transportation accidents, building and structure collapse, radiological accidents and extreme air pollution all threaten the fragile human life.

Pittsfield's population base of **4,106** from the 2010 Census is vulnerable to technological hazards, including those in the following sections.

Hazardous Materials

Damage to structures is often isolated at one or two locations, so the effects of potential disasters at certain facilities could be researched utilizing the Town Assessor's database for valuation on specific buildings. In order to best estimate the potential losses in the case of a hazardous materials spill or contamination, one must research the hazardous waste events that could potentially occur in the Town. This step has been referred to above as 'profiling' the hazard. A good source of information on different types of hazardous wastes and the consequences of their spillage is the U.S. Government's Environmental Protection Agency website: www.epa.gov. The National Response Center maintains an updated list of hazardous materials incidents that were responded to on their website: www.nrc.uscg.mil/incident_type_2000up.html.

In 2009 there were a total of 31,886 incidents responded to within the U.S. and its territories. The second factor in estimating the potential losses in the case of a hazardous waste incident is assessing the vulnerability of the asset or target in question. The Town must assess all those locations, including buildings, roads, rail corridors, rivers, lakes, streams, etc., that could be potential targets of a hazardous waste spill or contamination. When assessing the vulnerability of any site it is necessary to consider all the criteria explained above.

Explosion/Fire

Damage to structures is often isolated at one or two locations, so the effects of potential disasters at certain facilities could be researched utilizing the Town Assessor's database for valuation on specific buildings. FEMA reports that fire annually costs the U.S. over \$10 billion in damage, causes 5,000 deaths and 30,000 injuries. They also report that in a typical year, home appliance and wiring problems account for 93,500 fires, 550 deaths and \$760 million in property damage. Fire is a costly hazard that causes both property damage and physical harm or death.

A good source of information on fires and fire damage is the National Fire Protection Agency. The NFPA updates a website regularly: www.nfpa.org. The website contains extensive information on different types of fires and explosions. It should be referred to when doing research on the Hazard Profile. When doing the Inventory of Assets, all of the above criteria should be considered because fires and explosions have the potential to affect many structures differently depending on the structure's engineering and fire preventive measures. Explosions and fires also have the potential to cause physical harm and death and because of this they should be treated as very threatening hazards.

Transportation Accident

As discussed in the introduction to **LOSSES BY TECHNOLOGICAL HAZARDS**, the most common transportation accidents are vehicular. The same criteria for estimating potential losses resulting from the other technological hazards can be applied to transportation accidents. The Town can estimate the potential losses of different transportation accidents that may occur at different locations throughout the Town by profiling past accidents and by assessing the vulnerability of property and human life involved. Within Pittsfield and the region, accidents of other nature have occurred, such as airplane crashes. One good source of information on all things pertaining to motor vehicle accidents is the National Highway Traffic Safety Administration.

On their website, www.nhtsa.dot.gov, information on things such as crash tests and rollover ratings to an analysis of speeding-related fatal traffic crashes is included. This source will be useful when profiling the hazard. When assessing the vulnerability of assets, everything from high accident locations, frequency of accidents, time of accidents, weather, road conditions, vehicle type, the number of occupants and the driver should be considered in addition to the Step 3 criteria mentioned above.

Transportation accidents could occur anywhere in Pittsfield, but the greatest losses are likely to be sustained on Route 28 or Route 107.

Building/Structure Collapse

Damage to structures is often isolated at one or two locations, so the effects of potential disasters at certain facilities could be researched utilizing the Town Assessor's database for valuation on specific buildings. In profiling the building/structure collapse hazard, one should consider that buildings and structures frequently collapse because of some other hazard, such as fire, wind, flood, etc. An assessment of the vulnerability must include all the criteria mentioned above. Because firefighters and construction workers are a vulnerable population in the case of building and structure collapse, researching occupational safety is advisable in order to complete Steps 2 and 3. The Center for Disease Control website, www.cdc.gov, has a link to the Electronic Library of Construction Occupational Safety and Health. This Electronic Library has relevant articles on the effects of building/structure collapse and the vulnerability of workers who often are required to work in unsafe conditions.

Power/Utility Failure

The incapacity or destruction of the energy and utility systems in Pittsfield and the region would have a debilitating effect on the physical and economic security of the Town, the public health and the general well-being of the Town's residents. Power failure is a common occurrence when many natural hazards cause damage to critical infrastructure. The potential vulnerability of power/utility infrastructure should be assessed, in the case that damage is inflicted by another hazard on this infrastructure.

Because PSNH is the electric power provider to the Town of Pittsfield, they are the best source of information on this particular hazard. Power and utility failure is similar to communications system failure because any interruption of service can cause lost revenues for businesses, interrupted service from organizations or agencies and even failure of

emergency services by those who provide them. These consequences must be considered when estimating the losses incurred from power or utility failure.

Extreme Air Pollution

Extreme air pollution is a hazard that can adversely affect public health and productivity. On days when the air quality is very poor, an extra effort is required of emergency personnel. The best source of information on air pollution is the New Hampshire Department of Environmental Services. When estimating the losses resulting from extreme air pollution, it is necessary to first profile the hazard and assess the vulnerability of those assets most threatened. The general public is most at risk during poor air quality days, and within the general public, certain groups of people are more at risk than others. Worker productivity is decreased on poor air quality days and more work is required of emergency personnel. Energy output is higher on these days as well, for many people require air conditioners and fans to remain cool.

Radiological Accident

A radiological accident has the potential of causing widespread human loss of life, asset damage and environmental destruction. Cleanup of radiological accidents is painstaking. When assessing the potential losses in the case of a radiological accident, it is important to consider the potential loss of human life and the subsequent long-term loss of the utility of lands and buildings in the area contaminated by the accident. The two nuclear power plants that were highlighted above have 10-mile Emergency Planning Zones around them. Neither Pittsfield nor any town in the region is located within the EPZ of Seabrook Station. Nevertheless, contamination is possible at least 50 miles from the site of a radiological accident. A recommended source of information on all things related to radiological accidents and nuclear power is the United States Environmental Protection Agency.

Fuel/Resource Shortage

Fuel or resource shortage is a hazard that has the potential to cause an economic crisis. Most recently, New Hampshire residents witnessed the effects of the fuel shortage resulting from the aftermath of Hurricane Katrina. The price of gasoline increased for several weeks until finally stabilizing. Because fuel supply is fickle, it is nearly impossible to predict the occurrence of a shortage. Nearly everyone is vulnerable to the effects of fuel shortage, from consumers to businesses. A few of the many sources on energy and the potential for fuel or resource shortages can be found on the websites of the U.S. Department of Energy, Environmental Protection Agency and the Federal Energy Regulatory Commission.

Strike

Strikes are a hazard capable of interrupting services provided by businesses, government, schools, hospitals and organizations. Strikes tend to cause economic loss rather than asset loss or loss of human life. When estimating the potential loss caused by a strike, it is important to do a profile of typical area strikes and to assess the services that could be disrupted. Estimation of losses should be directed at those potential targets of strikes and the assets related to those targets.

Business Interruption

Of the technological hazards, estimating potential losses resulting from business interruption may be the easiest. Typically, the only asset threatened by business interruption is economic. Business owners have a good idea of their daily, weekly, monthly and yearly revenue. By estimating lost revenue over any period of time, a business owner can calculate his or her losses. Without complicating the estimation too much, business owners should undergo Steps 1, 2 and 3 when estimating potential business interruption losses. The reason is that businesses may be interrupted for any number of reasons and it is important to attempt to predict how each hazard could affect business. For example, a flooded basement resulting from a severe hurricane could cause a debilitating short-term interruption but would not cause as long a business interruption as a fire that causes complete building collapse.

Though Pittsfield has few significant businesses in Town, residents could be affected by interruption in nearby Concord where most goods and services are procured.

Financial Issues, Economic Depression, Inflation, Financial System Collapse

These hazards can threaten individuals, families, states and even the entire nation. It is difficult, at best, to foresee the occurrence of a hazard of this type. Nevertheless, it is recommended that a profile of the hazard and an assessment of the vulnerability of the assets inventoried be carried out. Not all assets are equally vulnerable to these hazards. As history has shown, such things as demographics and geography can make one population more vulnerable than another. It is also important to remember that these hazards frequently affect certain industries more than others. Financial collapse in the manufacturing sector may affect one geographic area or the entire nation, but the high tech sector may experience growth during the same period. Because of the complexity of this hazard, when estimating losses it is critical to follow Steps 1, 2 and 3 for all potential assets.

Communications Systems Interruptions

Communications systems interruptions can be detrimental to a business or other organization that relies on communications systems in order to conduct business. Often, communications systems interruptions or failures result in a business interruption. Therefore, the same criteria explained in the above section on Business Interruption may be applied to communication systems interruptions as well. In the case of an emergency, or during another hazard event, individuals and government agencies rely on communications for safety. If these systems were interrupted during another event, people would be at risk.

Refer to **CHAPTER 3. ASSET AND RISK IDENTIFICATION** for vulnerability of specific sites to these hazards.

LOSSES BY HUMAN HAZARDS

Pittsfield is a town of **4,106** people per the 2010 US Census count. A high rate of casualty could result in the event of a human disaster event at a public gathering place, the Pittsfield Elementary School, the Town Offices, or during special events. **CHAPTER 3. ASSET AND RISK IDENTIFICATION** identifies sites that are vulnerable to human disasters, and **Table 1A** lists the annual events that occur within the Town.

Damage to structures is usually isolated to one or two locations, so the effects of potential disasters at certain facilities could be researched utilizing the Town assessor's database for valuation on specific buildings.

The same methodology that was explained in the previous section should be applied to human hazards when estimating losses. Human and technological hazards are more similar to each other than either is to natural hazards because they both result from human behavior or failure of human-created systems. The profile of human hazards and the vulnerability of assets from human-induced hazards are distinct from those of technological hazards because they are even harder to measure. It should be assumed, in all cases, that any hazard event will cause a worst-case scenario. As in the previous section on technological hazards, when possible, sources of further information have been referenced in order to strengthen the research for steps 2 and 3. An additional tool that FEMA recommends is the creation of a Facility Inherent Vulnerability Matrix. This tool can be used to compare the relative vulnerability of each asset based on the criteria that is used for Step 2. The x-axis should contain vulnerability point values, ranging from low to high (0 for absolutely no vulnerability to 5 for high vulnerability), and the y-axis should contain the criteria: asset visibility, target utility, asset accessibility, asset mobility, presence of hazardous materials, collateral damage potential and site population/ capacity (incrementally increasing from 0 to >5000). Because each quadrant of the matrix contains a point value, the vulnerability of each asset can be calculated by selecting the appropriate point value.

The guidelines for estimating potential losses given above and in the previous section on Technological Hazards are only suggestions. However, because there is no straightforward methodology for calculating potential losses due to technological and human-induced hazards, the most thorough evaluation of assets, hazards and asset vulnerability provides the best means for estimating losses and mitigating disasters.

General Strike

Structural damage as well as disruption of services and revenue can occur. Most likely to occur as a result of general strike is a disruption of services, as strikes are most frequently aimed at providers of services such as government, schools, hospitals and corporations.

Terrorism

Acts of terrorism vary greatly from act to act but recent terrorist events have been targeted at humans. Terrorist acts that cause human casualties have drawn more attention to terrorists and their agendas. There are different acts of terrorism and each has the potential to cause damage, however, the nature of the damage depends on the act of terrorism. Eco-terrorism typically targets businesses and government facilities, political terrorism may target a landmark or government office and biological terrorism may target large groups of people. In order to estimate potential losses from acts of terrorism, each type should be considered different. In other words, the vulnerability of the potential targets should be assessed depending on the different types of acts of terrorism. The U.S. Department of Homeland Security should be the primary source of information on terrorism.

Sabotage

Sabotage, like terrorism, has the potential to damage more than simply infrastructure or property. It is unknown how sabotage has the potential to cause human casualties, however, it can cause business interruption, humiliation and defamation of character, financial collapse and economic catastrophe. Businesses, organizations, government agencies, schools, individuals and anyone who could be at risk of sabotage should address their security and assess their vulnerability to the hazard. Especially vulnerable to sabotage are organizations in the industries of information and telecommunications, physical distribution, energy, banking & finance and vital human services.

Hostage Situation

Hostage situations vary in time and damage. Because hostage situations involve humans, the potential for casualties is greater in hostage situations than in other human hazards such as sabotage, general strike and civil unrest. The procedure for profiling the hazard should be done as for the other human hazards, but when assessing the vulnerability of the asset it must be remembered that it is human life.

Civil Disturbance / Public Unrest

Structural damage as well as disruption of services and revenue can occur. Typically, acts of strike and general strike are more passive than civil disturbance and public unrest. The latter are more likely to result in asset loss.

Enemy Attack

Damage to structures is often isolated at one or two locations, so the effects of potential disasters at certain facilities could be researched utilizing the Town's assessor's database for valuation on specific buildings. Vulnerable targets are typically those that are the most visible and utile to the general public because enemies, like terrorists, seek those locations that offer the greatest potential for exhibition.

Arson

Damage to structures is often isolated at one or two locations, so the effects of potential disasters at certain facilities could be researched utilizing the Town's assessor's database for valuation on specific buildings. According to a 1998 FEMA/USFA report, arson is the leading cause of fire and direct financial loss resulting from fire. It accounts for 30% of both. For further details refer to the above reference to Explosion/Fire in the Technological Hazards section.

Mass Hysteria

This condition can result at locations where large groups of people congregate in likely response to a primary hazard event. It is unknown how to calculate the potential losses resulting from an event of mass hysteria. Structural damage as well as disruption of services and revenue can occur in addition to bodily harm.

Special Events

The special events in Pittsfield are listed in **Table 1A** and the area special events have been listed in **Table 1**. Special events are unique because they are not inherently a hazard, like the natural, technological and other human hazards. In very rare cases, special events locations are the site of some property loss, injury and death in extreme cases. While researching special events in the region, no cases of death were discovered. Nevertheless, the potential exists.

Because each special event is different, varying in place, time, number of people, etc., the vulnerability of the assets and potential for losses will vary. Different events draw different crowds to different venues.

MAP 4: POTENTIAL HAZARDS AND LOSSES

Map 4: Potential Hazards and Losses illustrates where the community facilities and vulnerable populations are located as well as the locations of potential and future hazards. The map shows those areas where the population is most susceptible to flooding, wildfire, landslides, and wind damage as well as the locations of bridges, dams, wetlands, icy roads, and the recommended evacuation routes.

CHAPTER 5. DEVELOPMENT TRENDS

2012 PLAN UPDATE

It has been five years since the last Plan was written, with no new decennial Census having been taken. The best available new data has been used in this Chapter to portray the population, housing, and overall demographic picture of present day Pittsfield. A revised section on *Relation to Natural Hazards* helps to tie the fabric of the community into the most likely natural, human, and technological hazard events which could occur in those areas.

INTRODUCTION

A brief description of how the Town has grown in terms of both population and housing within the last three decades follows. In terms of the development of land, land use in acres for 2011 was taken directly from the tax assessor's database. Examination of this information will allow the Town to better understand the trends within its borders and how emergency and preventative services can best serve the growing and changing population and landscape.

POPULATION AND HOUSING GROWTH

The following tables contain data on housing and population growth which depict development trends over time. The Town has grown substantially over the last 40 years and has grown at a steady rate over the last 10 years. The source material includes the US Census, the NH Office of Energy and Planning, and the Town of Pittsfield itself.

Table 16
Overall Population and Housing Growth Trends in Pittsfield, 1970-2010

Growth	Population	Net Change		Housing Units	Net Change	
		#	%		#	%
1970 Census	2,517	0	0	867	0	0
1980 Census	2,889	372	14.8%	1,070	203	23.4%
1990 Census	3,701	812	28.1%	1,527	457	42.7%
2000 Census	3,931	230	6.2%	1,569	42	2.8%
2010 Census	4,106	175	4.5%	1,769	200	12.7%
Total Change from 1970 - 2010	---	1,589	63.1%	---	902	104.0%

*Sources: 1970-1990 US Census CPH-2-31 Table 9 Population and Housing Unit Counts;
US Census 2000 and 2010 Data*

In **Table 16**, population growth in Pittsfield has increased 5% since 2000 while housing growth has increased 13%. In 2010, there was an average of 235 people in each housing unit, shrinking from 2.5 people in 2000 and down from 2.9 in 1970. Pittsfield's overall growth since 1970 has increased by 63% in population and 104% in housing units. Compared to other communities in the region, these growth rates over 40 years are slower by nearly half.

Table 17
Population Density in Pittsfield, 1970-2010

Area in Square Miles (excluding water)	Persons per square mile				
	1970	1980	1990	2000	2010
24.1	104.4	119.9	153.6	163.1	170.4

Sources: Table 16, NH Office of Energy and Planning's GIS acreage calculations

Over the last 40 years, the number of persons per square mile in the community has grown significantly by 66 people per square mile. As displayed in **Table 17**, the population density was 104 in 1970 and is now 170 in 2010. However, when viewing this change from a broader perspective, many small New Hampshire towns have increased similarly and the situation is not unique to Pittsfield.

Table 18
Population Projections

2000 Census	2010 Census	2015 Projection	2020 Projection	2025 Projection	2030 Projection	% Increase 2000 to 2030
3,931	4,106	4,760	4,970	5,190	5,340	35.8%

Sources: Table 16, NH OEP Municipal Population Projections, January 2007

Population projections are one way to portray the amount of growth the Town may experience. However, they are based on assumptions which include the community's historical share of the county's growth and other information, all of which may prove to be inaccurate. For example, in **Table 18**, the fifteen-year span from 2000-2015 is projected to yield 829 more people, while the fifteen-year span from 2015-2030 is projected to yield another 580 people. A projected increase of 1,409 people over 30 years would show a growth rate of 36%.

Table 19
Residential Building Permits Issued by Housing Type, 2003-2010

Housing Type	2003	2004	2005	2006	2007	2008	2009	2010	8-Year Total
Single Family	26	39	16	23	11	7	0	2	124
Multi-Family	1	0	0	0	0	0	0	0	1
Manufactured	4	3	2	2	1	1	0	2	15
Total Permits Issued	31	42	18	25	12	8	0	4	140

Source: Town of Pittsfield Avitar Assessing Software, 06/07/11

In **Table 19**, the number of the Town's recently issued new residential building permits were about **1/10th** of the number issued in the early-mid 2000s. The highest issuance of **42** occurred in **2004** while the lowest issuance for permits was **0** in **2009**. **0** manufactured housing permits were issued over the eight-year time span, and **1** two- or multi-family permits were issued between 2003 and 2010. Single family permits accounted for the greatest number of residential permits, with **124** over eight years.

LAND USE

According to the 2001 Master Plan land use determination methodology, Pittsfield has a total land area of 15,488 acres, or about 24.1 square miles. Listed earlier in [Table 17](#), NH Office of Energy and Planning's GIS land area acreage calculations from the NH GRANIT System also total 24.1 square miles. Tax assessing software often calculates acreage differently. In June 2011, the number of acres calculated in this manner was **14,715**.

Pittsfield completed an updated Master Plan in 2009. Chapters include and maps (where feasible) Demographics, Housing, Transportation, Community Facilities and Services, Education, Recreation, Natural and Historic Resources, Land Use, and Economic Development. While there is no land use acreage in the Master Plan, zoning district acreage from 1999 is provided. For the Hazard Mitigation Plan, the MS-1 administrative form can provide the current basic land use category acreage.

Table 20
Land Use in Town, 2011

Land Use	Acres	% of Town
Residential	3,427.68	23.3%
Commercial	242.81	1.7%
Farm Lands	1,279.48	8.7%
Utility Lands	242.85	1.7%
Roads	-	0.0%
Institutional	-	0.0%
Undeveloped	8,725.16	59.3%
Town	787.22	5.3%
State	9.31	0.1%
Federal	-	0.0%
Total	14,714.51	100.00%

Source: Town of Pittsfield Avitar Assessing Software, 06/07/11

In [Table 20](#), undeveloped land accounts for **59.3%** of acreage in Pittsfield. Residential land is **23.3%** of the Town, the second highest land use category. Farm lands accounted for **8.7%** of Pittsfield, and municipal land holdings are **5.3%**. Commercial acreage, only **1.7%** of the Town, was surprisingly low with the number of businesses in Town. The remaining land area is utility land (**1.7%**) and State land (**0.1%**).

RELATION TO NATURAL HAZARDS

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

Areas of Highest Densities

Downtown Pittsfield, along Barnstead Road and Main Street is a dense area of development which includes the Police Department, Fire Department, Town Hall, Pittsfield Elementary School, Pittsfield Middle-High School, Recreational Fields, several churches, economics assets and residential homes. The Suncook River winds through the downtown under several bridges and dams. The main hazards to be concerned about in this area are flooding, traffic accidents, and wind.

Another area of high density is Route 28 along its intersections with Route 107, Levitt Road, Loudon Road, Barnstead Road, and other smaller outlets. This very busy stretch of road is host to many industrial businesses and the traffic entering them. The primary hazards are traffic accidents and technological hazards such as chemical fires or spills.

High residential density can be found throughout the Town in the many new subdivisions recently built. Primary egress is via Town Class V paved roads to Routes 28 or 107. The main hazard of concern for subdivisions is wildfire, power outage, and ice/snow.

Vulnerable Populations

As identified in **CHAPTER 3. ASSET AND RISK IDENTIFICATION**, there are several areas of vulnerable populations in Pittsfield. The first includes Blueberry Express Day Care and other day care providers in the area. Because there are often young children at these sites who will need extra assistance during an emergency, this makes the geographic area of child care providers more vulnerable than other locations. However, flood and fire hazards are limited in this area.

Three other areas are retirement/assisted living communities, Rolling Green, Vintage Hill and Brock's Home. There should be extra care taken in these areas during an emergency because the elderly may require extra assistance.

The manufactured home parks, Bedell's Manufactured Housing Park, Bedell's Manufactured Housing Park 2, and Grigg's Manufactured Housing Park are considered vulnerable populations because of the large concentration of individuals living there. While the area is not subject to flooding or fire hazards, extra attention may be required during an emergency.

Other vulnerable populations include the Pittsfield Middle/High School and the Pittsfield Elementary School. Like the daycare centers mentioned above, the schools have a high concentration of children who will likely need extra assistance during an emergency.

Future Development in Pittsfield

There are no major areas of development currently planned in Pittsfield. Areas which are most likely to experience future growth include Route 28, which is zoned for commercial and industrial development. There are many planned developments in Pittsfield in the coming months and years.

Most of the new development will be manufacturing or industrial. A new bio-fuel manufacturing facility, Amenico, will be built on South Main Street. Its primary hazards are fire, hazardous materials, biological, and chemical concerns. An upgrade to the Wastewater Treatment Facility could experience biological, chemical, fire, and flooding hazard events. The new ABC Garage on Route 107 is a Mechanic Repair Shop and is most susceptible to fire, hazardous materials, and landslide. A pyrotechnical company, Pyrotech, is vulnerable to biological and fire hazards.

One retail establishment, Family Dollar Store on Catamount Road, could be vulnerable to flood, fire, and lightning.

Meadow View, the only new housing development, will be located on Catamount Road. The development could be vulnerable to fire, severe winter weather, and lightning.

Two transportation-related projects, Mud Run on Thompson Street and a new Park and Ride facility on Barnstead Road, are susceptible to fire, traffic accident, and flooding, respectively.

Further information on future development in Pittsfield can be found in **Table 13 Future Development**.

CHAPTER 6. FLOODPLAIN MANAGEMENT

2012 PLAN UPDATE

Pittsfield has been exposed to several disaster events since the first writing of this Plan, including flooding, as documented in previous chapters. These events have resulted in Federal Disaster Declarations under the Robert T. Stafford Act for public and individual assistance. As a result of these events, the Town has applied for and received hazard mitigation grant funds. Updates to this Chapter included reviewing each section and adding new information where relevant. Buildings within the Potential Flood Hazard Area were identified, new washout flooding was discussed, a **2005** Community Assistance Visit (CAV) was reviewed, and updated statistics were available.

INTRODUCTION

Flood mitigation is an essential step in preventing flood damage. This section provides an overview of past and potential flooding risks in Pittsfield. At present, the Town is fully compliant with NFIP requirements.

Second only to winter storms, flooding is the most common natural disaster to impact New Hampshire. Floods are most likely to occur in the spring due to the increase in rainfall and melting of snow. However, they can occur any time of year as a result of heavy rains, hurricane, or Nor'easter. In Pittsfield, flooding generally washes out roads and the Suncook River has the ability to flood, particularly at its dams.

FLOODING IN PITTSFIELD

The overall risk of flooding in Pittsfield is high, according to **CHAPTER 2. HAZARD IDENTIFICATION**. Over **4.3%** of primary buildings in Town are located within in a Potential Flood Hazard Area. The overall risk of a dam breach is considered moderate, although such an event occurred in May 2006 at the Pittsfield Mill Pond Dam. Road washouts due to undersized culverts have become more commonplace in the last few years and have temporarily disrupted travel. Culverts in Town need to be sized to accommodate regular flow.

Potential Flood Hazard Areas

Using the Potential Flood Hazard Areas depicted on the 2010 Town of Pittsfield Special Flood Hazard Area Map and the Tax Maps, **81** buildings were counted within these potential flood hazard areas. There were **47** single family homes, **4** manufactured homes, **15** multi-family homes, and **15** non-residential buildings which were thought to be vulnerable. This information is taken from **Table 14** in **CHAPTER 4. POTENTIAL LOSSES**. As the 2010 Census counted **1,769** housing units within Town, it can be calculated that almost **4.3%** of homes in Pittsfield are situated in potential flood hazard areas.

Road Washouts

One of the most common types of flooding in Pittsfield is due to road washouts. Undersized culverts are unable to accommodate the heavy flows, or they may get blocked by debris. The following roads have experienced washouts or other types of flooding:

- Rocky Point Road (private road)
- Shingle Mill Brook Road (private road)
- Shaw Road
- Mountain Road
- Tan Road
- Berry Pond Road
- Will Smith Road
- Wildwood Road
- Clough Road
- Governor's Road
- Prescott Road
- Johnson Road
- Thompson Road

The culverts most prone to washouts will be replaced and have become Actions listed in **CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS**.

NATIONAL FLOOD INSURANCE PROGRAM

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer funded disaster relief for flood victims and the increasing amount of damage caused by floods. The Federal Insurance and Mitigation Administration (FIMA) a component of the Federal Emergency Management Agency (FEMA) manages the NFIP, and oversees the floodplain management and mapping components of the Program.

Communities participate in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally subsidized flood insurance available to homeowners, renters, and business owners in these communities. Flood insurance, federal grants and loans, federal disaster assistance, and federal mortgage insurance is unavailable for the acquisition or construction of structures located in the floodplain shown on the NFIP maps for those communities that do not participate in the program.

To get secured financing to buy, build, or improve structures in Special Flood Hazard Areas, it is legally required by federal law to purchase flood insurance. Lending institutions that are federally regulated or federally insured must determine if the structure is located in a SFHA and must provide written notice requiring flood insurance. Flood insurance is available to any property owner located in a community participating in the NFIP.

Flood damage is reduced by nearly \$1 billion a year through partnerships with communities, the insurance industry, and the lending industry. Further, buildings constructed in compliance with NFIP building standards suffer approximately 80 percent less damage annually than those not built in compliance. Additionally, every \$3 paid in flood insurance claims saves \$1 in disaster assistance payments.

The NFIP is self-supporting for the average historical loss year, which means that operating expenses and flood insurance claims are not paid for by the taxpayer, but through premiums collected for flood insurance policies. The Program has borrowing authority from the U.S. Treasury for times when losses are heavy; however, these loans are paid back with interest.

Pittsfield's NFIP Statistics

Pittsfield has been a participant in the National Flood Insurance Program since July 1978 after their January 1978 Flood Insurance Study (FIP) was completed. The Town adopted new Flood Insurance Rate Maps (FIRMs) effective April 19, 2010. In **Table 21**, the number of policies in force has increased from seven (7) in March 2006 to 11 in March 2011, five years later. However, during that time period, six (6) claims have been made totaling \$111,000.

Table 21
Pittsfield Policy and Loss Statistics

	Policies in Force	Insurance in Force	Number of Paid Losses (since 1978)	Total Losses Paid (since 1978)
March 2006	7	\$714,600	0	\$0
March 2011	11	\$2,328,500	6	\$110,811

Source: March 2006 and March 31, 2011 FEMA databases

While the entire Town of Pittsfield is eligible to purchase flood insurance, only 11 property owners have done so. As described in **CHAPTER 4. POTENTIAL LOSSES**, a total of **81** buildings are situated in the Potential Flood Hazard areas.

REPETITIVE LOSS PROPERTIES

A specific target group of repetitive loss properties is identified and serviced separately from other NFIP policies by the Special Direct Facility (SDF). The target group includes every NFIP-insured property that, since 1978 and regardless of any change(s) of ownership during that period, has experienced four or more paid flood losses, two paid flood losses within a 10-year period that equal or exceed the current value of the insured property, or three or more paid losses that equal or exceed the current value of the insured property. The loss history includes all flood claims paid on an insured property, regardless of any changes of ownership, since the building's construction or back to 1978. Target group policies are afforded coverage, whether new or renewal, only through the SDF.

The FEMA Regional Office provides information about repetitive loss properties to state and local floodplain management officials. The FEMA Regional Office may also offer property owners building inspection and financial incentives for undertaking measures to mitigate future flood losses. These measures include elevating buildings above the level of the base flood, demolishing buildings, removing buildings from the flood area, and in some cases drainage improvement projects. If the property owners agree to mitigation measures, their property may be removed from the target list and would no longer be serviced by the SDF.

Pittsfield's NFIP Repetitive Flooding Losses

As of June 2011, Pittsfield had a total of three (3) repetitive loss properties according to records kept by the Federal Emergency Management Agency and supplied by the NH Office of Energy and Planning (NH OEP). These data records are confidential for the property -specific information they contain. Repetitive losses are determined by any repetitive damage claims on those properties that hold flood insurance through the NFIP.

Table 21A
Repetitive Losses

Building Type	Number of Repetitive Loss Properties
Multi-family	1
Single Family	2
Total Properties	3

Source: FEMA, June 2011

As displayed in **Table 21A**, two (2) repetitive loss properties were single family buildings and one (1) repetitive loss was a multi-family building. The total payments to these three properties equaled the **Table 21 Total Losses Paid (since 1978)** amount of \$110,811.

FLOODPLAIN MANAGEMENT GOALS/REDUCING FLOOD RISKS

A major objective for floodplain management is to continue participation in the National Flood Insurance Program.

Communities that agree to manage Special Flood Hazard Areas shown on NFIP maps participate in the NFIP by adopting minimum standards. The minimum requirements are the adoption of the Floodplain Ordinance and Subdivision/Site Plan Review requirements for land designated as Special Flood Hazard Areas. Pittsfield adopted the New Hampshire Floodplain Development Ordinance for Communities with Special Flood Hazard Areas in March 2004.

Federally subsidized flood insurance is available to any property owner located in a community participating in the NFIP. Communities that fail to comply with NFIP will be put on probation and/or suspended. Probation is a first warning where all policyholders receive a letter notifying them of a \$50 increase in their insurance. In the event of suspension, the policyholders lose their NFIP insurance and are left to purchase insurance in the private sector, which is of significantly higher cost. If a community is having difficulty complying with NFIP policies, FEMA is available to meet with staff and volunteers to work through the difficulties and clear up any confusion before placing the community on probation or suspension.

Ordinances and Community Assistance Visits in Pittsfield

The Town of Pittsfield became members of the NFIP in July 1978 and approved their first Floodplain Ordinance at Town Meeting in 1990. The most recent Community Assistance Visit (CAV) was conducted by FEMA in 2005. At the March 2010 Town Meeting, the Town adopted changes to the Floodplain Ordinance to comply with necessary NFIP revisions. The Town is in full compliance.

Potential Administrative Techniques to Minimize Flood Losses in Pittsfield

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

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

Because of their unique position to ensure development conforms with ordinances prior to approval, the Planning Board should be familiar with NFIP policies, especially those regulations that are required to be incorporated into the Subdivision and Site Plan Review regulations. A workshop sponsored by the NH Homeland Security and Emergency Management (NH HSEM) or the NH Office of Energy and Planning (NH OEP) would be appropriate to educate current staff and volunteers. The Town could request a CAV every five years to ensure

compliance and to obtain training. Since the last CAV was held in 2005, the present time would be suitable for another CAV.

An essential step in mitigating flood damage is Town and property owner participation in the NFIP. Pittsfield should work to consistently enforce NFIP compliant policies to continue its participation in this program. Town staff should promote flood insurance to property owners as only 11 owners take advantage of the opportunity. To address the repetitive loss properties, the Town should consider contacting the owners to acquire the properties with FEMA Hazard Mitigation Assistance (HMA) grant funding.

CHAPTER 7.

LOCAL HAZARD MITIGATION OBJECTIVES

2012 PLAN UPDATE

The objectives previously developed were reviewed and updated as needed by the new Hazard Mitigation Committee during a public meeting. While the hazard incidents have remained the same, with a few additions over the course of the last five years, it was important to reassess the objectives' relevancy to the overall hazard mitigation actions which the Town has identified. Specific hazard objectives have been added which address the most common hazard events which could impact Pittsfield.

INTRODUCTION

The following objectives were developed by the Hazard Mitigation Committee to enable the Town to address the primary hazards in the community. Collectively, they will help formulate the mitigation strategies documented in the following chapters.

GENERAL OBJECTIVES

The objectives were initially excerpted from the State Hazard Mitigation Plan and amended to reflect Pittsfield's small community needs.

1. To improve upon the protection of the general population and the citizens and guests of the Town from all natural and human-made hazards.
2. To reduce the potential impact of natural and human-made disasters on the Town's critical support services, and critical facilities, infrastructure, private property, the Town's economy, and on the natural environment.
3. To reduce the potential impact of natural and human-made disasters on the Town's specific historic treasures and interests as well as other tangible and intangible characteristics which add to the quality of life of the citizens and guests of the Town.

By undertaking these general objectives, the Town will reduce its liability from natural and human-made hazards, and has the means to identify, introduce, and implement cost effective Hazard Mitigation measures. The objectives will raise the awareness and acceptance of Hazard Mitigation opportunities in the community.

HAZARD SPECIFIC OBJECTIVES

Objectives were developed to specifically address the predominant hazards, of the 39 different hazards examined, that are most likely to affect the Town. **CHAPTER 2. HAZARD IDENTIFICATION**'s Hazard and Vulnerability Assessment was referenced to ascertain which hazards were the highest risk to Pittsfield, and main categories are listed below. The Assessment is available in **CHAPTER 12. APPENDIX**. From these objectives, strategies will be developed for the community to implement.

Flood

4. To reduce the risk of damage to life and property due to flooding on the Suncook River, dams, and ponds and streams of the Town.

Fire

5. To reduce the risk of fires in the Town Forest, Town lands, the forested lands of Pittsfield, and urban wildland interface areas.

Ice and Snow

6. To reduce the risk of damage to life and property due to ice and snow events in the Village and in outlying areas of Town.

Wind

7. To reduce the risk of damage to life and property due to wind events.

Human & Technological

8. To minimize the threat of human threats including terrorism and sabotage, biological, radiological, hazardous materials, transportation accidents, power/utility failure, and technological disturbances to life, property, and infrastructure.

CHAPTER 8. EXISTING MITIGATION SUPPORT STRATEGIES

2012 PLAN UPDATE

The Committee reviewed each of their identified strategies from 2007 and updated their information. Some were no longer in practice, others had improvements or changes from five years prior when they were first identified, and additional activities were added. The results were reformatted into new tables by Department or Board to assist in easier tracking and updating. A listing of the existing plans reviewed for **CHAPTER 8** was provided. Action items from 2007 which were accomplished are listed in **Tables 22A-G** as existing mitigation support strategies along with their completion date.

INTRODUCTION

The Hazard Mitigation Committee identified a number of pro-active protection mechanisms that are currently place in Pittsfield that could reduce the damages and losses in the event of a natural disaster or secondary disaster. Listed by Department or Board, the tables reflect what plans, activities, processes, or infrastructure that each has to mitigate disaster effects.

CHAPTER 8. EXISTING MITIGATION STRATEGIES contains an inventory of locally-important existing mitigation activities which have a positive impact on the way hazard events are handled within the community. Most activities are not hazard mitigation Actions. These strategies support the Action Plan and the community's hazard response. **CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS** contains the Action Plan that the community is working to achieve between 2011-2016. These **CHAPTER 8.** supporting programs, policies, training programs, plans, activities, completed Actions, etc. are not STAPLEE-rated like the Actions in **CHAPTER 10.**, but instead serve to sustain and assist the community to maintain and accomplish its hazard mitigation Actions and priorities.

REVIEW OF EXISTING PLANS

During the Hazard Mitigation process and the identification of existing mitigation for **CHAPTER 8. EXISTING MITIGATION SUPPORT STRATEGIES**, the Hazard Mitigation Committee used their knowledge of the documents utilized for their duties with the Town of Pittsfield to develop the existing and potential Actions. The following plans and documents were referenced for the development of this Plan:

- Zoning Ordinance
- Emergency Operations Plan
- Fire Department Standard Operating Guidelines
- Hazard Mitigation Plan
- Mutual Aid Agreements
- Police Department Standard Operating Guidelines
- Highway Department Policies
- Capital Improvements Program
- Subdivision Regulations
- Town Ordinances

DESCRIPTION OF SUPPORTING PROJECTS, PROGRAMS, AND ACTIVITIES

Each existing program, policy, activity, plan, training, process, regulation, ordinance, guidelines, agreement, improvement, Committee, drill, specialized equipment, partnership, etc. which assists with mitigating hazards was identified by the Hazard Mitigation Committee by each Town Department. The Committee discussed the *Effectiveness* of each strategy and recommended changes or improvements to their existing programs. *Descriptions* of the activity were provided, as well as the area of Loudon covered by the activity. The responsible Department was identified. *Effectiveness* of the activity was rated on a High-Medium-Low scale. The results of existing mitigation strategies identification are displayed in **Table 22A-G**.

In addition, the Actions which were **COMPLETED** from the 2007 Plan are listed within these **Tables**. The completion date of the Action from 2007 is listed and **CHAPTER 10 Action Plan's Project Rationale** was transferred to the *Description* column. **COMPLETED** Actions are gauged according to their *Effectiveness* and whether *Future Improvements or Changes* are required, in the same manner as the existing mitigation strategies listed by each Department.

Table 22A
Supporting Strategies: Police Department

Existing Program or Activity	Description	Area of Town Covered	Responsibility	Effectiveness	Future Improvements or Changes
Training at the Senior Center Regarding Emergency Procedures	Held informal program for seniors on emergency topics, included sheltering, confined homes, disabled, transportation, emergency contacts, animal care. Training on evacuation plans to crime prevention	Entire Town	Police Chief	Medium	Need to bring the program back on a consistent basis for education of seniors. Create schedule of presentation. Supporting activity of the Department to the Mitigation Plan.
Upgraded Fire and Police radios that Allow the two departments to communicate.	Current Radios allow for this for interoperability. Received grants, now digitally capable on same frequencies to communicate. Also have analog frequencies for Highway and Town Hall communications.	Entire Town	Police Chief/ Fire Chief	High	Create funding source for repair and or replacement. Continually monitor and upgrade for compliance to this supporting activity of the Mitigation Plan.
Police Mutual Aid Agreement	One town will assist another during an emergency. Have with 21-22 towns in the MUA, including abutting towns and others that the officers pass through.	Entire Town	Police Chief	High	Annual review in October. Supporting activity of the Department to the Mitigation Plan.
Police Department Staffed by 8 Full-Time and 3 Part-Time Officers.	Current level of funding allows what is considered a minimum staffing level for the PD. Nine part time positions total, only three are filled now.	Entire Town	Police Chief	High	Fill part time positions. Have additional part time staff hired when money allows. Supporting activity of the Department to the Mitigation Plan.
Police Department Standard Operating Guidelines (SOGS)	Operational guidelines for Department ensure the effectiveness and best possible practices of the officers to do their jobs. Includes civil disorder SOG for emergency management.	Entire Town	Police Chief	High	Continually review and update policies according to trends in police operational procedures for compliance to this supporting activity of the Mitigation Plan.

Table 22A, continued
Supporting Strategies: Police Department

Existing Program or Activity	Description	Area of Town Covered	Responsibility	Effectiveness	Future Improvements or Changes
Police Department Officer Training	Department meets all the requirements for the State minimum training for the year in different disciplines. Have additional training in area of special assignments to help Department obtain goals and objectives. ICS training is for emergency management depending on what positions are held in the Dept.	Entire Town	Police Chief	High	Continue with updated training on emergency management for compliance to this supporting activity of the Mitigation Plan.
Community Public Awareness Programs	Have coffee talk with the Chief to chat and discuss issues. Programs for community support include members of coalitions to reduce alcohol and drug use in the area. Members of civic organizations to help community in times of need. Crimeline participant (must be related to animal control)	Entire Town	Police Chief	Medium	Continue to offer programs for the community, offer more toward emergency management for compliance to this supporting activity of the Mitigation Plan.

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

Table 22B
Supporting Strategies: Fire & Rescue Department

Existing Program or Activity	Description	Area of Town Covered	Responsibility	Effectiveness	Future Improvements or Changes
Member of Capital Area Mutual Aid Compact	Pittsfield uses the services daily. The Association covers 84 members. Pittsfield has been a member for over 20 years. All EMS dispatching for the Town goes through the Association.	Entire Town	Fire Chief	High	DHS Fed/Regional Credentialing program. Supporting activity of the Department to the Mitigation Plan
Sand-Bagging of Dams During Periods with Potential for Flooding	This activity is undertaken by the Fire Department, Highway Department, Police Department, and volunteers with materials provided by the NH HSEM.	Entire Town, Main Street	Fire Chief	High	Create and staff a CERT Team. Continually monitor for compliance to this supporting activity of the Mitigation Plan.
EMS Training	The Town has 6 certified EMTs who undergo training at the Fire Academy.	Entire Town	Fire Chief	High	Supporting activity of the Department to the Mitigation Plan
Fire Academy Training	Fire Department staff and volunteers have undergone required training at the Fire Academy.	Entire Town	Fire Chief	High	Supporting activity of the Department to the Mitigation Plan
Fire/EMS Department Training	Continual skill and technical updates	Entire Town	Fire Chief	High	Supporting activity of the Department to the Mitigation Plan
Fire/EMS Area Regional Training	Continual training in regional incident command and response techniques and skill	Entire Town	Fire Chief	High	Supporting activity of the Department to the Mitigation Plan
Purchase a New Forestry Truck COMPLETED June 2011	The current forestry truck is outdated. A new truck will improve forest fire response. Purchases a new truck to replace the outdated Forestry Truck used by the Fire Department.	Entire Town	Fire Chief	High	Supporting equipment of the Department to the Mitigation Plan

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

Table 22C
Supporting Strategies: Emergency Management

Existing Program or Activity	Description	Area of Town Covered	Responsibility	Effectiveness	Future Improvements or Changes
Emergency Operations Plan	Last updated about 5 years ago, around 2006. It is in the ESF format, reviewed by HSEM.	Entire Town	Police Chief/ Emergency Management Director	Medium	Continually monitor and update for compliance to this supporting activity of the Mitigation Plan.
Hazard Mitigation Plan	Adopted by FEMA in 2007. Might be too specific of a response, not enough flexibility Town has improvements or changes.	Entire Town	Emergency Management Director	Medium	Needs to identify what's available in the Town for resources to respond for some of these issues. Continually monitor and update for compliance to this supporting activity of the Mitigation Plan.
Review Dam Operational Plans	Have 9 dam plans on record that need to be reviewed. Most plans are done by engineers	Dams	Emergency Management Director	High	Review the dam plans annually for effectiveness. Continually monitor and update for compliance to this supporting activity of the Mitigation Plan.
Training Programs on ICS	Offer ICS programs to become NIMS compliant. The Town is working on being compliant, does not have all documentation. Only a few people sign up and classes have been cancelled. Attendance is poor. FD is all compliant through Fire Academy. Highway, Police, Wastewater, and BOS/Town Staff, Schools are in need of ICS training. 50% of Wastewater is compliant. Have certified people come in to do the training.	Entire Town	Emergency Management Director	High	Better attendance, continue to offer expanded programs including sheltering and radiological. Continually monitor for compliance to this supporting activity of the Mitigation Plan.

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

Table 22D
Supporting Strategies: Highway Department

Existing Program or Activity	Description	Area of Town Covered	Responsibility	Effectiveness	Future Improvements or Changes
Culvert Maintenance by the Highway Department	Maintaining and replacing culvert systems to allow for maximum efficiency of culvert use.	Entire Town	Highway Superintendent	Medium	Hire an additional Highway Department Staff Member. Supporting activity of the Department to the Mitigation Plan.
Winter Operations Policy Used by the Highway Department for Plowing Routes	Snow removal operations are prioritized based on access for emergency services response and school bus routes.	Entire Town	Highway Superintendent	High	Hire an additional Highway Department Staff Member. Supporting activity of the Department to the Mitigation Plan.
Highway Department Training, Road Agent Certified as a Master Roads Scholar	This is a consistent effort to improve service delivery through education acquired by participating in online training activities and program offered through the LGC.	Entire Town	Highway Superintendent	High	Send all Highway Department staff for training. Supporting activity of the Department to the Mitigation Plan.
Communicate with Utility Companies to Cutback Overgrown Limbs COMPLETED April 1, 2011	Removing overhanging limbs near power-lines will reduce that potential hazard in the Town. Communicate regularly with PSNH and other utility companies to make sure that branches are cut back from power lines to reduce the potential hazards from wind.	Roadways	Highway Superintendent	High	Continue communications as needed. Supporting activity of the Department to the Mitigation Plan.

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

Table 22E
Supporting Strategies: Code Enforcement/Planning Board

Existing Program or Activity	Description	Area of Town Covered	Responsibility	Effective-ness	Future Improvements or Changes
Flood Plain Ordinance to Regulate Development in the Floodplains	Ordinance was updated in March 2010.	Floodplain areas	Planning Board/ Code Enforcement	High	Continually monitor and update for compliance to this Action of the Mitigation Plan.
Cisterns or Other Fire Protection Measures are Required in All New Major Subdivisions	Cisterns are required based on fire flow requirements identified through the Plan review process that includes the Fire Department and Code Official review, based on NH statute. This requirement is from the NH Fire Code RSAs.	Entire Town	Planning Board, Fire Chief	High	Require a plan for maintenance and repair. Continually monitor and update for compliance to this Action of the Mitigation Plan.
Capital Improvements Program	The CIP is updated annually.	Entire Town	Planning Board	Medium	Supporting activity of the Department to the Mitigation Plan.
All New Construction is Inspected by the Town Building Inspector and Fire Department	New construction is continually evaluated during the process with the final inspection conducted by both the Fire and Building Officials prior to the issuance of a certificate of occupancy.	Entire Town	Building Inspector	High	Supporting activity of the Department to the Mitigation Plan.
Building Inspector Attends Training Courses through the NH Building Officials Association	The BI attends course offerings monthly that are offered through the NH Building Officials Association. He also participates in NIMS training offered both online and through the Town. The Building Inspector currently attends monthly meetings of the Association.	Entire Town	Building Inspector/Fire Chief	High	Supporting activity of the Department to the Mitigation Plan.

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

Table 22F
Supporting Strategies: Board of Selectmen

Existing Program or Activity	Description	Area of Town Covered	Responsibility	Effectiveness	Future Improvements or Changes
Traffic Control Ordinance	Document regulates traffic control and public safety. It maintains the Town's public safety through evacuation routes, traffic patterns, and ensures the proper flow of traffic.	Entire Town	Police Chief/ Town Administrator	Medium	Continually monitor and update for compliance to this Action of the Mitigation Plan.
Joint Loss Management Committee	Committee meets regularly, and has investigations where needed	Entire Town	Board of Selectmen	High	The committee should continue to improve the overall safety of Town employees. Supporting activity of the Department to the Mitigation Plan.
Town Hall Employee Safety	Town Hall lobby has glass in front of the Town Clerk and Tax Collector offices for their protection.	Town Hall	Board of Selectmen	Low	The glass should be replaced with bullet-resistant glass, and the other side of the office should be glassed in as well. Continually monitor and upgrade for compliance to this Action of the Mitigation Plan.
Install Traffic Lights on Route 28 COMPLETED June 2008	Traffic lights installed at the busy Route 28 intersection will dramatically lower the number of traffic accidents that occur.	Route 28	Town Administrator	High	Continually monitor for compliance to this Action of the Mitigation Plan.
ICS Training	Most of the Board of Selectmen members have undergone Incident Command System (ICS) Training.	Entire Town	Board of Selectmen	High	Continually monitor and train for compliance to this Action of the Mitigation Plan.
Purchased one of the Smith Street Properties COMPLETED JUNE 2011	The Selectmen obtained the Smith Street/Chestnut Street property due to non-payment of back taxes. This is a property in the floodplain which is in danger of flooding.	Smith Street/Chestnut Street	Board of Selectmen	High	Next step is structure demolition. Continually monitor for compliance to this Action of the Mitigation Plan.

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

Table 22G
Supporting Strategies: Wastewater Treatment Plant

Existing Program or Activity	Description	Area of Town Covered	Responsibility	Effective-ness	Future Improvements or Changes
Septage Procedures in Place Against Contamination	The procedures prevent spillage. Must test septage to ensure it is not contaminated with gasoline. Must obtain a DES permit renewed every 5 years.	Wastewater Lagoons	Wastewater Superintendent	High	Procedures are continually evaluated and improved. Continually monitor and update for compliance to this Action of the Mitigation Plan.
Wastewater Training	Staff is required to have 20 hours every 2 years on hazardous materials and spillage. Mandatory for license.	WWTP	Wastewater Superintendent	High	Supporting activity of the Department to the Mitigation Plan.
Plant Building is Being Upgraded for a Separate Hazardous Materials Facility	Spillage will go into an underground holding tank. Drain is in the floor. Will be completed by December 2011	WWTP	Wastewater Superintendent	High	Continually monitor for compliance to this Action of the Mitigation Plan.
Eliminate Small Space Confinement Problems in Pump Station	Below grade is a confined space, dangerous for employees. They will put in a submersible pump into the grinding station, where the pump slides into pump hole and pumps out the sewage. Will be completed December 2011.	WWTP	Wastewater Superintendent	High	Supporting activity of the Department to the Mitigation Plan.
Regular Maintenance Programs	Have 1979 generators, go every week they run them under emergency conditions to check the safeties. If during the running find something else is wrong, will fix it then or do the maintenance later. Have evacuation fans on the top of buildings which are opened up and cleaned/greased once a year. Once a year for generators, an outside company comes in and cleans the generators and send out a sample of the oil, checks on staff doing testing generators.	WWTP	Wastewater Superintendent	High	Upgrade the generators. Supporting activity of the Department to the Mitigation Plan.
Maintain List of Landowners for Notification	Maintain a list of all landowners along the Suncook to ensure that if there's a spill, can contact the landowners soon.	Suncook River	Wastewater Superintendent	High	Continue to update the notification list. Supporting activity of the Department to the Mitigation Plan.

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

CHAPTER 9. NEWLY IDENTIFIED MITIGATION ACTIONS

2012 PLAN UPDATE

The Committee identified new Actions which can be undertaken for natural, human, or technological event mitigation. The Actions were reorganized into different tables to consolidate hazards. The 2007 strategies were reviewed to ensure their relevancy, and were updated or removed as needed. Objectives which the Action met were also identified.

INTRODUCTION

In addition to the programs and activities that Pittsfield is currently undertaking to protect its residents and property from natural, human, or technological disasters, a number of additional strategies were identified by the Hazard Mitigation Committee for consideration. Many of these newly identified mitigation strategies will be considered for further action in the Mitigation Action Plan in **CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS**. Some of them are the result of improvements to the existing strategies identified in **Tables 22A-G** on the previous pages.

DESCRIPTION OF POTENTIAL MITIGATION PROJECTS, PROGRAMS, AND ACTIVITIES

These types of activities were considered when determining new projects, programs and activities, listed in **Tables 23A-E**, which Pittsfield can develop:

- Life and Property Protection
- Emergency Services
- Public Information and Involvement
- Training and Preparation
- Planning and Implementation

The Hazard Mitigation Committee considered improvements to existing strategies, new programs or activities, and new projects that would improve the conditions in many of the assets identified in **CHAPTER 3. ASSET AND RISK IDENTIFICATION**. All strategies are considered Actions that the community can take, and will later be integrated into a Mitigation Action Plan in **CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS** with the responsible party identified, how much the Action will cost, and when and how the Action will be completed.

Table 23A
Potential Mitigation Actions: Flood

Meets Objective #	Name of Potential Action	Description of Potential Action	Affected Location	Type of Activity
1, 2, 4	Purchase Smith Street Properties	Town could purchase the apartment building which is prone to flooding using Town or CDBG grant money and remove the structure.	Smith Street	Life and Property Protection
2, 4	Study Dam Breach Effect for the Pittsfield Mill Pond Dam	The Town just received the update policy from NHDES. The Town will implement the policy as a general guideline to follow if there's an issue with the dam. Notification lists, operational charts, and tells how to respond, what the flow would be, etc.	Water Street and Main Street Pittsfield Mill Pond Dam and south of it	Planning and Implementation
1, 2, 4	Apply for a Grant to Acquire Property at Risk of Flooding	The Town is in the process considering to apply for PDM, FMA, Repetitive Loss or other FEMA federal grant applications. Town participates in NFIP program.	Floodprone areas	Life and Property Protection
2, 4	Participate in National Flood Insurance Program (NFIP) Training	In order for Planning Board members and the Code Enforcement Officer to remain current with NFIP procedures and policies, regular training must be taken. Workshops are offered by the State and/or FEMA (or through other agencies) and addresses flood hazard planning and management.	Floodplain Areas	Training and Preparation
2, 4	Publicize the Availability of Flood Insurance	Educate local property owners regarding the availability of flood insurance at low cost through the NFIP. Develop brochures or provide information at the Town Offices to homeowners that flood insurance is available to them through FEMA's Zone A classification. Information can be posted on the Town website and linked to the FEMA website. A new floodplain ordinance was adopted in 2010.	Entire	Public Information and Involvement
1, 2, 4	Replace Shaw Road Bridge with a Box Culvert	The bridge and the approaches wash away because the Shaw Road bridge does not have proper wing walls or the capacity for the water to flow under the bridge. Replacement of the existing bridge with a box will provide for greater flow of water, will prevent water erosion of the bridge abutment, and will straighten out the approach of the river.	Shaw Road	Life and Property Protection

Table 23A, continued
Potential Mitigation Actions: Flood

Meets Objective #	Name of Potential Action	Description of Potential Action	Affected Location	Type of Activity
1, 2, 4	Replace Lower Tan Road Near Gravel Pit	The culvert and the approaches wash away because the Lower Tan Road Culvert is undersized for the storm water flow through the culvert. Replacement of the existing culvert with a larger dimension box culvert will allow for greater flow of water, and will prevent erosion of the roadway.	Lower Tan Road	Life and Property Protection
1, 2, 4	Replace Upper Tan Road Culvert Near Blake's Pond	The culvert and the approaches wash away because the Upper Tan Road Culvert is undersized for the storm water flow through the culvert. Replacement of the existing culvert with a larger dimension box culvert will allow for greater flow of water, and will prevent erosion of the roadway.	Upper Tan Road	Life and Property Protection
1, 2, 4	Replace Dowboro Road at Epsom Line Culvert	The culvert and the approaches wash away because the Dowboro Epsom Line Culvert is undersized for the storm water flow through the culvert. Replacement of the existing culvert with a larger dimension box culvert, wing walls and the reconstruction of the roadway approaches and will allow for greater flow of water, and will prevent erosion of the roadway.	Dowboro Road	Life and Property Protection
1, 2, 4	Replace Mountain Road Culvert	The culvert and the approaches wash away because the Mountain Road Culvert is undersized for the storm water flow through the culvert. Replacement of the existing culvert with a larger dimension culvert will allow for greater flow of water, and will prevent erosion of the roadway.	Mountain Road	Life and Property Protection
2, 4	Review the Dam Plans Annually	To make sure that adequate notification of people occurs if something happens with the dams.	Dams	Planning and Implementation

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

Table 23B
Potential Mitigation Actions: Fire

Meets Objective #	Name of Potential Action	Description of Potential Action	Affected Location	Type of Activity
2, 5	Clear Forest Fire Lanes	Clear the Fire Lanes in forested areas to improve emergency access in the event of fire.	Forested Areas	Life and Property Protection
1, 2, 5, 8	Develop New Standard Operating Guidelines for Fire and Rescue	Develop guidelines on personal vehicles, forestry procedure, ice rescue procedure, water rescue, hazardous materials response, incident command system, seatbelt, etc.	Entire Town	Planning and Implementation
1, 2, 5	Install a Dry Hydrant at Jenness Pond	All water is brought in or drafted. The area is moderately populated. The area lacks a municipal water service or hydrant system.	Jenness Pond	Emergency Services
1, 2, 5	Add a Cistern at Thompson Road & Governor's Road	40-50 housing units are forthcoming to the area. Increased flows are needed for compact development. The situation makes tanker shuttle impractical. An on-site cistern is needed.	Thompson Road & Governor's Road	Emergency Services
1, 2, 5	Install a Dry Hydrant at Eaton Road	This rural area has inadequate surface water supply to use in the event of a fire.	Eaton Road	Emergency Services
1, 2, 5	Install a Dry Hydrant at Barnstead Road/Suncook River	It's necessary to supplement the municipal water supply for large industrial-type fires. This area has many industries.	Barnstead Road/Suncook River	Emergency Services

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

Table 23C
Potential Mitigation Actions: Severe Weather

Meets Objective #	Name of Potential Action	Description of Potential Action	Affected Location	Type of Activity
1, 6	Develop a Plan to Maintain Public Road Access During Severe Weather	Purpose is to determine alternate evacuation routes in the event normal routes have been washed out, destroyed, or are impassable.	Roadways	Planning and Implementation
3, 4	Clear Trees and Debris from Waterways	Clear trees and debris from waterways to mitigate against ice jams.	Waterways	Life and Property Protection
1, 8	Purchase Additional Road Signage	The Town should obtain two road work signs, two "be prepared to stop" signs, two "flagman ahead" signs, two detour signs, two road closed signs, and two accident ahead signs to help contend with road blockage issues.	Roadways	Emergency Services

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

Table 23D
Potential Mitigation Actions: Human / Technological

Meets Objective #	Name of Potential Action	Description of Potential Action	Affected Location	Type of Activity
1, 8	Improve Town Hall Security	Install bullet-resistant glass on the open side of the Town Office and provide an additional means of egress for Town Hall Employees in case of an emergency.	Town Hall	Life and Property Protection
1, 4	Continue to Update the Suncook Landowner Notification List	Make sure the residents who are within the Suncook River floodplain are aware of issues and what to do in the case of an emergency. Many of the apartment buildings in the floodplain are weekly rentals. The Town will collect email addresses to send out notices of inclement weather to residents in the floodplain. Door to door notifications are conducted as well.	Suncook River	Public Information and Involvement
1, 8	Develop Emergency Response Handling Procedures	Continuous training of fire and police personnel needs to occur for sabotage, terrorism, and hazardous materials. All personnel remain vigilant and cognizant of surroundings and potential hazards.	Entire Town	Training and Preparation
2, 7, 8	Encourage Security of Three Towers	The guy wires should be tested by owners. Security should be increased.	All Towers	Life and Property Protection
1, 8	Undertake Pandemic Training and Planning	Training and planning is needed in the event of a pandemic. The training is part of the Capital Area Public Health Network.	Entire Town	Training and Preparation
1, 8	Undertake More Hazardous Materials Training	Continual training is necessary to prepare staff in case of an emergency. Highway Department should be trained.	Entire Town	Training and Preparation
1, 2	Continue Meetings of the Joint Loss Committee	Hold quarterly meetings, review safety policies, make recommendations for improvements to facilities for safety of employees and general public.	Town Buildings	Planning and Implementation

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

Table 23E
Potential Mitigation Actions: Multiple Hazards

Meets Objective #	Name of Potential Action	Description of Potential Action	Affected Location	Type of Activity
1, 8	Evaluate Town Staffing Levels for Emergency Situations	Evaluate Town Staff levels to meet the goals of the hazard mitigation program. Some Town departments may need additional staff to meet the overall objectives of Hazard Mitigation.	Entire Town	Life and Property Protection
1, 2, 3, 4, 5, 6, 7, 8	Obtain Digital Radio Communication Capability for Wastewater, Highway, and Town Hall	The purpose is to have interoperability in the event of a disaster. Communications with all Departments is essential.	Town Facilities	Emergency Services
1, 6	Hold Emergency Procedure Informational Program for Seniors	Hold informal program for seniors on emergency topics, included sheltering, confined homes, disabled, transportation, emergency contacts, animal care.	Entire Town	Public Information and Involvement
1, 6	Offer Community Awareness Programs	Continue to offer programs for the community, offer more toward emergency management. Design and implement programs for citizens that provide info needed for disaster preparedness	Entire Town	Public Information and Involvement
1, 2, 3, 4, 5, 6, 7, 8	Construct an Emergency Operations Center or Enhance the Existing EOC	Build an Emergency Operations Center with communications equipment, backup power on Town-owned property. The current EOC does not have the capacity for several people to work or the ability to provide communications. For an enhancement to the existing EOC, install proper phone system to handle extra lines networking of computers and enlarge actual operations center for appropriate staffing levels. Prepare a budget for acquiring and installing the items	Entire Town	Life and Property Protection
1, 4, 5, 6, 7, 8	Subscribe to Code Red Notification System	Use the Code Red high speed notification system to warn citizens of potential flooding near their homes. Immediate town-wide communication from Town officials for emergency purposes can prevent further life and property damage, and for public information dissemination.	Entire Town	Emergency Services
1, 2, 3, 8	Hold Training Drills and Mock Exercises with Elementary School	The Town and School will train and work together to prepare for a disaster event.	Pittsfield School District	Training and Preparation

Table 23E, continued
Potential Mitigation Actions: Multiple Hazards

Meets Objective #	Name of Potential Action	Description of Potential Action	Affected Location	Type of Activity
1, 2, 3, 4, 5, 6, 7, 8	Require National Incident Management System (NIMS) and Incident Command System (ICS) Training for All First Responders	All first responders require this training. Properly train the first responders in ICS and NIMS. Also train the Highway Department and Code Enforcement Officer. The purpose is to enhance communications and understanding of approach.	Entire Town	Training and Preparation
1, 2, 4, 5, 6, 7, 8	Update the Emergency Operations Plan	Include the Recovery section of the EOP.	Entire Town	Planning and Implementation
1, 4, 5, 6, 7, 8	Develop Information Brochures on Emergency Preparedness	A brochure would enable the residents to be aware of what to do in an emergency situation, where to go, how to prepare their households. Brochures would cover various types of disasters.	Entire Town	Public Information and Involvement

Source: Pittsfield Hazard Mitigation Committee, 2007 & 2011

CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS

2012 PLAN UPDATE

The new mitigation strategies which were identified in **CHAPTER 9. NEWLY IDENTIFIED MITIGATION ACTIONS** and the relevant 2007 actions have been placed into one of five tables categorized by the type of activity, **Tables 25A-E**. A few older actions remain which did not have respective discussion and appearance in the 2007 Newly Identified Mitigation Actions Chapter. All actions were prioritized using the STAPLEE method below, and new costs, timeframes, and rationales were identified. An updated cost-benefit analysis was developed. Actions from 2007 which have not been completed have been indicated as **DEFERRED**. The **COMPLETED** Actions of the Plan are now documented in **Table 24**, and the **DELETED** Actions are documented in **Table 24A**.

INTRODUCTION

The Hazard Mitigation Committee ranked each of the new or improved mitigation strategies by utilizing the following criteria. The Committee asked and then answered such questions as “Does the action reduce damage?”, “Does the action contribute to Town objectives?”, “Is the action socially acceptable”, and “Does the action offer reasonable benefits compared to its cost in implementing?”

The following list documents the questions (criteria) that were posed to the Committee. The Committee responded to these and other questions, with a numeric score of “1” (indicating poor), a “2” (indicating average), and a “3” (indicating good).

- Does the action reduce damage and human losses?
- Does the action contribute to community objectives?
- Does the action meet existing regulations?
- Does the action protect historic structures?
- Can the action be implemented quickly?
- Is the action socially acceptable?
- Is the action technically feasible?
- Is the action administratively possible?
- Is the action politically acceptable?
- Is the action legal?
- Does the action offer reasonable benefits compared to its cost in implementing?
- Is the action environmentally sound?

The numeric answers were totaled to give a final score for each of the criteria. Those answers that totaled higher were given the higher priority. A score of 36 would indicate that the mitigation strategy, or action, received the highest possible score. The scores ranged from a high of **36** to a low of **16**. The full scoring matrix is located in **CHAPTER 12. APPENDIX**. The rankings are indicated in the Priority Score column in the Mitigation Action Plan **Tables 24A-E** on the following pages.

Not only are new Actions prioritized, existing Actions from 2007 are categorized into **COMPLETED**, **DELETED**, or **DEFERRED** as described in the following sections.

STATUS OF EXISTING 2007 AND NEW 2012 ACTIONS

The Actions in the following tables were listed in the 2007 Plan. Many Actions have been **COMPLETED** and are listed in **Table 24**. The status of the remaining Actions, plus the **NEW** Actions developed by the 2011 Hazard Mitigation Committee, was addressed in this 2012 Plan in the following manner:

- | | |
|---------------------|--|
| • Completed Actions | Listed in Table 24. Mitigation Actions Implemented Since 2007 and placed in CHAPTER 8. EXISTING MITIGATION SUPPORT STRATEGIES . Indicated as COMPLETED under the Action heading |
| • Deleted Actions | Listed in Table 24A. Mitigation Actions Deleted from 2007 Plan . Indicated as DELETED under the Action heading |
| • Deferred Actions | Indicated as DEFERRED under the Action heading |
| • New Actions | Indicated as NEW under the Action heading |

Actions that were **DELETED** from the 2007 Plan are no longer relevant to the Town, may not have been able to receive funding, or are no longer a priority to Pittsfield.

Actions which were **DEFERRED** from 2007 are still important to the Town but did not have the staff capability or the funding to undertake them, other Actions took higher priority, more time is required for completion, or they may need to be repeated in order to be effective. They remain in the Action Plan and have been re-prioritized with the **NEW** Actions.

Changes in priority of the 2007 Actions occurred over the last four years. The former priority of the **DEFERRED** Actions is listed in parentheses after **DEFERRED** so a comparison can be readily made.

Completed Mitigation Actions

The Town has implemented several Actions identified in 2007 since the original 2007 plan was adopted. Departments have undertaken the challenges inherent in getting the Actions implemented to ensure that the Town will benefit from the identified mitigation strategies. These **COMPLETED** Actions, are displayed in **Table 24**. Several of the mechanisms for implementing Actions include insertion into existing plans and documents, discussed in **CHAPTER 11. PLAN MONITORING, EVALUATING, AND UPDATING**.

The **COMPLETED** Actions are also identified in **CHAPTER 8. EXISTING MITIGATION SUPPORT STRATEGIES**, joining the other strategies, policies, plans, procedures, guidelines, training, equipment, etc. which have the potential to mitigate a hazard.

Table 24
Mitigation Actions Completed Since 2007

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
29	Install Traffic Lights on Route 28 COMPLETED	Selectmen	June 2008	None	NH DOT
33	Communicate with Utility Companies to Cutback Overgrown Limbs COMPLETED	Highway / Town Administrator	April 1, 2011	None	N/A
27	Obtained One of the Smith Street Properties at Chestnut Street COMPLETED	Board of Selectmen	June 2011	None	N/A
29	Purchase a New Forestry Truck COMPLETED	Fire Chief	June 2011	\$50,000	Warrant Article, Grants

Source: Pittsfield Hazard Mitigation Committee, 2011

Deleted Mitigation Actions

The Town has **DELETED** several Actions identified in 2007 since the original 2007 plan was adopted. **DELETED** Actions are displayed in **Table 24A**. **DELETED** Actions are no longer necessary or priorities to the Town, could not be realistically undertaken, are not relevant to the Town's objectives or situation, were not financially feasible, were duplicating existing efforts, or were modified and incorporated into another Action listed in the **Table 25A-E Action Plan**.

Table 24A
Mitigation Actions Deleted from the 2007 Plan

Priority Score	Action	Who is Responsible	Deleted By Date	Approx Cost*	How Funded
	No Actions were DELETED in 2011				

Source: Pittsfield Hazard Mitigation Committee, 2011

PITTSFIELD'S MITIGATION ACTION PLAN

The Committee identified mitigation actions specific to the natural hazards of flooding (all subcategories included), fire (includes fire and lightning), and severe weather (includes wind, snow, ice, drought). These were the most highly ranked of the natural hazards from **CHAPTER 2. HAZARD IDENTIFICATION**, most of which could qualify for FEMA or other federal grant programs. Other natural hazards, both low- and high-ranking, were considered for their applicability and the availability of options for actions.

Locally-important actions for natural, technological, or human disasters that were planning- or response-oriented were also identified and ranked here since the Hazard Mitigation Plan is an essential tool for the Town's emergency management program. The Plan would not be complete without these other actions. Funding for these projects may be available at the local level through the Town budget.

The ranking in the **Priority Score** column in **Tables 25A-E** serves as a guideline for when the Town should begin acting on the identified strategies, or Actions. The Committee then determined who would be responsible for ensuring that each action would be completed, the recommended completion date, the approximate cost for completing the action, and how the action would be funded. The Mitigation Action Plan is a comprehensive proposal designed to help the Town of Pittsfield prepare in advance for the impacts of disasters. Combined with the maps of this Hazard Mitigation Plan, the Action Plan should guide future hazard mitigation efforts.

2011 Action Plan

A total of **38** Actions that Pittsfield can undertake were identified and prioritized. Those Actions that are listed first in each table were given the highest priority by the Hazard Mitigation Committee:

Table 25A
Pittsfield's Mitigation Action Plan 2012: Life and Property Protection

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
36	Review the Dam Plans Annually NEW	Emergency Management Director	October 1, 2012 - 2016*	\$0	N/A
Project Rationale: To make sure that adequate notification of people occurs if something happens with the dams. *The Action is anticipated to recur annually through 2016.					
Cost Rationale: Cost is \$0 because labor is in-kind.					
35	Encourage Security of Three Towers NEW	Emergency Management Director	June 1, 2012	\$35,000	HSEM
Project Rationale: There are three towers in Town, and the Town interacts with tower owners. The Town has never produced an emergency contingency plan if any of the towers fail. The towers carry communications equipment which the Town needs as there is no redundant system. Two towers have generators. All communications must be maintained through all events in Pittsfield. Security is necessary to ensure tampering or sabotage cannot occur.					
Cost Rationale: Cost is for the purchase of safeguards and fencing around the three towers, a generator for one tower, and the installation, electrical work, and security of all three towers.					
34	Improve Roadways Prone to Flooding DEFERRED (30)	Highway Superintendent	2016	Varies	Taxes, Small Interest Loans, USDA Grant Programs
Project Rationale: A number of roadways in Town are subject to frequent washouts and road closures. Roadway improvements would reduce the current hazards that exist, particularly on Route 107 at the White's Pond Dam. This Action was deferred from 2007 because the Town did not have the funding to undertake it.					
Cost Rationale: Roadway improvement costs are likely to vary depending on the level of work.					
34	Communicate with Utility Companies to Cutback Overgrown Limbs DEFERRED (33)	Highway / Town Administrator	April 1, 2012 - 2016*	\$0	N/A
Project Rationale: Power failures due to limbs falling on power lines during wind or winter storm events are common in Pittsfield. The utility company which covers most of the Town is PSNH. Having PSNH remove overhanging limbs near power-lines will reduce that potential hazard in the Town. This Action was deferred from 2007 because this is an Action to be repeated at regular intervals in order to be effective. *The Action is anticipated to recur annually through 2016.					
Cost Rationale: Cost is \$0 due to PSNH doing the work.					

Table 25A, continued
Pittsfield's Mitigation Action Plan 2012: Life and Property Protection

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
33	Evaluate Staffing Levels for Emergency Situations DEFERRED (29)	Selectmen	December 1, 2012	\$0	N/A
Project Rationale: As part of the hazard mitigation process, evaluation of staffing levels and existing mitigation strategies will ensure that the Town remains active in addressing potential hazards in the community. This action could include a study of response capabilities when determining how much staffing may be required to mitigate specific hazard events. The activity could be part of the Emergency Operations Plan update. This Action was deferred from 2007 because the Town did not have the staff capability to undertake it.					
Cost Rationale: Cost is \$0 because labor is in-kind.					
32	Purchase Smith Street Properties DEFERRED (27)	Town Administrator	April 2015	\$2 million	FEMA HMA Acquisition Grants
Project Rationale: Purchasing and removing apartment buildings located in the floodplain on Smith Street will reduce the flooding hazard that currently exists at that property. This Action was deferred from 2007 because the Town did not have the staff capability or the funding to undertake it.					
Cost Rationale: Cost is for purchase the buildings and land, possible asbestos/lead paint removal costs, and demolition of the Street buildings.					
32	Purchase Additional Signage, Cones, Barricades NEW	Highway Superintendent	June 30, 2013	\$30,000	FEMA grants
Project Rationale: The Town needs signs to direct vehicles when roads are blocked, for example detour, road blocked, and/or high water signs. Foldout road close signs (\$600), detour signs (\$600 each), men at work signs (\$600), equipment in road signs (\$600), one lane signs (\$600), wooden reflective barricades (\$300), cones (\$30), a digital display, lightest and portable generator to run them and a trailer to pull the display are necessary. These items would be used by the Highway Department, Police Department, Fire Department when flooding and other emergencies occur.					
Cost Rationale: Cost is for signage, barricades, cones, directional signs, a digital display, a light set, a portable generator, and a trailer.					
30	Improve Municipal Building Security DEFERRED (30)	Town Administrator	September 30, 2015	\$85,000	Taxes, Homeland Security Grants, Safety Grants through USDA
Project Rationale: Currently the Town Hall and other municipal buildings are not secure facilities. The Town Hall fire alarm system has been brought up to code, however. Steps should be taken to ensure the safety of Town employees and visitors to Town owned buildings. A video system was installed in the Fire Department in 2009. The FD security is minimal, with one camera at the front door and the locks on the doors. The Police Department has a bullet proof window with bullet resistant frame surrounding the window. The Safety Committee could perform an assessment of the remaining buildings. This Action was deferred from 2007 because the Town did not have the staff capability or the funding to undertake it.					
Cost Rationale: Cost is for hardware and software for digital video security, alarm systems, and cost to reconfigure a structure to accommodate a security measures for the buildings in Town.					

Table 25A, continued
Pittsfield's Mitigation Action Plan 2012: Life and Property Protection

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
30	Replace Shaw Road Bridge with a Box Culvert NEW	Highway Superintendent	Fall 2014	\$165,000	State Bridge Aid program, FEMA Hazard Mitigation Funds
Project Rationale: The bridge and the approaches wash away because the Shaw Road bridge does not have proper wing walls or the capacity for the water to flow under the bridge. Replacement of the existing bridge with a box will provide for greater flow of water, will prevent water erosion of the bridge abutment, and will straighten out the approach of the river.					
Cost Rationale: Cost is for labor, design and engineering, and the box culvert to replace the Shaw Road Bridge.					
30	Replace Lower Tan Road Near Gravel Pit NEW	Highway Superintendent	Fall 2015	\$55,000	FEMA Hazard Mitigation Funds
Project Rationale: The culvert and the approaches wash away because the Lower Tan Road Culvert is undersized for the storm water flow through the culvert. Replacement of the existing culvert with a larger dimension box culvert will allow for greater flow of water, and will prevent erosion of the roadway.					
Cost Rationale: Cost is for labor, design and engineering, and the box culvert for Lower Tan Road.					
30	Replace Mountain Road Culvert NEW	Highway Superintendent	Fall 2012	\$48,000	FEMA Hazard Mitigation Funds
Project Rationale: The culvert and the approaches wash away because the Mountain Road Culvert is undersized for the storm water flow through the culvert. Replacement of the existing culvert with a larger dimension culvert will allow for greater flow of water, and will prevent erosion of the roadway.					
Cost Rationale: Cost is for labor, design and engineering, and the box culvert for the Mountain Road Culvert.					
29	Replace Upper Tan Road Culvert Near Blake's Pond NEW	Highway Superintendent	Fall 2014	\$55,000	FEMA Hazard Mitigation Funds
Project Rationale: The culvert and the approaches wash away because the Upper Tan Road Culvert is undersized for the storm water flow through the culvert. Replacement of the existing culvert with a larger dimension box culvert will allow for greater flow of water, and will prevent erosion of the roadway.					
Cost Rationale: Cost is for labor, design and engineering, and the box culvert for Upper Tan Road.					

Table 25A, continued
Pittsfield's Mitigation Action Plan 2012: Life and Property Protection

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
29	Replace Dowboro Road at Epsom Line Culvert NEW	Highway Superintendent	Fall 2012	\$145,000	FEMA Hazard Mitigation Funds
Project Rationale: The culvert and the approaches wash away because the Dowboro Epsom Line Culvert is undersized for the storm water flow through the culvert. Replacement of the existing culvert with a larger dimension box culvert, wing walls and the reconstruction of the roadway approaches and will allow for greater flow of water, and will prevent erosion of the roadway.					
Cost Rationale: Cost is for labor, design and engineering, the box culvert, and roadway approach improvement for Dowboro Epsom Line Culvert.					
28	Construct an Emergency Operations Center or Enhance the Existing EOC DEFERRED (26)	Emergency Management Director	October 2015	\$80,000	Warrant article and HSEM/USDA grants
Project Rationale: An Emergency Operations Center with communications equipment, backup power, etc is important to help the Town in managing emergency situations. The EOC will be built on Town-owned property. The current EOC does not have the capacity for several people to work or the ability to provide communications. There is no security and only one phone line and a fax line. The current EOC does not have room for charts or have the proper setup for people to be working in the same room. This Action was deferred from 2007 because the Town did not have the funding to undertake it.					
Cost Rationale: Cost is for the building, equipment, and electronic components of a new EOC built on Town-owned land.					
17	Clear Trees and Debris from Waterways NEW	Emergency Management Director	July 1, 2013	\$65,000	Warrant article
Project Rationale: In order to ensure the proper flow is maintained and to prevent inhibition of flow under bridges and through culverts, debris should not collect. Otherwise, the debris could cause a damming effect and wash out roads, erode bridges, and flow over culverts instead of through them. Debris must be cleared. Funding for the project could also come from the Town's emergency contingency fund if removal cannot wait.					
Cost Rationale: Cost is for labor and equipment rental to remove trees and debris.					
16	Clear Forest Fire Lanes DEFERRED (22)	Forest Fire Warden	November 30, 2015	\$25,000	Warrant article
Project Rationale: Clearing forest fire lanes will assist the Fire Department in accessing fire hazard areas. Lanes need to be cleared along Roy's Auto Salvage, 60 Catamount, and other sites. They are now overgrown so no one knows they exist and are not marked. The Highway Department will be a partner because they will be doing the work. This Action was deferred from 2007 because the Town did not have the staff capability or the funding to undertake it.					
Cost Rationale: Cost is for equipment and debris removal costs.					

Table 25B
Pittsfield's Mitigation Action Plan 2012: Emergency Services

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
35	Install a Dry Hydrant at Eaton Road NEW	Fire Department	September 2014	\$1,500	Rural Fire Protection Grant, Capital Improvement Program
Project Rationale: This rural area has inadequate surface water supply to use in the event of a fire. The area is a rural fire protection district remote from static water sources.					
Cost Rationale: Cost is for labor, materials, and installation.					
35	Install a Dry Hydrant at Barnstead Road/Suncook River NEW	Fire Department	September 2014	\$1,500	Rural Fire Protection Grant, Capital Improvement Program
Project Rationale: It's necessary to supplement the municipal water supply for large industrial-type fires. This area has many industries and is serviced by a municipal water supply. However, the current system will not provide adequate water volume for continued industrial development. The dry hydrant will supplement this system and the increased capabilities will allow for increased development in this area.					
Cost Rationale: Cost is for labor, materials, and installation.					
35	Install a Dry Hydrant at Jenness Pond NEW	Fire Department	September 2014	\$1,500	Rural Fire Protection Grant, Capital Improvement Program
Project Rationale: 40-50 housing units are forthcoming to the area. Increased flows are needed for compact development. The situation makes tanker shuttle impractical. An on-site cistern is needed. Getting the approval from NHDES will be the biggest challenge.					
Cost Rationale: Cost is for labor, materials, and installation.					

Table 25B, continued
Pittsfield's Mitigation Action Plan 2012: Emergency Services

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
32	Add a Cistern at Thompson Road & Governor's Road NEW	Fire Department	September 2014	\$40,000	Rural Fire Protection Grant, Capital Improvement Program
Project Rationale: The area is a rural fire protection district whose terrain hampers tanker shuttle operations by distance from static water sources and steep hills that are difficult for the vehicles to negotiate in a timely manner. Adding a cistern at this location will increase residents' fire safety.					
Cost Rationale: Cost is for labor, materials, and installation.					
30	Subscribe to Code Red Notification System NEW	Emergency Management Director	July 2012	\$2,500 to purchase system, \$500 annually to maintain	NH HSEM, then operating budget for yearly maintenance
Project Rationale: Use the Code Red high speed notification system to warn citizens of potential flooding near their homes. Immediate town-wide communication from Town officials for emergency purposes can prevent further life and property damage, and for public information dissemination. The system can notify a group of residents about disasters or when an area-wide alert is necessary for people to be informed. This is an effective, low-cost a public safety solution.					
Cost Rationale: Cost is \$2,500 for the initial cost of the system plus \$500 per year in annual costs.					

Table 25C

Pittsfield's Mitigation Action Plan 2012: Public Information and Involvement

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
34	Publicize the Availability of Flood Insurance DEFERRED (31)	Town Administrator	September 30, 2012	\$500 or less	Operating budget
Project Rationale: Educate local property owners regarding the availability of flood insurance at low cost through the NFIP. Develop brochures or provide information at the Town Offices to homeowners that flood insurance is available to them through FEMA's Zone A classification. Information can be posted on the Town website and linked to the FEMA website. A new floodplain ordinance was adopted in 2010. This Action was deferred from 2007 because other Actions took higher priority.					
Cost Rationale: Cost for a mailing of the brochure or distributing materials to the public.					
32	Continue to Update the Suncook Landowner Notification List NEW	Emergency Management Director	July 2012 - 2016*	\$0	N/A
Project Rationale: Make sure the residents who are within the Suncook River floodplain are aware of issues and what to do in the case of an emergency. Many of the apartment buildings in the floodplain are weekly rentals. The Town will collect email addresses to send out notices of inclement weather to residents in the floodplain. Door to door notifications are conducted as well. *The Action is anticipated to recur annually through 2016.					
Cost Rationale: Cost is \$0 because labor is in-kind.					
30	Develop Informational Brochures on Emergency Preparedness NEW	Emergency Management Director	October 2011 - 2016*	\$0	N/A
Project Rationale: The Emergency Management Director can use the Capital Area Public Health Network brochure, which is on their website for downloading, to have available at the Town Hall. Brochures could be printed and made available as well as given out during informational programs. Links to the NH Homeland Security and Emergency Management webpage on emergency preparation and to the Capital Area Public Health Network site as well as others can be posted on the Town website. *The Action is anticipated to recur monthly through 2016.					
Cost Rationale: Cost is \$0 because labor is in-kind.					
29	Hold Emergency Procedure Informational Program for Seniors NEW	Emergency Management Director	July 2012 - 2016*	Under \$100	Operating budget
Project Rationale: The informational program could be incorporated into the "Coffee Talk" sessions that the Police Chief holds with residents. The program is necessary so one of the most vulnerable demographic groups in Pittsfield will know what to do in the event of an emergency, and so they do not panic about the situation. Other topics include sheltering, confined homes, disabled, transportation, emergency contacts, and animal care. *The Action is anticipated to recur monthly through 2016.					
Cost Rationale: Cost is under \$100 as may include materials if needed.					

Table 25C, continued**Pittsfield's Mitigation Action Plan 2012: Public Information and Involvement**

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
29	Offer Community Awareness Programs NEW	Emergency Management Director	October 2012 - 2016*	\$0	N/A
Project Rationale: The Community Awareness Programs would be held one day per month to make people aware of what's going on in Town, how to respond to emergencies, and help them not to panic. The Emergency Management Director could partner with the Fire Chief on a fire prevention awareness program. *The Action is anticipated to recur monthly through 2016.					
Cost Rationale: Cost is \$0 because labor is in-kind.					

Table 25D
Pittsfield's Mitigation Action Plan 2012: Training and Preparation

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
36	Develop Emergency Response Handling Procedures NEW	Emergency Management Director	March 2012	\$2,500	Emergency Management Budget
Project Rationale: The Emergency Management Director will pair with the Fire Department, Police Department, Highway, and Wastewater Department to develop procedures for handling sabotage, terrorism, and hazardous materials, etc. incidents to be used by the Town during such incidents. Continuous training of fire and police personnel needs to occur on these types of events. All personnel need to remain vigilant and cognizant of surroundings and potential hazards. This could be done as part of the EOP update.					
Cost Rationale: Cost is to develop the emergency response handling procedures which would include \$2,500 contractor's fee. Labor costs would be in-kind by staff and volunteers.					
34	Participate in National Flood Insurance Program (NFIP) Training NEW	Building Inspector	October 1, 2011 - 2016*	\$0	N/A
Project Rationale: In order for Planning Board, Zoning Board of Adjustment members and the Code Enforcement Officer to remain current with NFIP procedures and policies, regular training must be taken. Workshops are offered by the State and/or FEMA (or in other training) and addresses flood hazard planning and management. *The Action is anticipated to recur annually through 2016.					
Cost Rationale: Cost is \$0 for the workshops, and volunteer time and staff time are in-kind labor.					
32	Undertake Pandemic Training and Planning NEW	Fire Department	November 2011	\$0	N/A
Project Rationale: Training and planning is needed in the event of a pandemic. The training is part of the Capital Area Public Health Network and the Town participates in the POD. The Action is currently in process.					
Cost Rationale: Cost \$0 because labor is in-kind and volunteer.					

Table 25D, continued
Pittsfield's Mitigation Action Plan 2012: Training and Preparation

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
32	Require National Incident Management System (NIMS) and Incident Command System (ICS) Training for All First Responders NEW	Emergency Management Director	December 2011 - 2016*	\$0	N/A
Project Rationale: The online training will allow all first responders to communicate using common terminology and working toward common goals to manage incidents in a consistent manner. Continual training of all employees, including public safety officials, Highway Department, community agencies, and schools is necessary in order to come under compliance with NIMS. Conducting exercises that require people to use these skills is essential to maintain the intent of the NIMS and ICS requirement. *The Action is anticipated to recur annually through 2016.					
Cost Rationale: Cost is \$0 for the online workshops, and volunteer time and staff time are in-kind labor.					
31	Hold Training Drills and Mock Exercises with Schools NEW	Emergency Management Director	October 2012	\$8,000 - \$10,000	EMPG grant, Emergency Management Budget
Project Rationale: The project will enhance public safety of students and staff members. The school is the largest populated building in the community. One of the first steps will be to make a list of contacts of who can assist (Red Cross, NHHSEM, etc) with the task. Pre-exercise training, the exercise itself, and after-action review will occur.					
Cost Rationale: Cost is for payroll for 4 to 5 Police officers, 12 Fire Department paid on-call members, and 2 EMS providers for 8 hours.					
24	Obtain Digital Radio Communication Capability for Wastewater, Highway and Town Hall NEW	Town Administrator and Emergency Management Director	July 2013	\$55,000	Homeland Security Grants, warrant article
Project Rationale: The interoperable communications network which is necessary during a hazard event requires reliable, dedicated communications. All incident actions plans and pre-plans are developed based on the ability to relay resources to critical areas. These departments do not have adequate mobile and portable units and are not part of the interoperable network.					
Cost Rationale: Cost is for three (3) base stations, 8-10 mobile units, and 8-10 portable radios.					

Table 25E
Pittsfield's Mitigation Action Plan 2012: Planning and Implementation

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
36	Study Dam Breach Effect for the Pittsfield Mill Pond Dam NEW	Emergency Management Director	February 2012	\$0	N/A
Project Rationale: The EMD will ensure the information is conveyed from the State to the Town. The Town just received the update policy from NHDES. The Town will implement the policy as a general guideline to follow if there's an issue with the dam. Notification lists, operational charts, and tells how to respond, what the flow would be, etc.					
Cost Rationale: Cost \$0 because labor is in-kind and volunteer.					
35	Update the Zoning Ordinance to Comply with NFIP Requirements NEW	Planning Board	March 2012 - 2016*	\$0	N/A
Project Rationale: The Zoning Ordinance needs to be updated as new requirements to the National Flood Insurance Program are necessary for retention of NFIP participation. The Floodplain Ordinance protects life and property by regulating distance of structures to flood hazard areas, regulating elevation, clarifying definitions, regulating new structures and encroachments, stating duties of the Code Enforcement Officer, etc. In 2010, the Town adopted the recommended updates to the ordinance. The existing ordinance is amended with federal updates on an ongoing basis. *The Action is anticipated to recur annually through 2016.					
Cost Rationale: Cost is \$0 is language is provided by the NH Office of Energy and Planning and labor is performed in-kind by staff.					
33	Develop a Plan to Maintain Public Road Access During Severe Weather NEW	Highway Superintendent	October 2012	\$200	Highway Department Operating Budget
Project Rationale: Access to critical infrastructure and the ability to provide emergency services to the citizens of the community are dependent upon the ability to provide clear road access during severe weather.					
Cost Rationale: Cost is for the materials (binders, paper) and printing costs.					
32	Continue Meetings of the Joint Loss Committee NEW	Town Administrator	January 2012 - 2016*	\$0	N/A
Project Rationale: The 6-8 meetings per year of the Joint Loss Committee are important to protect the assets of the community from litigation due to preventable accidents. The employee-employer relationship is responsible for the safety of all. This Committee supports, educates, promotes, and enhances a safe environment. *The Action is anticipated to recur about monthly through 2016.					
Cost Rationale: Cost \$0 because labor is in-kind and volunteer.					

Table 25E, continued
Pittsfield's Mitigation Action Plan 2012: Planning and Implementation

Priority Score	Action	Who is Responsible	Completed By Date	Approx Cost*	How Funded
31	Update the Emergency Operations Plan NEW	Emergency Management Director	April 2012	\$200	Emergency Management Operating Budget
Project Rationale: The EOP is the basis for all emergency actions during serious incidents. To be effective, the plan must reflect current resources, capabilities, and potential hazards.					
Cost Rationale: Cost is for the materials (binders, paper) and printing costs.					
28	Develop New Standard Operating Guidelines for Fire and Rescue NEW	Fire Chief	March 2012	\$400	Fire Department Operating Budget
Project Rationale: The current SOGs have not been revised for five or six years and need to be updated to reflect best practices and changes in resource allocation.					
Cost Rationale: Cost is for the materials (binders, paper) and printing costs.					

**The Approximate Cost for each project was a rough estimate agreed upon by the Hazard Mitigation Committee utilizing their various fields of expertise.
 The costs are total approximate costs for the entire project.
 In-kind staff time is not considered as part of out-of-pocket expense.*

The prioritization exercise helped the Committee evaluate the new hazard mitigation strategies that they had brainstormed throughout the Hazard Mitigation Planning process. While the actions would all help improve the Town's disaster responsiveness capability, funding availability will be a driving factor in determining what and when new mitigation strategies are implemented.

COST TO BENEFIT ANALYSIS

There are **38** Actions within the Mitigation Action Plan. As indicated in the above tables, those Actions that cost the least or impart the highest benefit to residents and businesses are not necessarily the first Actions to be completed based on their priority listing. This cost to benefit analysis evaluates the Actions in a different way which should also be considered by the Town when working to complete activities from the Action Plan.

\$2,500 or Less

22 Action items listed cost \$2,500 or less. Costs are minimal as most actions are performed by Town volunteers such as the Fire and Rescue, Emergency Management, or by Police, Town Office, or other paid personnel. Most \$0 costs are only for labor and are in-kind costs to the respective departments. Any equipment needed to perform the tasks is already owned or accessible by those departments. Other minor costs include printing/photocopies, paper, and public noticing, and legal review.

The highest benefit gained for each Action is dependent on the chances of a hazard event, the type of hazard, and its severity. However, the following may provide the best cost to benefit relationship:

- Study Dam Breach Effect for the Pittsfield Mill Pond Dam [February 2012]
- Require National Incident Management System (NIMS) and Incident Command System (ICS) Training for All First Responders [December 2011]
- Develop Emergency Response Handling Procedures [March 2012]
- Communicate with Utility Companies to Cutback Overgrown Limbs [April 1, 2012]
- Install a Dry Hydrant at Jenness Pond [September 2014]

\$2,501 to \$55,000

9 Action items are of low to medium cost (between \$2,501 and \$55,000). The highest cost to benefit gained for each Action is again dependent on the chances of a hazard event, the type of hazard, and its severity. Potential loss of life and property are extremely difficult to predict or place a dollar figure on. However, the following may provide the best cost to benefit relationship within this monetary category based on their capability to positively affect a large number of people:

- Obtain Digital Radio Communication Capability for Wastewater, Highway and Town Hall [July 2013]
- Replace Mountain Road Culvert [Fall 2012]
- Encourage Security of Three Towers [June 1, 2012]

Over \$55,001

7 Action items cost over \$55,001. Most of these projects are capital improvement projects to structures or infrastructure. The highest cost to benefit for these Actions is difficult to anticipate, as most of these expenditures are required to keep the town operating in a safe manner. The majority of these projects are the replacement of culverts on Town roads. Nonetheless, the following may provide the highest cost to benefit based on their capability to positively affect a large number of people:

- Clear Trees and Debris from Waterways [July 1, 2013]
- Construct an Emergency Operations Center or Enhance the Existing EOC [October 2015]
- Improve Roadways Prone to Flooding [2016]

CHAPTER 11. PLAN MONITORING, EVALUATING, AND UPDATING

2012 PLAN UPDATE

The Town received FEMA approval for the original Hazard Mitigation Plan in **APRIL 2007**. The Plan indicated that the Committee would meet quarterly according to **Table 26**. The Committee reviewed each of the sections and updated them where necessary. [Tasks of the Plan Update](#) was added to guide the efforts of the community.

INTRODUCTION

The completion of a planning document is merely the first step in its life as an evolving tool. The Hazard Mitigation Plan is a dynamic document that should be reviewed on a regular basis as to its relevancy and usefulness and to add new tasks as old tasks are completed. This Chapter will discuss the methods by which the Town of Pittsfield will review, monitor, and update its 2011 Hazard Mitigation Plan.

MAINTENANCE AND UPDATE SCHEDULE OF THE HAZARD MITIGATION PLAN

By December 2012, the Board of Selectmen will have voted to establish a permanent Hazard Mitigation Committee. The Emergency Management Director will serve as Chair of the Committee. Existing Hazard Mitigation Committee members will continue to participate as the permanent Committee. This Committee will meet quarterly according to the following schedule:

Table 26
Hazard Mitigation Committee Annual Future Meeting Schedule

Month	Preliminary Agenda
July	Committee members work on CIP requests to address Action Plan items' status and to begin writing grant applications.
October	Committee members work on budgets and begin writing warrant articles and budget requests for Action Plan items. Grant applications continue.
January	Committee completes updates to Hazard Mitigation Plan, CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS , distributes new copies of Chapter 10 to Department Heads and first responders.
April	Committee begins to update the Hazard Mitigation Plan, CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS . Report on Action Plan items' status.

For each of these meetings, the Emergency Management Director will coordinate with the permanent Hazard Mitigation Committee and will invite Department Heads, Board Chairs, and administrative staff to participate in the Committee meetings. Invitations to abutting communities and to prominent businesses in Town will be sent. Public notice will be given as press releases to local papers (Concord Monitor and Suncook Valley Sun), will be posted in the public places in Pittsfield (Post Office, Town Hall, Dani's Laundromat, Bell Brother's Laundromat, Globe Manufacturing, and the Police Department), and will be posted on the Town of Pittsfield website.

The Hazard Mitigation Plan will be updated annually according to the schedule in **Table 26**. Funds will be placed into the annual budget for the administrative costs associated with updating the plan such as word processing and map generation, and for printing costs.

The Emergency Management Director will work with the Board of Selectmen and the Committee to schedule meetings to update the Hazard Mitigation Plan as part of the annual budget each year. Strategies, actions, or items identified will be placed into the fiscal year's budget request, and capital items will be placed into the Capital Improvement Program (CIP). Grant applications for projects will be completed.

Tasks of the Plan Update

A number of tasks will be completed for the full update to the Hazard Mitigation Plan. Note that information from many Chapters will be used or referenced by other Chapters. The **2012 PLAN UPDATE** section of each Chapter will be updated as changes are made.

A yearly, modified update can be undertaken by completing the Chapter 10 tasks, as indicated in **Table 26**. At least once every five years, the complete update (all 12 Chapters, the Appendix, and the Maps) will be undertaken and provided to FEMA. For the Plan update, the Emergency Management Director and Hazard Mitigation Committee will follow the Agendas in the **CHAPTER 12. APPENDIX** of this Hazard Mitigation Plan to ensure the Plan update is thoroughly completed.

Acknowledgements.

Add the new Hazard Mitigation Committee members and contributors.

Chapter 1.

Update any available socio-demographic information from Chapter 5. Revise the methodology to reflect the new meetings, tasks, and public notification.

Chapter 2.

Add new disaster events that have affected Pittsfield, and describe the potential future hazards. Add new Town special events in **Table 1A**. Recalculate the probability, severity, and overall risk numbers.

Chapter 3.

Modify the Town sites and hazards each is susceptible to in **Tables 2** through **12**. Update the future development in **Table 13**.

Chapter 4.

Update **Table 14, Table 14A, Table 15, and Table 15A** with current building value information and dollar damage ranges per building type for flood hazards. With the revised total building assessment, update the percentage calculations for all natural, technological, and human disasters.

Chapter 5.

Revise **Table 16, Table 17, and Table 18** with new demographic and housing information as it becomes available. Update the building permit figures in **Table 19**. Revise land use data in **Table 20** as it becomes available. The text analysis will need to be revised to reflect all changes.

Chapter 6.

Update the numbers of buildings in the floodplain and flooding information. Update **Table 21** with current flood policy and loss statistics. Update **Table 21A** and revise the repetitive loss discussion as well as the ordinance and community assistance visit discussion as new information becomes available.

Chapter 7.

Revise and update the general and hazard-specific objectives to ensure their continued relevance to the Town.

Chapter 8.

Update **Table 22A** through **Table 22G** with new existing mitigation support strategies that are being undertaken. Move completed potential Actions from Chapter 9 to Chapter 8; completed Actions from Chapter 10 will also be added here. Combine the duplicate entries.

Chapter 9.

Add new potential mitigation Actions for the Town to undertake in **Tables 23A** through **23E**. Move the completed potential Actions to Chapter 8.

Chapter 10.

Remove completed Actions from **Table 25A** through **Table 25E** and place into **Table 24**. Place completed Actions into Chapter 8 as existing mitigation strategies. Add newly deleted Actions to **Table 24A**. Revise **Table 25A** through **Table 25E** as Actions get addressed. Reevaluate each Action not yet completed utilizing the STAPLEE method, and add new Actions utilizing the STAPLEE method to reprioritize. Modify cost and project rationales as needed, as well as the approximate cost and date for completion. Rewrite the cost to benefit analysis based upon revisions.

Chapter 11.

Modify **Table 26** with revised quarterly agendas if needed. Add new information to the Chapter or revise as needed if new information becomes available.

Chapter 12.

Revise the processes or grant information if new information becomes available. Update **Figure 1, Figure 2, and Figure 3** if the probability, severity, and overall risks from Chapter 2 were recalculated. Update the Action matrix in **Figure 4** whenever Chapter 10 is updated based upon the new projects and priorities. Update the glossary with additional terms as

needed. Provide copies of all agendas, meeting summaries, attendance sheets, department support letters, and publicity for inclusion into the Appendix.

Maps.

Update [Map 1](#), [Map 2](#), [Map 3](#), and [Map 4](#) of the Plan as needed to reflect the changes in Chapters 2 and 3. If a GIS system is not available at the Town, assistance will be sought elsewhere, such as with the Central NH Regional Planning Commission.

IMPLEMENTATION OF THE PLAN THROUGH EXISTING PROGRAMS

In addition to work by the Hazard Mitigation Committee and Town Departments, several other mechanisms exist which will ensure that the Hazard Mitigation Plan receives the attention it requires for optimum benefit.

Master Plan

The Planning Board has been working on an update to their previously adopted Pittsfield Master Plan in August 2001. Implementation of the Master Plan has been occurring since its adoption. A draft 2009 Master Plan is now available for review.

The Planning Board should consider adopting the Hazard Mitigation Plan as a separate Chapter to its Master Plan in accordance with RSA 674:2.II(e).

Process to Incorporate Actions

The Hazard Mitigation Committee will present the Hazard Mitigation Plan to the Planning Board in late 2011 after FEMA approval for consideration and adoption into the Master Plan after a duly noticed public hearing, just as any typical Chapter of a Master Plan. The Hazard Mitigation Committee will oversee the process to begin working with the Planning Board to ensure that the Hazard Mitigation Plan Actions are incorporated into the Master Plan.

Capital Improvements Program

The Pittsfield Planning Board updated and approved its 2010-2020 CIP. The document is developed by a subcommittee of the Planning Board, and is expected to continue to be updated on a yearly basis. Strategies or purchases requiring capital improvements from the Hazard Mitigation Plan will be proposed by the Hazard Mitigation Committee to be inserted into the Capital Improvements Program. Depending on the Town's funding needs, a Capital Reserve Fund for Hazard Mitigation Program Projects may be established to set aside funding for the many projects identified in the Hazard Mitigation Plan.

Process to Incorporate Actions

The Hazard Mitigation Committee will oversee the process to begin working with the Planning Board's CIP Committee to incorporate the various projects into the yearly CIP. As the CIP is updated on a yearly basis, a representative from the Hazard Mitigation Committee will request to sit on the CIP Committee to ensure the projects are added.

Zoning Ordinance and Regulations

Several of the implementation strategies previously have or may in the future propose revisions to the Zoning Ordinance, the Subdivision Regulations and/or the Site Plan Review Regulations.

Process to Incorporate Actions

The Hazard Mitigation Committee will oversee the process to begin working with the Planning Board to develop appropriate language for the modifications. The Town staff and Boards annually draft zoning ordinance amendments, and will be expected to accommodate Hazard Mitigation Plan Actions.

A representative from the Hazard Mitigation Committee will request from the Planning Board a copy of the required language for any FEMA Zoning Ordinance Updates. The representative shall also help Town staff draft language for any respective changes to the Site Plan Review Regulations, or Subdivision Regulations, or the Zoning Ordinance for Actions listed in the Hazard Mitigation Plan requiring such an update. The language shall be presented to the Planning Board for consideration.

Town Meeting

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

Process to Incorporate Actions

The Hazard Mitigation Committee will oversee the process to begin working with the Budget Committee and Board of Selectmen to develop warrant article language for appropriate Actions. A representative from the Hazard Mitigation Committee will provide a copy of the Hazard Mitigation Plan's Action Plan to both the Budget Committee and Board of Selectmen and validate the need for funding from Town Meeting to accomplish the projects. The representative will work with the Town Administrator to write warrant article language for Action items for approval at Town Meeting.

Operating Budgets

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

Process to Incorporate Actions

The responsible Department Head or Staff position identified in the **Who is Responsible** column of the preceding Tables will work on the Actions allocated to him/her, or delegate the Action to another person, when their normal job duties permit. The funding for the Actions comes

out of the Department's operating budget as work is undertaken by the Staff person on an as-time-permits basis unless the Action is a component of the Staffs' normal work duties.

The individual will attempt to follow the **Completed by Date** as a guideline for completion. A yearly review of **CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS** by the Hazard Mitigation Committee will reprioritize the Actions, and the members can report on their progress, asking for assistance or more time as needed.

CONTINUED PUBLIC INVOLVEMENT

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

For each meeting in **Table 26**, which includes the yearly update process, techniques that will be utilized for public involvement include:

- Provide personal invitations to Town volunteer Board and Committee Chairs;
- Provide personal invitations to Town Department heads;
- Post notices of meetings at the Town Office, Fire Department, and Library;
- Post flyers of the project at the Town Office, Fire Department, and Library; and
- Submit newspaper articles for publication to the Concord Monitor and the Suncook Valley Sun.

Groups to invite to future Hazard Mitigation Plan update meetings as outlined in **Table 26** include the neighboring communities of Epsom, Chichester, Pittsfield, Gilmanton, Barnstead, Strafford, and Northwood, Pittsfield Schools, the School District, and Globe Manufacturing. This representation should complement the Town's Plan update efforts.

The Hazard Mitigation Committee will ensure that the Town website is updated with the Hazard Mitigation meeting notices and flyers. Meeting summaries and drafts of the Hazard Mitigation Plan and its process will be posted on the Pittsfield Town website which is accessible to residents and visitors at all times. Postings of meetings will occur at the Post Office, Town Hall, Dani's Laundromat, Bell Brother's Laundromat, Globe Manufacturing, and the Police Department. The announcement will be sent to the Suncook Valley Sun and the public access channel. A number of Action Plan items which will be undertaken relate to public education and involvement, and the upkeep of the Town website with Hazard Mitigation activities will help to get the information out.

Additionally, the public will be invited to participate in the yearly process of updating the Hazard Mitigation Plan using pamphlets.

These outreach activities will be undertaken during the Plan's annual review and during any Hazard Mitigation Committee meetings the co-Emergency Management Directors call to order.

CHAPTER 12. APPENDIX

2012 PLAN UPDATE

Where identified, new contact information was provided for disaster relief and grant programs. Information on the FEMA Hazard Mitigation, National Incident Management System (NIMS) programs, and new Hazard Mitigation Assistance grant program was provided. The Action Matrix was updated with current prioritization information which was incorporated into **CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS**, and the hazard vulnerability matrices were updated as displayed in **CHAPTER 2. HAZARD IDENTIFICATION**.

INTRODUCTION

The Appendix contains supplemental information to this Hazard Mitigation Plan. The intent of this Plan is to provide information about potential disasters, assets at risk, and a means of implementing the actions to help minimize loss to life and property. In addition, the process by which grant and relief money can be obtained and what programs are available to assist the Town and its residents are equally important. When the annual Hazard Mitigation Plan process is repeated in 2016 and subsequent years for **CHAPTER 10**, materials used for publicity and meetings are exhibited to lay out the process for future Hazard Mitigation Committees.

PROCESS FOR DISASTER DECLARATION IN PITTSFIELD

There are two phases to a disaster - first response and recovery. The recovery phase, or clean-up efforts, is where the majority of grant funds could be applied for. Having an approved Hazard Mitigation Plan in place before a disaster occurs, according to the US Disaster Mitigation Act of 2000 and its amendments, is required after November 2004 in order to be eligible to apply for these recovery funds. These grant programs are briefly explained later in this chapter under the **HAZARD MITIGATION ASSISTANCE GRANT PROGRAMS** section. Much of the information following is taken directly from the FEMA website.

FEMA Disaster Information

The Federal Emergency Management Agency (FEMA) has extensive resources related to disaster prevention and disaster recovery on its website at www.fema.gov. The following is an excerpt from their on-line library:

The first response to a disaster is the job of local government's emergency services with help from nearby municipalities, the state and volunteer agencies. In a catastrophic disaster, and if the governor requests, federal resources can be mobilized through the Federal Emergency Management Agency (FEMA) for search and rescue, electrical power, food, water, shelter and other basic human needs.

It is the long-term recovery phase of disaster that places the most severe financial strain on a local or state government. Damage to public facilities and infrastructure, often not insured, can overwhelm even a large city.

A governor's request for a major disaster declaration could mean an infusion of federal funds, but the governor must also commit significant state funds and resources for recovery efforts. A Major Disaster could result from a hurricane, earthquake, flood, tornado or major fire which the President determines warrants supplemental federal aid. The event must be clearly more than state or local governments can handle alone. If declared, funding comes from the President's Disaster Relief Fund, which is managed by FEMA, and disaster aid programs of other participating federal agencies.

A **Presidential Major Disaster Declaration** puts into motion long-term federal recovery programs, some of which are matched by state programs, and designed to help disaster victims, businesses and public entities.

An **Emergency Declaration** is more limited in scope and without the long-term federal recovery programs of a Major Disaster Declaration. Generally, federal assistance and funding are provided to meet a specific emergency need or to help prevent a major disaster from occurring.

The Major Disaster Declaration Process

A Major Disaster Declaration usually follows these steps:

- The Local government responds, supplemented by neighboring communities and volunteer agencies. If overwhelmed, turn to the state for assistance;
- The State responds with state resources, such as the National Guard and state agencies;
- Damage assessment by local, state, federal, and volunteer organizations determines losses and recovery needs;
- A Major Disaster Declaration is requested by the governor, based on the damage assessment, and an agreement to commit state funds and resources to the long-term recovery;
- FEMA evaluates the request and recommends action to the White House based on the disaster, the local community and the state's ability to recover;
- The President approves the request or FEMA informs the governor it has been denied. This decision process could take a few hours or several weeks depending on the nature of the disaster.

Emergency Declaration

An Emergency Declaration can be declared for any occasion or instance when the President determines federal assistance is needed. Emergency Declarations supplement State and local efforts in providing emergency services, such as the protection of lives, property, public health, and safety, or to lessen or avert the threat of a catastrophe in any part of the United States. The total amount of assistance provided for a single emergency may not exceed \$5 million. If this amount is exceeded, the President shall report to Congress.

Disaster Aid Programs

There are two major categories of disaster aid: Individual Assistance is for damage to residences and businesses or personal property losses, and Public Assistance is for repair of infrastructure, public facilities and debris removal.

Individual Assistance

Disaster assistance is money or direct assistance to individuals, families and businesses in an area whose property has been damaged or destroyed and whose losses are not covered by insurance. It is meant to help people with critical expenses that cannot be covered in other ways. This assistance is not intended to restore damaged property to its condition before the disaster.

While some housing assistance funds are available through our Individuals and Households Program, most disaster assistance from the Federal government is in the form of loans administered by the Small Business Administration.

Disaster aid to individuals generally falls into the following categories:

- Disaster Housing is available to individuals in several forms. **Temporary Housing** (a place to live for a limited period of time): Money is available to rent a different place to live, or a government provided housing unit when rental properties are not available. **Repair**: Money is available to homeowners to repair damage from the disaster to their primary residence that is not covered by insurance. The goal is to make the damaged home safe, sanitary, and functional. **Replacement**: Money is available to homeowners to replace their home destroyed in the disaster that is not covered by insurance. The goal is to help the homeowner with the cost of replacing their destroyed home. **Permanent Housing Construction**: Direct assistance or money for the construction of a home. This type of help occurs only in insular areas or remote locations specified by FEMA, where no other type of housing assistance is possible.
- Other than Housing Needs, money is available for necessary expenses and serious needs caused by the disaster. This includes: disaster-related medical and dental costs, disaster-related funeral and burial cost, clothing; household items (room furnishings, appliances); tools (specialized or protective clothing and equipment) required for your job; necessary educational materials (computers, school books, supplies), fuels for primary heat source (heating oil, gas), clean-up items (wet/dry vacuum, dehumidifier), disaster damaged vehicle, moving and storage expenses related to the disaster (moving and storing property to avoid additional

disaster damage while disaster-related repairs are being made to the home), and other necessary expenses or serious needs as determined by FEMA.

- Other Disaster Aid Programs include crisis counseling, disaster-related unemployment assistance, legal aid, and special tax considerations.
- Low-Interest Disaster Loans are available after a disaster for homeowners and renters from the US Small Business Administration (SBA) to cover uninsured property losses. Loans may be for repair or replacement of homes, automobiles, clothing or other damaged personal property. Loans are also available to businesses for property loss and economic injury.

Visit www.fema.gov/assistance for more information.

Public Assistance

The objective of the Federal Emergency Management Agency's (FEMA) Public Assistance (PA) Grant Program is to provide assistance to State, Tribal and local governments, and certain types of Private Nonprofit organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President.

Through the PA Program, FEMA provides supplemental Federal disaster grant assistance for debris removal, emergency protective measures, and the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain Private Non-Profit (PNP) organizations. The PA Program also encourages protection of these damaged facilities from future events by providing assistance for hazard mitigation measures during the recovery process.

The Federal share of assistance is not less than 75% of the eligible cost for emergency measures and permanent restoration. The grantee (usually the State) determines how the non-Federal share (up to 25%) is split with the subgrantees (eligible applicants).

Visit www.fema.gov/government/grant/pa for more information.

HAZARD MITIGATION

Hazard Mitigation is sustained action taken to reduce or eliminate long-term risk to people and their property from hazards and their effects. Mitigation focuses on breaking the cycle of disaster damage, reconstruction, and repeated damage. Mitigation efforts create safer communities and reduce loss of life and property. Mitigation includes such activities as:

- Complying with or exceeding NFIP floodplain management regulations.
- Enforcing stringent building codes, flood-proofing requirements, seismic design standards and wind-bracing requirements for new construction or repairing existing buildings.
- Adopting zoning ordinances that steer development away from areas subject to flooding, storm surge or coastal erosion, or other hazards.
- Retrofitting public buildings to withstand hurricane-strength winds or ground shaking and for installing sprinkler systems for fire events.
- Acquiring damaged homes or businesses in flood-prone areas, relocating the structures, and returning the property to open space, wetlands or recreational uses.
- Building community shelters and tornado safe rooms to help protect people in their homes, public buildings and schools in hurricane- and tornado-prone areas.

Mitigation is achieved through risk analysis, which results in information about a community that provides a foundation for mitigation activities that reduce risk. The goal of risk reduction is to reduce the risk to life and property, which includes existing structures and future construction, in the pre and post-disaster environments. Risk reduction is achieved through regulations, local ordinances, land use and building practices, and mitigation projects that reduce or eliminate long-term risk from hazards and their effects.

For more information, visit www.fema.gov, or contact NH Homeland Security and Emergency Management at (800) 852-3792 or visit www.nh.gov/safety/divisions/hsem.

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

The National Incident Management System (NIMS) provides a systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment. Most State and local governments follow the NIMS protocol for disaster response.

A basic premise of NIMS is that all incidents begin and end locally. NIMS does not take command away from State and local authorities. NIMS simply provides the framework to enhance the ability of responders, including the private sector and NGOs, to work together more effectively. The Federal Government supports State and local authorities when their resources are overwhelmed or anticipated to be overwhelmed. Federal departments and agencies respect the sovereignty and responsibilities of local, tribal, and State governments while rendering assistance. The intention of the Federal Government in these situations is not to command the response, but rather to support the affected local, tribal, and/or State governments.

Elected and appointed officials are responsible for ensuring the public safety and welfare of the people of that jurisdiction. Specifically, these officials provide strategic guidance and resources during preparedness, response, and recovery efforts. Elected or appointed officials must have a clear understanding of their roles and responsibilities for successful emergency management and response. At times, these roles may require providing direction and guidance to constituents during an incident, but their day-to-day activities do not focus on emergency management and response. Their awareness of NIMS is critical to ensuring cooperative response efforts and minimizing the incident impacts.

Preparedness is essential for effective incident and emergency management and involves engaging in a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action to achieve and maintain readiness to respond to emergencies. As such, the NIMS Preparedness Component serves as a baseline concept that links all the NIMS Components. Preparedness spans jurisdictions, governments, agencies and organizations. Though individuals certainly play a critical role in preparedness and are expected to prepare themselves and their families for all types of potential incidents, they are not directly included in NIMS preparedness. NIMS primarily discusses the preparedness role for governments, organizations geared specifically toward preparedness, elected and appointed officials, nongovernmental organizations, and the private sector.

NIMS works hand in hand with the National Response Framework (NRF). NIMS provides the template for the management of incidents, while the NRF provides the structure and mechanisms for national-level policy for incident management. Free online courses are available for emergency management officials, first responders, Town staff, Board members, and Town officials.

Visit <http://training.fema.gov/IS/NIMS.asp> to take courses.

HAZARD MITIGATION ASSISTANCE GRANT PROGRAMS

Through the NH Homeland Security and Emergency Management (NH HSEM), the Federal Emergency Management Agency provides funds for assistance to municipalities in the event of a disaster through Hazard Mitigation Assistance program. The programs are described briefly here. For more details about these funding sources, contact the NH HSEM or visit the FEMA website at www.fema.gov/government/grant/hma.

Pre-Disaster Mitigation Program (PDM)

The Pre-Disaster Mitigation (PDM) program provides technical and financial assistance to States and local governments for cost-effective pre-disaster hazard mitigation activities that complement a comprehensive mitigation program, and reduce injuries, loss of life, and damage and destruction of property. FEMA provides grants to States and Federally recognized Indian tribal governments that, in turn, provide sub-grants to local governments (to include Indian Tribal governments) for mitigation activities such as planning and the implementation of projects identified through the evaluation of natural hazards.

Flood Mitigation Assistance Program (FMA)

This program requires a 25% match (half in-kind and half local cash) and awards funds for Planning Grants, Technical Assistance Grants, and Project Grants. A Flood Mitigation Plan must be in place before funds can be sought for Technical Assistance or Projects. This program awards funding for Flood Mitigation Plans, structural enhancements, acquisition of buildings or land, and relocation projects.

Hazard Mitigation Grant Program (HMGP)

A disaster must be declared to take advantage of this program, which is designed to protect public and private property from future disasters. This program typically awards funding for projects that are structural in nature or for the acquisition of buildings or land. It covers the broadest range of mitigation project activities. The funding award is 75% with a 25% match.

For more information, for a listing of criteria, or to request an application to these or any other grant programs, please contact the NH Homeland Security and Emergency Management at (800) 852-3792 or at www.nh.gov/safety/divisions/hsem.

Repetitive Flood Claims (RFC)

Repetitive Flood Claims provides funding to States and communities to reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP that have had one or more claims for flood damages, and that cannot meet the requirements of the Flood Mitigation Assistance (FMA) program for either cost share or capacity to manage the activities. The grant pays for 100% of the cost.

Severe Repetitive Loss (SRL)

Severe Repetitive Loss (SRL) funds provides 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). Projects include property acquisition and structure demolition and relocation, structure elevation, and minor localized flood reduction projects. A 75/25% match is required.

Community Development Block Grant (CDBG)

A disaster must be declared to take advantage of this program, which awards emergency funds to cover unmet needs in a community. At least one of three national objectives must be met: the funds must have a direct benefit to low and moderate income persons; or must prevent or eliminate slums and blight in neighborhoods; or must eliminate conditions which threaten the public health and welfare. The NH Community Development Finance Authority (CDFA) administers this program. The CDBG website is www.nhcdfa.org/web/cdbg/cdbg_overview.

NATURAL, TECHNOLOGICAL, AND HUMAN HAZARD VULNERABILITY SCORING

The following figures are used in **CHAPTER 2. HAZARD IDENTIFICATION** to determine the probability, severity, and overall risk of each of the 39 hazards evaluated in the Hazard Mitigation Plan. The exercise was completed by the Hazard Mitigation Committee during a Work Session.

Figure 1
Natural Hazard Vulnerability Matrix

Natural Hazard Event	Probability	Human Impact	Property Impact	Business Impact	Severity	Overall Risk
Pittsfield 2011	<u>Likelihood hazard will occur in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Severity of death or injury in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Severity of physical losses and damages in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Severity of interruption of service in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Avg. of Human + Property + Business</u> 1=Low (<1.6) 2=Moderate (1.6-2.5) 3=High (>2.5)	(Relative Threat) Severity x Probability
Flooding	3	3	3	3	3.00	9.00
Hurricanes and Severe Storms	2	1	2	2	1.67	3.33
Rapid Snow Pack Melt	2	1	1	2	1.33	2.67
River Ice Jams	2	1	1	1	1.00	2.00
Dam Breach and Failure	1	1	3	3	2.33	2.33
Stream Bank Erosion and Scouring	1	1	1	1	1.00	1.00
Debris Impacted Infrastructure	2	1	2	2	1.67	3.33
Tornadoes	2	2	3	3	2.67	5.33
Downbursts	1	2	3	3	2.67	2.67
Lightning	3	1	2	2	1.67	5.00
Wildfire	2	1	2	2	1.67	3.33
Severe Winter Weather	3	1	3	3	2.33	7.00
Earthquake	2	1	2	2	1.67	3.33
Landslide	1	1	1	1	1.00	1.00
Drought	2	1	2	2	1.67	3.33
Radon	1	1	2	2	1.67	1.67
Biological	1	1	1	1	1.00	1.00

Figure 2
Technological Hazard Vulnerability Matrix

Technological Hazard Event	Probability	Human Impact	Property Impact	Business Impact	Severity	Overall Risk
Pittsfield 2011	<u>Likelihood hazard will occur in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Severity of death or injury in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Severity of physical losses and damages in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Severity of interruption of service in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Avg. of Human + Property + Business</u> 1=Low (<1.6) 2=Moderate (1.6-2.5) 3=High (>2.5)	(Relative Threat) Severity x Probability
Hazardous Materials	2	3	2	3	2.67	5.33
Explosion/Fire	3	2	3	3	2.67	8.00
Transportation Accident	2	2	2	2	2.00	4.00
Building/Structure Collapse	2	3	3	2	2.67	5.33
Power/Utility Failure	3	2	3	3	2.67	8.00
Extreme Air Pollution	1	1	1	1	1.00	1.00
Radiological Accident	1	1	1	1	1.00	1.00
Fuel/Resource Shortage	2	1	2	2	1.67	3.33
Strike	1	1	1	1	1.00	1.00
Business Interruption	1	1	1	1	1.00	1.00
Financial Issues, Economic Depression, Inflation, Financial System Collapse	3	2	3	2	2.33	7.00
Communications Systems Interruptions	2	2	2	2	2.00	4.00

Figure 3
Human Hazard Vulnerability Matrix

Human Hazard Event	Probability	Human Impact	Property Impact	Business Impact	Severity	Overall Risk
Pittsfield 2011	<u>Likelihood hazard will occur in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Severity of death or injury in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Severity of physical losses and damages in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Severity of interruption of service in 25 years</u> 0=NA 1=Low 2=Moderate 3=High	<u>Avg. of Human + Property + Business</u> 1=Low (<1.6) 2=Moderate (1.6-2.5) 3=High (>2.5)	(Relative Threat) Severity x Probability
Economic Threats	3	2	3	3	2.67	8.00
General Strike	1	2	2	2	2.00	2.00
Terrorism	1	1	1	1	1.00	1.00
Sabotage	1	1	1	1	1.00	1.00
Hostage Situation	2	2	2	1	1.67	3.33
Civil Disturbance / Public Unrest	2	1	2	2	1.67	3.33
Enemy Attack	1	1	1	1	1.00	1.00
Arson	2	2	3	3	2.67	5.33
Mass Hysteria	1	2	2	2	2.00	2.00
Special Events	2	2	2	2	2.00	4.00

ACTION EVALUATION AND PRIORITIZATION SCORING

Figure 4 displays the ranking to each of the potential strategies as displayed in Tables 25A-E in CHAPTER 10. EVALUATION AND IMPLEMENTATION OF ACTIONS. The ranking was completed by the Hazard Mitigation Committee during a Work Session.

Figure 4
Action Evaluation and Prioritization Matrix

Vote of Committee required to accept the following Ranking Criteria														
As a group, rank each of the following Actions according to the following criteria:														
	3 = Good			2 = Average			1 = Poor							
Action	Reduce damage?	Contribute to Town objectives?	Meet Regulations?	Protect sensitive structure?	Implemented quickly?	Socially Acceptable?	Technically Feasible?	Administratively Realistic?	Politically Acceptable?	Legal?	Reasonable Cost to Benefits?	Environmentally Sound?	Total Score	
Improve Municipal Building Security	3	2	3	3	2	2	3	2	2	3	2	3	30	
Purchase Smith Street Properties	3	3	2	3	1	3	3	2	3	3	3	3	32	
Improve Roadways Prone to Flooding	3	3	3	2	2	3	3	3	3	3	3	3	34	
Replace Shaw Road Bridge with Box Culvert	3	3	3	2	1	2	3	2	2	3	3	3	30	
Communicate with Utility Companies to Cutback Overgrown Limbs	3	3	3	3	2	2	3	3	3	3	3	3	34	
Evaluate Staffing Levels for Emergency Situations	3	3	3	3	3	2	2	3	2	3	3	3	33	
Clear Forest Fire Lanes	1	2	1	1	1	1	2	1	1	2	1	2	16	
Clear Trees and Debris from Water Ways	1	1	2	2	1	1	1	1	2	2	1	2	17	
Replace Dowboro Road At Epsom Town Line with a Box Culvert	3	3	3	2	1	2	3	2	2	3	3	3	30	
Replace the Lower Tan Road Culvert Near Gravel Pit	3	3	3	2	1	2	3	2	2	3	3	3	30	
Replace the Upper Tan Road Culvert by Bakes Pond	3	2	3	2	1	2	3	2	2	3	3	3	29	
Replace Mountain Road Culvert	3	3	3	2	1	2	3	2	2	3	3	3	30	
Review the Dam Plans Annually	3	3	3	3	3	3	3	3	3	3	3	3	36	
Update Zoning Ordinance to comply with NFIP Requirements	3	3	3	2	3	3	3	3	3	3	3	3	35	
Encourage Security of Three Towers	3	2	3	3	2	2	3	2	2	2	3	3	30	
Construct an Emergency Operations Center	3	3	3	3	1	2	2	1	1	3	3	3	28	
Purchase Additional Signage, Cones, Barricades	3	3	3	3	2	2	2	2	3	3	3	3	32	
Subscribe to Code Red Notification System	1	3	2	1	2	3	3	3	3	3	3	3	30	
Publicize the Availability of Flood Insurance	2	3	3	2	3	3	3	3	3	3	3	3	34	
Continue to Update the Suncook Landowner Notification List	2	3	2	1	3	3	3	3	3	3	3	3	32	
Hold Emergency Procedure Informational Program for Seniors	2	3	2	1	3	3	3	3	3	3	2	1	29	
Offer Community Awareness Programs	2	3	2	1	3	3	3	3	3	3	2	1	29	
Develop Information Brochures on Emergency Preparedness	2	3	2	1	3	3	3	3	3	3	3	1	30	
Participate in National Flood Insurance Program (NFIP) Training	2	3	3	2	3	3	3	3	3	3	3	3	34	
Develop Emergency Response Handling Procedures	3	3	3	3	3	3	3	3	3	3	3	3	36	
Undertake Pandemic Training and Planning	3	3	3	2	3	3	3	3	3	3	2	1	32	
Capability for Wastewater, Highway, and Town Hall	3	3	2	2	2	2	1	2	2	2	2	1	24	
Hold Training Drills and Mock Exercises with Schools	3	3	3	1	2	3	3	3	3	3	3	1	31	
Require National Incident Management System (NIMS) and Incident Command System (ICS) Training for All First Responders	3	3	3	2	2	3	3	3	3	3	3	1	32	
Study Dam Breach Effect for the Pittsfield Mill Pond Dam	3	3	3	3	3	3	3	3	3	3	3	3	36	
Develop New Standard Operating Guidelines for Fire and Rescue	2	3	3	2	2	3	2	2	3	3	2	1	28	
Develop a Plan to Maintain Public Road Access During Severe Weather	3	3	3	3	2	3	2	2	3	3	3	3	33	
Continue Meetings of the Joint Loss Committee	2	3	3	2	3	3	3	3	3	3	3	1	32	
Update the Emergency Operations Plan	3	3	3	3	2	3	2	2	3	3	3	1	31	
Purchase a New Forestry Truck	2	2	3	2	2	2	3	2	2	3	3	3	29	
Install a Dry Hydrant at Jenness Pond	3	3	3	3	2	3	3	3	3	3	3	3	35	
Add a Cistern at Thompson Road & Governor's Road	3	3	2	2	3	3	3	2	2	3	3	3	32	
Install a Dry Hydrant at Eaton Road	3	3	3	3	2	3	3	3	3	3	3	3	35	
Install a Dry Hydrant at Barnstead Road/Suncook River	3	3	3	3	2	3	3	3	3	3	3	3	35	

GLOSSARY OF TERMS

The Pittsfield Hazard Mitigation Plan utilizes numerous terms throughout the document to refer concepts and ideas surrounding hazards of all types. A selection of the more commonly used, or easily confused, terms and acronyms have been defined for the user of this Plan.

100 Year Flood - A flood event which has a one percent (1%) chance of occurring in a given year

Accessory Building - A structure which is detached from the principal building and located on the same lot, which is incidental to the principal building or use such as a shed, barn, garage, etc.

Action - A strategy which fulfills an objective

Central New Hampshire Regional Planning Commission (CNHRPC) - A non-profit voluntary organization of municipalities which is staffed by professional planning and support personnel. CNHRPC has 20 member communities.

Disaster Mitigation Act (DMA) - Enacted in 2000, it requires states and municipalities to have local natural hazard mitigation plans in place in order to be eligible for disaster funding programs

Federal Emergency Management Agency (FEMA) - Agency of the United States Government tasked with disaster mitigation, preparedness, response and recovery planning

Flood - Temporary overflowing of water onto land which is usually devoid of surface water

Flood Insurance Rate Map (FIRM) - The official map on which the Federal Insurance Administration has identified both the areas of special flood hazards and the risk premium zones for a community

Flood Mitigation Assistance Program (FMA) - Awards funding for Flood Mitigation Plans, structural enhancements, acquisition of buildings or land, and relocation projects.

Floodplain - The relatively flat area adjacent to a channel of a natural stream or river which either has been or may be covered by flood water

Geographic Information Systems (GIS) - A technology that manages, analyzes and disperses geographic knowledge

Goal - A broad statement of intent

Hazard Mitigation - means any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards. These long-term strategies include planning, policy changes, programs, projects and other activities.

Hazard Mitigation Grant Program (HMGP) - Broad range of mitigation project activities are covered, although are typically structural in nature or for the acquisition of buildings or land. Can only be available after a disaster is declared. Designed to protect public and private property from future disasters.

Hazard Mitigation Planning - A collaborative process identifying hazards affecting a community, assessing vulnerability to those hazards, and reaching consensus on how to minimize or eliminate the effects of those hazards.

HAZUS-MH - Software program developed by the Federal Emergency Management Agency to be used for risk assessment and estimation of hazard related damage

Human Hazard - Hazards caused by human circumstances, such as terrorism, hostage situations, civil unrest, mass hysteria, riots, etc.

Information Technology - The use of computers in order to process, store, transmit, etc. information from anywhere at any time

Infrastructure - Facilities and services needed to sustain everyday land-use activities, such as telephone wires, roads, power lines, etc.

Manufactured Homes - Factory-built, single-family structures, commonly referred to as "mobile homes"

Manufactured Housing Parks - An area where space for two or more manufactured homes is rented

Multi-Unit Housing - Structures containing three or more housing units, such as apartment buildings and condos

National Incident Management System (NIMS) - Provides a standardized approach toward incident management that can be used for any scale disaster events

New Hampshire Homeland Security Emergency Management (NHHSEM) - Established in order to protect the lives, property and environment of the people of New Hampshire from the threat or occurrence of emergencies resulting from any natural or man-made disaster

National Flood Insurance Program (NFIP) - Created in 1968, NFIP is a Federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages

Natural Hazard - Hazards caused by the natural environment such as drought, flooding, hurricane, tornado, severe winter weather, biological event, etc.

Objective - Specific explanation of the broad goal

Pre-Disaster Mitigation Program (PDM) - Provides technical and financial assistance to States and local governments for pre-disaster hazard mitigation activities that complement a comprehensive mitigation program, and reduce injuries, loss of life, and damage and destruction of property.

Property - A collection of land, buildings and vehicles of which someone can claim ownership

Risk Rating - An adjective description (High, Medium, or Low) of the overall threat poses by a hazard over the next 25 years. It is a subjective estimate of the combination of probability of occurrence and vulnerability.

Richter Magnitude Scale - A base-10 logarithmic scale which assigns a single number to quantify the size of an earthquake

Technological Hazard - Hazards caused by problems with technology such as power/utility failure, radiological accident, dam/levee failure, fuel/resource shortage, hazardous material release, etc.

USACE - United States Army Corps of Engineers

PHOTOGRAPHS OF PITTSFIELD DISASTERS

Pittsfield Dam, Mother's Day Flood May 2006



Photo courtesy of WMUR uLocal Photo Library

Pittsfield Dam, Mother's Day Flood May 2006



Photo courtesy of WMUR uLocal Photo Library

Pittsfield Dam, Mother's Day Flood May 2006



Photo courtesy of WMUR uLocal Photo Library

Suncook River Backyard Flooding, Mother's Day Flood May 2006



Photo courtesy of WMUR uLocal Photo Library

Suncook River Flooding off River Road, Mother's Day Flood May 2006



Photo courtesy of WMUR uLocal Photo Library

Tornado, July 2008



Photo courtesy of WMUR uLocal Photo Library

Ice Flows over the Pittsfield Dam, Spring 2011



Photo courtesy of WMUR uLocal Photo Library

PUBLICITY AND MEETING INFORMATION FOR THE PITTSFIELD HAZARD MITIGATION PLAN 2012

To better assist future Hazard Mitigation Committee updates of this Plan, exhibited are the following materials which enabled the Committee to effectively produce this document. Four (4) Committee meetings, three (4) Work Session meetings, and one (1) Public Information Meeting were held. The publicity materials for the Board of Selectmen meeting to adopt the Plan are included.

From each of the Meetings, where available:

- Press release (press releases often covered more than one meeting)
- Copies of published press release in the newspapers if available
- Flyer (flyers often covered more than one meeting)
- Agenda
- Attendance sheet
- Meeting summary

The following additional documentation is exhibited:

- Support letters from Department heads, Board Chairs, and emergency first responders
- Copies of invitations to abutting communities, businesses, School District
- FEMA's Approvable Pending Adoption (APA) conditional approval electronic memo